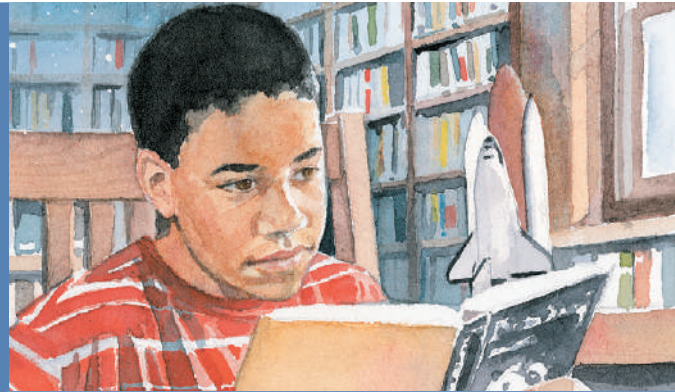


Classroom Connections to TerraNova, The Second Edition

A Resource Guide for Teachers



Grades 8–9

54384

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Foreword

Please Note:

This CD-ROM includes the following materials from the print version of Classroom Connections to *TerraNova, The Second Edition, Grades 8–9*.

CD-ROM Table of Contents

Part 2 Items Illustrating Content—Item Writing Tips

Part 4 Student Practice Materials—Grade 8

Part 5 Student Practice Materials—Grade 9

Part 6 Scoring Guide

Part 7 Teaching Activities

Part 8 Using Test Results—Parents' Guide to Understanding *TerraNova, The Second Edition* Achievement Tests

To ease in your navigation of this CD-ROM, text is highlighted. Clicking on the highlighted text will bring you to a page of related material. For example, clicking on an item number in “Part 4 Student Practice Materials—Grade 8” will bring you to “Part 6 Scoring Guide” and the correct answer for that item.

The Classroom Connections pages may be downloaded and printed for your convenience. The pages are reproduced from the original print version and include their print version page numbers at the top of the page. When downloading and printing a series of pages from the CD, refer to the specific page numbers referenced in the Portable Document Format (PDF) file shown at the bottom of the screen. The downloaded pages will appear as they do in the print version of Classroom Connections.

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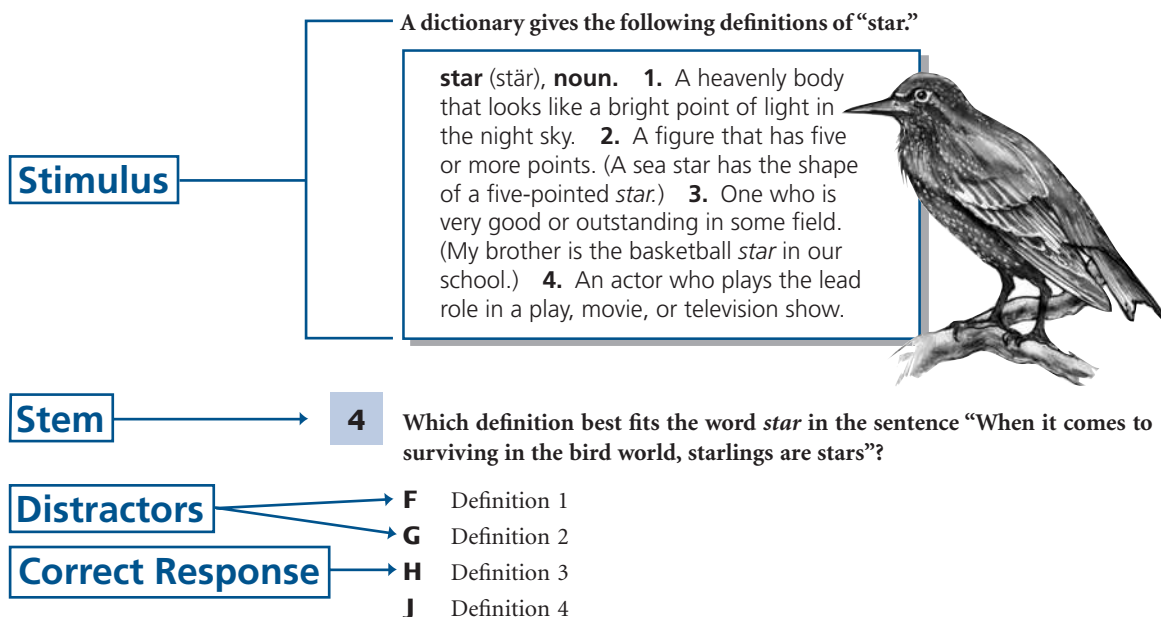
Item Writing Tips

The classroom teacher may want to develop more practice items to supplement those offered in [Parts 4](#) and [5](#). These additional items would give students practice in test-taking skills and measure progress in the subjects they are currently studying in class.

The DRC item writers use specific and complex guidelines to develop items for a wide range of testing products. Below you will find a simple checklist to follow in developing items similar to those used in *TerraNova, The Second Edition*. You may want to make copies of the template on the next page to help you organize your items.

- 1 Choose skills from your course objectives.
- 2 Each item should test only one educational objective.
- 3 Write a clear and direct stem (question) that does not clue the answer to the item or to other items.
- 4 The item should have only one correct response.
- 5 The distractors (incorrect responses) should be clearly wrong, yet plausible.
- 6 All the responses should be logically and grammatically consistent. A response should not “stand out” as different in length or structure.
- 7 Ordering the items from simple to complex, or according to the sequence in the stimulus, can help students successfully build on their understanding of a given passage or stimulus.
- 8 Items should cover a range of skills and difficulty levels.

Example:



Item Writing Template

Item Objective: _____

Stimulus (if any):

Stem:

Answer Choices:
(Correct Response and Distractors)

A

B

C

D

Part 3 Items Illustrating Thinking Skills



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A Thinking Skills Framework for *TerraNova, The Second Edition*

Educators throughout the nation consider it vital to include thinking skills in instruction and in assessment instruments so that students can become intelligent problem solvers, informed, participatory citizens, and effective members of an information-oriented work force.

TerraNova, The Second Edition is designed to ensure that students are required to apply a full range of thinking skills as they respond to the test questions. In order to have a common language with which to discuss the linking of achievement test items and thinking skills, the Rankin-Hughes Framework of Thinking Skills¹ was used as a basis for classifying the items in *TerraNova, The Second Edition*.

The Framework, a comprehensive document that includes aspects of information and communication theory, was developed by two nationally recognized educational leaders, Dr. Stuart C. Rankin and Dr. Carolyn S. Hughes-Chapman. Rankin and Hughes-Chapman are two of the co-authors of *Dimensions of Thinking*,² published by The Association for Supervision and Curriculum Development. The chapters on thinking processes and core thinking skills are based on the Rankin-Hughes Framework.

Working with Dr. Rankin and Dr. Hughes-Chapman, test developers created guidelines for interpreting the Framework and applied it to measurement in ways closely related to instruction. The following summary of the rationale underlying the Rankin-Hughes Framework will clarify how items have been classified.

First, thinking skills are seen as discrete cognitive operations. When these skills are combined in relatively complex sequences, they may be defined as thinking processes. The Rankin-Hughes Framework has identified eight major thinking processes essential to learning and to achieving goals in daily life. Among these processes are concept formation, principle formation, and comprehension—all basic to the acquisition of knowledge. Four other processes—problem solving, decision making, research, and composing—are more concerned with the production or application of knowledge. The eighth process, oral discourse, involves both the acquisition and the production of knowledge.

The Rankin-Hughes Framework has identified seven kinds of skills which, in different combinations and sequences, comprise the following major thinking processes: *Focus*, *Gather Information*, *Organize Information*, *Analyze Information*, *Generate Ideas*, *Synthesize Elements*, and *Evaluate Outcomes*. The ways in which thinking skills are combined and used will vary with the different processes involved. For example, an item might require a student to study a graph showing economic trends in the value of national exports, and then decide on the probable value of those exports at the end of a five-year period. The student might apply a series of skills such as organizing information (translating information from graphic form to verbal form), analyzing information (recognizing the relationships between the annual export values), and generating ideas (predicting the annual value after a five-year period). Although several skills are involved, the item would be classified under Generate Ideas because the central focus of the item requires the student to make a prediction.

¹ Stuart C. Rankin and Carolyn S. Hughes, "The Rankin-Hughes Framework," *Developing Thinking Skills Across the Curriculum* (Westland, Mich.: Michigan Association for Computer Users in Learning, 1987), pp. 1–13.

² Robert J. Marzano, Ronald S. Brandt, Carolyn S. Hughes, Beau Fly Jones, Barbara Z. Presseisen, Stuart C. Rankin, and Charles Suhor, *Dimensions of Thinking: A Framework for Curriculum and Instruction* (Alexandria, Va.: The Association for Supervision and Curriculum Development, 1988).

The Framework thinking skills are not necessarily hierarchical, nor are they always used in a hierarchical sequence. Often one skill is used in the service of another. Items are classified according to the principal thinking skill involved. To promote consistency in the classifications, developers required that a panel of editors agree on the identification of the principal thinking skill for each item.

Selected-response items naturally involve an element of the Focus category because the student must identify what is desired as an outcome. These items also include an element of the Evaluate Outcomes category because the student must compare answer choices in order to select the best one. These elements, however, were not considered as a basis for classification. In fact, because all items involve some focusing on the student's part but few involve the type of focusing required for instructional projects, the Focus category was not used. Rather, categories were restricted to the six other thinking skills.

Items that illustrate thinking skills are presented beginning on page 3.7. Tables showing the thinking skills classifications of *TerraNova, The Second Edition* items begin on page A.17. To give some insight into the rationale used to classify the items, interpretation of the six major thinking skills categories is summarized as follows.

□ Gather Information

The skill of gathering information is the foundation of other cognitive operations. It may involve direct observation through the senses (in test items, through seeing what is presented on a page), recall of knowledge that has been obtained previously, or framing questions that will elicit needed information.

Observe Observation items often require direct observation and matching of visual symbols or shapes—for example, items in the Social Studies test that ask the student to find the date of an event shown on a time line.

Recall Items requiring recall can be on a simple, concrete level as in matching uppercase to lowercase letters in the Level 10 Reading and Language Arts test. They can also be of various levels of abstraction—for example, an economic concept, such as *capital*, which has been taught and must be recalled.

Question Questioning can enable a student to obtain necessary new information. This aspect of gathering information is important in classroom instruction as a part of problem solving, extending comprehension of a passage, or discussing issues.

□ Organize Information

Organizing separate bits of information into cohesive, manageable units is an important skill for every content area. Representing, comparing, classifying, and ordering can all contribute to the student's ability to communicate, analyze, and learn independently. The student is often expected to compare characters in the Reading and Language Arts test, or to compare elements of a graph or a chart in the Social Studies test. In all content areas, comparison is frequently part of a larger analysis task.

Represent Using different forms to structure information can make that information more accessible. In Mathematics, converting numbers from one form to another is an example of applying the representation skill. Items asking the student to interpret outlines, graphs, charts, maps, and other visual organizers can indicate whether the student is able to use these forms as an aid in retaining and using information.

Compare Skills in this category include comparing by identifying similarities, and contrasting by identifying differences. Both processes provide a basis of classifying, analyzing, developing concepts, and generating ideas and evaluations.

Classify Classifying contributes to the application of other thinking skills. Classifying involves knowledge of a definition or concept and consists of identifying examples of a category or establishing that all the necessary attributes are present. Examples of items requiring this skill range from identifying compound words at primary levels of the Reading and Language Arts test to abstract concept groupings required in the Social Studies test, and plant and animal classifications in the Science test.

Order Ordering can involve producing a scheme or criterion for sequencing information, or it can consist of ordering according to a pre-established scheme or criterion. This skill is often a foundation for applying additional thinking skills to a problem or issue. In the Mathematics test, students may be asked to identify an object's numerical position. In the Social Studies test, they may be asked to determine the chronological order of a series of connected events. Reading and Language Arts items often measure the student's knowledge of sequence of events, an important factor in understanding a story or passage.

□ Analyze Information

Analysis is based on the ability to identify attributes or components of an entity or situation, to determine the accuracy and adequacy of information, and to recognize relationships and central elements.

Identify Attributes and Components One important aspect of analysis is identifying attributes and components. In the Reading and Language Arts test, understanding the traits and characteristics of a character aids in the overall understanding of a story. Recognition of the differences between fact and opinion, assumptions and conclusions, and other attributes of thought also requires this skill. Identification of the attributes of a particular environment forms the basis of many Science test items.

Determine Accuracy and Adequacy Analysis depends on the accuracy and adequacy of the information; determining the existence of these attributes is often a basic step. In the Reading and Language Arts test, items measure the student's ability to choose a vocabulary word appropriate to the context and to confirm that punctuation and capitalization are adequate. In the Mathematics test, students determine the accuracy of a statement or the adequacy of a conclusion. Most one-step word problems are included in this category.

Recognize Relationships and Patterns Underlying all understanding is the ability to recognize relationships and patterns, or to make causal or hierarchical connections. In the Mathematics test, students analyze by exploring numbers and objects to determine rules of relationships and patterns. In the Reading and Language Arts test, the student's ability to construct meaning from a passage depends primarily on linking elements such as style, structure, character, action, or theme. Social Studies and Science test items often require that students identify causal, temporal, and other relationships as a part of understanding history or the environment.

Identify Central Element Another important aspect of analysis is identifying the central element, theme, or main idea inherent in a situation. Many Reading and Language Arts test items are based on this kind of analysis. The concept has also been extended to identifying the moral of a tale, the unifying idea of a poem, or other elements that establish the cohesiveness of a whole.

□ Generate Ideas

Generating new ideas requires moving beyond given information, to extend or expand by making connections or discoveries. Inference, prediction, and restructuring may be part of this process.

Infer To infer, the student extends or expands available information in ways that lead to new understanding. Reading and Language Arts test items assess whether the student is able to connect and relate ideas, recognize implied meaning, and translate figurative language. In the Science test, the student must make inferences based on data from experiments.

Predict With the ability to make inferences, the student can predict or forecast future events or consequences, given a set of data or circumstances. In the Reading and Language Arts test, the student may be asked to anticipate the logical outcome of a story situation. In the Science test, the student is often expected to interpolate, or extrapolate from data to supply a missing piece of information.

Restructure Restructuring a problem or issue into another form often leads to a new method of solving a problem or constructing meaning. The ability to understand and use analogies, make hypotheses, and transfer text elements to new situations is measured in many Reading and Language Arts test items. In the Mathematics test, restructuring items assess the student's ability to alter graphs or models to reflect new information.

□ Synthesize Elements

Synthesis is the bringing together of various types of information or components. Often these pieces of information come in different forms or from different sources. Summarizing the key elements or integrating components into a pattern can result in new comprehension or new solutions to problems.

Summarize Summaries that combine key elements in a concise manner are helpful in many fields of study. In the Reading and Language Arts test, items relating to identifying essential information and those asking the student to select the topic sentence of a paragraph draw heavily on the skill of summarizing. Other summarizing items, found in the Social Studies test, ask the student to put important elements together in an economical way.

Integrate Integrating may go a step beyond summarizing in that the combined elements must form a meaningful whole that fits together both internally and in relation to the external world. Test items requiring the ability to integrate information from two sources to form a solution to a problem or to establish a new understanding are found in the Reading and Language Arts, Mathematics, Science, and Social Studies tests.

□ Evaluate Outcomes

In instruction, evaluation of outcomes often involves setting standards for the successful completion of a project, paper, or research problem, and then verifying whether the outcome meets given criteria. In test items, the goals must necessarily be limited, yet reflect the basic principles involved in evaluation.

Establish Criteria Setting standards in order to evaluate the quality or adequacy of an outcome involves two types of criteria. The first is internal validity; the second is applicability in the real world. Items can test the student's ability to construct such standards for given components or situations, such as requiring that students consider the criteria they use in responding to text-based questions in the Reading and Language Arts test.

Verify Judging outcomes—solutions, decisions, meanings, and products—must be based on comparison of the outcomes with established criteria. In the Reading and Language Arts test, for example, the student is asked to verify the genre of a literary excerpt according to criteria learned in the classroom. A Mathematics item may ask the student to examine a given solution to a problem and to verify its accuracy by presenting a second strategy or a mathematical proof. A Social Studies item may require the student to use established standards of logic, consistency, lack of bias, or other elements to evaluate a statement. A Science item may require the student to verify that a given model adequately represents a particular phenomenon.

□ Items Illustrating Thinking Skills

The following items are illustrative of those that require the exercise of various thinking skills. Although each item is listed under only one thinking skill, items often require the student to use more than one. These items are classified according to the major skill and main focus of each item. The following representative items from all content areas show the many ways *TerraNova, The Second Edition* taps the student's ability to process information, reason clearly, and think critically.

Gather Information

Gathering information is an important first step, a base for further cognitive processing. It may involve observing by using the senses, recalling information by accessing prior knowledge, or framing questions to obtain new information.

Reading and Language Arts

Recall

This item requires the student to gather information and then construct meaning. Recalling details serves as a bridge to deeper understanding.

According to what you have read, which of these is a function of the F.B.I.?

- A sharing information about crimes with law enforcement agencies
- B training potential agents in foreign language and computer science skills
- C prosecuting those who have been charged with misdemeanors or felonies
- D helping municipal police departments enforce city and county ordinances

Reading and Language Arts

Recall

This item requires the student to recall the attributes of reference sources before selecting the one most likely to contain information that would expand understanding of the topic of a passage.

Read the question and then choose the best answer.

If you wanted to know more about dinosaurs, which of these would be the best source?

- A an atlas
- B a newspaper
- C a dictionary
- D an encyclopedia

Reading and Language Arts

Recall

This item requires the student to observe and recall the correct spelling of a word. The context of the phrase may be used to help determine attributes of the word, such as its part of speech.

Find the phrase containing an underlined word that is not spelled correctly. If all the words are spelled correctly, mark "All correct."

- A confirmed suspicians
- B forced separation
- C special privilege
- D All correct

Gather Information

Mathematics

Recall

This item requires the student to recall the geometric attributes of the figures.

In which polygon are the interior angles obtuse?

- A** equilateral triangle
- B** irregular trapezoid
- C** regular hexagon
- D** concave pentagon

Science

Recall

This item requires the student to recall information about the structure of Earth—specifically, which layer is the thinnest.

Which of these layers of Earth is the thinnest?

- A** the outer core
- B** the upper mantle
- C** the lower mantle
- D** the outer crust

Science

Recall

This item requires the student to recall information about the history of medicine—specifically, to identify the scientist who developed the first vaccine.

Which of these scientists developed the first vaccine?

- A** Edward Jenner
- B** Louis Pasteur
- C** Robert Koch
- D** Jonas Salk

Gather Information

Social Studies

Recall

This item requires the student to recall previously learned information. Items in this category vary in levels of abstraction.

Some Land Acquisitions by the United States



Louisiana Purchase, 1803

Land located between the Mississippi River and the Rocky Mountains is ceded by France

Oregon Country Cession, 1846

Land in the present-day states of Idaho, Washington, and Oregon is ceded by Great Britain

Mexican Cession, 1848

Land in the present-day states of California, Nevada, and Utah is ceded by Mexico

Gadsden Purchase, 1853

Land in the present-day states of New Mexico and Arizona is ceded by Mexico

Which of these presidents was responsible for the land cession that occurred in 1803?

- A John Adams
- B Thomas Jefferson
- C Abraham Lincoln
- D Andrew Jackson

Organize Information

Effectively using and storing information requires organizing that information. This skill includes transferring information from one representational form to another, comparing and contrasting, classifying by attributes, and ordering according to some scheme or criterion.

Reading and Language Arts

Represent

This item requires the student to interpret graphic information and demonstrate the ability to retain and manipulate this information. Items asking students to interpret visual organizers, such as this one, indicate whether a student is able to use this form as an aid in retaining and using information.

According to what you have read in the two passages, F.B.I. agents and the characters in “Hearts and Hands” both make attempts to hide their identity. For each passage, tell how these attempts are made and for what purpose.

Passage	How Identity Is Hidden	For What Purpose
“F.B.I. Agents”		
“Hearts and Hands”		

Mathematics

Represent

This item requires the student to interpret a graphic representation and recognize equivalent forms of the same number.

This diagram shows how a restaurant’s seating is divided between self-service and full-service tables.



Which of these would not be a reasonable representation of the portion of the restaurant taken up by self-service tables?

- A 70%
- B $\frac{7}{10}$
- C 0.7
- D** $\frac{1}{7}$

Organize Information

Reading and Language Arts

Classify

This item requires the student to classify the answer choices by matching a particular idea with the class or category in which it belongs.

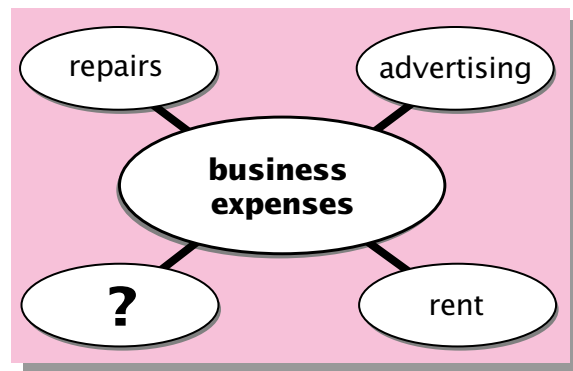
Which of these phrases best describes “wigwam” words?

- A** Native-American words absorbed into the English language
- B** English words that have been abbreviated
- C** words used only in the Algonquian language
- D** Native-American words that mean *shelter*

Social Studies

Classify

This item requires the student to classify by matching one of the answer choices with the category and components in the word web. Recalling knowledge of economic concepts is involved in the process.



Which of these terms best completes the diagram above?

- A** wages
- B** profit
- C** savings
- D** income

Analyze Information

Analyzing is the examining of components, and it is an important part of thinking about an idea, situation, or problem. Analysis requires identifying attributes or components, determining the accuracy or adequacy of various elements, recognizing relationships or patterns that exist among elements, and identifying central elements or ideas.

Reading and Language Arts

Identify Central Element

This item requires the student to analyze what is read and identify a central element as part of constructing meaning.

According to the passage, which of these statements is probably true?

- A Language is static and predictable.
- B Language is flexible and adaptable.
- C Language is never a barrier between people.
- D Language is rarely influenced by different cultures.

Science

Determine Accuracy and Adequacy

This item requires the student to analyze four questions in order to determine which one is the least important in making a scientific decision.

A synthetic dairy cream with the taste and cooking characteristics of real dairy cream has been developed. The synthetic product contains no animal fat or calcium compounds. A government panel will decide whether the product is safe for human consumption. Which of these questions is the least important in making this decision?

- A Are there any negative effects after consuming this product?
- B What company produced this product?
- C How long was the safety of the product researched?
- D Under what conditions was the product tested?

Science

Determine Accuracy and Adequacy

This item requires the student to analyze four different physical processes that can occur during the rock cycle and determine which one corresponds to the process that turns igneous rock into sedimentary rock.

Which of these must occur before igneous rock can be transformed into sedimentary rock?

- A weathering and erosion
- B cooling and hardening
- C melting under extreme heat and pressure
- D chemical change under extreme heat and pressure

Analyze Information

Reading and Language Arts

Recognize Relationships and Patterns

This item requires the student to consider the author's writing style and its relationship to the central meaning of a passage. Analysis of this relationship aids in determining an author's tone or purpose.

Which of these best characterizes the style of writing found in the passage?

- A factual
- B personal
- C descriptive
- D persuasive

Reading and Language Arts

Recognize Relationships and Patterns

This item requires the student to consider the pattern of the words and their relationship to the central meaning of the poem. Analysis of this relationship aids in determining the author's tone or attitude toward the work.

Read the poem and then choose the best answer to the question. (Student reads a poem.)

The tone of this poem is one of

- A sadness
- B yearning
- C insistence
- D playfulness

Mathematics

Recognize Relationships and Patterns

This item requires the student to analyze a table and determine the equation that expresses the function. Exposure to and mastery of functions is crucial to basic algebraic understanding.

Function Table

x	y
0	0
4	16
-2	-8

Which equation fits the data in the function table?

- A $y = -4x$
- B $y = 4x$
- C $y = \frac{4}{x}$
- D $y = \frac{-4}{x}$

Analyze Information

Science

Recognize Relationships and Patterns

This item requires the student to recognize the relationship between a plant's habitat and adaptations the plant uses for conserving water.

Most plants have leaves and stems covered with a cuticle, a waxy layer that protects a plant from excess water loss. In which of these habitats would you most likely find plants with thick cuticles?

- A coastlands
- B grasslands
- C wetlands
- D** deserts

Science

Recognize Relationships and Patterns

This item requires the student to recognize the relationship between two sets of data and then to determine what conclusion can be drawn based on the data.

Velocity of Sound in Various Media

Material	Density (g/cm ³)	Velocity (m/s)
air	0.001	340
water	0.998	1500
brick	1.800	3650
aluminum	2.700	5000
iron	7.900	5120

The table shows how fast sound can move through different materials. From the information in the table, which of these can be concluded about the velocity of sound?

- A Density of a material does not affect the velocity of sound.
- B** The more dense a material is, the faster the sound will travel through it.
- C The less dense a material is, the faster the sound will travel through it.
- D Sound can travel through air, but not through any other material.

Analyze Information

Read this excerpt from
Abraham Lincoln's
Gettysburg Address.
Then answer the question.

*Four score and seven years ago our fathers
brought forth on this continent, a new nation,
conceived in Liberty, and dedicated to the
proposition that all men are created equal . . .*



*We here highly resolve that these dead
shall not have died in vain—that this nation,
under God, shall have a new birth of freedom—
and that government of the people, by the people,
for the people, shall not perish from the earth.*

Social Studies

Recognize Relationships and Patterns

This item requires the student to analyze the relationship between the words in a famous speech and the goals of the speaker. In the process of answering the question, the student incorporates knowledge of content and understanding of causal connections.

Which of these was probably the main purpose of Lincoln's speech?

- A** to persuade the Confederacy to free the slaves
- B** to urge people to continue the struggle to reunify the nation
- C** to defend the right of the Confederacy to secede from the Union
- D** to convince the nation that the preservation of the Union was too costly

Generate Ideas

Generating new ideas requires looking beyond what is presented in order to extend or expand information. It may include making inferences through inductive or deductive reasoning, drawing conclusions, making generalizations, and formulating hypotheses and predictions of probable future events. Generating ideas can also include the process of restructuring information into patterns that may provide greater insight into meaning or into ways of solving a problem.

Reading and Language Arts

Infer

This item requires the student to infer and form an opinion about a character's actions and motives according to clues given in a passage. Awareness of the implied central idea in the passage contributes to the process.

The young woman's behavior throughout the story suggests that she is probably

- A afraid of the two men
- B shy in front of strangers
- C confused by Mr. Easton's story
- D disappointed that she won't be seeing Mr. Easton again

Mathematics

Infer

This item requires the student to analyze the given clues and infer the correct number of green pencils in a bag.

A bag contains 15 colored pencils that are exactly the same size and shape. The probability of selecting a green pencil from the bag without looking is $\frac{2}{5}$. How many green pencils are in the bag?

- A 2
- B 5
- C 6
- D 7

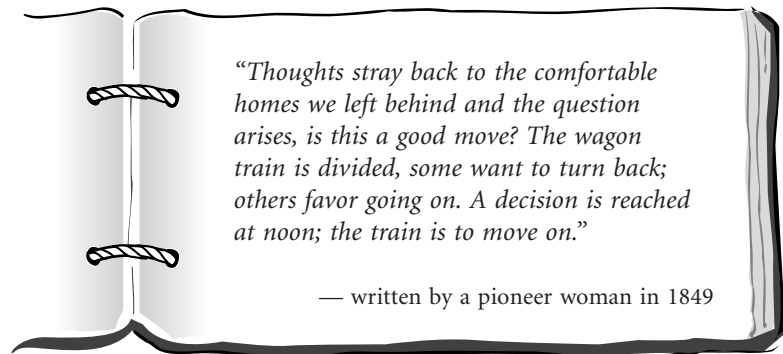
Generate Ideas

Social Studies

Infer

This constructed-response item requires the student to make inferences based on understanding of a historical period and evidence in a pioneer's account. The student moves beyond the given information by interpolating information learned previously.

Read the diary excerpt below.



List two hardships that people on the wagon train probably experienced during their journey.

- _____
- _____

Give one reason why some people on the wagon train probably wanted to continue on their journey and not return home.

Reading and Language Arts

Predict

This item requires the student to anticipate the logical outcome of a story.

Which of these will most likely result from Marguerite's visits with Mrs. Flowers?

- A** Marguerite will lose interest in books and instead develop a passion for music.
- B** Marguerite will become more popular in school and spend less time on her studies.
- C** Marguerite will believe in herself more and take greater pleasure in speaking.
- D** Marguerite will develop a better appetite and become healthier and more active.

Synthesize Elements

Combining various elements to create something new is the essence of the synthesizing skill. It can involve summarizing information or findings into a condensed, comprehensive form. It may also involve integrating different pieces into a meaningful, consistent whole.

Reading and Language Arts

Summarize

These items require the student to identify and summarize key elements in a passage. Combining information in a concise manner is a synthesizing skill.

In “Hearts and Hands,” after the two handcuffed men leave, a passenger on the train says to another passenger, “That marshal’s a good sort of chap.” Explain what he means by this statement. Use two details from the story to support your explanation.



For this answer, make sure you write at least three complete sentences and check your work for correct spelling, capitalization, and punctuation.

Which of these statements best summarizes the passage?

- A** A dedicated teacher takes an interest in an eager but uneducated girl who, she believes, has the potential to become a great poet.
- B** A bright but quiet girl is made aware of the beauty and power of the spoken word through the unexpected attention of a respected neighbor.
- C** A knowledgeable and well-known woman in the community inspires a young girl to become a teacher.
- D** A lonely young girl is honored when an adult whom she admires invites her for an afternoon of refreshments and conversation.

Synthesize Elements

Reading and Language Arts

Integrate

This item requires the student to integrate the information from two sources and then establish and communicate a new understanding of the differences between the two passages.

Compare the description of raccoons in the poem “Curious” with what you read about raccoons in the article “Night Visitors.” How do the two descriptions differ? Use at least two details from the poem or the article to support your answer. You may look back at the poem and the article.

Synthesize Elements

Mathematics

Integrate

This item requires the student to integrate measurement and proportional reasoning skills with problem solving. The student is likely to employ either algebraic or guess-and-check strategies in order to arrive at a solution that meets several criteria.

Sally is making a bead bracelet exactly 13 centimeters long. She will select the beads using this chart. Sally must spend less than \$2.40 for all the beads. She will use exactly 1 silver bead and at least 1 gold bead, 2 red beads, and 2 blue beads.



BEADS

Color	Length (in millimeters)	Price
Red	10 mm	\$0.20
Blue	5 mm	\$0.05
Gold	25 mm	\$0.75
Silver	35 mm	\$0.50

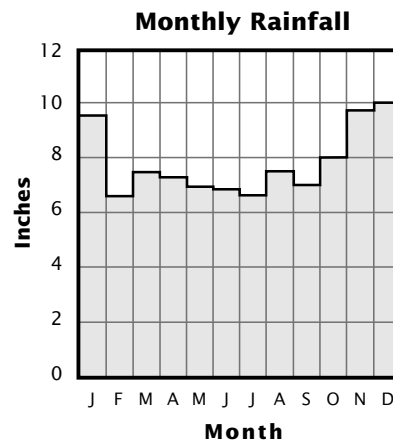
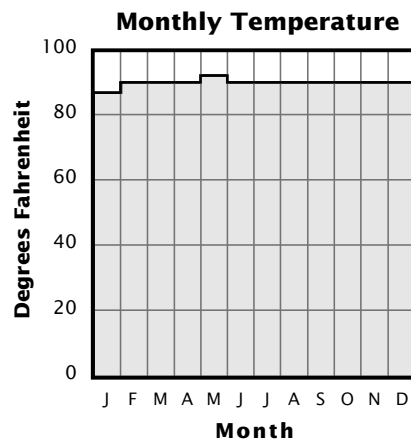


In the box below, write a plan to help Sally choose the beads for her bracelet. You must include:

- the number of each color bead
- the total cost of the beads
- the total length of the bracelet

Synthesize Elements

The graphs below show the average monthly temperatures and total monthly rainfall of a particular region. Look at the graphs. Then do the question.



Social Studies

Integrate

This item requires the student to integrate information from two sources and then to form a conclusion. The student integrates components into a pattern that provides the answer to the question.

The information on the graphs shows a rainfall and temperature pattern that is most like

- A** the Arctic region of Europe
- B** the desert regions of Africa
- C** the rain forest regions of Asia
- D** the Great Plains region of North America

Evaluate Outcomes

Evaluating an outcome consists of two steps: establishing criteria for judging quality or accuracy, and verifying the judgment through the use of established criteria. Evaluating parts of an outcome or evaluating elements of a proposed solution to a problem can be done according to the same principles.

Social Studies

Establish Criteria

This constructed-response item requires the student to establish criteria for deciding between two proposals for land use. The student must evaluate potential effects of each choice and determine which would be more beneficial to the community.

Read the letters to the editor and then answer the question.

(Student reads letters to the editor of the Glenview newspaper.)

Imagine that the Glenview City Council has asked you to recommend what should be done with the old Packer Building. Should it be remodeled and used as a youth center or rented out to small-business owners? On the lines below, write which choice you think would be best for the citizens of Glenview. Include two reasons for your choice.

Reading and Language Arts

Verify

This item requires the student to evaluate and verify the information presented in the answer choices for accuracy, based on the interpretation of facts from a passage.

How does Mrs. Flowers encourage Marguerite to speak?

- A** She offers Marguerite rewards such as cookies and lemonade.
- B** She impresses Marguerite with the appealing sounds of spoken language.
- C** She tempts Marguerite with witty and engaging conversation.
- D** She promises Marguerite a lifetime of career success.

Evaluate Outcomes

1 William Sydney Porter is better known by his pen name O. Henry. 2 He was a writer who lived from 1862 to 1910. 3 His stories are famous for their surprise endings. 4 However, his writing career has a surprising beginning. 5 O. Henry first began writing stories while serving time for embezzlement in an Ohio prison. 6 By the time he was released, he was already a popular author.

Reading and Language Arts

Verify

This item requires the student to evaluate how the sentence supports the central topic of a paragraph and contributes to the paragraph's coherence and cohesion. Then the student must identify where the sentence would best support and contribute to the meaning of the paragraph.

Where would this sentence best fit in the paragraph?

In 1902, he moved to New York City, where he lived for the remainder of his life, and continued to write.

- A after Sentence 3
- B after Sentence 4
- C after Sentence 5
- D after Sentence 6

Evaluate Outcomes

Mathematics

Verify

This item requires the student to evaluate and verify a statement for its accuracy of interpretation of the facts. The student must then generate his or her own conclusion.

The Polar Wear Company is deciding whether its new logo should be red, blue, or green. To find the most popular color, the company sent a survey to 100 customers across the country, asking them to vote for their choice. The company kept track of the results of the survey as they were returned.

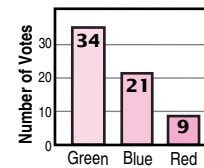
Study the memo that was sent to the company president after 64 customers had replied.



MEMO

TO: Susan Dunbar, President
FROM: Marketing Department

The full results of the survey are not complete. This graph shows how the first 64 customers voted. Clearly, red will not be the color of the new logo because blue and green total 55% of the total votes.



On the lines below, explain what is wrong with the information in the memo.

On the lines below, write a memo that accurately states what can be concluded from the data already collected. Include your prediction of the winning color and explain your reasoning.

TO: Susan Dunbar, President
FROM: Marketing Department

Student Practice Materials

The purpose of Part 4 is to provide eighth-grade students with a useful practice experience and to provide teachers with an opportunity to assess the readiness of their students for the actual test. To achieve this goal, the practice materials are designed for flexible classroom use and can be tailored to suit specific student needs or curricular goals.

Both selected-response items and constructed-response items are represented in the practice materials, giving students a chance to become familiar with different item types. Students who have seen how the questions are formatted and phrased will feel more at ease when confronted with similar items in a formal testing situation.

The student practice materials in Part 4 can also be useful after the test has been administered. After identifying where improvement is needed, these materials can contribute to a successful remediation effort.

The practice materials are organized by content area and can be assembled and administered as a single test covering a variety of subjects, or each content area can be assigned as a single-subject quiz. Teachers also have the option of reviewing the practice materials with students before asking them to answer the questions, or they can simulate a real testing situation by having students complete the items without discussion. For the mathematics items, teachers will need to provide each student with a centimeter/inch ruler.

Items within the student practice materials have been written for two separate grade levels. Because of a range of abilities within most school districts across the nation, DRC does not identify the items by grade level so that teachers will feel comfortable using these materials with students of different ability levels within the classroom.



For those teachers who wish to write additional items of their own, a section called “**Item Writing Tips**” is included at the end of Part 2.

The answer key and scoring guide in [Part 6](#) identify the content objective for each of the practice items in [Parts 4](#) and [5](#). With this information, a teacher can determine in which areas students are performing well and in which areas additional practice is needed. After determining student needs, the teaching activities in [Part 7](#) can be used as a way of reviewing the key concepts and skills covered in the *TerraNova* family of assessments. For information about using test results, see [Part 8](#) of this binder.

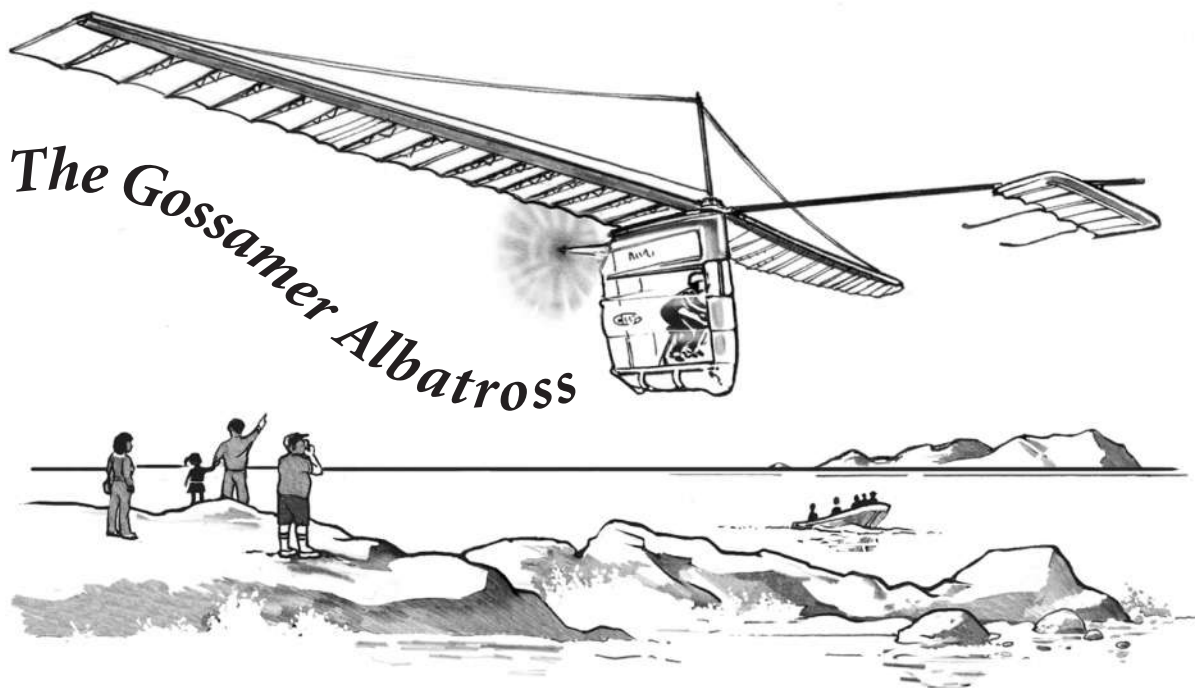


The following practice materials are ready for duplication and immediate classroom use. For teachers who have access to a computer and printer, the Student Practice Materials are available on the CD-ROM located on the inside back cover of this binder.

Student Name _____

Directions

Read the article. Then do Numbers 1 through 10.



The notion that people might be able to fly like birds, using the power of their own muscles, is not new. In a Greek myth, a boy named Icarus flew with birds' feathers waxed together and fastened to his arms. The myth says that Icarus flew too close to the sun, which melted the wax and caused him to plunge into the sea.

On June 12, 1979, part of the myth became reality. Bryan Allen, a twenty-six-year-old biologist from California, traveled twenty-two and a half miles across the English Channel in a human-powered flying machine. His craft, the *Gossamer Albatross*, was named for its unusual appearance and construction. Gossamer, meaning "delicate" or "light," was an apt description for the extremely thin, transparent material covering the craft's wings. The machine was designed with an exceptionally wide

wingspan, like that of an albatross, a sea bird known for its long wings. From wing tip to wing tip, the *Gossamer Albatross* measured ninety-four feet. Allen was suspended beneath the wings on an apparatus much like a bicycle. The power of his pedaling was transferred to a large propeller, which drove the aircraft forward at about twelve miles per hour.

Allen's flight wasn't easy. Flying a few feet, sometimes only inches, above the water, he constantly had to combat turbulent winds. At one point, he signaled his support team, who were following closely in boats, that he was ready to quit. At that moment, however, he found that by rising to an altitude of fifteen feet, he could utilize much smoother winds. With the aid of this discovery, Allen was able to complete his awe-inspiring flight entirely under his own power.

1 This passage is mostly about

- A** a high-speed aircraft
- B** low-altitude flying
- C** an unusual use of a ten-speed bike
- D** flight powered by human muscle

2 In the last paragraph, the article says that Allen “constantly had to combat turbulent winds.” In the context of the paragraph, *turbulent* probably means

- F** warm
- G** rough
- H** wet
- J** subtle

3 What tactic allowed Allen to escape defeat?

- A** He signaled his support crew.
- B** He landed his aircraft in France.
- C** He increased his altitude to fifteen feet.
- D** He decreased his speed to twelve miles per hour.

4 Which of these shows a silhouette of the kind of sea bird for which the *Gossamer Albatross* was named?



F



G



H



J

- 5** Which of these was probably the motivation for Allen's flight?
- A** to prove that humans can fly close to the water
 - B** to demonstrate that humans can fly under their own power
 - C** to test the effect of wind on the wings of his aircraft
 - D** to break the world record for flying from England to France

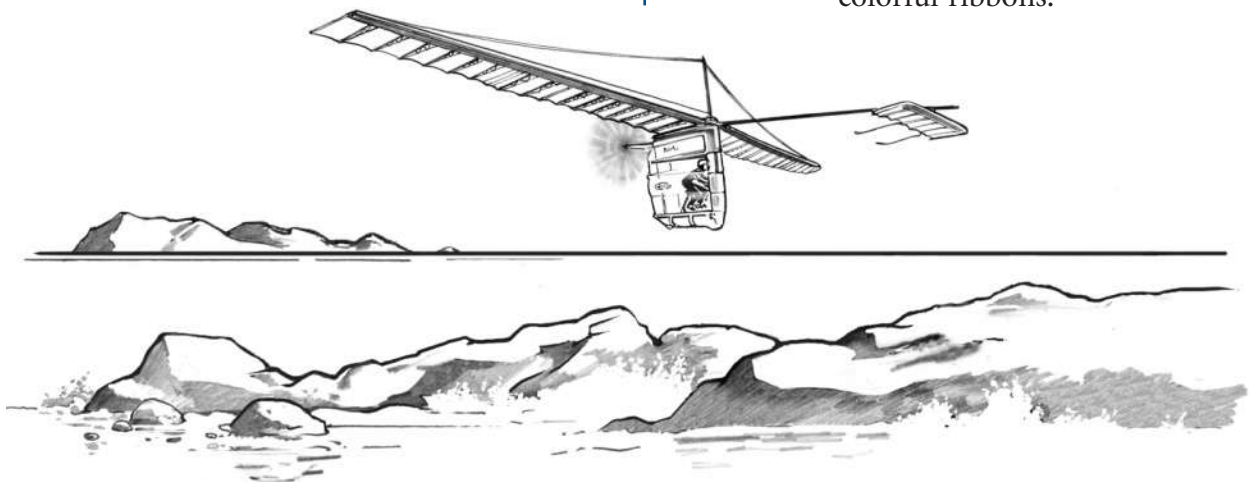
- 6** In what fields of study would Allen's flight most likely produce new developments?
- F** muscle development and body-building techniques
 - G** ancient myth's contribution to modern science
 - H** political understanding between Britain and France
 - J** lightweight aircraft design and materials

- 7** In doing a report on human-powered flight, a student found an article on Bryan Allen's feat. The article contained excellent color photographs of the *Gossamer Albatross*. In which of these sources did the student probably find this article?

- A** *Webster's Dictionary*
- B** *Pictorial History of Flight*
- C** *Principles of Color Photography*
- D** *Airplane Engine Repair*

- 8** For his report, the student made some notes about kites. Which of these sentences is written correctly?

- F** In Asia, a kite are often built in the shape of a dragon or giant serpent.
- G** Chinese New Year celebrations always features a long paper dragon.
- H** The record for the most longest kite is the Thai snake, which was about 2,000 feet long.
- J** Kites are often decorated with colorful ribbons.



9 Choose the best way to combine these sentences:

Leonardo da Vinci was a fifteenth-century artist and inventor.

Leonardo da Vinci drew up plans for a flying machine that would have worked.

- A** Leonardo da Vinci was an artist and inventor and he drew up plans for a flying machine that would have worked in the fifteenth-century.
- B** A fifteenth-century artist and inventor, Leonardo da Vinci, drew up plans for a flying machine that would have worked.
- C** In the fifteenth-century, Leonardo da Vinci drew up plans for a flying machine that would have worked, being an artist and inventor.
- D** Leonardo da Vinci's plans for a flying machine would have worked, but he was a fifteenth-century artist and inventor.

10 In your opinion, would many people want to own a plane like the *Gossamer Albatross*? Explain why or why not. Support your opinion by focusing on at least one specific feature of the *Gossamer Albatross* as described in the passage.

Directions

Here is an excerpt from a story by Jack London. It tells about a factory worker, a young boy named Johnny. Read the excerpt. Then do Numbers 11 through 16.

He took his place in one of the many long rows of machines. Before him, above a bin filled with small bobbins, were large bobbins, revolving rapidly. Upon these he wound the jute twine of the small bobbins. The work was simple. All that was required was celerity.* The small bobbins were emptied so rapidly, and there were so many large bobbins that did the emptying, that there were no idle moments.

He worked mechanically. When a small bobbin ran out, he used his left hand as a brake, stopping the large bobbin, and, at the same time, with thumb and forefinger, catching the end of the flying twine. Also, at the same time, with his right hand, he caught up the loose end of twine on a small bobbin. These various acts with both hands were performed simultaneously and swiftly. Then there would come a flash of his hands as he looped the weaver's knot and released the bobbin. There was nothing difficult about weaver's knots. He once boasted he could tie them in his sleep. And for that matter, he sometimes did, toiling centuries long in a single night at tying an endless succession of weaver's knots.

Some of the boys shirked, wasting time and



machinery by not replacing the small bobbins when they ran out. And there was an overseer to prevent this. He caught Johnny's neighbor at the trick and boxed his ears.

"Look at Johnny there—why ain't you like him?" the overseer wrathfully demanded.

Johnny's bobbins were running full blast, but he did not thrill at the indirect praise. There had been a time . . . but that was long ago, very long ago. His apathetic face was expressionless as he listened to himself being held up as a shining example. He was the perfect worker. He knew that. He had been told so, often. It was a commonplace, and it didn't seem to mean anything to him anymore. From the perfect worker he had evolved into the perfect machine. When his work went wrong, it was, with him as with the machine, due to faulty material. It would have been as possible

*celerity = speed

for a perfect nail die* to cut imperfect nails as for him to make a mistake.

The boy alongside of Johnny whimpered and sniffled. The boy's face was convulsed with hatred for the overseer, who kept a threatening eye on him from a distance, but every bobbin was running full. The boy yelled terrible oaths into the whirling bobbins before him, but the sound did not carry half a dozen feet, the roaring of the room holding it in and containing it like a wall.

Of all this Johnny took no notice. He had a way of accepting things. Besides, things grow monotonous by repetition, and this particular

*die = a cutting or shaping tool

happening he had witnessed many times. It seemed to him as useless to oppose the overseer as to defy the will of a machine. Machines were made to go in certain ways and to perform certain tasks. It was the same with the overseer.



11 According to Jack London's description, work at a textile mill was

- A easy and enjoyable
- B dull and repetitive
- C difficult but profitable
- D simple but interesting

12 From the excerpt you can conclude that Johnny is

- F fairly new at factory work
- G anxious to succeed at his work
- H adept and accomplished at his work
- J awkward at handling bobbins

13 The first sentence of the third paragraph says that "some of the boys shirked." *Shirked* probably means

- A did not do their best
- B smiled in a nasty way
- C sneaked away to rest
- D did not show respect

14 The author characterizes Johnny as someone who

- F is an overconfident worker who looks down on others
- G performs his job automatically
- H is an expert at what he does and enjoys teaching others
- J has no real ability to do the work demanded of him

15 Which of these sentences about Johnny supports the correct answer to Number 14?

- A** He caught up the loose end of twine on a small bobbin.
- B** He once boasted he could tie them in his sleep.
- C** He had evolved into the perfect machine.
- D** He had a way of accepting things.

16 The author would probably agree with which one of the following statements?

- F** Monotonous or repetitive work is destructive to humans.
- G** The people best suited for factory work are children.
- H** The discipline of routine actions develops character.
- J** People can be good at only one task at a time.



Directions

Here is a paragraph from a student essay about writer Jack London. There are some mistakes that need correcting. Read the paragraph. Then do Numbers 17 through 19.

¹ Jack London had considerable personal experience with the hardships of working life. ² At age fourteen, he quit school and got a job to help support his family. ³ He earned ten cents an hour working in a cannery. ⁴ Next, he goes to sea on a seal-hunting voyage. ⁵ When he returned, he got a job in a jute factory. ⁶ This was probably the inspiration for his story "The Rebel."

17 Choose the best way to write Sentence 1.

- A** Jack London had considerably personal experience with the hardships of working life.
- B** Jack London had considerable personally experience with the hardships of working life.
- C** Jack London had considerably personally experience with the hardships of working life.
- D** Best as it is

18 Choose the best way to write Sentence 4.

- F** Next, he has gone to sea on a seal-hunting voyage.
- G** Next, he had gone to sea on a seal-hunting voyage.
- H** Next, he went to sea on a seal-hunting voyage.
- J** Best as it is

19 Which of these is the best way to combine Sentences 5 and 6?

- A** When he returned, he got a job in a jute factory, which was probably the inspiration for his story “The Rebel.”
- B** When he returned, he got a job in a jute factory, this was probably the inspiration for his story “The Rebel.”
- C** The inspiration for his story “The Rebel” was probably when he returned, he got a job in a jute factory.
- D** His story “The Rebel” was probably the inspiration for his job in a jute factory, when he returned.

20 A student wrote this paragraph about child labor. There are four errors in capitalization, punctuation, and grammar. Draw a line through each part that has a mistake and write the correction above it.

In the early years of the twentieth century, many factories commonly hired young children to run its machines. In 1908, a photographer named Lewis Hine was hired by the United States government to document the working environment in these factories, he discovered that children spent up to twelve hours a day, six days a week, working for low wages at dangerous jobs in stifling heat. Thanks in part to Hine’s photographs, child labor laws were passed to protect children from such miserably conditions.

Directions

Read this excerpt from the autobiography of poet and performer Maya Angelou. Then do Numbers 21 through 31.



Touring with Porgy and Bess

by Maya Angelou

In 1954, during the Cold War, Maya Angelou was a member of the cast of Porgy and Bess, which toured Eastern Europe. In Zagreb, Yugoslavia, though the performers were supposed to stay in their hotel, Angelou decided to go out and explore. She knew a little of the Serbo-Croatian language spoken in Yugoslavia.

I walked into a small store which sold musical instruments. The salesman took one look at me and rushed back to a draped doorway. He shouted, “Come and see this!” Then, as if I had not heard and seen his action, he dressed his face in the universal sales-pitch smile and asked, “How are you? Good morning. May I help you?” He jerked his face away and toward the door again. “Come. Come now.” Then back to me with a courteous manner.

I said, “I’d like to buy a mandolin.”

He interested me as much as I interested him. It was fantastic that he thought he ceased to exist for me when he removed his attention.

“A mandolin? Certainly.” His eyes fled toward the back room. I grabbed his attention: “Here. How much is this one?”

While he removed a mandolin, beautifully inlaid with mother-of-pearl, children began to tumble through the rear door and into the

store. They were followed by a heavy woman with a large, florid face. When they saw me, they stopped, as if they had rehearsed the scene.

The woman directed a question to the man. He looked at her and answered, but I couldn’t catch the language. They all began to talk at once, the children’s voices stabbing in and out of the deeper sounds. I continued examining the mandolin, strumming on it, turning it over in my hands to appreciate the fine woodwork. I ignored them and said to the man that I would like to buy the instrument.

He interrupted the family dialogue and told me the price; I gave him the money. The family had advanced on me. The mother was holding back as many of the children as she could while she inched closer to me.

I spoke to her. “Good morning, madame.”

She smiled tentatively, but the incredulous look on her face remained.



“Good morning, madame,” I repeated, looking directly in her eyes. If they thought I was a talking bear, then they would have to admit that at least I spoke Serbo-Croatian.

Her husband was wrapping my package, so I continued, “How are you, madame?”

Finally, her lips relaxed and opened and I saw the bar of metal that substituted for teeth. She placed herself between me and the children, then said, “Paul Robeson.”¹

It was my turn to be stunned. The familiar name did not belong in Byzantium. The woman repeated, “Paul Robeson,” and then began one of the strangest scenes I had ever seen.

She began to sing “Deep River.”² Her husky voice was suddenly joined by the children’s piping “My home is over Jordan.” Then the husband teamed with the wife and offspring, “Deep river, Lord.” They knew every word.

¹ Paul Robeson = celebrated African American singer and actor (1898–1976)

² “Deep River” = a well-known spiritual

I stood in the dusty store and considered our people, our history, and Mr. Paul Robeson. Somehow, the music fashioned by men and women out of an anguish they could describe only in dirges was to be a passport for me and their other descendants into far and strange lands and long unsure futures.

*“Oh don’t you want to go
To that gospel feast?”*

I added my voice to the melody:

*“That promised land
Where all is peace?”*

I made no attempt to wipe away the tears. I could not claim a forefather who came to America on the *Mayflower*. Nor did any ancestor of mine amass riches to leave me free from toil. My great-grandparents were illiterate when their fellow Americans were signing the Declaration of Independence, and the first families of my people were bought separately and sold apart, nameless and without traces—yet there was this:

*“Deep river,
My home is over Jordan.”*

I had a heritage, rich and nearer than the tongue which gives it voice. My mind resounded with the words and my blood raced to the rhythms.

*“Deep river,
I want to cross over into campground.”*

The storekeeper and his wife embraced me. My Serbo-Croatian was too weak to carry what I wanted to say. I hugged them again and took up my mandolin and left the store.

21 Which of these best summarizes the important events that are described in the excerpt?

- A** A family in Zagreb, Yugoslavia, tries to communicate with an American woman visiting their country, but without luck. The woman buys a musical instrument in their shop, but they do not really get to know one another.
- B** A woman offers the owners of a music store the gift of speaking to them in their own language. In turn, they unexpectedly offer her the gift of recognizing her cultural heritage.
- C** A shopkeeper is frightened by a woman who comes into his shop to buy a musical instrument. He tries to scare her away, but ends up selling her a mandolin in spite of his fear.
- D** A woman goes to a store in Zagreb, Yugoslavia, to buy a musical instrument. The couple who run the shop speak no English but are courteous and friendly. The woman gets the instrument she wants and leaves.

22 In the excerpt, the primary motivation for the shopkeeper's behavior seems to be

- F** his need to make an effective sales pitch to a customer
- G** his excitement about the unexpected arrival of a foreigner
- H** his wish to entertain his family at another person's expense
- J** his fear of getting into trouble with the communist leaders of Zagreb

23 What does Angelou decide to buy?



A



B



C



D

- 24** Angelou describes the woman in the store as having an incredulous look on her face. *Incredulous* means about the same as
- F** disbelieving
 - G** mistrustful
 - H** deceptive
 - J** pleased
- 25** What does Angelou mean when she says that the music of the dirge was to be a passport for her into far and strange lands?
- A** Her humble birth was no obstacle to fame.
 - B** Her good singing voice was appreciated the world over.
 - C** She is familiar with musical instruments from different countries.
 - D** Music helped her communicate with people from another culture.
- 26** What surprises Angelou most about her encounter with the shopkeeper and his family is that
- F** people from a different background are familiar with significant aspects of her own culture and experience
 - G** the family's residence and the music shop are in the same small building
 - H** the quality of musical instruments is high in a country that is not as technologically advanced as the United States
 - J** a performing artist from the United States is considered such a rarity in Yugoslavia
- 27** Choose the sentence that is complete and written correctly.
- A** Among spokesmen for African Americans in the first half of the twentieth century, the foremost were certainly Paul Robeson.
 - B** Robeson graduated at the top of his class at Rutgers and put himself through law school by playing professional football on weekends.
 - C** The multi-gifted Robeson was hired by a New York law firm, but it eventually decided on a career as an actor and singer.
 - D** Robeson earned high acclaim for his stage performances, and his role in the film *Showboat* have been preserved for future generations to see.

28 Choose the sentences that best support this topic sentence.

Most singers warm up their voices backstage before starting a performance.

- F** At the end of a performance, most of them are tired and just want to go to sleep. They usually have to stay in hotels when they travel from city to city.
- G** When they are onstage, they usually sing several songs without a break. Sometimes they can rest their voices briefly during instrumental solos.
- H** They even do deep-breathing exercises at home to help them relax. This is a good practice, in addition to activities that increase their stamina.
- J** They might sing scales or an easy, familiar song. This exercise allows them to sing their best, and it prevents injury to their vocal chords.

29 Which of these best combines the two sentences?

Some performers always have stage fright.

Others are always calm and relaxed.

- A** Although some performers always have stage fright, others are always calm and relaxed.
- B** Some performers who always have stage fright are always calm and relaxed.
- C** Since some performers always have stage fright, others are always calm and relaxed.
- D** Some other performers are always calm and relaxed, then some performers always have stage fright.

- 30** Some people say that music is the universal language. How does the excerpt from “Touring with Porgy and Bess” confirm this idea? Use at least one detail from the excerpt to support your explanation.

- 31** Maya Angelou has natural talent as a poet and singer. Think of a talented person you know, or know about. Write a paragraph describing that person. Give details about his or her talent and how it might be developed into a career.



For this answer, make sure you write at least three complete sentences and check your work for correct spelling, capitalization, and punctuation.

Directions Choose the word that means the same, or about the same, as the underlined word.

32 interesting trait

- F** proposal
 - G** attire
 - H** transformation
 - J** characteristic
-

Directions Choose the answer that shows the best capitalization and punctuation for the underlined part of the sentence.

33 “That new roller coaster is awesome.” Exclaimed my friend.

- A** awesome!” Exclaimed
 - B** awesome” exclaimed
 - C** awesome!” exclaimed
 - D** Correct as it is
-

Directions Choose the word that is spelled correctly and best completes the sentence.

34 The prince is the _____ to the throne.

- F** air
- G** hare
- H** heir
- J** aire

Student Name _____

1 Which of these figures **always** has fewer than 3 lines of symmetry?

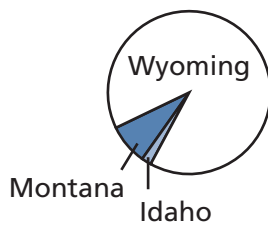
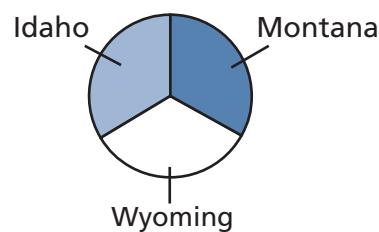
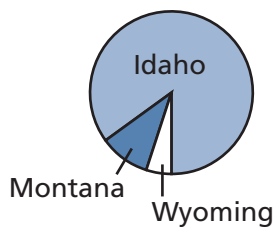
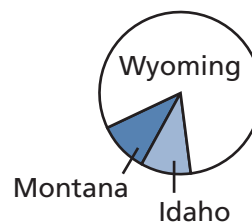
- A** circle
- B** square
- C** trapezoid
- D** triangle

2 Yellowstone National Park is located in parts of Idaho, Wyoming, and Montana. The table below shows the number of square miles that Yellowstone National Park covers in each state.

Yellowstone National Park

State	Number of Square Miles
Idaho	49
Montana	246
Wyoming	3,160

Which of these circle graphs **best** represents the information in the chart?

**F****H****G****J**

- 3** The table below shows information about six geysers at Yellowstone National Park.

Old Faithful's eruptions last from $1\frac{1}{2}$ to 5 minutes. To see Old Faithful erupt twice, what is the least amount of time from the beginning of the first eruption to the end of the second?

- A** 38 minutes
- B** 45 minutes
- C** 73 minutes
- D** 80 minutes

Geysers at Yellowstone

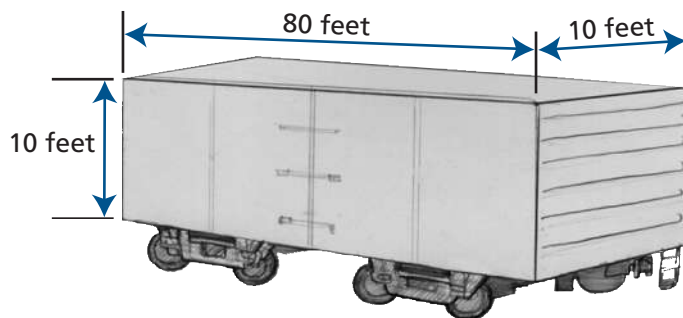
Name	Time Between Eruptions
Grand	8 – 12 hours
Daisy	90 – 110 minutes
Castle	9 – 11 hours
Old Faithful	35 – 120 minutes
Riverside	5.5 – 7 hours
Great Fountain	10 hours

- 4** An empty boxcar weighs about 20 tons. The grain that would fill a boxcar weighs 30 tons. If ore weighs about 3 times as much as grain, about how much does a boxcar weigh when it is full of ore?

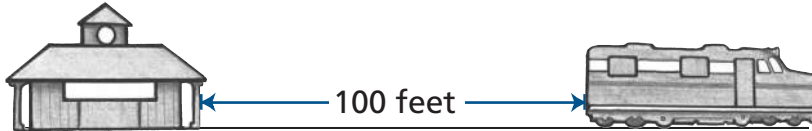
- F** 60 tons
- G** 90 tons
- H** 110 tons
- J** 150 tons

- 5** Don has to paint the front, the back, the sides, and the top, but not the bottom of the boxcar shown below. What is the total surface area he has to paint?

- A** 1,700 square feet
- B** 2,600 square feet
- C** 3,400 square feet
- D** 8,000 square feet



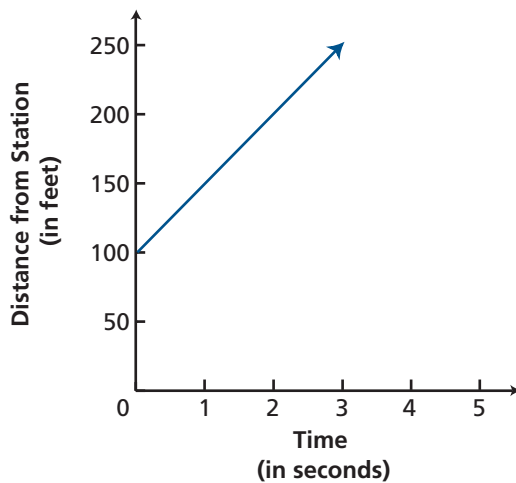
- 6** The train pictured below is traveling away from the station at a constant speed.



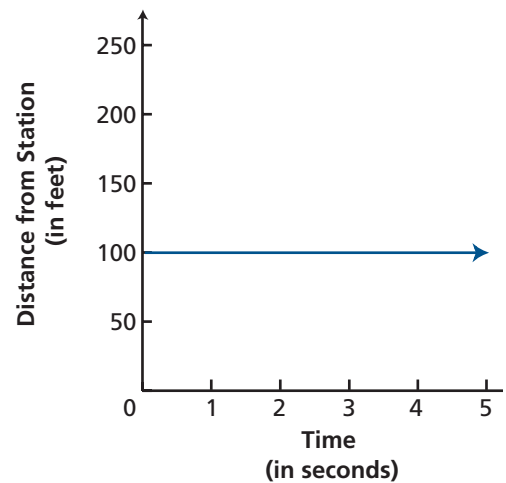
The train's distance from the station can be found using the equation below, where d = distance and t = time.

$$d = 100 + 50t$$

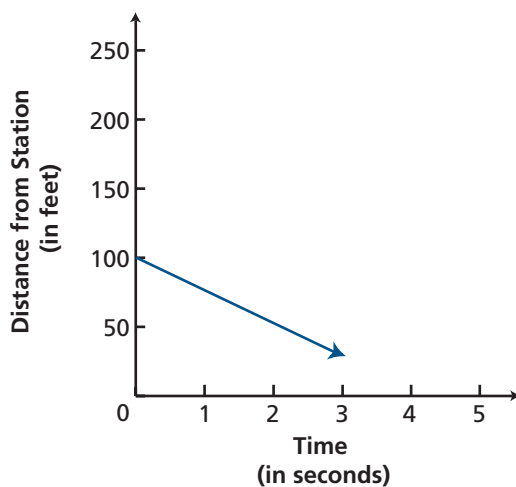
Which of these graphs represents the train's distance from the station?



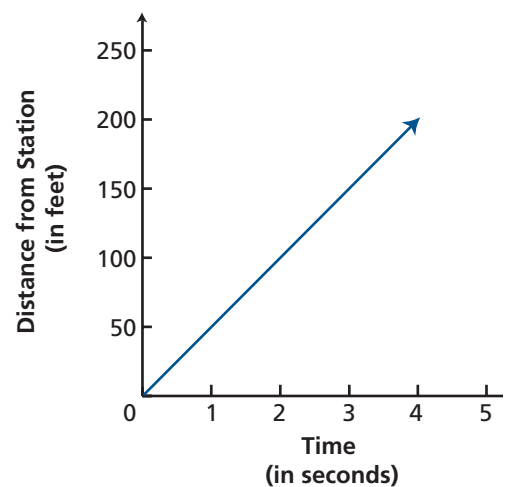
F



H

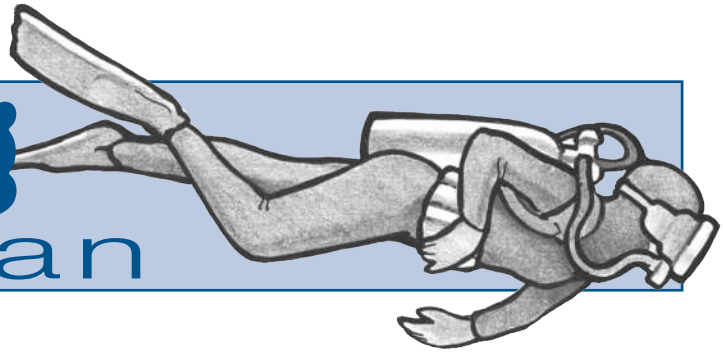


G



J

Exploring the Ocean



Directions Kelly, Mark, Tom, and LeAnne are scuba diving to study the ocean. Do Numbers 7 through 10 about their dive.

7 Kelly took a picture of each of the following shells from the coral reef and put the pictures in an envelope.

- 4 conch shells
- 8 scallop shells
- 1 cowrie shell
- 7 limpet shells

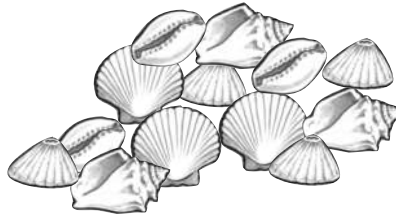
If she chooses one picture from the envelope at random, what is the probability she will select a picture of either a cowrie or a conch shell?

A $\frac{1}{5}$

B $\frac{1}{4}$

C $\frac{1}{3}$

D $\frac{1}{2}$

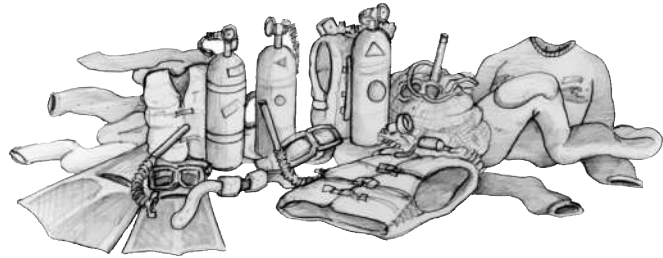


8 Mark and Kelly are scuba diving. Both of them started with the same amount of air, and they are using their air at the same rate. Mark has used almost all his air and must now return to the surface. Which of these do you need to know to find how much longer Kelly can stay under water?

- F** how long Mark and Kelly were in the water at the same time
- G** how many liters of air Kelly uses in a minute
- H** how long Mark was in the water before Kelly
- J** how many liters of air Kelly has left in her tank

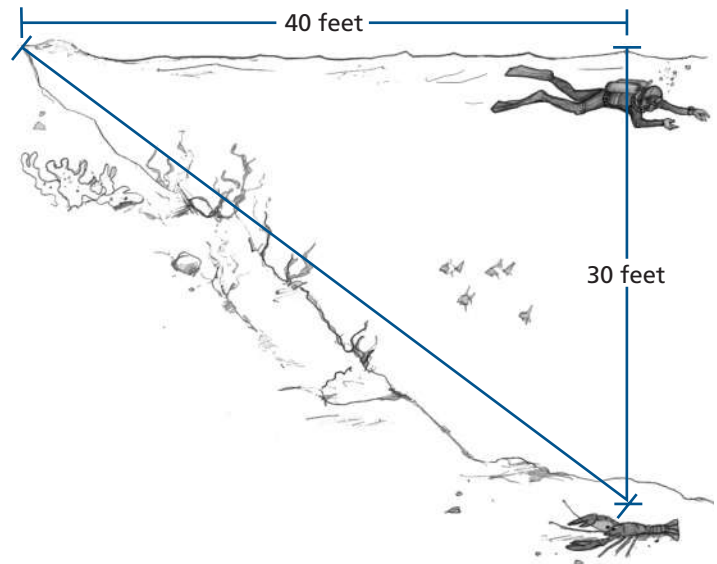
- 9** On LeAnne's boat, there are 4 different kinds of masks, 3 different kinds of wet suits, and 2 different kinds of regulators. If LeAnne wants 1 mask, 1 wet suit, and 1 regulator, how many different possibilities are there?

- A** 6
B 9
C 12
D 24



- 10** Tom entered the water and swam along the surface for 40 feet. He saw a lobster and dove straight down for 30 feet. How far was Tom from the point on the shore where he first entered the water?

- F** 40 feet
G 50 feet
H 60 feet
J 70 feet



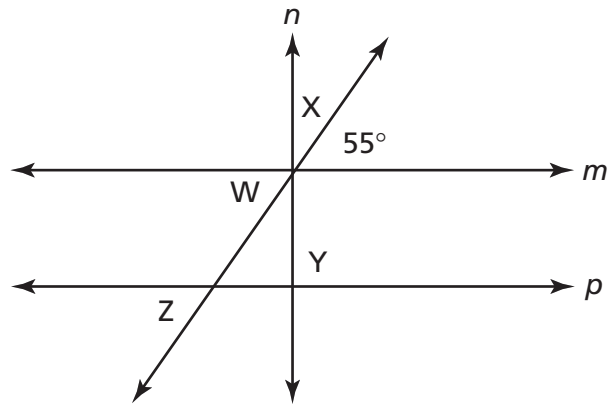
- 11** Elaine has 250 of the 1,500 hours of flight time needed to qualify for an astronaut training program. Which of these would give her the exact number of additional hours necessary to qualify for the program?

- A** 25 hours per week for 70 weeks
B 30 hours per week for 50 weeks
C 25 hours per week for 50 weeks
D 40 hours per week for 25 weeks

- 12** Look at the diagram.

Line n is perpendicular to line p .
 Line m is parallel to line p .
 Which of these angles is the smallest?

- F** $\angle W$
G $\angle X$
H $\angle Y$
J $\angle Z$



- 13** Donna threw the javelin 92 feet. If Shanta had thrown the javelin 14 feet farther, it would have traveled twice as far as Donna's throw. How far did Shanta throw the javelin?

- A** 156 feet
B 170 feet
C 184 feet
D 198 feet

- 14** Eric's rule to find the best high jumper is to subtract the height of the contestant from the height of the jump. The contestant with the highest resulting number wins. Use the chart below and Eric's rule to determine who would finish in third place.

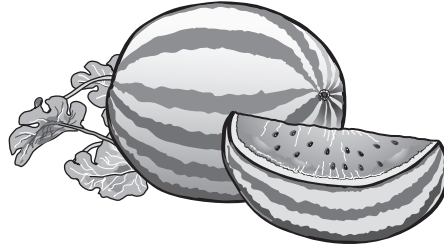
- F** Eugene
G Brian
H Devon
J Colin

HIGH JUMP RESULTS

Contestant	Height of Contestant	Height Jumped
Eugene	6 feet 2 inches	6 feet 3 inches
Brian	5 feet 11 inches	6 feet 1 inch
Devon	5 feet 7 inches	5 feet 11 inches
Colin	5 feet 3 inches	5 feet 8 inches

- 15** René bought a watermelon for \$3.75. If the watermelon weighed $12\frac{1}{2}$ pounds, what was the cost per pound?

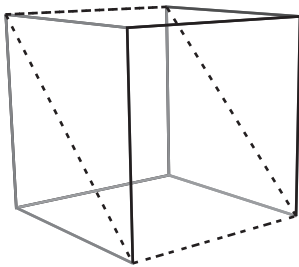
- A** \$0.25
- B** \$0.30
- C** \$0.33
- D** \$0.38



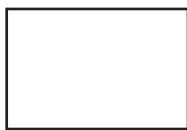
- 16** The snack stand at a pool gives 15% of its profits to the swim team. If the snack stand made a \$140.00 profit at a swim meet, how much was given to the swim team?

- F** \$14.70
- G** \$15.60
- H** \$21.00
- J** \$22.00

- 17** Jason has a cube-shaped block of wood that he is cutting as shown.



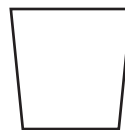
What will the face created by the cut look like?



A



B



C



D

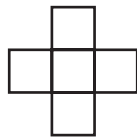
18 Suzy has an electric car. She drove for 5 hours 15 minutes. If she averaged 28 miles per hour, how many miles did she travel?

- F** 141.5 miles
- G** 144.2 miles
- H** 147 miles
- J** 154 miles

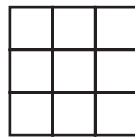
19 Brett is making a pattern out of blocks. If the pattern continues, how many blocks will be in step 6?



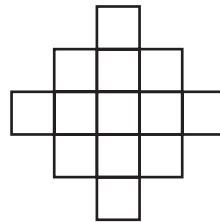
step 1



step 2




step 3



step 4

- A** 16
- B** 20
- C** 25
- D** 29

- 20** Kevin is buying fish for his tank. The chart below shows the prices for the types of fish he likes.



Fish Prices	
Algae Eaters	\$1.99
Large Goldfish	\$0.40
Neon Tetras	\$0.50
White Cloud Tetras	\$0.99
Danios	\$1.29

If Kevin buys at least 1 of each type of fish, what is the greatest number of fish he can buy without spending more than \$6.00? Show your work in the box below and write your answer on the line.

Total number of fish _____

- 21** Tommy needs to move 5 boxes from his living room to his truck. He can carry 1, 2, or 3 boxes at a time. It takes him 20 seconds to carry 1 box to the truck, 45 seconds to carry 2 boxes, and 65 seconds to carry 3 boxes. It always takes Tommy 10 seconds to return from the truck to the living room.

What is the **least** amount of time it will take Tommy to move 5 boxes from the living room to his truck?

Answer _____ seconds

On the lines below, explain how you found your answer.

22



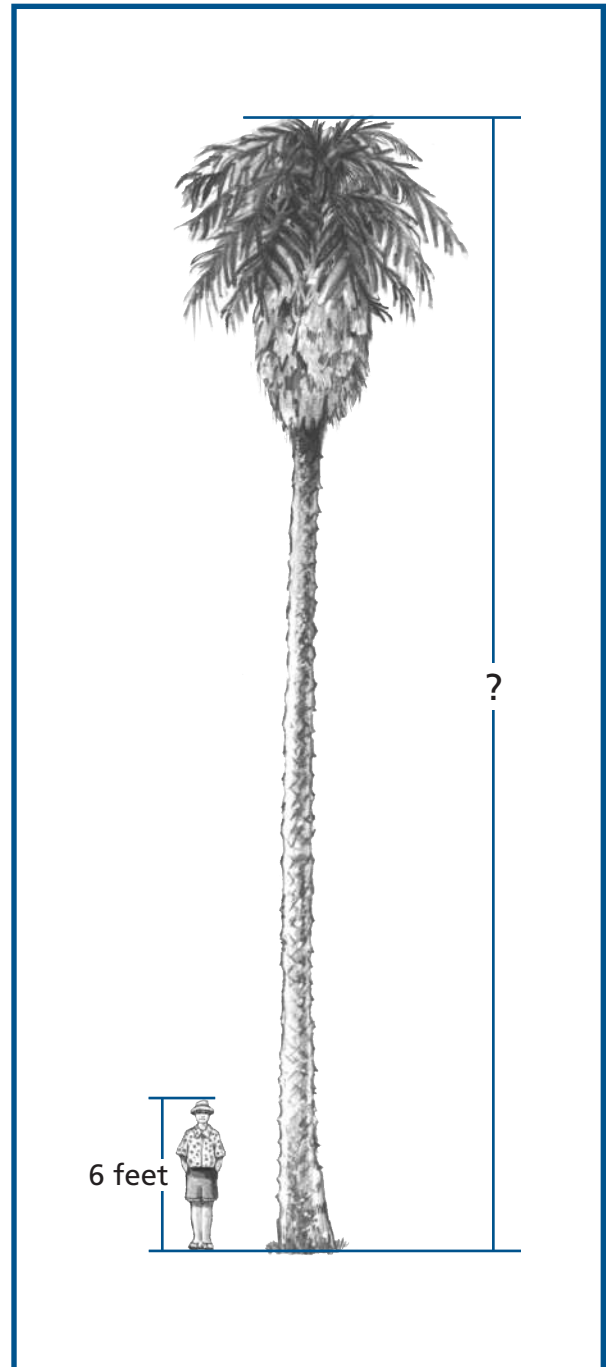
Use the centimeter side of your ruler to help you solve this problem.

Jaime and his family went to the beach for their vacation. Jaime took a picture of his father, which is shown to the right.

Jaime's father is 6 feet tall. In the space below, write a proportion to show how to find the height of the tree.

What is the actual height of the tree? Show your work in the box below and write your answer on the line.

Answer _____ feet



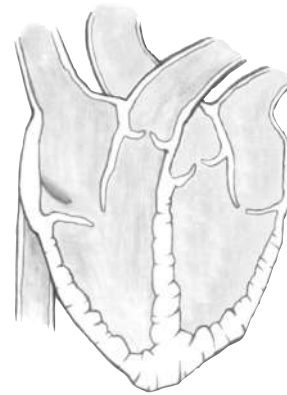
Student Name _____

1 Which of these does not usually run on battery power?

**A****B****C****D**

2 Why does a person's heart pump faster during vigorous exercise?

- F** to speed up digestion
- G** to help the person build up muscles
- H** to help the person sweat more to prevent overheating
- J** to provide muscle cells with more oxygen



3 How do bacteria reproduce?

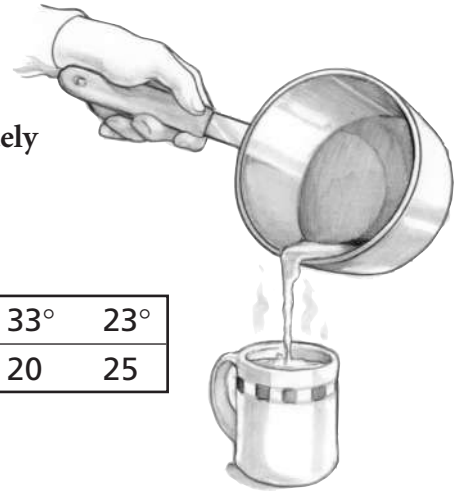
- A** by fusing together
- B** by dividing in two
- C** by producing seeds
- D** by producing sperm

4 What is an organism's *habitat*?

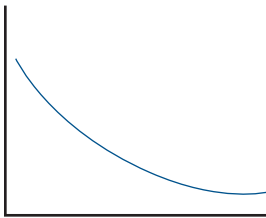
- F** the environment in which it lives
- G** the organisms that it lives with
- H** the things it does to stay alive
- J** the activities it does by instinct

- 5** The table below shows the results of letting hot chocolate cool at room temperature. The hot chocolate is at 100°C when it is poured into a cup. Elapsed time starts immediately after the chocolate is poured.

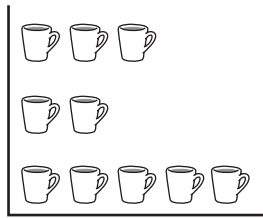
Temperature (in degrees C)	100°	80°	60°	45°	33°	23°
Elapsed Time (in minutes)	0	05	10	15	20	25



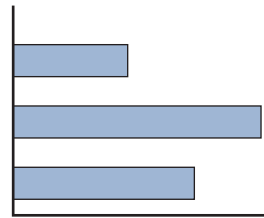
The information in the table is to be converted into a graph. Which of these graphs would best show how the temperature of the hot chocolate changed over time?



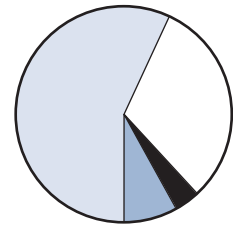
A



B



C



D

- 6** Which of these was responsible for the creation of the Hawaiian Islands in the Pacific Ocean and of the Ascension Islands in the Atlantic Ocean?

- F** continental drift
- G** weather conditions such as wind and heat
- H** volcanic eruptions on the seabed
- J** folding and breaking of Earth's surface

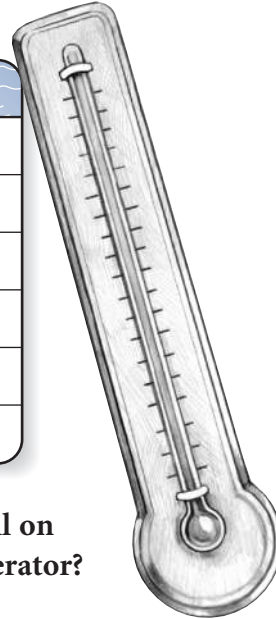
- 7** What is the primary source of energy for Earth's weather?

- A** the sun
- B** heat from the interior of Earth
- C** the oceans
- D** gravitational pull of the moon

8

FREEZING AND BOILING POINTS

Substance	Freezing Point °C	Boiling Point °C
Water	0°	100°
Aluminum	660°	2467°
Silver	961°	2212°
Copper	1083°	2582°
Mercury	-39°	357°
Alcohol	-130°	78°



Which of these substances would be easiest to boil on your stove but impossible to freeze in your refrigerator?

- F** mercury **H** aluminum
G water **J** alcohol

9

Which of these does the moon create on Earth?

- A** winds
B ocean tides
C seasonal changes
D magnetic fields

10

Which of these is an example of refraction of light?

- F** a rainbow
G light from a laser
H an image in a mirror
J white light falling on a black rug

11

An atom becomes electrically charged by

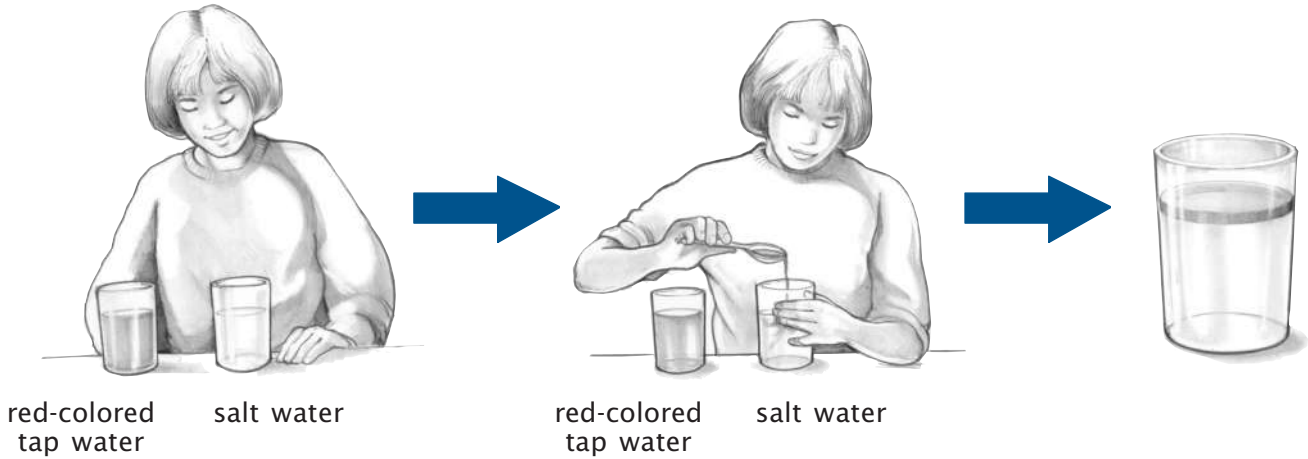
- A** gaining or losing electrons
B gaining or losing protons
C adding neutrons to the nucleus
D removing neutrons from the nucleus

12

Which of these has the greatest long-term effect on the quality of drinking water that comes from a lake?

- F** people swimming in the lake
G water runoff from agricultural land
H fish living in the lake
J one large rainstorm

Ingrid's Experiment

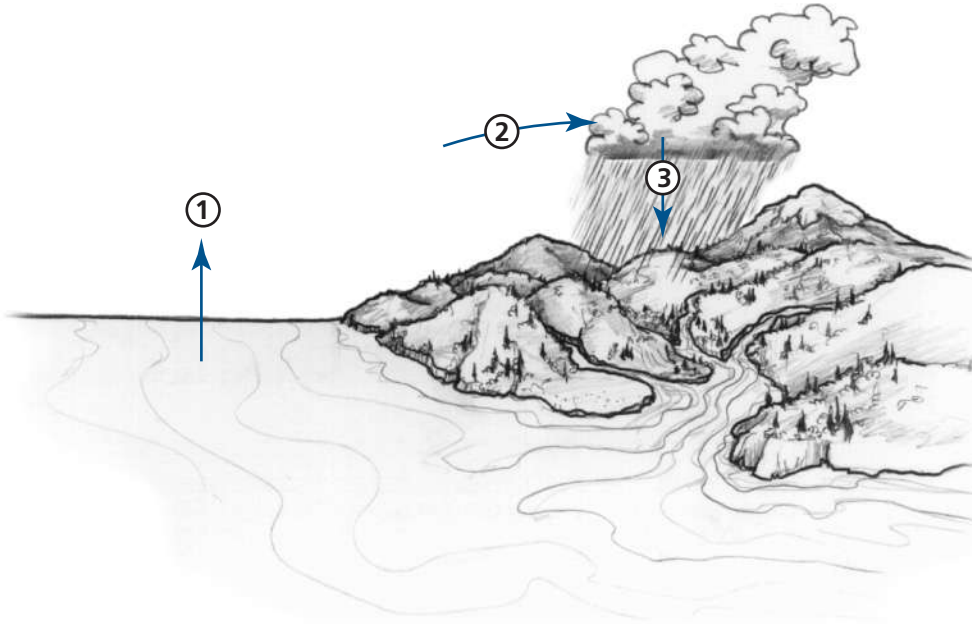


- 13** The pictures show what happened when Ingrid added red-colored tap water to a glass of salt water. Explain why the red-colored tap water forms a layer on top of the surface of the salt water.

- 14** Where is a gene found in an animal cell?

What is the function of a gene?

15 This drawing shows three steps of the water cycle.



Look at the drawing. Then name and describe each of the numbered steps of the water cycle. Be sure to name the physical state the water is in at the beginning and at the end of each step.

Step 1 _____

Description: _____

Step 2 _____

Description: _____

Step 3 _____

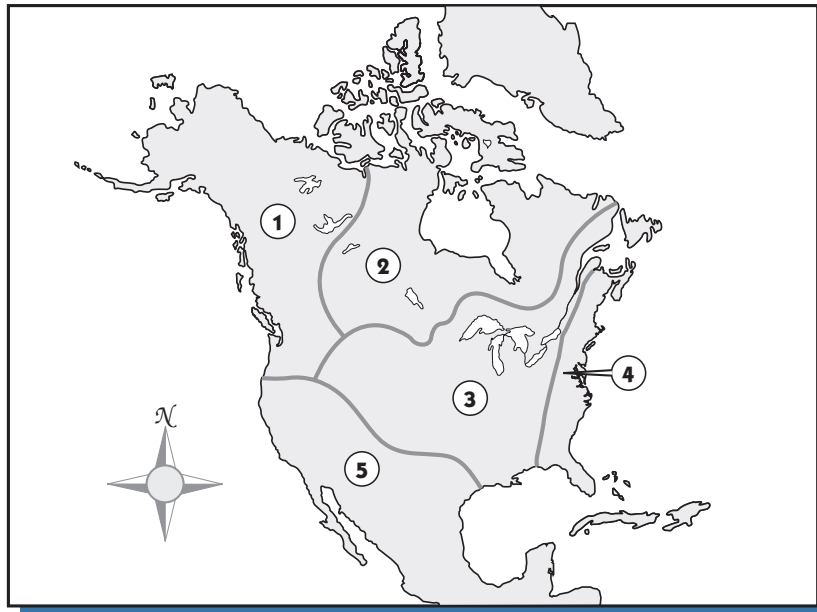
Description: _____

Student Name _____

North America

Directions

Use the map below and your own knowledge to do Numbers 1 through 4.



1 Which of these bodies of water is located in Region 2?

- A** the Hudson Bay
- B** the Caribbean Sea
- C** the Gulf of Alaska
- D** the Gulf of California

2 Which of these is located in Region 4?

- F** the Rio Grande
- G** the Mississippi River
- H** the Rocky Mountains
- J** the Appalachian Mountains

3 Which of these groups of people was most closely associated with Region 1 in the early 1800s?

- A** Russian fur traders
- B** Portuguese explorers
- C** Dutch farmers
- D** Spanish missionaries

4 In the 1500s, all the regions on the map were inhabited mainly by

- F** British colonists
- G** Native Americans
- H** American settlers
- J** Spanish colonists

Courtesy, Library of Congress

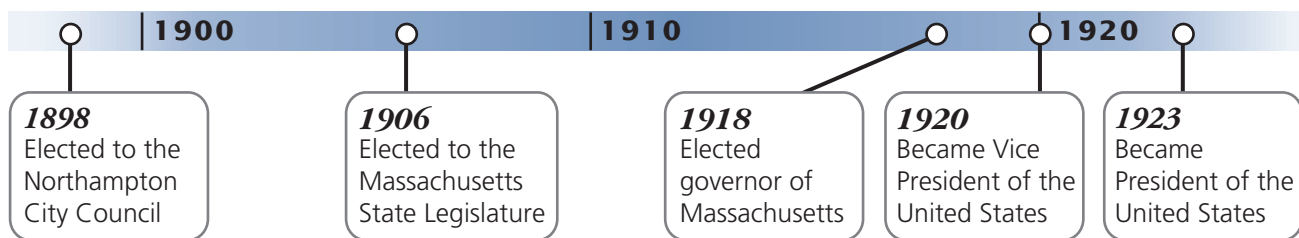


The Career of President Calvin Coolidge



Directions

Use the time line below and your own knowledge to do Numbers 5 and 6.



5 According to the time line, when did Calvin Coolidge become chief executive of the federal government?

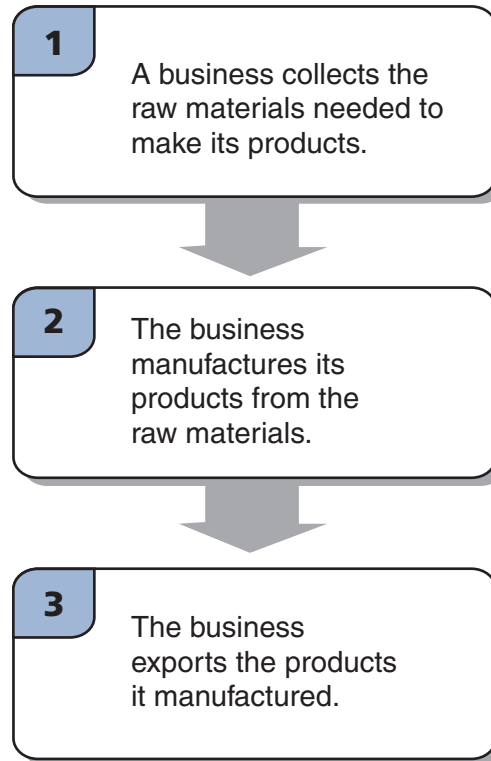
- A** 1898
- B** 1906
- C** 1918
- D** 1923

6 Reviewing the budgets of the local police and fire departments was most likely part of Calvin Coolidge's job in

- F** 1898
- G** 1918
- H** 1920
- J** 1923

Producing and Exporting Products

Directions Use the flow chart below and your own knowledge to do Numbers 7 and 8.



7 Which of these businesses would perform the steps shown on the flow chart?

- A** a video rental store
- B** a car repair shop
- C** a furniture factory
- D** a delivery company

8 In Step 3, the products are sent to

- F** owners of the business
- G** merchants in the local area
- H** workers in nearby factories
- J** customers in other countries

THE DUST BOWL

Directions Use the photograph below and your own knowledge to do Numbers 9 and 10.



Kansas Collection,
University of Kansas Libraries

Dust clouds rolling over the prairies in 1935

9 In what region of the United States was this photograph taken?

- A** the Southeast
- B** the Northwest
- C** the Great Lakes
- D** the Great Plains

10 As a result of the conditions shown in the photograph, many farmers in the Dust Bowl area during the 1930s

- F** hired extra employees to plant new crops
- G** migrated to other areas in search of work
- H** increased the production of agricultural goods
- J** converted most of their land to industrial use

Do You Know?

11 Which of these is not a function of the Constitution of the United States?

- A** limiting the power of the government
- B** ensuring the protection of people's rights
- C** allowing for changes or additions to laws as needed
- D** granting complete control of the government to the president

12 A continued increase in spending by consumers would usually indicate an economic period of

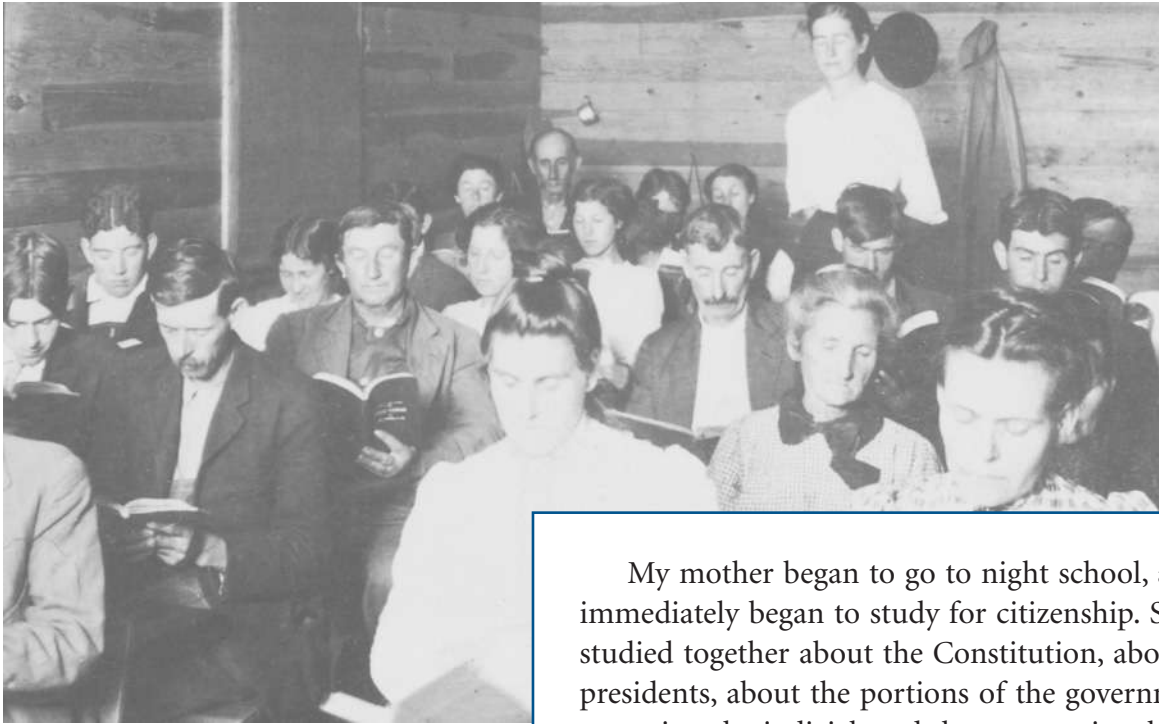
- F** high unemployment
- G** low productivity
- H** growing prosperity
- J** deepening recession



Becoming an American Citizen

Directions

Use the information below and your own knowledge to do Numbers 13 and 14.



Courtesy Library of Congress

My mother began to go to night school, and she immediately began to study for citizenship. She and I studied together about the Constitution, about the presidents, about the portions of the government, the executive, the judicial, and the congressional. She knew all these things and she did pass the examination and it was one of the happiest days of her life when she became a citizen.

—Morris Moel
Ukrainian immigrant

- 13** Give one reason it is important for all citizens to study the subjects offered in Mrs. Moel's citizenship class.

- 14** Mrs. Moel studied “about the portions of the government.” Complete the chart below by naming the main responsibility of each branch of the federal government. An example has been done for you.

Branch	Main Responsibility
Executive	<i>to carry out laws</i>
Legislative	
Judicial	

Hardships in the South During the Civil War

Directions Use the information below and your own knowledge to do Number 15.

While my husband was at the front doing active service, I was at home struggling to keep the family comfortable. We were blockaded on every side. . . .

Our ladies would attend [church] services dressed in their homespun goods. They felt well pleased with their appearances—indeed, better pleased than if they had been dressed in silk of the finest fabric.

Victoria V. Clayton, 1899

From a Confederate [Recipe] Book

Substitute for Coffee.

Take sound ripe acorns, wash them while in the shell, dry them, and parch until they open, take the shell off, roast with a little bacon fat, and you will have a splendid cup of coffee.

Apple Pie Without Apples.

Take one small bowl of crackers, that...

15 Why did the Union forces blockade the South “on every side”?

Give one example of the way families in the South were affected by the Union blockade.

Student Practice Materials

The purpose of Part 5 is to provide ninth-grade students with a useful practice experience and to provide teachers with an opportunity to assess the readiness of their students for the actual test. To achieve this goal, the practice materials are designed for flexible classroom use and can be tailored to suit specific student needs or curricular goals.

Both selected-response items and constructed-response items are represented in the practice materials, giving students a chance to become familiar with different item types. Students who have seen how the questions are formatted and phrased will feel more at ease when confronted with similar items in a formal testing situation.

The student practice materials in Part 5 can also be useful after the test has been administered. After identifying where improvement is needed, these materials can contribute to a successful remediation effort.

The practice materials are organized by content area and can be assembled and administered as a single test covering a variety of subjects, or each content area can be assigned as a single-subject quiz. Teachers also have the option of reviewing the practice materials with students before asking them to answer the questions, or they can simulate a real testing situation by having students complete the items without discussion. For the mathematics items, teachers will need to provide each student with a centimeter/inch ruler.

Items within the student practice materials have been written for two separate grade levels. Because of a range of abilities within most school districts across the nation, DRC does not identify the items by grade level so that teachers will feel comfortable using these materials with students of different ability levels within the classroom.



For those teachers who wish to write additional items of their own, a section called “**Item Writing Tips**” is included at the end of Part 2.

The answer key and scoring guide in Part 6 identify the content objective for each of the practice items in Parts 4 and 5. With this information, a teacher can determine in which areas students are performing well and in which areas additional practice is needed. After determining student needs, the teaching activities in Part 7 can be used as a way of reviewing the key concepts and skills covered in the *TerraNova* family of assessments. For information about using test results, see Part 8 of this binder.



The following practice materials are ready for duplication and immediate classroom use. For teachers who have access to a computer and printer, the Student Practice Materials are available on the CD-ROM located on the inside back cover of this binder.

Student Name _____

Directions

Read the interview with computer programmer Susan Michele. Then do Numbers 1 through 9.



Susan Michele at work

Susan Michele

"I have the best job in the world! From the time I was five or six years old, I enjoyed playing video games. I started with Pong—just a simple game where you hit a ball back and forth. I knew there was someone behind the game that made it all work. I was right. Now I am that person. I get to create the magic."

Susan Michele

Q Have you always been interested in computers and programming?

A Well, initially, I was just interested in playing the games. Later, I bought computer magazines and taught myself BASIC, the programming language. I had a little typewriter-like attachment on my computer that allowed me to make pretty colors and lights and noises on the screen, or monitor. Any game that I could interact with was the game for me. I spent hours trying to create on screen, but the results were often disappointing. The technology was limited, and I was frustrated by the fact that I couldn't make a game do all the things I wanted it to do.

I remember in junior high there was one game I liked more than any other—*Pac-Man*. It had better sound and graphics than anything around. My dad and I went to the movies one Christmas Eve, and I saw it in the lobby. I played the game before the movie and couldn't wait to get back to it after the movie was over. The theater attendants were sweeping the place

out, anxious to get home, and I just didn't want to stop playing.

Q Did your interest in playing games continue when you went to high school and college?

A No, I found most of them boring. For me, the best games were side-scrolling games with a main character who has to maneuver around enemies and get out of dangerous situations. I didn't find many of those. Then, in college, I used my computer more for my course work than for fun. Later, after I had taken some time off from school to decide what I wanted to do with my life, I discovered a game called *Space Quest*. I was hooked again. This game had a great story line and spectacular graphics. You could interact with the characters, direct the action, and save the world. I loved it. It was like playing in a cartoon. By the time I went back to school, I had bought my own computer, taught myself another computer language, and learned how to program. Most importantly, I knew that I wanted to create video games.

Q So you were on your way?

A Not quite. My professors didn't think making video games was a worthwhile field to get into. When I wanted to create a video game for my senior project, they discouraged me. Having fun with computers was not considered a good use of my time or theirs.

Q How did you finally realize your ambitions?

A After a series of jobs selling software in computer stores, I saw an ad for a job as a *tester*. That's someone who plays video games eight hours a day, looking for any bugs, or problems. The tester tells the programmers about any problems so they can be fixed. It was a dream job for me. Imagine getting paid to play all day! That job helped me understand how individual games were constructed and also how the video game business works. Now I am a *scripter*, and on this project I'm the person who makes the enemies in video games move and come to life. *Designers* create pages and pages of drawings that show how the characters should look and interact and how the story should proceed. As a *scripter* or computer programmer, I make the

drawings real. I take the designers' ideas and write a program in a language that the computer understands so that when a player hits a key on the keyboard or moves the joystick, the computer responds and the game can proceed.

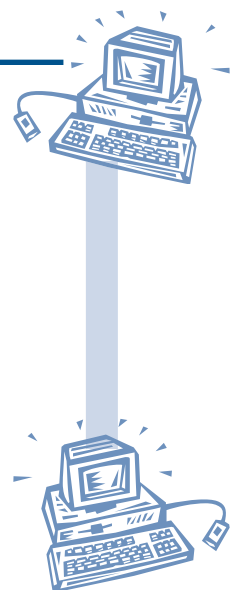
Q Do you have any advice for someone interested in creating video games?

A Yes. We get letters all the time from kids who play video games. They have suggestions for characters and stories, and some of them are very imaginative. However, you also have to know how a computer works and what the technical possibilities are. So, my advice is to go to a good bookstore and find everything current you can on programming games. Then read it. Learn a computer programming language, and most of all, play with your computer. Have fun with it. Get to know how you can make it do what you want.

The manual for one of my favorite games says that playing it is like having people live in your computer. That's what I like about being part of the video game industry—creating those “people” who live in your computer.

1 Which of these conclusions can be drawn from the interview?

- A** Susan Michele's job as a scripter grew from a desire to understand and improve the video games she played as a child.
- B** Susan Michele's interpersonal skills have diminished as her computer skills have grown.
- C** As a result of the work she does, Susan Michele communicates on a level too technical for the average person.
- D** In spite of a childhood fascination with video games, Susan Michele's enthusiasm for them has waned since she started working.



2 According to the interview, Susan didn't play many video games in college because she

- F** lost all interest in computers and video games
- G** no longer had the right kind of computer equipment available
- H** became preoccupied with learning BASIC, a computer language
- J** used her computer to complete work assigned in her classes

3 Susan Michele's getting a job as a video game tester is most like

- A** an avid reader becoming a reporter for a newspaper
- B** a film enthusiast being hired to watch and critique movies
- C** an artist visiting a museum to see the work of her favorite painter
- D** a high school basketball player meeting a professional player

4 If you wanted to know more about Susan Michele's job, which of these would be the most appropriate question to ask her?

- F** What was the first video game you ever played?
- G** Who has been the most influential person in your life?
- H** How do you translate drawings of characters into computer images?
- J** What is the most popular video game on the market today?

5 From what Susan Michele says in the interview, what career advice would she most likely offer a young person?

- A** Play lots of computer games so you will know all the rules.
- B** Try to find work in a field related to some activity you enjoy.
- C** Make plans based on current salary levels in the job market.
- D** Take advantage of sales of surplus computers.



Directions

A student wrote a paragraph describing his favorite computer game. There are some mistakes that need correcting. Read the paragraph. Then do Numbers 6 through 8.

1 A lot of my friends like action games or sports games. 2 Those are fun, but my favorite is a game called *Civilization*.™ 3 Your settlers help you build new cities and roads. 4 Gradually you expand your territory. 5 Meanwhile, your population increases. 6 Little by little, your scientists discover new technologies. 7 There may be wars with other civilizations, but you can also make alliances and trade knowledge. 8 At the end of the game, you receive a score based on how far your civilization will have advanced.

6 Choose the best way to combine Sentences 4 and 5.

- F As you gradually expand your territory, your population increases.
- G Gradually you expand your territory, meanwhile your population increases.
- H Gradually you expand your territory, your population increases.
- J You expand your territory gradually, but your population increases meanwhile.

7 Which of these is the best way to write Sentence 8?

- A At the end of the game, you receive a score based on how far your civilization will advance.
- B At the end of the game, you receive a score based on how far your civilization has advanced.
- C At the end of the game, you receive a score based on how far your civilization had advanced.
- D Best as it is

8 Where would this sentence best fit in the paragraph?

As the game begins, you become the leader of a new civilization.

- F** After Sentence 2
- G** After Sentence 3
- H** After Sentence 6
- J** After Sentence 7

9 In discussing her work with computer games, Susan Michele mentions the following jobs:

tester

scripter

designer

Give the order in which the people with these jobs complete their portions of work on a computer game. Write a short description of what each person does.

First: _____

Next: _____

Finally: _____

Directions

Read the introduction and the excerpt from *How to Launch Your Career in TV News* by Jeff Leshay. Then do Numbers 10 through 20.

SHOOTING FOR SUCCESS

If you have a good eye for composition, a steady hand and a strong back for carrying around heavy camera equipment, often on the run, you may find your niche on the frontlines as an ENG (electronic news gathering) photographer, also known in the business as a “photog,” or “shooter.”



Bart Cannistra editing a segment of news

Photographers must often muscle their way into the midst of breaking stories, though the level of action varies greatly from day to day. One day a photographer may cover a fire, a fatal car accident, a shooting, a sports event, or all four stories in one day. And then the next day’s most thrilling event might be a meeting of the city’s planning and zoning commission, where minutes often seem like hours.

But no matter how little the action, it’s the job of the photographer to capture the shots needed by the videotape editor to make each story look good.

“The first editing that takes place is in the field with a camera,” says veteran videotape editor Bart Cannistra of KNBC-TV in Los Angeles. “The first edit occurs when you turn on the camera, shoot your first shot and ask your first question.”

“From an editor’s perspective, unless you have good shots to work with in the editing room, you’re locked into doing the story in one

way,” says Cannistra. “You need options, so you can choose the better approach and make the most of the video.”

Some photographers prefer the title “photojournalist,” an accurate billing, especially in small markets, because they often wear the hats of both photographer *and* journalist. When reporters aren’t available to accompany photographers in the field, or when shooters working solo happen upon breaking stories, they must ask the questions and gather details much as a reporter would.

“Especially in small markets, where most of us start, you get a lot of stories that you have to cover yourself,” says John Mason, a photographer at KTVK-TV in Phoenix who started out in the business in Colorado Springs. “Sometimes you shoot whole packages by yourself, rushing from one place to another with all the equipment, and jotting down information. But that experience is the key. You’re certainly not in it for the money, at least not in the beginning.”

10 John Mason of KTVK-TV says that by working in the small markets, beginning photographers can gain essential

- F** fun
- G** money
- H** experience
- J** excitement

11 The editing room is where the TV photographer's various shots are _____ into a meaningful whole.

Choose the word that means *put together*.

- A** commended
- B** regulated
- C** relinquished
- D** compiled

12 A videotape editor in the newsroom would advise a "photog" to

- F** ask only one question at each scene
- G** take lots of shots and ask lots of questions
- H** keep moving from location to location
- J** cover only the exciting, action-packed stories

13 Which of these conclusions about news photographers is best supported by the excerpt?

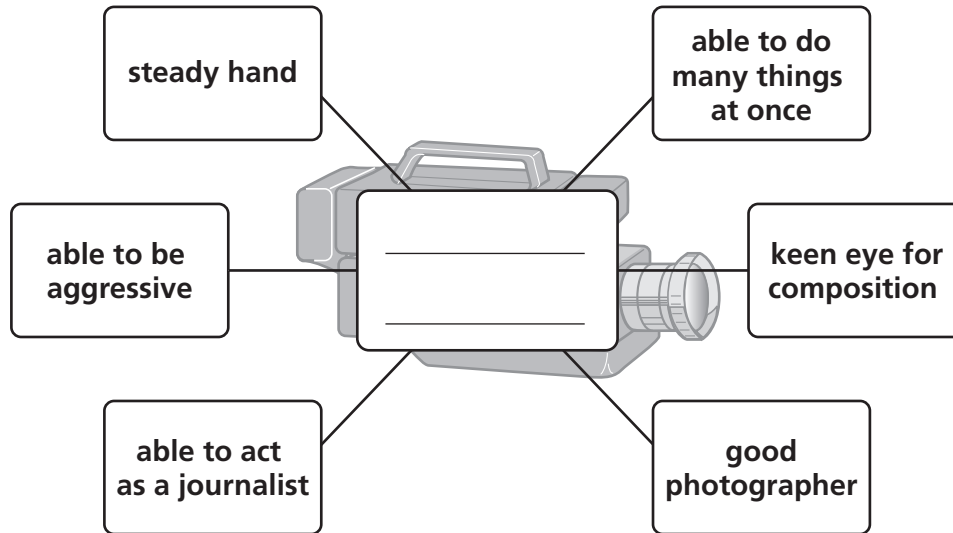
- A** They usually alter the facts to get the best shots.
- B** They know very little about videotape editing.
- C** They are constantly searching for the visual element of a story.
- D** They are interested in shooting only the most exciting scenes.

14 A photographer has responsibility for the quality of the final news story that is presented to the public. The answer to which of these questions would best help you understand the extent of this responsibility?

- F** How does the photographer operate a video camera on location?
- G** Where should the video camera be placed during an interview?
- H** Which news stories are the easiest to cover?
- J** What kinds of shots should a photographer give an editor to work with?

Directions

A student made a web based on the excerpt. Use the web to do Numbers 15 and 16.



15 Which of these phrases belongs in the center of this web?

- A** benefits of being an ENG photographer
- B** always on the move to get stories
- C** a strong back for carrying camera equipment
- D** skills needed to be an ENG photographer

16 This web is most helpful for

- F** explaining the structure of a news station
- G** comparing and contrasting the different opinions voiced in the excerpt
- H** organizing the major points in the excerpt
- J** showing the sequence of events in a photographer's typical day

17 Choose the best way to combine these sentences.

News photographers must be strong enough to carry heavy camera equipment.

They must be agile enough to get to the center of the action quickly.

- A** News photographers need to be strong enough to carry heavy camera equipment and agile enough to get to the center of the action quickly.
- B** News photographers must carry heavy equipment to the center of the action.
- C** News photographers need strength to carry heavy camera equipment and getting to the center of the action quickly.
- D** News photographers must be strong, and they also must carry equipment, and be agile enough to get to the center of the action quickly.

18 Choose the sentence that is complete and written correctly.

- F** TV news photographers' jobs has been made easier by advances in video technology.
- G** The editing of videotaped news stories are also easier when you use a digital camera.
- H** No matter how sophisticated technology is, decisions made by people are still important.
- J** The ability to store images of actual events are of great benefit to modern historians.



Directions

Read this spoken text which accompanied video footage of a television news story. Then do Number 19.

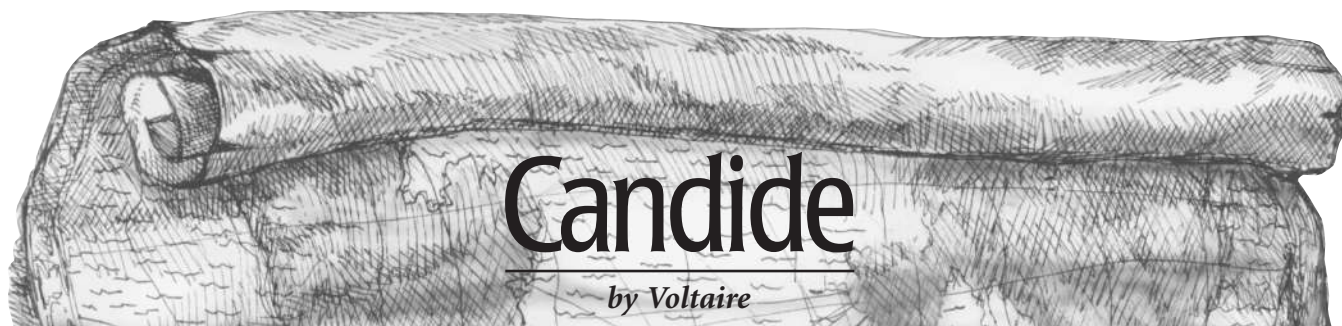
1 More than 6,000 people attended last night's "Spring Boogie" concert, the proceeds of which will benefit various local charities. 2 Organizers hoped to net about \$50,000. 3 Among the groups to perform were Strum Plunk Boom, Thus 'n Such, and Fuzzwah. 4 Many adults prefer classical music to rock and roll. 5 The audience seemed to enjoy the show, giving standing ovations to several of the bands.

19 Which sentence does not belong in the paragraph?

- A Sentence 2
- B Sentence 3
- C Sentence 4
- D Sentence 5

Directions

Here is an excerpt from *Candide*, a novel by the eighteenth-century French author, Voltaire. Read the excerpt. Then do Numbers 21 through 31.



Candide, a young prince of Westphalia, has left his own country on a long journey to search for a better place to live. He and his companion Cacambo have just reached a legendary place called El Dorado—the “City of Gold.”

The landscape had been improved in a way that was attractive as well as practical. The roads were covered, or, more properly speaking, adorned with carriages, whose style and materials were very brilliant; they carried men and women of an extraordinary beauty, and were drawn swiftly by large red sheep, which for speed surpassed the finest horses. “This, certainly,” said Candide, “is a better country than Westphalia.”

He and Cacambo went ashore near the first village they came to. Some children, dressed in tattered gold brocades, were playing at horseshoes at the outskirts of the town. Our two travelers from abroad amused themselves by watching. The children’s toys were fashioned from yellow, red, or green materials that glittered in the sunlight. Our travelers’ hands itched enormously to be fingering some of them, for they were almost certain that the toys were made of gold, emeralds, and rubies, the

least of which would have been no small ornament to the throne of the Great Mogul.

“To be sure,” said Cacambo, “these must be the children of the king of the country, diverting themselves at horseshoes.”

The magistrate of the village appeared at that instant to call the children to school.

“There,” cried Candide. “That’s the preceptor* to the royal family.”

The ragamuffins immediately quit their play, leaving their horseshoes and other playthings behind them. Candide picked them up, ran to the preceptor, and presented them to him with a great deal of humility, acquainting him, by signs, that their Royal Highnesses had forgotten their gold and jewels. The master of the village smiled, flung them on the ground, and, having stared at Candide with a good deal of surprise, walked off.

*preceptor: teacher

Our travelers did not hesitate to pick up the gold, rubies, and emeralds. “What is this place?” cried Candide. “The royal princes must certainly be well brought up, since they are taught to think so little of gold and jewels.” Cacambo was as much surprised as Candide.

At length they drew near to the first house in the village, which in Europe would have seemed like a palace. There was a crowd of people at the door, and still more within. Very

pleasing music could be heard, and a delicious odor of cooking food scented the air. Cacambo went up to the door and heard people speaking Peruvian, which was his mother tongue—for, as everyone knows, Cacambo was born at Tucuman, in a village where they speak no other language.

“I’ll be your interpreter,” he told Candide. “Let’s go in—this is a café.”

21 What leads Candide to say that the new land is a better country than Westphalia?

- A** The people speak the same language as Candide and Cacambo.
- B** The visitors feel at home playing horseshoes with the children.
- C** The visitors appreciate the invitation to the new land.
- D** The people and the surrounding land look prosperous.

22 Which of these best explains why Cacambo and Candide assume that the children are from a royal family?

- F** The children are free to play all day.
- G** The children are wearing playclothes.
- H** The children are playing with jewels.
- J** The children are polite to the visitors.

23 What does the schoolmaster show to Candide without using words?

- A** his gratitude for Candide’s generosity
- B** his lack of interest in the jewels
- C** his annoyance at the interruption of his lessons
- D** his pleasure at having Candide and Cacambo visit his village

24 The author says of Candide and Cacambo that their “hands itched enormously.” This phrase probably means they were

- F** suffering from their travels
- G** eager to grab some treasure
- H** longing to make friends with the rich people
- J** nervous about displeasing the local inhabitants

25 Which of these details indicates that the story of *Candide* is a fantasy?

- A** Cacambo hears the local people speaking in Peruvian.
- B** The landscape has been attractively improved.
- C** The schoolmaster stares at Candide with surprise.
- D** Carriages are drawn by large, fast, red sheep.

26 Which of these generalizations is best supported by events in the passage?

- F** Classic novels seem simpler to read than modern ones.
- G** Objects are considered more valuable if they are scarce.
- H** Adventures are more fun when you read about them.
- J** Legendary children behave better than real ones.

27 Which of these is the best way to combine the two sentences?

Voltaire wrote Candide in 1759.

The legend of El Dorado was well established by then.

- A** Voltaire wrote *Candide* in 1759 and the well-established legend of El Dorado.
- B** Voltaire wrote *Candide* in 1759, having well established the legend by then.
- C** When Voltaire wrote *Candide* in 1759, the legend of El Dorado was well established.
- D** While Voltaire wrote *Candide* in 1759, the legend was well established.

28 A student is writing a report on whether Voltaire really knew about the places he described in *Candide*. Which of these books would be the best source of information?

- F** *Voltaire's Friends and Fellow Writers*
- G** *French Literature in the Eighteenth Century*
- H** *The Peoples of Ancient Peru*
- J** *Voltaire: His Life and Work*

29 Choose the sentence that is complete and written correctly.

- A** Born in 1694, François Marie Arouet will have become a giant of French philosophy and literature in the eighteenth century.
- B** He began to use the pen name “Voltaire” followed his first literary successes at the age of twenty-four.
- C** Always outspoken, Voltaire was once thrown into prison for having expressed too frank an opinion about a French nobleman.
- D** Voltaire’s lifework contributed much to the “Enlightenment” period that has preceded the French Revolution of 1789.

30 Read the following account of the origins of the tales about “El Dorado.” It contains five errors in capitalization, punctuation, and grammar. Draw a line through each part that has a mistake, and write the correction above it.

The name El Dorado, who means “golden one,” probably originated in a story about a South American chief been ceremonially covered in gold leaf. At the end of the ceremony, the chief washed the gold off in a lake. This tale was repeatedly and embellished over the years. Many Europeans spent their lives looking for the place. Where the ceremony was held. No one ever found it. The so-called “City of Gold” has passed into legend.

Directions Choose the word that best completes both sentences.

32 Next week, the dentist will _____ Matthew’s wisdom teeth.

The recipe calls for a teaspoon of lemon _____.

- F** extract
- G** rind
- H** purge
- J** uproot

Directions Choose the sentence that is written correctly and shows the correct capitalization and punctuation.

- 33**
- A** Our school song, “go, Fighting Eagles,” is played before every home game.
 - B** There was an interesting article in *smithsonian magazine* about a science competition.
 - C** My friend’s short story “Study hall” was published in the local newspaper.
 - D** Gail used several volumes of the *Encyclopaedia Britannica* to research her topic.

Directions Find the phrase containing an underlined word that is not spelled correctly. If all the underlined words are spelled correctly, mark “All correct.”

- 34**
- F** complete bibliography
 - G** optical ilusion
 - H** chemical enzyme
 - J** All correct

Student Name _____

- 1** Jenny used cardboard to construct a three-dimensional figure with five faces. Four of the faces are triangles. Which of these could be the shape of the fifth face?

A triangle
B rhombus
C pentagon
D hexagon

- 2** Tanya began saving money to buy a new computer game. The table shows how much money she had saved at the end of each week.

If the pattern continues, how much money will Tanya have saved at the end of 7 weeks?

F \$55
G \$65
H \$80
J \$110

Week	Money Saved
1	\$5
2	\$10
3	\$20
4	\$35

- 3** Steve flew 7,300 miles in 112 hours in a hot-air balloon. If he traveled at an average speed of 70 miles per hour for 58 hours, what was his average speed for the remaining 54 hours?

A 30 miles per hour
B 40 miles per hour
C 60 miles per hour
D 70 miles per hour



- 4** Which of these expressions has the greatest value?

F $|-5 + 4|$
G $|-5| + |4|$
H $\neg|5 + 4|$
J $\neg|5| + |4|$

- 5** What missing number in this set will make the mean equal to the median?

1, 4, _____, 9, 10

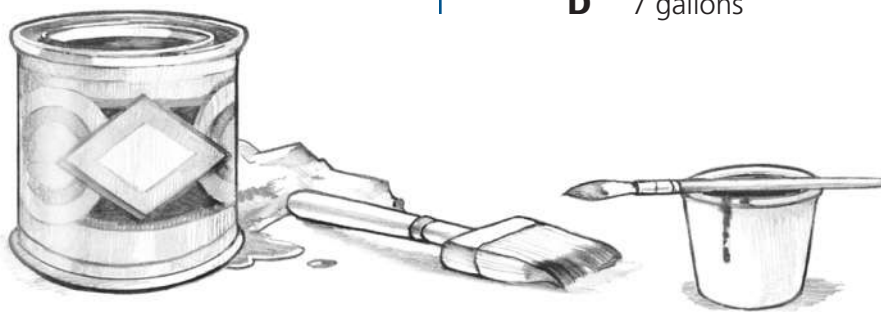
A 5
B 6
C 7
D 8

- 6** There are 12 counters in a bag. Some of the counters are red. Which of these could be the probability of choosing a red counter?

F $\frac{2}{7}$
G $\frac{3}{10}$
H $\frac{4}{5}$
J $\frac{5}{6}$

- 7** Jesse painted the walls and ceilings of 4 identical storage rooms. He painted 3 rooms white and 1 room tan. Each room has a door with an area of approximately 20 square feet that he did **not** paint. Each room is 10 feet tall, and the length of each wall is 13 feet. A gallon of paint covers 450 square feet. How many gallons of paint did Jesse need to buy?

A 4 gallons
B 5 gallons
C 6 gallons
D 7 gallons



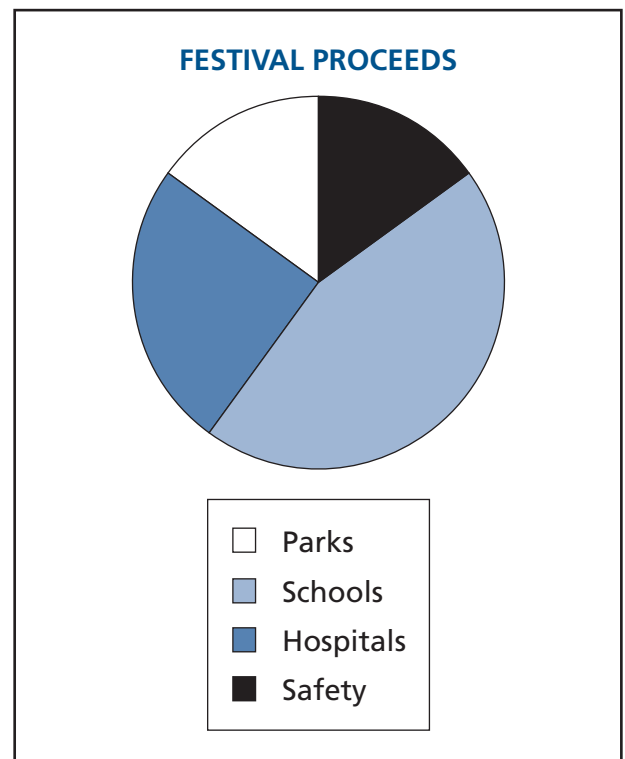
8 Lindsey is writing a report about the *Titanic*. What information would **not** help Lindsey determine how much money, in British pounds, passengers spent **in all** on second-class tickets?

- F** the total number of passengers on the *Titanic*
- G** the cost of a second-class ticket in British pounds
- H** the conversion rate between U.S. dollars and British pounds
- J** the percentage of passengers who purchased second-class tickets

9 A music festival is expected to raise \$20,000 for the community. The circle graph shows how the \$20,000 will be divided.

Which of these will receive approximately \$9,000 from the music festival?

- A** Parks
- B** Schools
- C** Hospitals
- D** Safety



- 10** Roy scored between 14 and 19 points on each of his first 10 Spanish quizzes. On his 11th quiz, Roy scored 22 points. Which of these could **not** be the total number of points Roy scored on his first 11 quizzes?

F 150 **H** 190
G 170 **J** 210



- 11** Look at the table below.

t	$11-t^2$
0	11
1	10
2	7
3	?

Which of these numbers completes the function table?

A 2
B 3
C 4
D 5

- 12** Rudy randomly surveyed 20 students at school and found that 14 of them approve of the school's new policy on tardiness. If the school has 430 students, which of these would be a good estimate of the total number of students who approve of the school's new policy on tardiness?

F 200
G 250
H 300
J 350

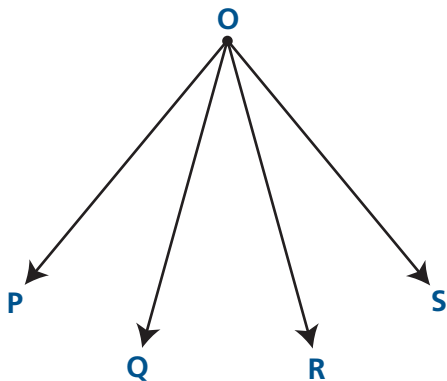
13 Look at the statements below.

- The radius of Circle A is equal to the diameter of Circle B.
- A chord of Circle C is larger than the diameter of Circle A.

Which of these statements is true?

- A** Circle A is the largest.
B Circle C is the smallest.
C Circle C is larger than Circle B.
D Circle A is smaller than Circle B.

14 How many different angles can be formed using any two of the rays below?



- F** 3
G 4
H 5
J 6

15 If $2x + 4 = 13$, which of these equations must also be true?

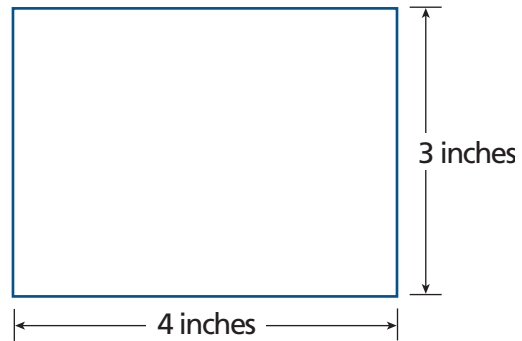
- A** $2x + 13 = 4$
B $2(x + 4) = 13$
C $2x + 1 = 10$
D $-2x + 4 = -13$

16 Jamal needed 3 volunteers to help plan Laugh Night at a summer camp. Four campers raised their hands. How many different groups of 3 volunteers could be chosen from the 4 campers who raised their hands?

- F** 2
G 3
H 4
J 6

- 17** What is the length of the longest line segment that can be drawn on the 3-inch by 4-inch rectangle shown?

- A** 4 inches
- B** 5 inches
- C** 6 inches
- D** 7 inches

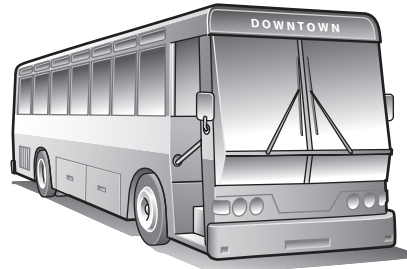


- 18** The lengths of two sides of an isosceles triangle are 4 inches and 5 inches. What is the smallest possible perimeter of the triangle?

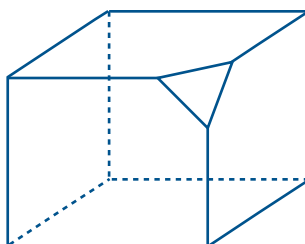
- F** 10 inches
- G** 12 inches
- H** 13 inches
- J** 14 inches

- 19** Justine walked 20 minutes to the bus stop at an average speed of 5 miles per hour. She rode the bus for 20 minutes to the shopping center 15 miles away. What was Justine's average speed for the trip, in miles per hour?

- A** 25 miles per hour
- B** 35 miles per hour
- C** 40 miles per hour
- D** 45 miles per hour



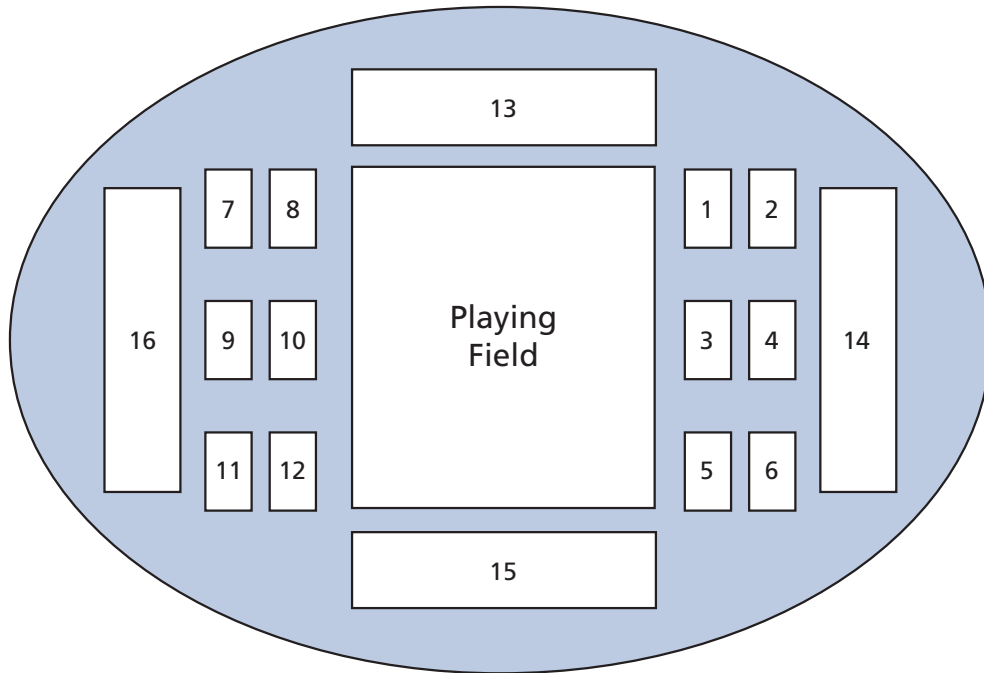
- 20** Nathan made the solid shape below by sawing a corner off a cube.



How many faces does the shape have? _____

Describe the solid figure that Nathan removed from the cube to make the shape.

- 21** The diagram below shows the seating sections in an indoor soccer arena.



Section 1 has 200 seats. Estimate the number of seats in the entire arena.

Answer _____ seats

On the lines below, explain how you made your estimate.

- 22** The local hardware store sells washers in the following quantities and prices.



What is the least expensive way to buy exactly 90 washers?

Find the greatest number of washers that can be bought for exactly \$5.

Answer _____ washers

Student Name _____

- 1** Look at the map below.



Which of these scientists is most likely trained in the use of this type of map?

- A** a geologist
- B** an astronomer
- C** a chemist
- D** a physicist

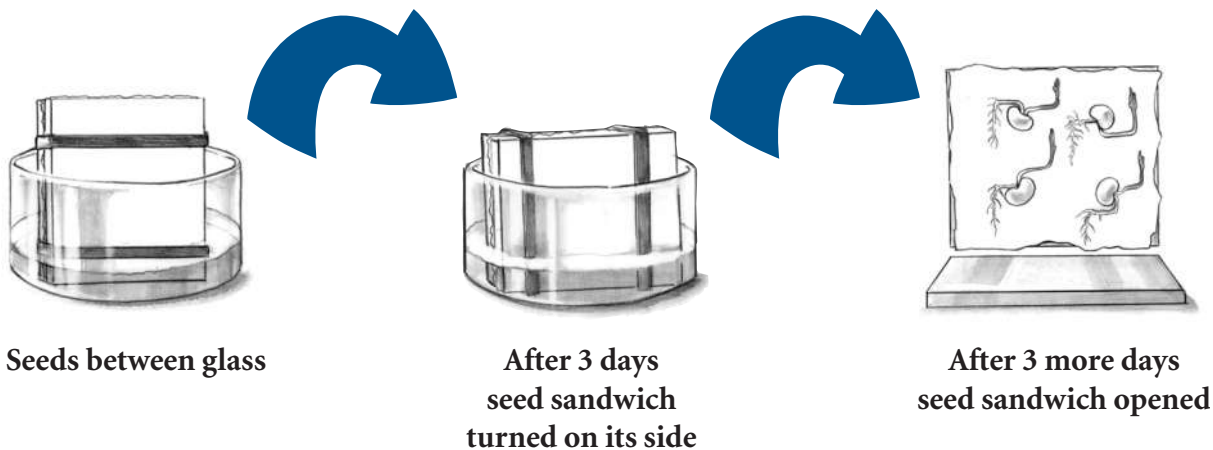
- 2** Which of these geological events is not caused by the movement of tectonic plates?

- F** soil formation
- G** mountain formation
- H** an earthquake
- J** a volcanic eruption

- 3** Blood sugar levels and rate of body growth are controlled primarily by

- A** hormones
- B** red blood cells
- C** antibodies
- D** white blood cells

- 4** Joshua and Carolyn tested bean seedlings to see if a given stimulus would affect the direction of growth. First, they sandwiched four bean seeds between moist paper towels and clear pieces of glass. Then they added water and placed the seeds in a dark place. Three days later, they turned the “seed sandwich” on its side. They waited three more days and looked at the beans again.



Which of these were Joshua and Carolyn most likely testing in their experiment?

- F** the effect of sound on a seedling's growth
- G** the effect of light on a seedling's growth
- H** the effect of gravity on a seedling's growth
- J** the effect of temperature on a seedling's growth

- 5** Since the 16th century, scientists have known that light passing through a small hole in the wall of a dark room will project an upside-down image on the opposite wall. In the middle of the 19th century, it was discovered that certain chemicals turn dark when exposed to light.

Which of these resulted from these two discoveries?

- A** holograms
- B** photographs
- C** microscopes
- D** telescopes

- 6** The human eye has three types of cone cells that detect light. Different colors of light cause different combinations of cone cells to be stimulated. The chart below shows some common colors we see and the types of cone cells these colors stimulate.

Color Seen	Type of Cone Cells Stimulated		
	Red	Green	Blue
Red	● ● ●		
Orange	● ● ●	●	
Yellow	● ● ●	● ● ●	
Green		● ● ●	
Blue			● ● ●
Violet	●	●	● ● ●
● ● ● = Strong Stimulation ● = Weak Stimulation			

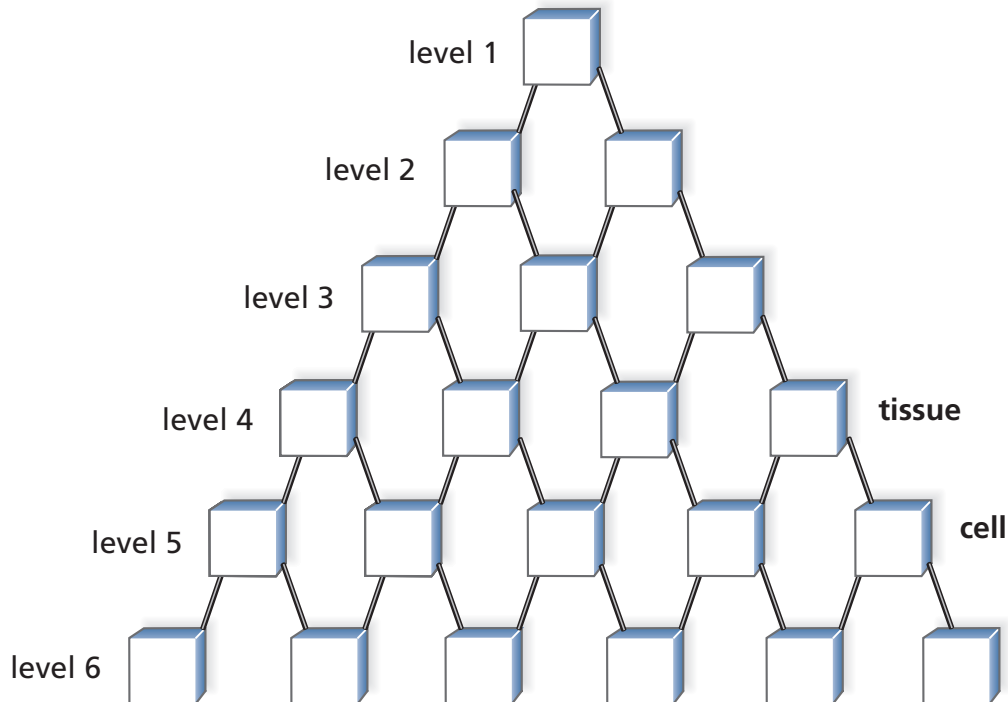
What color of light stimulates all three types of cone cells?

- F** red
- G** yellow
- H** blue
- J** violet

- 7** Radon is a radioactive element produced when uranium decays. Outdoors, radon is not a health hazard, but if it leaks indoors it can be dangerous. Which of these explains why this is true?

- A** Outdoors, radon is inactivated by sunlight, but indoors there is no sunlight.
- B** Outdoors, radon is safe because its temperature constantly fluctuates, but indoors its temperature remains dangerously constant.
- C** Outdoors, radon is diluted to safe levels, but indoors it can become highly concentrated.
- D** Outdoors, radon is not exposed to fluorescent lighting, but indoors this lighting can intensify its radioactivity.

8



Which of these would be at level 6 in the diagram?

- F** neuron
- G** muscle
- H** stomach
- J** nucleus

9

When a solid absorbs heat energy, its molecules will usually

- A** melt quickly
- B** become larger
- C** vibrate more rapidly
- D** separate into atoms

10

Earth's surface and atmosphere are heated unevenly by the sun's rays. This uneven heating produces pressure differences within the atmosphere and oceans. Which of these are a direct result of these pressure differences?

- F** tides
- G** earthquakes
- H** winds
- J** clouds

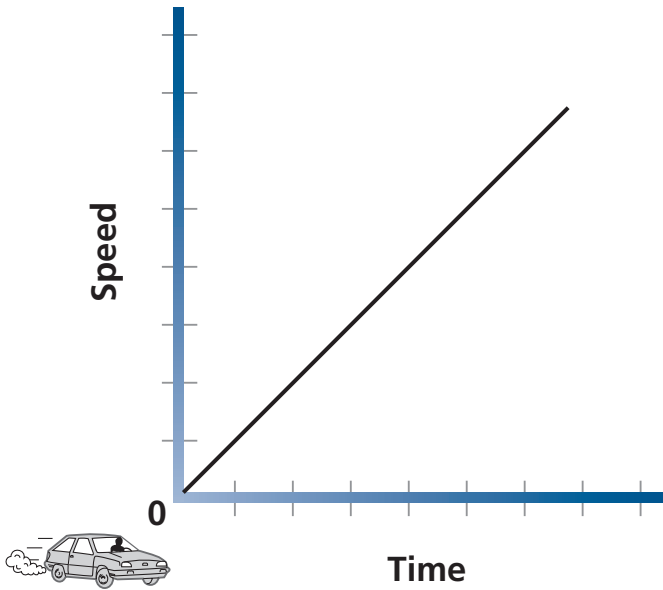
11 When you are riding a bike on level ground, which of these will eventually stop your bike if you do not keep pedaling?

- A** inertia
- B** gravity
- C** friction
- D** momentum

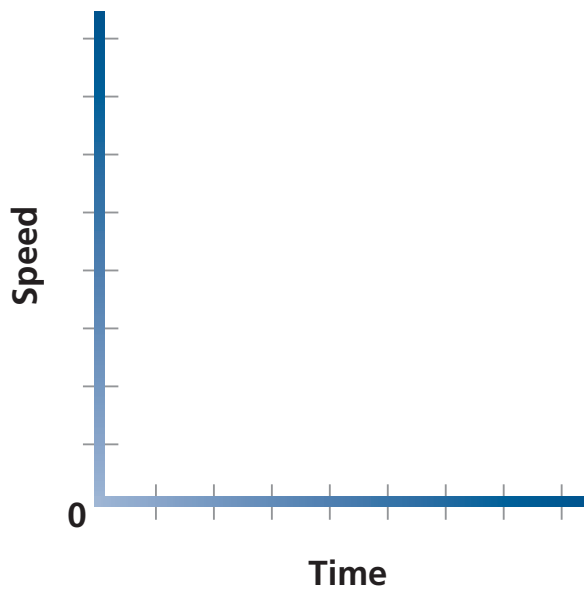
12 Organisms that remove carbon dioxide from and add oxygen to the atmosphere are classified as

- F** producers
- G** first-order consumers
- H** second-order consumers
- J** decomposers

- 13** The graph below shows a car speeding up.



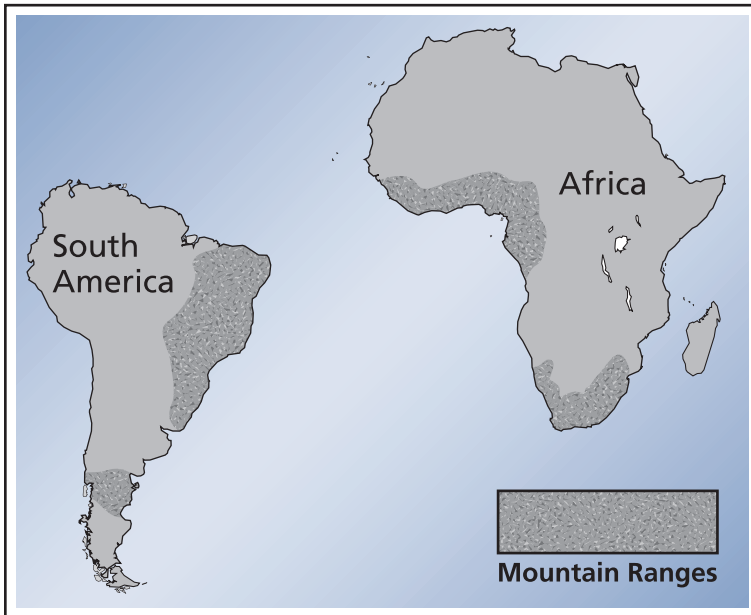
On the graph below, draw a line that shows a car slowing down.



14 What is one benefit of building a dam across a river?

What is one risk of building a dam across a river?

- 15** When maps of South America and Africa are pieced together, mountain ranges along the coast of Africa are shown to link up with mountain ranges in South America.



Name two things about the rocks of these mountain ranges that would provide evidence they were once connected as part of a larger continent.

one: _____

two: _____

What natural process caused the larger original continent to split apart?

Student Name _____

Some Provisions of the Massachusetts Bill of Rights—1780

Directions

Use the information below and your own knowledge to do Numbers 1 through 3.

1	All men are born free and equal, and have certain unalienable rights.
2	All elections are to be free, and all qualified men have an equal right to vote and to be elected to public office.
3	Every person has the right to be free from all unreasonable searches and seizures.
4	People have the right to a trial by jury.
5	No judge or court should sentence convicted persons to cruel or unusual punishments.
6	The legislative, executive, and judicial departments are to have separate and distinct powers.

1 Which box lists the provision that gave people the right to choose their government leaders?

- A** Box 2
- B** Box 3
- C** Box 4
- D** Box 5

2 Which box lists the provision that established the principle of separation of powers?

- F** Box 1
- G** Box 3
- H** Box 4
- J** Box 6

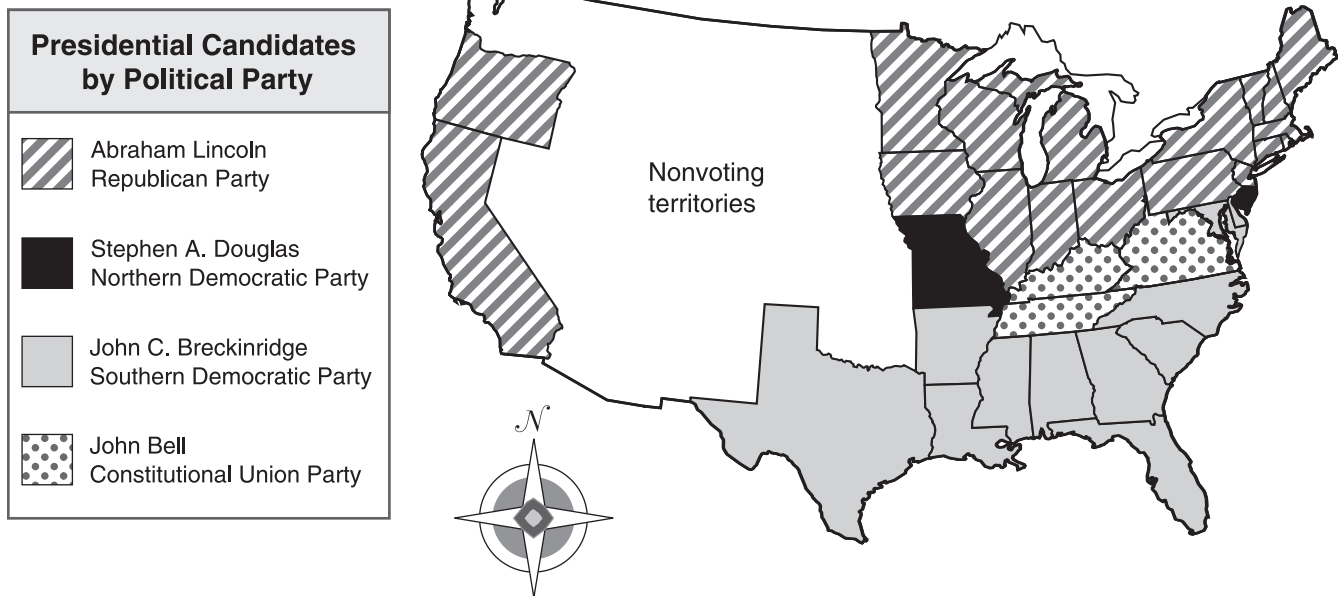
3 According to the provisions listed above, the main goal of the Massachusetts Bill of Rights was to

- A** restrict individual freedoms
- B** limit the power of government
- C** promote the growth of the economy
- D** formalize agreements between states

THE ELECTION OF 1860

Directions

The map below shows the electoral vote results of the 1860 presidential election. Use the map and your own knowledge to do Numbers 4 through 6.



4 Which of these states were won by the Republican Party?

- F** Alabama, Florida, and South Carolina
- G** Kentucky, Virginia, and Louisiana
- H** Oregon, Wisconsin, and Maine
- J** Texas, Mississippi, and Georgia

5 Which of these provisions was part of the Republican Party platform in 1860?

- A** supporting lower tariffs
- B** refusing statehood to the remaining territories
- C** preventing settlers from moving westward
- D** stopping the expansion of slavery into the territories

6

1860 Election Results

Candidate	Popular Votes
Abraham Lincoln	1,865,593
Stephen A. Douglas	1,382,713
John C. Breckinridge	848,356
John Bell	592,906

According to the information shown on the map and in the chart above, which of these statements is true?

- F** The popular vote was evenly split between the Republican Party and the Southern Democratic Party.
- G** The candidate receiving the fewest popular votes won no states.
- H** The new President represented the interests of people in only some parts of the country.
- J** The candidate who was second in the popular vote won the most states.

Economics Quiz

7

Which of these economic terms best describes a situation where the average price of goods and services continues to rise sharply?

- A** inflation
- B** depression
- C** specialization
- D** competition

8

A company is a *monopoly* if it

- F** is part of a large corporation
- G** is the only supplier of a needed product or service
- H** produces goods to be sold in other countries
- J** produces its goods using workers in other countries

October 30, 1929

Directions Use the photograph below and your own knowledge to do Numbers 9 and 10.



Corbis-Bettmann

9 The photograph shown above illustrates how some people were affected by

- A a military battle
- B a natural disaster
- C a failing economy
- D a scientific discovery

10 In which of these books would the photograph shown above most likely be found?

- F *Technology and Urban America*
- G *A History of the Great Depression*
- H *Transportation Through the Ages*
- J *America in the Nineteenth Century*



Geography Quiz

11

**China
Greece
Pakistan**

Which of these statements is true about all the countries listed in the box above?

- A They are located in the Western Hemisphere.
- B They are bordered by the Pacific Ocean.
- C They are approximately equal in land size.
- D They are where some early civilizations developed.

12

**Mount Kilimanjaro
Nile River
Sahara**

The names listed in the box above represent physical features located in

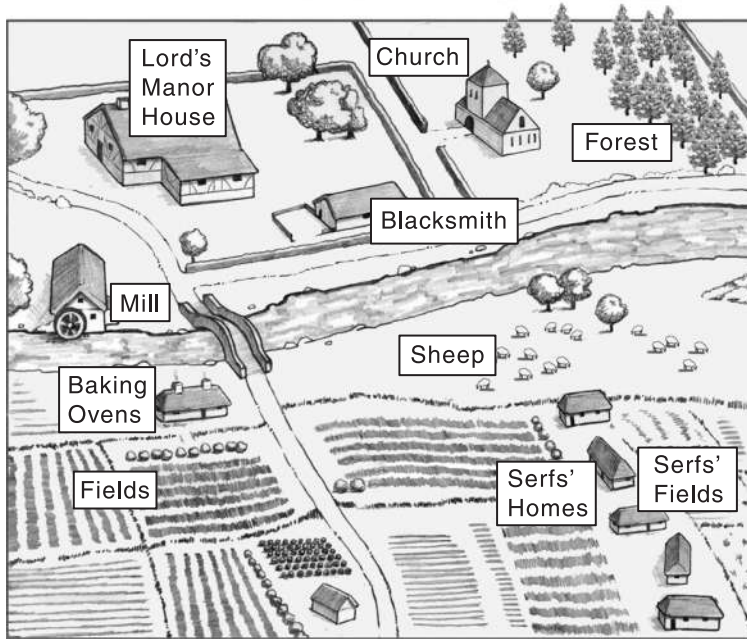
- F Asia
- G Africa
- H Europe
- J North America



Manor Life

Directions

Use the drawing, the passage, and your own knowledge to do Number 13.



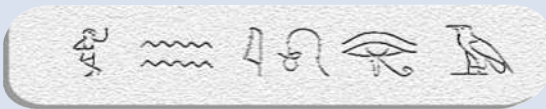
During the Middle Ages in Europe, most people lived on a manor. The land and property were owned by the lord of the manor. The serfs who lived on the manor provided the labor. In exchange for their labor, the lord offered the serfs protection and the use of part of his land.

- 13** Describe two ways in which the manor was a self-sufficient community.

Directions

Use the information below and your own knowledge to do Number 14.

Abu Simbel



In 1960, the ancient monuments at Abu Simbel were threatened when the Egyptian government planned to construct a major dam on the Nile River. The dam would cause the flooding and destruction of this and other historic sites. Many nations provided money, equipment, and technical skill to help Egypt move the monuments at Abu Simbel to a safe location.

**14**

Give two reasons the Egyptian government probably thought it was important to build the dam even though the monuments at Abu Simbel would be damaged.

- _____
- _____



United States Government

15 The national government of the United States is based on certain basic principles, four of which are listed below.

- checks and balances
- federalism
- judicial review
- limited government

Choose two of the principles and give a brief description of each.

Principle: _____

Description: _____

Principle: _____

Description: _____

Introduction

This section of Classroom Connections to *TerraNova, The Second Edition* includes answer keys and scoring guides for the Student Practice Materials found in [Parts 4](#) and [5](#). The answer key is divided by subject area and identifies the correct response and objective for each selected-response item. Objectives and rubrics for items identified as “Constructed Response” are found on the pages following the answer key.

The following graphic shows the Grade 8 Reading and Language Arts answer key. The letters in circles describe how each part of the answer key is used.

		Part 6 Scoring Guide—Grade 8 Answer Key						6.5	
Student Practice Materials Answer Key									
* Note: The objectives and rubrics for these items are found on the pages following the answer key.									
A	Reading and Language Arts								
	1	D	02 Basic Understanding	13	A	05 Identify Reading Strategies	25	D	03 Analyze Text
B	2	G	05 Identify Reading Strategies	14	G	03 Analyze Text	26	F	05 Identify Reading Strategies
	3	C	02 Basic Understanding	15	C	03 Analyze Text	27	B	09 Editing Skills
C	4	H	05 Identify Reading Strategies	16	F	04 Evaluate and Extend Meaning	28	J	08 Writing Strategies
	5	B	04 Evaluate and Extend Meaning	17	D	09 Editing Skills	29	A	07 Sentence Structure
D	6	J	04 Evaluate and Extend Meaning	18	H	09 Editing Skills	30	*	Constructed Response
	7	B	08 Writing Strategies	19	A	07 Sentence Structure	31	*	Constructed Response
	8	J	09 Editing Skills	20	*	Constructed Response	32	J	35 Word Meaning
	9	B	07 Sentence Structure	21	B	05 Identify Reading Strategies	33	C	38 Sentences, Phrases, Clauses
E	10	*	Constructed Response	22	G	03 Analyze Text	34	H	42 Structural Units
	11	B	02 Basic Understanding	23	D	02 Basic Understanding			
	12	H	03 Analyze Text	24	F	05 Identify Reading Strategies			

- A** The content area of the Student Practice Materials administered.
- B** The number of the item administered.
- C** The correct answer.
- D** The objective being measured.
- E** A constructed-response item. (The objective and rubric for this item are found on the pages following the answer key.)

How to Use the Scoring Guide for Reading and Language Arts

There are several constructed-response (CR) items in the Student Practice Materials. Each CR item has its own rubric (rules for scoring) used to evaluate a student's performance. The following graphic shows a sample rubric from a Reading and Language Arts CR item at Grade 8. The letters in circles describe how each part of the scoring guide is used.

Part 6 Scoring Guide—Grade 8 6.9

(A) → Reading and Language Arts

(B) → Item 31 Student Practice Materials page 4.17

(C) → Objective 08: Writing Strategies

Rubric 2 points

- 1 point for a response that focuses on the assigned task of describing a person with a talent that might develop into a career
- 1 point for providing sufficient details or examples in describing the person

(D) → Objective 09: Editing Skills

Rubric 3 points

3 points if there are **no** errors in usage, conventions (spelling, capitalization, punctuation), and sentence formation (fragments, run-ons)

2 points if there are only minor errors in usage, conventions, and/or sentence formation that do not affect the reader's ability to understand what is meant

1 point if there are major errors in usage, conventions, and/or sentence formation that affect the reader's ability to understand what is meant

Note

- Responses that use shorthand marks such as @ for "at" or & for "and" should receive no more than 2 points.
- Responses need not have three sentences to receive full credit. They should, however, have two sentences or one long compound or complex sentence, minimum.

(E) → Example of acceptable response:

31 Maya Angelou has natural talent as a poet and singer. Think of a talented person you know, or know about. Write a paragraph describing that person. Give details about his or her talent and how it might be developed into a career.

For this answer, make sure you write at least three complete sentences and check your work for correct spelling, capitalization, and punctuation.

My friend Sam is very funny. She always makes people laugh by telling a joke or just making sarcastic remarks about whatever is going on. I think she ought to use her ability to be funny to become a stand-up comic. Maybe someday she will have a career in show business.

- (A)** The content area of the Student Practice Materials you administered.
- (B)** The item that is being scored.
- (C)** The objective being measured. (This item is scored twice—once for Objective 08 and once for Objective 09. The objective is always listed above the corresponding rubric.)
- (D)** Number of score points. (The rubric tells you how to evaluate student performance and assign score points.)
- (E)** Example of acceptable response. (A sample student response is printed in color.)

How to Use the Scoring Guide for Mathematics

There are several constructed-response (CR) items in the Student Practice Materials. Each CR item has its own rubric (rules for scoring) used to evaluate a student's performance. The following graphic shows a sample rubric from a Mathematics CR item at Grade 8. The letters in circles describe how each part of the scoring guide is used.

A → Part 6 Scoring Guide—Grade 8

B → **Mathematics**

C → **Item 20 Student Practice Materials page 4.27**

C → **Objective 11: Computation and Numerical Estimation**
Objective 17: Problem Solving and Reasoning

D → **Rubric 2 points**

- 1 point for writing 7
- 1 point for correctly listing the types and numbers of fish

E → *Example of acceptable response:*

20 Kevin is buying fish for his tank. The chart below shows the prices for the types of fish he likes.

Fish Prices	
Algae Eaters	\$1.99
Large Goldfish	\$0.40
Neon Tetras	\$0.50
White Cloud Tetras	\$0.99
Danios	\$1.29

If Kevin buys at least 1 of each type of fish, what is the greatest number of fish he can buy without spending more than \$6.00? Show your work in the box below and write your answer on the line.

1 Algae Eater	1.99
3 Large Goldfish	1.20
1 Neon Tetra	.50
1 White Cloud Tetra	.99
1 Danio	1.29
	<u>\$5.97</u>

Total number of fish 7

- A** The content area of the Student Practice Materials you administered.
- B** The item that is being scored.
- C** The objective being measured. (Item 20 measures Objective 11 and Objective 17. The objectives are always listed above the corresponding rubric.)
- D** Number of score points. (The rubric tells you how to evaluate student performance and assign score points.)
- E** Example of acceptable response. (A sample student response is printed in color.)

Student Practice Materials Answer Key

★ Note: The objectives and rubrics for these items are found on the pages following the answer key.

Reading and Language Arts						
1	D	02 Basic Understanding	13	A	05 Identify Reading Strategies	25 D 03 Analyze Text
2	G	05 Identify Reading Strategies	14	G	03 Analyze Text	26 F 05 Identify Reading Strategies
3	C	02 Basic Understanding	15	C	03 Analyze Text	27 B 09 Editing Skills
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5	B	04 Evaluate and Extend Meaning	17	D	09 Editing Skills	29 A 07 Sentence Structure
6	J	04 Evaluate and Extend Meaning	18	H	09 Editing Skills	30 ★ Constructed Response
7	B	08 Writing Strategies	19	A	07 Sentence Structure	31 ★ Constructed Response
8	J	09 Editing Skills	20	★	Constructed Response	32 J 35 Word Meaning
9	B	07 Sentence Structure	21	B	05 Identify Reading Strategies	33 C 38 Sentences, Phrases, Clauses
10	★	Constructed Response	22	G	03 Analyze Text	34 H 42 Structural Units
11	B	02 Basic Understanding	23	D	02 Basic Understanding	
12	H	03 Analyze Text	24	F	05 Identify Reading Strategies	
Mathematics						
1	C	14 Geometry and Spatial Sense	8	H	17 Problem Solving and Reasoning	16 H 11 Computation and Numerical Estimation
2	F	15 Data Analysis, Statistics, and Probability	9	D	12 Operation Concepts	17 A 14 Geometry and Spatial Sense
3	A	15 Data Analysis, Statistics, and Probability	10	G	14 Geometry and Spatial Sense	18 H 13 Measurement
4	H	16 Patterns, Functions, Algebra	11	C	17 Problem Solving and Reasoning	19 D 16 Patterns, Functions, Algebra
5	B	13 Measurement	12	G	14 Geometry and Spatial Sense	20 ★ Constructed Response
6	F	16 Patterns, Functions, Algebra	13	B	16 Patterns, Functions, Algebra	21 ★ Constructed Response
7	B	15 Data Analysis, Statistics, and Probability	14	G	15 Data Analysis, Statistics, and Probability	22 ★ Constructed Response
			15	B	10 Number and Number Relations	
Science						
1	B	23 Science and Technology	7	A	22 Earth and Space Science	12 G 24 Personal and Social Perspectives in Science
2	J	21 Life Science	8	J	19 Science Inquiry	13 ★ Constructed Response
3	B	21 Life Science	9	B	22 Earth and Space Science	14 ★ Constructed Response
4	F	21 Life Science	10	F	20 Physical Science	15 ★ Constructed Response
5	A	19 Science Inquiry	11	A	20 Physical Science	
6	H	22 Earth and Space Science				
Social Studies						
1	A	26 Geographic Perspectives	6	F	28 Civics and Government Perspectives	11 D 28 Civics and Government Perspectives
2	J	26 Geographic Perspectives	7	C	29 Economic Perspectives	12 H 29 Economic Perspectives
3	A	27 Historical and Cultural Perspectives	8	J	29 Economic Perspectives	13 ★ Constructed Response
4	G	27 Historical and Cultural Perspectives	9	D	26 Geographic Perspectives	14 ★ Constructed Response
5	D	28 Civics and Government Perspectives	10	G	27 Historical and Cultural Perspectives	15 ★ Constructed Response

Reading and Language Arts

Item 10 Student Practice Materials page 4.6

Objective 04: Evaluate and Extend Meaning

Rubric 2 points

- 1 point for stating a clear, reasoned opinion about whether people would want to own a plane like the *Gossamer Albatross*
- 1 point for supporting the opinion with a specific detail from the passage

Note

- The opinion must rest on a generalized assessment of the possible desirability of owning a plane like the *Gossamer Albatross*. The “why” or “why not” must be defined. For example, it would be an enjoyable activity for hobbyists, it would be impractical, etc.

Example of acceptable response:

- 10** In your opinion, would many people want to own a plane like the *Gossamer Albatross*? Explain why or why not. Support your opinion by focusing on at least one specific feature of the *Gossamer Albatross* as described in the passage.

I think a lot of people would want a *Gossamer Albatross* so they could enjoy flying their own plane. Pedaling through the air as if you were on a bike might become a popular sport, like hang-gliding.

Other acceptable response:

- Not many people would want to own a *Gossamer Albatross*. It wouldn't be a good way to travel. Its top speed is only around 12 mph., so it would be quicker to take a bus.

Reading and Language Arts

Item 20 Student Practice Materials page 4.11

Objective 09: Editing Skills

Rubric 4 points

- 1 point for changing *its* to *their*
- 1 point for changing the comma after *factories* to a period
- 1 point for capitalizing the *h* in *he*
- 1 point for changing *miserably* to *miserable*

Note

- If the student corrects mistakes in other acceptable ways, give full credit. For example, if a student corrects a run-on sentence by changing a comma to a semicolon, or rewrites a sentence fragment to include a complete subject and predicate, award 2 points.
- Mistakes need not be crossed out as long as they are corrected. Use of standard proofreading marks is acceptable.
- Ignore any changes made to parts of the sentences that do not have mistakes.
- Misspellings of corrections are acceptable.

Example of acceptable response:

- 20** A student wrote this paragraph about child labor. There are four errors in capitalization, punctuation, and grammar. Draw a line through each part that has a mistake and write the correction above it.

In the early years of the twentieth century, many factories commonly hired young children to run ~~its~~ ^{their} machines. In 1908, a photographer named Lewis Hine was hired by the United States government to document the working environment in these factories, ~~he~~ ^{He} discovered that children spent up to twelve hours a day, six days a week, working for low wages at dangerous jobs in stifling heat. Thanks in part to Hine's photographs, child labor laws were passed to protect children from such ~~miserably~~ ^{miserable} conditions.

Reading and Language Arts

Item 30 Student Practice Materials page 4.17

Objective 05: Identify Reading Strategies

Rubric 2 points

- 1 point for an explanation of how the excerpt confirms the idea that music is a universal language
- 1 point for supporting the explanation with at least one detail from the excerpt

Example of acceptable response:

- 30** Some people say that music is the universal language. How does the excerpt from “Touring with Porgy and Bess” confirm this idea? Use at least one detail from the excerpt to support your explanation.

Maya Angelou and the family in the shop are able to communicate through their shared interest in music. She speaks only a little Serbo-Croatian and they don't know English, but they all know "Deep River." So music does seem like a universal language.

Reading and Language Arts

Item 31 Student Practice Materials page 4.17

Objective 08: Writing Strategies

Rubric 2 points

- 1 point for a response that focuses on the assigned task of describing a person with a talent that might develop into a career
- 1 point for providing sufficient details or examples in describing the person

Objective 09: Editing Skills

Rubric 3 points

3 points if there are **no** errors in usage, conventions (spelling, capitalization, punctuation), and sentence formation (fragments, run-ons)

2 points if there are only minor errors in usage, conventions, and/or sentence formation that do not affect the reader's ability to understand what is meant

1 point if there are major errors in usage, conventions, and/or sentence formation that affect the reader's ability to understand what is meant

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Example of acceptable response:

- 31** Maya Angelou has natural talent as a poet and singer. Think of a talented person you know, or know about. Write a paragraph describing that person. Give details about his or her talent and how it might be developed into a career.

- For this answer, make sure you write at least three complete sentences and check your work for correct spelling, capitalization, and punctuation.

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laugh by telling a joke or just making sarcastic remarks
about whatever is going on. I think she ought to use her
ability to be funny to become a stand-up comic. Maybe
someday she will have a career in show business.

Mathematics

Item 20 Student Practice Materials page 4.27

Objective 11: Computation and Numerical Estimation

Objective 17: Problem Solving and Reasoning

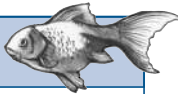
Rubric 2 points

- 1 point for writing 7
- 1 point for correctly listing the types and numbers of fish

Example of acceptable response:

- 20** Kevin is buying fish for his tank. The chart below shows the prices for the types of fish he likes.

Fish Prices	
Algae Eaters	\$1.99
Large Goldfish	\$0.40
Neon Tetras	\$0.50
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If Kevin buys at least 1 of each type of fish, what is the greatest number of fish he can buy without spending more than \$6.00? Show your work in the box below and write your answer on the line.

1 Algae Eater	1.99
3 Large Goldfish	1.20
1 Neon Tetra	.50
1 White Cloud Tetra	.99
1 Danio	1.29
	<u>5.97</u>

Total number of fish 7

Mathematics

Item 21 Student Practice Materials page 4.28

Objective 11: Computation and Numerical Estimation

Objective 17: Problem Solving and Reasoning

Rubric 2 points

- 1 point for writing 120 (seconds)
- 1 point for explaining how the correct answer was found

Example of acceptable response:

- 21** Tommy needs to move 5 boxes from his living room to his truck. He can carry 1, 2, or 3 boxes at a time. It takes him 20 seconds to carry 1 box to the truck, 45 seconds to carry 2 boxes, and 65 seconds to carry 3 boxes. It always takes Tommy 10 seconds to return from the truck to the living room.

What is the **least** amount of time it will take Tommy to move 5 boxes from the living room to his truck?

Answer 120 seconds

On the lines below, explain how you found your answer.

Take 3 at a time (65 seconds), return to the truck

(10 seconds), then take 2 at a time (45 seconds).

That equals 120 seconds.

Mathematics

Item 22 Student Practice Materials page 4.29

Objective 13: Measurement

Objective 17: Problem Solving and Reasoning

Rubric 2 points

- 1 point for writing a correct proportion
- 1 point for writing 45 (feet)

Example of acceptable response:

22



Use the centimeter side of your ruler to help you solve this problem.

Jaime and his family went to the beach for their vacation. Jaime took a picture of his father, which is shown to the right.

Jaime's father is 6 feet tall. In the space below, write a proportion to show how to find the height of the tree.

$$\frac{6 \text{ ft}}{2 \text{ cm}} = \frac{x \text{ ft}}{15 \text{ cm}}$$

What is the actual height of the tree? Show your work in the box below and write your answer on the line.

Answer 45 feet



Other acceptable responses:

Proportion:

- $\frac{6}{x} = \frac{2}{15}$

- $\frac{2}{6} = \frac{15}{x}$

- $\frac{15}{2} = \frac{x}{6}$

NOTE: The student may use other variable.

Science

Item 13 Student Practice Materials page 4.34

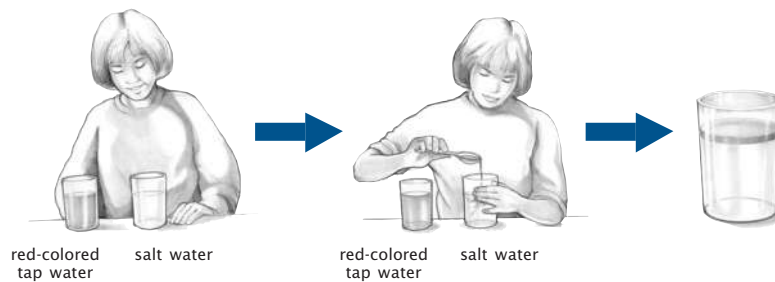
Objective 20: Physical Science

Rubric 1 point

- 1 point for stating that the salt water is the more dense liquid or that the red-colored water is the less dense liquid

Example of acceptable response:

Ingrid's Experiment



- 13** The pictures show what happened when Ingrid added red-colored tap water to a glass of salt water. Explain why the red-colored tap water forms a layer on top of the surface of the salt water.

Since the salt water has salt dissolved in it, it is more dense than the red-colored water.

Other acceptable responses:

- Since the salt water has more material dissolved in it, it weighs more per [any unit of volume].
- There is a boundary, with the less dense liquid floating on top.
- Less dense liquids float on top of more dense ones.
- More dense liquids sink below less dense ones.

Science

Item 14 Student Practice Materials page 4.34

Objective 21: Life Science

Rubric 2 points

- 1 point for indicating that genes are found in the nucleus, chromosomes, or DNA
- 1 point for indicating that genes transmit genetic information

Example of acceptable response:

(A) **14** Where is a gene found in an animal cell?

nucleus

(B) What is the function of a gene?

Genes pass information about inherited traits from
parents to offspring.

Other acceptable responses:

(A) Location

- chromosomes
- DNA
- DNA in the chromosomes or nucleus

(B) Function

- Genes code for traits.
- Genes determine traits.
- Genes determine characteristics.
- Genes determine heredity.

Science

Item 15 Student Practice Materials page 4.35

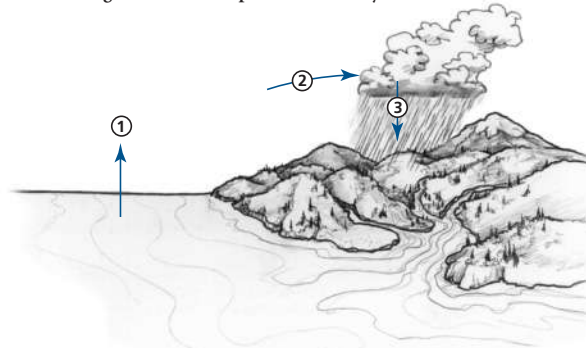
Objective 22: Earth and Space Science

Rubric 3 points

- 1 point for naming Step 1 as evaporation **and** indicating that the water turns to vapor or gas
- 1 point for naming Step 2 as condensation **and** indicating that the water vapor or gas changes into liquid or drops of liquid
- 1 point for naming Step 3 as precipitation **and** indicating that the water falls to Earth as rain, or snow, or hail

Example of acceptable response:

15 This drawing shows three steps of the water cycle.



Look at the drawing. Then name and describe each of the numbered steps of the water cycle. Be sure to name the physical state the water is in at the beginning and at the end of each step.

- Step 1 _____ evaporation
- (A) Description: Water goes into the atmosphere. Liquid water becomes water vapor in the atmosphere.
- Step 2 _____ condensation
- (B) Description: Water vapor condenses into clouds.
- Step 3 _____ precipitation
- (C) Description: Water falls back to Earth as rain.

Other acceptable responses:

- (A) • Water becomes a gas or vapor.
• Water evaporates into the air.
- (B) • Water in the air becomes drops.
• Invisible water vapor becomes visible clouds.
- (C) • Water in the clouds falls as rain, or snow, or sleet, or hail.
• Water falls back to Earth.

Social Studies

Item 13 Student Practice Materials page 4.41

Objective 28: Civics and Government Perspectives

Rubric 1 point

- 1 point for a reason why it is important for all citizens to learn about the government

Note

- Give no credit for responses that merely repeat phrases from the excerpts, such as “*Citizens need to study the Constitution/presidents/portions of government.*”

Example of acceptable response:

- 13** Give one reason it is important for all citizens to study the subjects offered in Mrs. Moel’s citizenship class.

Citizens should know how their government works.

Other acceptable responses:

- A democratic government relies on informed citizens.
- People play a role in a democratic government.
- It’s important to know your rights/responsibilities as a citizen.

Social Studies

Item 14 Student Practice Materials page 4.42

Objective 28: Civics and Government Perspectives

Rubric 2 points

- 1 point for each box correctly filled in

Example of acceptable response:

- 14** Mrs. Moel studied “about the portions of the government.” Complete the chart below by naming the main responsibility of each branch of the federal government. An example has been done for you.

Branch	Main Responsibility
Executive	to carry out laws
Legislative	to make laws
Judicial	to interpret laws

Other acceptable responses:

Legislative

- write/pass laws

Judicial

- decide whether laws/acts are constitutional
- settle constitutional conflicts
- explain how the law should be applied

Social Studies

Item 15 Student Practice Materials page 4.43

Objective 27: Historical and Cultural Perspectives

Rubric 2 points

- 1 point for explaining why the South was blockaded
- 1 point for one example of the effect the blockade had on Southern families

Example of acceptable response:

- (A) 15 Why did the Union forces blockade the South “on every side”?

to prevent goods from reaching the South

- (B) Give one example of the way families in the South were affected by the Union blockade.

They had to live without certain goods/comforts.

Other acceptable responses:

- (A)
- to try to end the war sooner
 - to try to get the South to surrender
- (B)
- They made apple pie using crackers instead of apples.
 - They had to live without silk fabrics.
 - They had to weave their own cloth to make clothes.
 - They were forced to use substitutions in place of imported goods.

Student Practice Materials Answer Key

★ Note: The objectives and rubrics for these items are found on the pages following the answer key.

Reading and Language Arts						
1	A	03 Analyze Text	13	C	03 Analyze Text	25 D 05 Identify Reading Strategies
2	J	02 Basic Understanding	14	J	05 Identify Reading Strategies	26 G 04 Evaluate and Extend Meaning
3	B	04 Evaluate and Extend Meaning	15	D	05 Identify Reading Strategies	27 C 07 Sentence Structure
4	H	05 Identify Reading Strategies	16	H	05 Identify Reading Strategies	28 J 08 Writing Strategies
5	B	04 Evaluate and Extend Meaning	17	A	07 Sentence Structure	29 C 09 Editing Skills
6	F	07 Sentence Structure	18	H	09 Editing Skills	30 ★ Constructed Response
7	B	09 Editing Skills	19	C	08 Writing Strategies	31 ★ Constructed Response
8	F	08 Writing Strategies	20	★	Constructed Response	32 F 36 Multimeaning Words
9	★	Constructed Response	21	D	03 Analyze Text	33 D 39 Writing Conventions
10	H	02 Basic Understanding	22	H	03 Analyze Text	34 G 41 Consonants
11	D	02 Basic Understanding	23	B	03 Analyze Text	
12	G	04 Evaluate and Extend Meaning	24	G	03 Analyze Text	
Mathematics						
1	B	14 Geometry and Spatial Sense	8	H	17 Problem Solving and Reasoning	15 C 16 Patterns, Functions, Algebra
2	J	16 Patterns, Functions, Algebra	9	B	15 Data Analysis, Statistics, and Probability	16 H 12 Operation Concepts
3	C	16 Patterns, Functions, Algebra	10	F	11 Computation and Numerical Estimation	17 B 14 Geometry and Spatial Sense
4	G	10 Number and Number Relations	11	A	16 Patterns, Functions, Algebra	18 H 14 Geometry and Spatial Sense
5	B	15 Data Analysis, Statistics, and Probability	12	H	15 Data Analysis, Statistics, and Probability	19 A 13 Measurement
6	J	15 Data Analysis, Statistics, and Probability	13	C	14 Geometry and Spatial Sense	20 ★ Constructed Response
7	D	13 Measurement	14	J	17 Problem Solving and Reasoning	21 ★ Constructed Response
						22 ★ Constructed Response
Science						
1	A	25 History and Nature of Science	6	J	19 Science Inquiry	11 C 20 Physical Science
2	F	22 Earth and Space Science	7	C	24 Personal and Social Perspectives in Science	12 F 21 Life Science
3	A	21 Life Science	8	J	21 Life Science	13 ★ Constructed Response
4	H	19 Science Inquiry	9	C	20 Physical Science	14 ★ Constructed Response
5	B	23 Science and Technology	10	H	22 Earth and Space Science	15 ★ Constructed Response
Social Studies						
1	A	28 Civics and Government Perspectives	5	D	27 Historical and Cultural Perspectives	10 G 27 Historical and Cultural Perspectives
2	J	28 Civics and Government Perspectives	6	H	27 Historical and Cultural Perspectives	11 D 26 Geographic Perspectives
3	B	28 Civics and Government Perspectives	7	A	29 Economic Perspectives	12 G 26 Geographic Perspectives
4	H	26 Geographic Perspectives	8	G	29 Economic Perspectives	13 ★ Constructed Response
			9	C	27 Historical and Cultural Perspectives	14 ★ Constructed Response
						15 ★ Constructed Response

Reading and Language Arts

Item 9 Student Practice Materials page 5.7

Objective 05: Identify Reading Strategies

Rubric 2 points

- 1 point for putting the jobs in correct sequence (designer, scripter, tester)
- 1 point for giving an accurate, brief description of all three jobs

Example of acceptable response:

9 In discussing her work with computer games, Susan Michele mentions the following jobs:

tester *scripter* *designer*

Give the order in which the people with these jobs complete their portions of work on a computer game. Write a short description of what each person does.

First: The designer makes drawings to show how the game will look and what the story is.

Next: The scripter makes the designer's characters move and come to life.

Finally: The tester plays the game to make sure it works.

Reading and Language Arts

Item 20 Student Practice Materials page 5.13

Objective 04: Evaluate and Extend Meaning

Rubric 2 points

- 1 point for explaining that Cannistra’s remark means that a TV photographer’s selections of *what* to shoot, *what* to ask, etc. constitutes a kind of preliminary editing
- 1 point for giving a suitable, hypothetical example to support the explanation

Note

- If the explanation is clear, though *only* in the example, two points should be awarded.

Example of acceptable response:

20 Read this quote from the article.

The first editing that takes place is in the field with a camera. The first edit occurs when you turn on the camera, shoot your first shot and ask your first question.

What does Bart Cannistra mean by this remark? Explain how editing—that is, selecting the best words or images—can take place before any material is recorded. Make up a sample news story that illustrates and supports your explanation.

The kind of editing that takes place before there is any material is deciding what to photograph, or making sure your photographs will be of good quality. For instance, if a news photographer is shooting pictures of a house fire, he has to decide whether to get pictures of the actual fire, or the reaction of the public, or the damage done.

Other acceptable response:

- Suppose a news photographer is covering a bank robbery. He has a choice of doing interviews with several different people. If he chooses to interview the teller instead of the bank manager, for example, he is “editing out” the bank manager.

Reading and Language Arts

Item 30 Student Practice Materials page 5.17

Objective 09: Editing Skills

Rubric 5 points

- 1 point for changing *who* to *which*
- 1 point for changing *been* to *being*
- 1 point for changing *repeatedly* to *repeated* (or deleting *and* after *repeatedly*)
- 1 point for eliminating the period after *place*
- 1 point for lowercasing the *W* in *Where*

Note

- If the student corrects mistakes in other acceptable ways, give full credit. For example, if a student corrects a run-on sentence by changing a comma to a semicolon, or rewrites a sentence fragment to include a complete subject and predicate, award 2 points.
- Mistakes need not be crossed out as long as they are corrected. Use of standard proofreading marks is acceptable.
- Ignore any changes made to parts of the sentences that do not have mistakes.
- Misspellings of corrections are acceptable.

Example of acceptable response:

- 30** Read the following account of the origins of the tales about “El Dorado.” It contains five errors in capitalization, punctuation, and grammar. Draw a line through each part that has a mistake, and write the correction above it.

The name El Dorado, ^{which} ~~who~~ means “golden one,” probably originated in a story about a South American chief ^{being} ~~been~~ ceremonially covered in gold leaf. At the end of the ceremony, the chief washed the gold off in a lake. This tale was repeatedly ^s ~~ly~~ and embellished over the years. Many Europeans spent their lives looking for the ^{place where} ~~place. where~~ the ceremony was held. No one ever found it. The so-called “City of Gold” has passed into legend.

Reading and Language Arts

Item 31 Student Practice Materials page 5.18

Objective 08: Writing Strategies

Rubric 2 points

- 1 point for a response focusing on the assigned topic of describing a place where the student would like to live
- 1 point for including details about what the place is like and why it is a desirable place to live

Objective 09: Editing Skills

Rubric 3 points

3 points if there are **no** errors in usage, conventions (spelling, capitalization, punctuation), and sentence formation (fragments, run-ons)

2 points if there are only minor errors in usage, conventions, and/or sentence formation that do not affect the reader's ability to understand what is meant

1 point if there are major errors in usage, conventions, and/or sentence formation that affect the reader's ability to understand what is meant

Note

- Responses that use shorthand marks such as @ for "at" or & for "and" should receive no more than 2 points.
- Responses need not have three sentences to receive full credit. They should, however, have two sentences or one long compound or complex sentence, minimum.

Example of acceptable response:

- 31** Candide was looking for a better place to live. Where would you like to live? Write a short paragraph describing your ideal dwelling place. Be sure to give details about what the place is like and why you would like to live there.

- For this answer, make sure you write at least three complete sentences and check your work for correct spelling, capitalization, and punctuation.

I think I'd like to live on the Space Station. It's out in space, orbiting Earth. There is a lot of interesting science equipment on board, and I'm interested in astronomy, so it would be perfect for me. I'd also get to meet scientists and astronauts from other countries. Of course, I wouldn't want to stay forever. I'd probably miss my family after a while and want to get back to Earth. If there were ever a manned mission to Mars, though, I'd sign up. I guess I just like adventure.

Mathematics

Item 20 Student Practice Materials page 5.27

Objective 14: Geometry and Spatial Sense

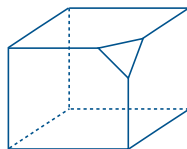
Objective 17: Problem Solving and Reasoning

Rubric 2 points

- 1 point for writing 7
- 1 point for a valid description of the figure

Example of acceptable response:

20 Nathan made the solid shape below by sawing a corner off a cube.



How many faces does the shape have? 7

Describe the solid figure that Nathan removed from the cube to make the shape.

It's a triangular pyramid.

Other acceptable responses:

- The figure has 4 faces, 6 edges, and 4 vertices.
- The figure is a tetrahedron.

Mathematics

Item 21 Student Practice Materials page 5.28

Objective 11: Computation and Numerical Estimation

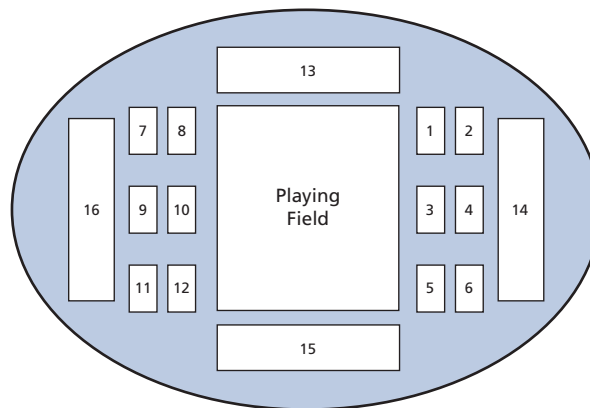
Objective 18: Communication

Rubric 2 points

- 1 point for an appropriate estimate within a range of 7,200 to 8,800 (seats)
- 1 point for a valid explanation supporting the estimate

Example of acceptable response:

21 The diagram below shows the seating sections in an indoor soccer arena.



Section 1 has 200 seats. Estimate the number of seats in the entire arena.

<p>Small Sections: $12 \times 200 = 2,400$ seats</p> <p>Large Sections: $8 \times 200 = 1,600$ seats each</p> <p>$4 \times 1,600 = 6,400$</p> $\begin{array}{r} 2,400 \\ + 6,400 \\ \hline 8,800 \end{array}$ <p>Answer <u>8,800</u> seats</p>

On the lines below, explain how you made your estimate.

Sections 1 through 12 each have 200 seats. Sections 13 through

16 each have about 8 times as many, which is 1,600 seats each.

I added all the sections together to find the total.

Mathematics

Item 22 Student Practice Materials page 5.29

Objective 10: Number and Number Relations

Objective 17: Problem Solving and Reasoning

Rubric 2 points

- 1 point for correctly describing the least expensive way
- 1 point for writing 185 (washers)

Example of acceptable response:

- 22** The local hardware store sells washers in the following quantities and prices.



What is the least expensive way to buy exactly 90 washers?

package of 50, package of 35, and 5 single washers

Find the greatest number of washers that can be bought for exactly \$5.

$$2 \times 75 = 150 \rightarrow \$4$$

$$1 \times 35 = 35 \rightarrow \$1$$

$$185 \rightarrow \$5$$

Answer 185 washers

Science

Item 13 Student Practice Materials page 5.36

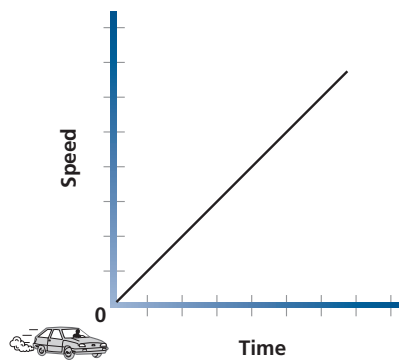
Objective 20: Physical Science

Rubric 1 point

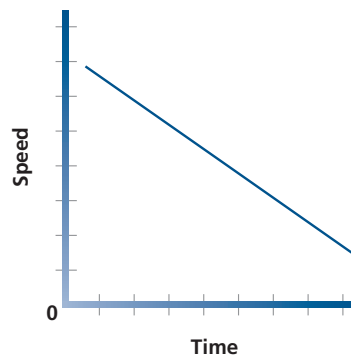
- 1 point for drawing a line with a negative slope

Example of acceptable response:

- 13** The graph below shows a car speeding up.



On the graph below, draw a line that shows a car slowing down.



Other acceptable response:

- Any graph that shows a line going down to the right

Science

Item 14 Student Practice Materials page 5.37

Objective 24: Personal and Social Perspectives in Science

Rubric 2 points

- 1 point for stating a benefit such as creation of jobs
- 1 point for stating a risk such as destruction of habitats

Example of acceptable response:

(A) 14 What is one benefit of building a dam across a river?

It would provide water for irrigation.

(B) What is one risk of building a dam across a river?

It would destroy wildlife habitat.

Other acceptable responses:

(A) Benefits

- creation of jobs
- hydroelectric power
- reservoir for cities
- recreational lake
- controls flooding

(B) Risks

- flooding of valuable lands such as private homes, businesses, or historical sites
- reduces amount of water to people downstream
- costs money
- silting would eventually make the dam useless
- destroys native water animals

Science

Item 15 Student Practice Materials page 5.38

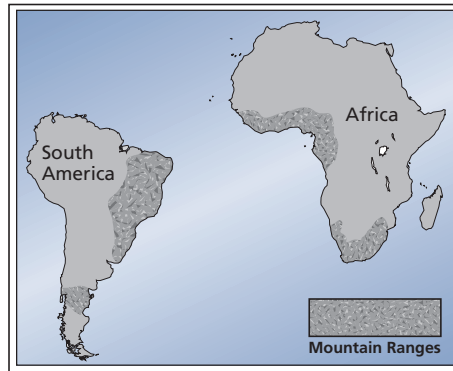
Objective 22: Earth and Space Science

Rubric 3 points

- 2 points for any two acceptable things about the rocks that provide evidence
- 1 point for indicating that the continents split or separated

Example of acceptable response:

- 15** When maps of South America and Africa are pieced together, mountain ranges along the coast of Africa are shown to link up with mountain ranges in South America.



- (A)** Name two things about the rocks of these mountain ranges that would provide evidence they were once connected as part of a larger continent.

one: The rocks are the same kind.

two: The rocks are the same age.

- (B)** What natural process caused the larger original continent to split apart?

The continents were split by tectonic motion.

Other acceptable responses:

- (A)** The rocks
- contain the same or similar minerals
 - have the same or similar fossils
- (B)** The continents were split apart by
- moving plates
 - continental drift
 - sea-floor spreading
 - plate tectonics

Social Studies

Item 13 Student Practice Materials page 5.43

Objective 27: Historical and Cultural Perspectives

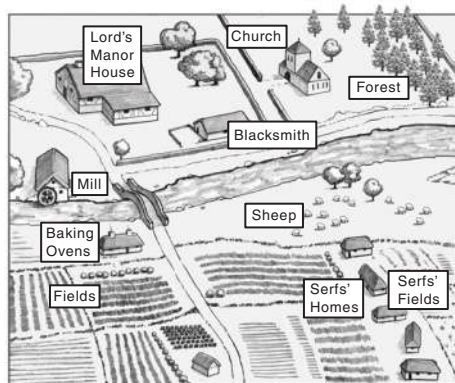
Rubric 2 points

- 1 point for **each** description of how the manor was a self-sufficient community

Note

- If students simply list two elements of manor life (e.g., “They had a church” and “They could farm”), they receive a total of one point. Neither answer by itself describes a self-sufficient community.

Example of acceptable response:



During the Middle Ages in Europe, most people lived on a manor. The land and property were owned by the lord of the manor. The serfs who lived on the manor provided the labor. In exchange for their labor, the lord offered the serfs protection and the use of part of his land.

- 13** Describe two ways in which the manor was a self-sufficient community.

Everything that was needed was produced on the manor.

The manor was like a town with a ruler, farmers, craftspeople, and a church.

Other acceptable responses:

- They could grow wheat and use the mill and ovens to produce their own bread.
- They raised their own crops/animals to produce their food.
- The manor was a self-contained community that met the economic and religious needs of the people.

Social Studies

Item 14 Student Practice Materials page 5.44



Objective 26: Geographic Perspectives

Rubric 2 points


- 1 point for **each** reason the dam was to be built

Example of acceptable response:

Abu Simbel

In 1960, the ancient monuments at Abu Simbel were threatened when the Egyptian government planned to construct a major dam on the Nile River. The dam would cause the flooding and destruction of this and other historic sites. Many nations provided money, equipment, and technical skill to help Egypt move the monuments at Abu Simbel to a safe location.



14 Give two reasons the Egyptian government probably thought it was important to build the dam even though the monuments at Abu Simbel would be damaged.

- More water was needed in an area surrounded by desert.
- The needs of the country at that time outweighed the preservation of ancient sites.

Other acceptable responses:

- to improve the agricultural economy of Egypt
- to improve the standard of living in Egypt by making electricity available to more people
- to control flooding
- to increase farmland

Social Studies

Item 15 Student Practice Materials page 5.45

Objective 28: Civics and Government Perspectives

Rubric 2 points

- 1 point for **each** description of a selected principle

Example of acceptable response:

15 The national government of the United States is based on certain basic principles, four of which are listed below.

- checks and balances
- federalism
- judicial review
- limited government

Choose two of the principles and give a brief description of each.

Principle: Checks and Balances

Description: Each branch can check the powers of the other branches so that no one branch can become too powerful.

Principle: Federalism

Description: The power to govern is shared by the national government and the state governments.

Other acceptable responses:

Checks and Balances

- any specific example of one branch checking another, such as the President vetoing a bill passed by Congress

Federalism

- allows states to deal with local matters
- allows national government to enact policies that would affect the entire country

Judicial Review

- courts can interpret laws and declare them unconstitutional
- allows the courts to check the actions of the legislative and executive branches
- allows the courts to uphold the Constitution

Limited Government

- government may do only those things that the people have given it the power to do
- any specific example, such as voters selecting government leaders
- restricts powers of government

Introduction to the Teaching Activities

This section of the guide is geared specifically for classroom use. The following pages contain ready-to-use activities that are easily integrated into the classroom curriculum. With their emphasis on interaction and participation, these activities help the teacher introduce the concepts and skills covered in *TerraNova, The Second Edition*.

The activities found in Part 7 are specifically designed to assist the classroom teacher in familiarizing students with the concepts, processes, and skills found in *TerraNova, The Second Edition*. While the items in [Part 4](#) and [Part 5](#) focus on practice in answering questions in a test format, these activities provide students with an opportunity to work in groups, ask questions, and become actively involved in a shared learning experience.

For easy classroom use, each activity is accompanied by the following information:

- the purpose of the activity;
- the objective and thinking skill covered;
- a brief description of the activity;
- complete directions for each step of the activity.

With some activities, a passage, prompt, or worksheet has been included and can be found on separate pages immediately following the activity. These materials are suggested for teacher use and can be substituted or expanded with other appropriate selections.

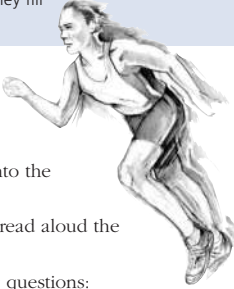
Before beginning an activity, it is recommended that teachers read through the entire activity to learn what preparation might be involved.

The variations found at the end of many activities offer alternate ways to approach the activity. Some of these variations provide basic and more advanced activities for those students who need additional practice or enrichment.

Part 7 can serve as a valuable resource for the classroom teacher. While the class is participating in an activity, the teacher can assess student performance and evaluate how well students are understanding particular concepts. Although the strategies described here do not constitute a complete instructional program, they do provide helpful supplementary activities that can enhance classroom instruction.

Description of the Elements in a Teaching Activity

The following sample shows a Reading and Language Arts teaching activity. Each part of the activity is labeled and further described below:

<p>(A)</p> <p>(B)</p> <p>(C)</p> <p>(D)</p> <p>(E)</p> <p>(F)</p> <p>(G)</p>	<p>ACTIVITY 1</p> <h3>Running Faster and Faster</h3> <p>Purpose Students practice reading for information. Objective 02: Basic Understanding Thinking Skill: Gather Information</p> <p>Description Students read a passage and answer questions about it. Then they fill out a time line with information from the passage.</p> <p>Directions</p> <ol style="list-style-type: none"> Getting Started Introduce the topic of the passage by having students tell what they know about running. Some students may relate personal anecdotes. Explain to students that they will read a passage about running and then put information from the passage into the correct sequence. Worksheet Distribute copies of the worksheets. Have a volunteer read aloud the passage on Worksheet 1. Discuss Reinforce students' understanding by asking the following questions: <ul style="list-style-type: none"> How long have people been racing? (since at least 776 B.C.) What types of races did athletes run in the original Olympic games? (from a few hundred yards up to 2 miles) Where were races often held in the Middle Ages? (at fairs) What was another name for competitive runners in Great Britain during the 1700s? (peds) What international competition originated in 1896? (modern Olympics) What seemed like an impossible goal to mile runners? (finishing in less than 4 minutes) What is the Olympic record for the mile run? (No mile is run in Olympic events.) Has anyone ever beaten Roger Bannister's record for the mile? (yes, many times) What changes in training made it possible for athletes to run faster? (interval training, running more miles per week) Describe interval training. (The athlete alternates between running at top speed and jogging.) How many miles per week do top runners today commonly run while training? (50–100 miles per week) Small Group Activity Divide students into small groups. Have them complete the time line and answer the open-ended question at the bottom of the page. When students have finished, have the groups discuss what they wrote on the time line. Conclude Activity Ask for volunteers to share their responses to the open-ended question at the bottom of the worksheet. <p>Variation</p> <p>Basic Before having students fill out the time line, ask them to find and name important details about running. List the details on the board.</p> <p>Advanced Ask students to make a time line of other important events in the history of running or for a topic of their choice.</p>	
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- (A)** Activity number and title.
- (B)** The purpose of the activity.
- (C)** The objective and thinking skill covered by the activity.
- (D)** A brief description of the activity.
- (E)** Complete directions for each step of the activity.
- (F)** Answers (in parentheses) are provided in some cases as a convenience to teachers.
- (G)** Alternate ways to approach the activity. Some activities provide basic and more advanced activities for those students who need additional practice or enrichment.

Reading and Language Arts

Teaching Activities

Activity Number and Title		<i>TerraNova, The Second Edition</i> Objective Number and Title	Activity Worksheet	Activity Page Number
1	Planning a Trip	02 Basic Understanding	X	7.5
2	Family Resemblances	03 Analyze Text	X	7.8
3	Word Portraits	03 Analyze Text	X	7.11
4	Critiquing Poetry	04 Evaluate and Extend Meaning	X	7.14
5	Thinking Ahead	04 Evaluate and Extend Meaning	X	7.17
6	Know Your Genres	05 Identify Reading Strategies	X	7.21
7	Ready . . . Set . . . Define!	05 Identify Reading Strategies	X	7.24
8	Old and New Meanings	05 Identify Reading Strategies	X	7.28
9	Everything in Its Place	07 Sentence Structure	X	7.32
10	What's Your Point?	08 Writing Strategies	X	7.37
11	Showing Support	08 Writing Strategies	X	7.40
12	In Agreement	09 Editing Skills	X	7.42
Answers to Student Worksheets				7.109

ACTIVITY

1

Planning a Trip

Purpose

Students practice reading for information.

Objective 02: Basic Understanding

Thinking Skills: Gather Information; Organize Information

Description

Students read a travel guide and use it to plan a trip.

Directions

- 1. Getting Started** Point out that reading for information is something most people do every day. Suggest examples such as reading a menu, class schedule, bus schedule, television programming schedule, weather report, or computer manual. Point out that basic understanding skills are also necessary for reading history, science, fiction, and poetry.
- 2. Worksheets** Distribute copies of Worksheet 1. Divide the class into small groups. Give a copy of Worksheet 2 to each group and read the directions aloud. Explain that the Traveler's Guide contains the information students will need to plan travel, meals, and activities for the weekend. Ask them to read the Traveler's Guide carefully. Have students work in their groups to fill in the itinerary—how they will travel, where they will stay, where they will eat, and what they will do.
- 3. Conclude Activity** After the itineraries have been completed, invite each group of students to present their plan to the rest of the class and describe where they will go, what they will do, and how they will get there. When all groups have presented their plans, invite students to share their impressions. To generate discussion, ask students the following questions:
 - ◆ Which weekend sounds like the most fun?
 - ◆ Are there any plans that you think won't work?
 - ◆ Which weekend seems the most carefully planned? Why?

Variation

Basic Review the Traveler's Guide to Beaumont, one section at a time. Ask questions to make sure students understand the information in each section. Then have them restate the information in their own words.

Advanced Have students reread the Traveler's Guide to identify fact/opinion distinctions, implied value judgments, the audience that the author had in mind, and possible sources for additional information. Alternatively, have students use a real travel guide to plan a trip to a city or historic site, or to plan a weekend itinerary for visitors to their own town.

Planning a Trip—Worksheet 1

A Traveler's Guide to Beaumont

The village of Beaumont, whose name is French and means “beautiful mountain,” was settled in the 1700s by French traders. Today this quaint, bustling town, located just north of the historic Route 30 highway, has much to offer the weekend traveler, including fine restaurants, shops, museums, skiing, and hiking. With its lovely Village Green, historical buildings, and spectacular views, Beaumont fully lives up to its name.



Travel Tips

Beaumont is 2 hours north of Cole City. Take Route 30 North to exit 4 and follow the signs. Bus and train service is also available. Parking in the village is limited, so public transportation is recommended. A shuttle bus leaves the Village Green at Chapel Street every fifteen minutes from 8:00 A.M. to 11:00 P.M. Stops include the bus and train stations, village landmarks, and points of interest outside town. Shuttle bus stops are indicated below with the symbol ###.

Where to Stay

In the village: The Ivy Inn (###), Mrs. Quince's B&B (###), and The Beaumont Inn (###) offer room and breakfast. Call 555-765-7890 for information and reservations.

Where to Eat

With dozens of restaurants in town, there is something for every taste. Our favorites are Michi Kusa (Japanese), Anna's (Mexican), BonBon (French), So Soy (Vegetarian), and Buddy's Burger Joint.

What to See and Do

The historical part of Beaumont is known as the “Village.” Be sure to explore its charming old streets. In good weather, have a picnic lunch on the Green. Or try one of the many fine restaurants on Chapel or Village Streets. For shopping, head two blocks west of the Green to the pedestrian mall on High Street. Here you will find everything from brand-name shops to quaint boutiques. Also worth visiting, and within walking distance, are the **Fur Trader Museum (###)**, the **Old Miner's Playground**, and the **Village Improv Theater (###)**—performances every Saturday at 8 P.M. Other places of interest in the area include:

Glass Factory and Museum (###) Route 30 West. Watch glass blowers at work; tour an exhibit about the history of glass making. Open 10 A.M. to 4 P.M., Tues.–Sun.

The Cider Mill (###) Orchard Street. See how cider is made; buy fresh cider, fresh-picked apples, and crafts; lunch served 11:30 A.M. to 3:00 P.M. Open 9 A.M. to 5 P.M., Tues.–Sun.

Beaumont Ski Lodge (###) Mountain Road. Excellent downhill and cross-country skiing in winter. Hiking trails open year-round. Equipment rental available. Cozy lodge with fireplace and snack bar. Open 8:00 A.M. to 5 P.M., Tues.–Sun.

Beaumont Quadruplex Cinema (###) Route 30 West. First-run movies and screen classics. Call 555-765-4321 for movies and showtimes.

Name _____

Planning a Trip—Worksheet 2

Directions: Imagine that you and a group of friends are going away for the weekend. Your destination is the resort town of Beaumont. To plan your weekend getaway, use the information from the Traveler’s Guide to complete the chart.

Weekend Schedule and Itinerary

Travel:

Where to stay:

SATURDAY

Where to eat:

Breakfast:

Lunch:

Dinner:

What to do (and how to get there):

Morning:

Afternoon:

Evening:

SUNDAY

Where to eat:

Breakfast:

Lunch:

Dinner:

What to do (and how to get there):

Morning:

Afternoon:

Evening:

Notes:

ACTIVITY

2

Family Resemblances

Purpose	Students practice comparing and contrasting fictional characters. Objective 03: Analyze Text Thinking Skills: Gather Information; Analyze Information; Generate Ideas
Description	Students read an excerpt from a novel and identify similarities and differences between the characters. They also predict how the characters might act in a hypothetical situation.
Materials	overhead projector (optional)

Directions

- 1. Getting Started** Choose two well-known media personalities, historical figures, or characters in literature. Ask the class how the two are alike and how they are different. Elicit three or four similarities and/or differences between the two people. Ask students the following question:
 - ♦ What do you think each would do if he or she won a large amount of money?Briefly discuss students' responses. Then draw a parallel between this exercise and one in which fictional characters are compared: the process is much the same except that readers get to know the characters through the text.
- 2. Worksheets** Distribute copies of the worksheets. Have students read the passage on Worksheet 1 and complete the chart on Worksheet 2, either individually or in small groups.
- 3. Conclude Activity** Have volunteers share what they wrote on the chart. Use their responses to generate class discussion about the similarities and differences between the March sisters. Record the conclusions on the board or use an overhead projector. Revisit the opening exercise by asking students the following question:
 - ♦ What do you think each March sister would do if she won a large amount of money?

Variation

Basic Have students concentrate on the obvious physical similarities and differences between the sisters.

Advanced Have students compare/contrast the author's treatment of the March sisters. Ask students the following questions:

- ♦ Does the author treat all four sisters equally? (No. Jo and Beth are discussed in greater detail.)
- ♦ What does this suggest? (Perhaps they are more important to the story.)

Have students role-play the sisters in a hypothetical situation, such as a surprise visit from a famous author. Ask students to elaborate on their interpretations.

Name _____

Family Resemblances—Worksheet 1

Presenting the March Sisters

from *Little Women*
by Louisa May Alcott

Margaret, the eldest of the four, was sixteen, and very pretty, being plump and fair, with large eyes, plenty of soft, brown hair, a sweet mouth, and white hands, of which she was rather vain. Fifteen-year-old Jo was very tall, thin, and brown, and reminded one of a colt, for she never seemed to know what to do with her long limbs, which were very much in her way. She had a decided mouth, a comical nose, and sharp, gray eyes, which appeared to see everything, and were by turns fierce, funny, or thoughtful. Her long, thick hair was her one beauty, but it was usually bundled into a net, to be out of her way. Round shoulders had Jo, big hands and feet, a flyaway look to her clothes, and the uncomfortable appearance of a girl who was rapidly shooting up into a woman and didn't like it. Elizabeth—

or Beth, as everyone called her—was a rosy, smooth-haired, bright-eyed girl of thirteen, with a shy manner, a timid voice, and a peaceful expression which was seldom disturbed. Her father called her “Little Tranquility,” and the name suited her excellently, for she seemed to live in a happy world of her own, only venturing out to meet the few whom she trusted and loved. Amy, though the youngest, was a most important person—in her own opinion at least. A regular snow maiden, with blue eyes, and yellow hair curling on her shoulders, pale and slender, and always carrying herself like a young lady mindful of her manners. What the characters of the four sisters were we will leave to be found out.



ACTIVITY

3

Word Portraits

Purpose

Students practice identifying and using figurative language.

Objective 03: Analyze Text **Thinking Skills:** Analyze Information; Generate Ideas

Description

Students read a descriptive passage and identify metaphor, simile, and hyperbole. They also write their own descriptive passages using figurative language.

Directions

- 1. Getting Started** Discuss figurative language that students may themselves use. For example, “solid as a rock” uses a comparison to convey stability. Likewise, calling a person a “teddy bear” is a common metaphor used to describe a person with a sweet, harmless nature. Point out that good writers use figurative language in fresh, imaginative ways. Brainstorm alternatives to the simile and metaphor used above.
- 2. Worksheets** Distribute copies of Worksheet 1. Review the “Common Figures of Speech” definitions and read the excerpt together as a class. Provide definitions or have students find the meanings of *grindstone*, *covetous*, *gait*, *rime*, and *dog-days*. Then distribute copies of Worksheet 2 to all students or small groups of students. Have students identify figures of speech in the excerpt and complete the chart.
- 3. Conclude Activity** Have students share their completed charts. Discuss the figures of speech and how they help the reader understand Scrooge.

Variation

Basic Have students turn each figure of speech used in the passage into a statement of its meaning.

Advanced Play a game in which each student chooses a famous person or fictional character and writes a description of that person using at least two figures of speech. (You may want to narrow the playing field by assigning categories, e.g., famous actors/actresses.) Students then read their descriptions aloud and classmates guess who is described. Classmates should also identify the figures of speech used.

Name _____

Word Portraits–Worksheet 1

Common Figures of Speech

A **simile** compares two seemingly different things using *like* or *as*.

Example: “She is pretty as a picture.”

A **metaphor** compares by describing one thing as if it were another.

Example: “He is a string bean.”

An **extended metaphor** makes a series of comparisons based on the same idea.

Example: “The children were a mixed bouquet of flowers: Mary, a rose in full bloom; Brad, a shy, big-eyed violet; Eva, a graceful lily . . .”

The use of **hyperbole** makes a statement so exaggerated it cannot be taken literally.

Example: “I’m so hungry I could eat a horse.”

Personification attributes human qualities to something impersonal.

Example: “The storm raged and angry waves crashed on the shore.”

Scrooge by Charles Dickens

Oh! But he was a tight-fisted hand at the grindstone, Scrooge! a squeezing, wrenching, grasping, scraping, clutching, covetous, old man! Hard and sharp as flint, from which no steel had ever struck out generous fire; secret, and self-contained, and solitary as an oyster. The cold within him froze his old features, nipped his pointed nose, shrivelled his cheek, stiffened his gait; made his eyes red, his thin lips blue; and spoke out shrewdly in his grating voice. A frosty rime was on his head, and on his eyebrows, and his wiry chin. He carried his own low temperature always about with him; he iced his office in the dog days; and didn’t thaw it one degree in December.



Name _____

Word Portraits-Worksheet 2

Directions: Read "Scrooge." Find five or more examples of figurative language, using the boxed definitions as a reference. Then write each example in the chart and label it as one of the five types of figures of speech. Finally, explain the meaning of each example.

Figurative Language	Type of Figure of Speech	What It Means

ACTIVITY

4

Critiquing Poetry

Purpose

Students assess a poem’s effectiveness through literary critique.

Objective 04: Evaluate and Extend Meaning **Thinking Skill:** Evaluate Outcomes

Description

Students read “Laughing Song” by William Blake and assess the poet’s use of imagery, figurative language, repetition, rhyme, rhythm, and word choice.

Directions

- 1. Getting Started** Remind students that all readers make judgments about what they read. As soon as a reader goes from “Do I like this?” to “Why do (or, don’t) I like this?” a critical judgment is being made. Explain to students that honing their skills of critical assessment will make them better readers and will add to their enjoyment of reading. Use the example of a poetry contest, and discuss what judges look for when they pick the winning poems (e.g., how well poets use figurative language, rhyming, repetition, and rhythm in order to create mood, surprise, impact, and imagery).
- 2. Worksheets** Distribute copies of both worksheets. Read aloud “Laughing Song” on Worksheet 1 or invite a volunteer to do so. Then have students work in small groups to complete Worksheet 2.
- 3. Conclude Activity** When students have completed the worksheet, invite each group of students to share their responses. As a class, discuss the poet’s techniques and how each element contributes to the mood of “Laughing Song.” (For possible responses, see “Answers to Student Worksheets.”)

Variation

Basic Help students make a critical judgment about the poem by asking the following questions:

- ♦ What words in the poem help create mood?
- ♦ What effect does the rhythm of the poem have on the reader?
- ♦ How might a reader respond to the words and the rhythm of the poem?

Advanced Have students write poems evoking a particular mood. Students can share their poems with classmates, who can then assess each poem’s effectiveness.

Name _____

Critiquing Poetry-Worksheet 1

Laughing Song

from *Songs of Innocence*
by William Blake

When the green woods laugh with the voice of joy,
And the dimpling stream runs laughing by;
When the air does laugh with our merry wit,
And the green hill laughs with the noise of it;

When the meadows laugh with lively green,
And the grasshopper laughs in the merry scene;
When Mary and Susan and Emily
With their sweet round mouths sing 'Ha, ha, he!'

When the painted birds laugh in the shade,
Where our table with cherries and nuts is spread:
Come live, and be merry, and join with me
To sing the sweet chorus of 'Ha, ha, he!'



Techniques for evoking mood:

Figurative Language

- Personification
- Imagery

Repetition

Rhyming

Rhythm

Name _____

Critiquing Poetry—Worksheet 2

Directions: Read the poem “Laughing Song” by William Blake. As you read, think about how the language used in the poem creates mood. You may want to make notes in the margin. Then answer the questions below.

1 What three words could you use to describe the mood of “Laughing Song”?

a. _____

b. _____

c. _____

2 How does the poet use each of the techniques listed on Worksheet 1 to create mood and imagery in this poem?

Personification: _____

Imagery: _____

Repetition: _____

Rhyming: _____

Rhythm: _____

3 Which technique do you think is most effective in this poem? Why?

ACTIVITY

5

Thinking Ahead

Purpose

Students make and evaluate hypotheses and predictions based on clues in a text.

Objective 04: Evaluate and Extend Meaning

Thinking Skills: Generate Ideas; Evaluate Outcomes

Description

Students read the first half of a story, hypothesize about it, and predict the outcome based on information in the text. Then they read the second half of the story and evaluate their predictions.

Directions

1. Getting Started Point out that readers often anticipate what they think will happen next in a story. Sometimes they may also think about possible ways to explain parts of the plot that seem mysterious or unclear. Illustrate this by asking students about recent movies they have seen or books they have read. Ask students the following questions:

- ♦ As you watched a movie or read a book, did you think about what would happen next or how the story would end?
- ♦ What did you base your ideas on?

Point out that hypothesizing and making predictions while reading will sharpen students' comprehension skills as well as enhance their enjoyment of the story.

2. Worksheets Distribute copies of the first part of “An Air of Mystery” (Worksheet 1) to all students. Have students read the first half of the story and answer the questions in the first three rows of the chart either individually or in small groups. After students have finished this task, distribute copies of the second part of “An Air of Mystery” (Worksheet 2) and have students read the story's conclusion.

3. Conclude Activity Invite students to share their hypotheses and predictions with the rest of the class. Ask them to explain their reasoning in terms of their interpretation of clues in the story. Invite students to compare their predictions with the story's actual outcome. Finally, provide further opportunity for predictions by asking students the following question:

- ♦ How do you think Helen will react to the letter? (Discuss students' responses.)

Variation

Basic Have students work in pairs to circle and analyze words and phrases on Worksheet 1 that provide clues to the mystery and what will happen next.

Advanced Have students rewrite the story, giving it a different ending. Invite them to read their stories with the new endings aloud to the class.

Thinking Ahead—Worksheet 1

Directions: Read the first half of “An Air of Mystery.” Then complete the first three rows of the Prediction Chart.

An Air of Mystery (Part One)

Dear Helen,

When we spoke yesterday, you said that I have an “air of mystery” about me and I reacted in anger. For that I humbly apologize. In truth, your instincts were quite sound. I do have a mystery in my past. I only hope you will believe what I am about to relate.

It all began on an ordinary spring day right here in Oxford. The date, which I can never forget, was April 10, 2001. (I know what you are thinking. Please, keep reading!) I was 14 years old, a freshman in high school, and I was sitting in Mr. Polk’s third period physics class, waiting for the bell to ring. Mr. Polk had been absent for some days. Our substitute teacher was in the hallway conversing with the principal. We were in Room 119 of Powell High School, formerly known as the Oxford Comprehensive School.

Yes, Oxford Comprehensive. But it was a very different place then. Its high ceilings were crumbling, its staircases sagged, its ornate trim was black with age.

Just as the bell rang, my lab partner, a boy named Jamal Rodman, rushed into the room and flung himself into his seat. He turned and whispered excitedly that he’d heard a wild story concerning the reason for Mr. Polk’s absence. The rumor was this: Mr. Polk had somehow opened a locked door in the hallway, which no one in living memory had ever been able to open. Behind that door he had found not a supply closet, as everyone had always supposed, but a time-travel machine, which he had somehow managed to activate. Off he had sailed into another era!

You can imagine my disbelief. I laughed and offered what we called a “high-five.”

“I love it!” I think I said. “Let’s run it in the school paper.”

“It’s no joke, man,” Jamal said, lowering his voice. “It’s true.”

“You’re nuts,” I replied. (This saying was very common.) “That stuff can’t happen.”

But Jamal was insistent. After class we examined the door in question. It was just an ordinary Powell High School door—varnished wood, iron hardware, completely immovable. That night I tried to reason with Jamal, but he stubbornly clung to his belief in the ridiculous story. Finally I let myself be persuaded to put the rumor to the test. I agreed because I was certain nothing would come of it.

Name _____

Thinking Ahead—Worksheet 1 (continued)**Prediction Chart**

1. What do you think the narrator's mystery is?	
2. What do you think is going to happen in this story?	
3. Why do you think so? What clues are there in the story?	
4. What actually did happen?	

Name _____

Thinking Ahead–Worksheet 2

Directions: Read the conclusion of “An Air of Mystery.” Then look again at the prediction chart and fill in the last row.

An Air of Mystery (conclusion)

The next night, Jamal and I secretly entered the school. A meeting was being held in the auditorium, so the doors were open and the lights were on. The upstairs hallway, however, was dark and deserted. Jamal had brought a flashlight (an electric torch) and some tools for getting the door open.

None of the tools worked.

“Forget it, Jamal,” I finally said after what seemed an eternity of rattling the doorknob, picking at the lock, and throwing ourselves at the door. “Let’s go.”

“Just one more minute,” he pleaded. He got down on his knees and shone the light into the lock. “Man, there’s something stuck in here,” he said, and blew into the lock.

The doorknob turned as if by magic. Jamal stared at me and I at him. Astonishment is a poor word to describe what we were feeling.

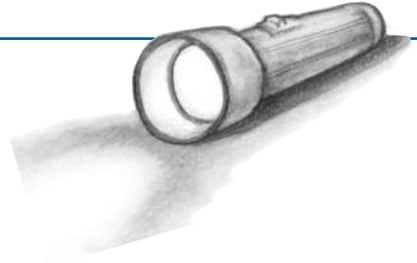
We entered the closet, which was pitch dark. As we groped for a light switch, the door shut abruptly behind us. Frightened, we turned and tried to get out. At first the doorknob wouldn’t turn. We were trapped! But then the door released us and we raced down the corridor, down the stairs, and out of the building, which was suddenly very dark. Not until we stood outside did we collect our wits and begin to look around in wonder. The stars shone in the heavens as never before, and the realization came over us that there was no light anywhere. No streetlights, no porch lights. Just bright stars in a black sky and a dirt road stretching into the darkness.

Yes, Helen, we had traveled back in time, to the year 1901. Jamal and I tried to return to our own time by reentering the closet, but the charm no longer worked. The door wouldn’t open. We left Oxford together and eventually made our separate ways in the world. Jamal lives in Boston where he has a wife and family. (He is the “old friend” I’ve spoken about, Mr. J. Rodman.) I was drawn back to Oxford, where I sought the position of school principal, hoping that I could someday find my way back to my own century.

Though what I have just written may sound like the ravings of a lunatic, I swear to you, by everything I hold dear, that it is the truth. My secret has kept me apart from people for many years. I hope that by sharing my past with you, my future will be less lonely.

Sincerely,

Matthew



ACTIVITY

6

Know Your Genres

Purpose

Students practice applying genre criteria to a variety of passages.

Objective 05: Identify Reading Strategies

Thinking Skills: Analyze Information; Synthesize Elements

Description

Students read several passages representing a variety of literary genres, and identify the genres based on textual evidence.

Directions**1. Getting Started** Ask students the following question:

- ♦ What is the difference between reading a novel and reading an encyclopedia article?

Suggest that different genres are approached differently and require different reading skills.

2. Discuss Generate a class discussion of genres. Ask volunteers to define the terms “fiction,” “nonfiction,” “poetry,” and “drama.” Ask students the following questions:

- ♦ What different types of fiction can you think of? what different types of nonfiction? of poetry? of drama?

Write students’ responses on the board. Try to create a list of many genres and subgenres. For example, under *fiction*: novels (science fiction, historical fiction, classical literature), short stories, fables, folk tales, tall tales; *nonfiction*: biography, autobiography, memoirs, letters, essays, reports, book-length science/history/politics/current events/how-to/reference; *poetry*: epic, lyric, narrative, concrete, dramatic, pop songs; *drama*: comedy, tragedy, farce, melodrama. Discuss the characteristics of each genre. Explain that understanding the characteristics of genres will improve students’ reading comprehension, by helping them know what to expect and what to look for.

3. Worksheet Distribute copies of the worksheet to all students. Have students work in small groups to read and complete the worksheet.**4. Group Work** After students have completed their worksheets, sketch a bookshelf with two shelves on the board. Label the shelves *Fiction* and *Nonfiction*. Call on a volunteer to come to the board and either draw or use sticky notes to “place” one of the titles from the worksheet on the appropriate shelf. Have the student (assisted by group members) identify the genre; specify a subgenre if possible (e.g., historical fiction); and give reasons for the choice. As a class, discuss the criteria of the genre. Repeat this process until all books have been “shelved.”**5. Conclude Activity** Ask students about books they have read and/or movies and television programs they have seen. Discuss which genre they belong to and why.**Variation**

Basic Discuss a story the students have recently read in class. Focus questions on genre criteria for fiction, nonfiction, drama, and poetry, by asking students the following questions:

- ♦ Do you think this story is made up?
- ♦ Do you think this is about something that actually happened?
- ♦ What makes you think so?

Advanced Have students create titles and write excerpts similar to those given on the worksheet. Have them identify the genre and discuss how the genre can be determined.

Name _____

Know Your Genres–Worksheet

Directions: Below are ten book titles. Each title is accompanied by a brief excerpt from the book. You want to “shelve” the books according to their genres. Read each excerpt and assign a genre to the title. Be as specific as possible and be prepared to explain why you classified each book as you did.

The General’s Wife Genre: _____

Once upon a time in a small village there lived a very old peasant who was known to all as the General. He had once been a soldier but had now lived so many years that no one, not even his wife, remembered his given name. The General was popular with the villagers, but the General’s wife was a different matter.

The General Takes a Wife Genre: _____

“How do you do,” the young officer said with a grave bow.
 “Charmed, I’m sure, General,” replied Martha with a twinkle in her eye. She knew quite well by his uniform and his reputation that Colonel Washington was not a general, but she couldn’t resist teasing him. He was so solemn!
 “You flatter me,” was all he said, but a slight smile crept over his face.

Mrs. General Washington Genre: _____

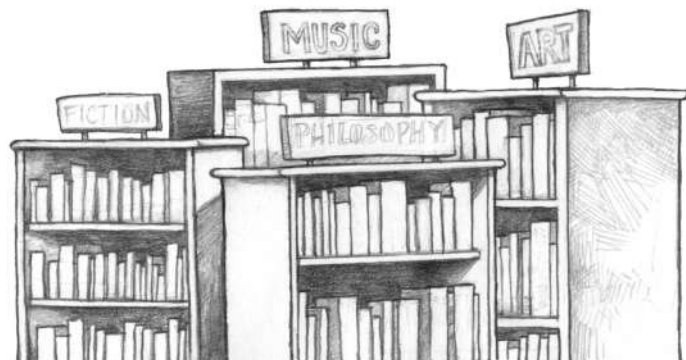
The first meeting of Martha Dandridge Custis and George Washington took place in March of 1758. He was a rising young commander in the Virginia militia. She was a widow, a year older than he, and one of the wealthiest women in Virginia.

Red Planet Rising Genre: _____

Sytronix shot silently through space on its journey to Mars. Its “night” crew of AD8 robots quietly and efficiently guided the ship while the six human crew members slept peacefully in their bunks. Below decks, the cryogenically frozen non-human crew members lay in their pods. Only Commander Easte was awake.

Red Planet Genre: _____

Not angry but resigned
 To eternal embarrassment,
 The blushing crimson orb vaults
 past, hiding its face.



Name _____

Know Your Genres—Worksheet (continued)

Mars: The Red Planet

Genre: _____

One of the most noticeable seasonal changes on Mars is the growing and shrinking of white areas near the poles. These polar caps, which are believed to be but a few inches thick, may be composed either of ordinary ice or of “dry ice,” frozen carbon dioxide.

My Life As a Village Artist

Genre: _____

My earliest artistic memory is suffused with radiant golden light. I was standing up in my crib, having awakened from a nap. I must have been no older than two. The straw-colored curtains at the window were drawn against the afternoon sun. They glowed, almost vibrating, from the sun’s rays. It was my first conscious awareness of color.

Village Clowns

Genre: _____

[Enter JILL, walking on hands]

JILL Look at me!

JACK Jill, what are you doing?

JILL What does it look like I’m doing? I’m walking on my hands.

Village at Risk

Genre: _____

In the spring of 1979, four more villagers began showing symptoms of the disease. Two were middle-aged miners. One was an elderly woman whose property abutted the mine. The fourth was a nine-year-old boy who regularly made the abandoned mine his playground.

The East Villagers

Genre: _____

Andrew stepped out onto 4th Street. Sunlight glinted off the parked cars. It lit up the whitewashed brick wall facing the vacant lot next to the dry cleaner’s shop. It’s way too bright, he thought. He squinted and took a deep breath. Then he went back for his sunglasses.

ACTIVITY

7

Ready... Set ... Define!

Purpose	Students identify strategies for defining unfamiliar vocabulary. Objective 05: Identify Reading Strategies Thinking Skills: Analyze Information; Generate Ideas
Description	Students play a game in which they read short passages, define unfamiliar words, and identify the strategies used to reach those definitions.
Materials	overhead projector (optional)

Directions

- 1. Getting Started** Make a transparency of the worksheet or distribute copies of the worksheet to students. Review various strategies for decoding unfamiliar vocabulary: using context clues; antonyms and synonyms; word parts; and prior knowledge. For example, students might decode the word *incomprehensible* using word parts (*in* + *comprehens* + *ible* = not able to be comprehended, or understood); context clues (“He stared at the sign, but it was incomprehensible because it was in Russian, a language he did not understand.”); or antonyms (“After months of study, my friend was able to understand Russian; I, on the other hand, found it incomprehensible.”).
- 2. Discuss** Tell students that they are going to participate in a vocabulary strategy game. The object of the game is to decode new words and identify the strategy used. Have students choose partners for the game. Players will take turns. Each player will read a passage containing an underlined word, decode the word, and tell his or her partner the meaning and the strategy used.
- 3. Group Work** Use the overhead projector to show the class the first passage on the worksheet, or direct the students to read it from their copies. After about 20 seconds, ask for volunteers to give their definitions and decoding strategies. Discuss their responses. Students should keep score for their partners, awarding one point for a correct definition and one point for the strategy. To encourage students to think in terms of vocabulary strategies, they should be awarded an extra point for coming up with an alternative decoding strategy.
- 4. Conclude Activity** Continue playing until all ten passages have been read. To extend the game, use passages with unfamiliar words from school assignments and readings.

Variation

Basic Have students complete the worksheet at their own pace, individually or in groups.

Advanced Have students compose their own passages containing an underlined word for a classmate to decode. Students can compare the strategy they used to decode with the strategy the writer intended.

Name _____

Ready...Set...Define!-Worksheet

Directions: Read each passage. Write the meaning of the underlined word and identify the strategy or clues you used to arrive at that meaning.

- 1** “I’m terribly sorry,” he said apologetically. “I didn’t mean to bump into you.”

Definition: _____

Strategy: _____

- 2** She looked up at him with a disconsolate expression. A tear ran down her cheek. “I’ll never get over it,” she whispered.

Definition: _____

Strategy: _____

- 3** The subway doors opened and a horde of second graders swarmed into the car, crowding the aisle and filling the empty seats.

Definition: _____

Strategy: _____

- 4** When the game first came out, he bought one and played it constantly. Then the new model appeared, and the old one lost its novelty. It now sits unused in the closet.

Definition: _____

Strategy: _____

Name _____

Ready . . . Set . . . Define!–Worksheet (continued)

- 5** He tried to catch her eye, but it was no use. She was completely fascinated, held rapt by the drama that was unfolding onstage.

Definition: _____

Strategy: _____

- 6** She was brusque, as usual, wasting no time on pleasantries. “Get me a coffee,” was all she said. “Black, no sugar.”

Definition: _____

Strategy: _____

- 7** He had no destination in mind when he walked out the door. He wandered aimlessly in a random, erratic way.

Definition: _____

Strategy: _____

- 8** “It was passable,” said the restaurant critic with a shrug. “It won’t win any awards, but if you’re hungry, you’ll find something to eat there.”

Definition: _____

Strategy: _____

Name _____

Ready...Set...Define!–Worksheet (continued)

- 9** He put his books in one box, his CDs in another, and his videotapes in a third. Then he placed assorted items that did not fit into any category into a fourth box marked “miscellaneous.”

Definition: _____

Strategy: _____

- 10** Many people thought that the experts should have been able to foretell the downward trend, but the usual signs of a slowing economy were missing.

Definition: _____

Strategy: _____

ACTIVITY

8

Old and New Meanings

Purpose

Students learn how context can determine meaning.

Objective 05: Identify Reading Strategies

Thinking Skills: Gather Information; Analyze Information

Description

Students read a poem and use context clues to understand unfamiliar, old-fashioned, or poetic vocabulary.

Directions

- 1. Getting Started** Remind students that some words have more than one meaning, that word meanings may change over time, and that the intended meaning of a word may be revealed by the context in which it appears. Explain that context means the parts of a sentence or paragraph immediately surrounding a word or phrase, as well as the background of the subject of the essay, article, story, etc.
- 2. Worksheets** Divide the class into pairs or small groups and distribute copies of Worksheet 2. Have pairs or groups complete the second column of the chart (labeled “Meaning I Know”) by writing the meanings of all familiar words listed in the first column (labeled “Word”). (Not all words will be familiar to all students.) When students have finished, distribute copies of Worksheet 1.
- 3. Read and Discuss** Read “Concord Hymn” aloud as a class. Ask students to add to the “Word” column any unfamiliar words in the poem that are not already listed. Discuss the historical context of the poem. (Emerson wrote it in 1836 for the unveiling of a monument commemorating the Minuteman, and those who fought the first battles of the American Revolution at Lexington and Concord, Massachusetts, in 1775.)
- 4. Group Work** Have students work with their partners or groups to complete the third column of the chart, “Meaning in Context,” by decoding unfamiliar words using context clues.
- 5. Conclude Activity** When students have finished, discuss the definitions they found for each word. Ask students the following questions:
 - ♦ Is the meaning in the context of the poem different from the meaning you are used to? in what way?
 - ♦ What clues helped you figure out the meaning?

Ask a volunteer to use a dictionary to find the definitions of any words the class is unable to decode.

Variation

Basic Have students use a dictionary as well as prior knowledge to complete the “Meaning I Know” column.

Advanced Have students work together to make a list of all the synonyms they can think of for the words listed on the chart.

Name _____

Old and New Meanings-Worksheet 1

Concord Hymn

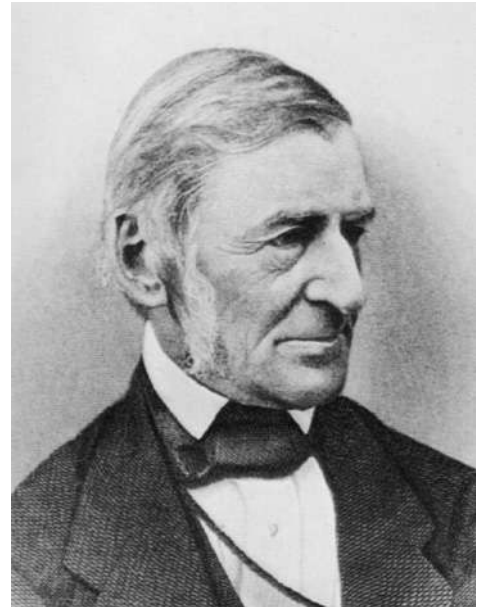
by Ralph Waldo Emerson

By the rude bridge that arched the flood,
 Their flag to April's breeze unfurled,
Here once the embattled farmers stood
 And fired the shot heard round the world.

The foe long since in silence slept;
 Alike the conqueror silent sleeps;
And Time the ruined bridge has swept
 Down the dark stream which seaward creeps.

On this green bank, by this soft stream,
 We set today a votive stone;
That memory may their deed redeem,
 When, like our sires, our sons are gone.

Spirit, that made those heroes dare
 To die, and leave their children free,
Bid Time and Nature gently spare
 The shaft we raise to them and thee.



Name _____

Old and New Meanings–Worksheet 2

Directions: Read the words in the chart below. In the column labeled “Meaning I Know,” write the meaning of every word you know that is listed in the first column. Then read “Concord Hymn” by Ralph Waldo Emerson. Use context clues to determine the meaning of each word as it is used in the poem. Write these meanings under “Meaning in Context.” In the empty boxes, add other unfamiliar words from the poem along with their meanings.

Word	Meaning I Know	Meaning in Context
rude		
arched		
flood		
embattled		
foe		
votive		
redeem		
sires		

Name _____

Old and New Meanings–Worksheet 2 (continued)

Word	Meaning I Know	Meaning in Context
bid		
shaft		

ACTIVITY

9

Everything in Its Place

Purpose	Students practice identifying and correcting misplaced modifiers. Objective 07: Sentence Structure Thinking Skills: Analyze Information; Generate Ideas
Description	Students read paragraphs to identify and correct misplaced adverbs and modifying phrases or clauses.
Materials	overhead projector (optional)

Directions

- 1. Getting Started** Display this sentence on the board or use overhead projector: *The man ate the ice cream with the hat.* Ask students the following question:
 - ♦ What's wrong with this sentence?Explain that the modifier “with the hat” belongs after “man.” Point out that putting the modifier in the wrong place can make a sentence confusing and occasionally ridiculous. Ask students for other examples.
- 2. Worksheets** Distribute copies of Worksheet 1 (“Should You Get a Dog?”) to half the class, and copies of Worksheet 2 (“At the Toy Store”) to the other half. Have students complete the worksheets in pairs or small groups. Students who finish early can complete Worksheet 3.
- 3. Continue** When students have completed the worksheets, have students exchange papers, and review and correct their classmates’ work. (Those who completed the “Should You Get a Dog?” worksheet should correct the “At the Toy Store” worksheet, and vice versa.)
- 4. Conclude Activity** Have volunteers read the corrected paragraphs aloud to the class. Stop after each sentence to discuss how the misplaced modifiers confuse or change sentence meaning.

Variation

Basic Have students write a simple sentence and insert the adverb “only” in different places (e.g., only the man ate the pie; the only man ate the pie; the man only ate the pie; etc.). Help students see how moving the modifier changes the meaning of the sentence.

Advanced Have students write sentences using misplaced modifiers and make drawings to illustrate them.

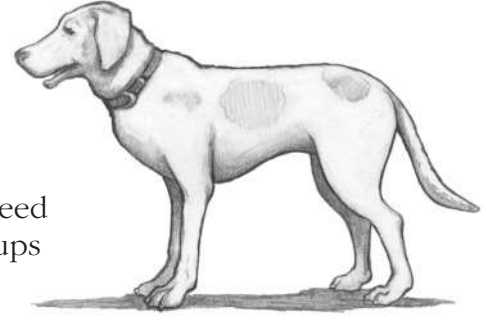
Name _____

Everything in Its Place—Worksheet 1

Directions: Read the story. On the numbered lines below, rewrite the sentences that have misplaced modifiers. If the sentence has no misplaced modifier, write “no error.”

Should You Get a Dog?

1. The decision to get a dog is not one that should be taken lightly with its far-reaching consequences. **2.** Dogs require a lot of attention and care like people. **3.** They need daily exercise, a healthy diet, and regular medical checkups and vaccinations. **4.** Some dogs need a place to run, such as greyhounds and huskies. **5.** Others are diggers and won't be happy without a garden to uproot, like the bichon frisé. **6.** All dogs want the love of their owners, large and small. **7.** If you're willing to give only a dog food and shelter, but not loving attention, you might think about getting a fish instead.



Sentence 1 _____

Sentence 2 _____

Sentence 3 _____

Sentence 4 _____

Sentence 5 _____

Sentence 6 _____

Sentence 7 _____

Name _____

Everything in Its Place—Worksheet 2

Directions: Read the story. On the numbered lines below, rewrite the sentences that have misplaced modifiers. If the sentence has no misplaced modifier, write “no error.”

At the Toy Store

1. Jim Green and his little brother Ben looked at all the exciting new toys walking up and down the aisles of the toy store. **2.** They wanted party favors for Ben’s birthday party. **3.** A voice over a loudspeaker asked James Green suddenly to come to the front desk. **4.** Jim and Ben exchanged scared looks as the loudspeaker continued blaring and started toward the front of the store. **5.** “James Green, please come to the front desk.”



6. Jim told a clerk arriving at the front desk, “I’m James Green.” **7.** The clerk handed Jim a phone with a dirty look. **8.** “This is James Green,” Jim said.

9. Bright and cheery, he heard his mother’s voice say, “Hey, Jim—don’t forget the plastic sand toys!”

10. “Mom!” Jim exclaimed. **11.** “Do you know what it feels like to be paged?”

Sentence 1 _____

Sentence 2 _____

Sentence 3 _____

Sentence 4 _____

Sentence 5 _____

Name _____

Everything in Its Place—Worksheet 2 (continued)

Sentence 6 _____

Sentence 7 _____

Sentence 8 _____

Sentence 9 _____

Sentence 10 _____

Sentence 11 _____

Name _____

Everything in Its Place–Worksheet 3

Directions: Read the story. On the numbered lines below, rewrite the sentences that have misplaced modifiers. If the sentence has no misplaced modifier, write “no error.”

Another Shakeup at the State House

1. The Governor met today with the Cabinet who single-handedly fired the Transportation Commissioner. **2.** The meeting, according to Cabinet aides, held in the Governor’s office, was highly contentious. **3.** One source described it as a “verbal slugfest,” speaking on condition of anonymity. **4.** Several Cabinet members traded angry words. **5.** The Governor reacted, storming out of the office and slamming the door with a fit of temper. **6.** The meeting resulted in a wave of resignations by Cabinet members predictably. **7.** The Governor is expected to announce new Cabinet choices next week.



Sentence 1 _____

Sentence 2 _____

Sentence 3 _____

Sentence 4 _____

Sentence 5 _____

Sentence 6 _____

Sentence 7 _____

ACTIVITY

10

What's Your Point?

Purpose

Students practice recognizing irrelevant material in a speech.

Objective 08: Writing Strategies

Thinking Skills: Analyze Information; Synthesize Elements; Evaluate Outcomes

Description

Students read a draft of a speech, identify irrelevant material and unrelated sentences, and rewrite the speech to make it more focused and effective.

Directions

- 1. Getting Started** Introduce the activity by asking students why it is important to stick to the point when writing or speaking. Discuss their responses. Point out that different types of writing call for different judgments about what is “relevant.” For example, the writer of an essay or a personal letter to a friend has more leeway to digress than the writer of a research report or newspaper editorial. As a general rule, however, students should learn to recognize irrelevant material in their writing.
- 2. Worksheet** Distribute copies of the worksheet. Review the directions with the class. Then have students work individually or in small groups to edit the speech on the worksheet.
- 3. Conclude Activity** When students have completed the worksheet, ask volunteers to read their edited versions of the speech. As a class, discuss the choices students have made. What have they considered to be irrelevant? Why? How do their deletions and rewrites vary? Call on students to tell which version of the speech they think was most effective, and why.

Variation

Basic To help students understand why something is irrelevant, ask students the following questions:

- ◆ Is this detail related to Student Council work or is it personal?
- ◆ Do students need to know this in order to decide whether or not to vote for her?

Advanced Students choose a topic that interests them and write persuasive speeches, making sure they eliminate irrelevant material in the revision stage. Have students deliver their speeches to the class.

What's Your Point?—Worksheet

Directions: Read the following draft of a student campaign speech. Cross out unrelated sentences and irrelevant information. Be ready to explain your choices of what to eliminate.

Vote for Me!

Good morning, everyone. Thank you and welcome.

My name is Michelle Diaz, and I want to be your freshman class representative on the Student Council. I realize many of you don't know me, even though I've lived here since sixth grade, when I moved here from Illinois. In the Illinois town where I lived, the middle school included ninth grade, not like here where ninth graders like us are freshmen in high school. If I lived there, I'd still be in middle school! You're probably asking yourself—why should I vote for Michelle? Well—that's what I'm here to tell you. And I can sum up the answer in three words: experience, issues, integrity.

Let me tell you a little bit about my experience. I'm taking college prep classes. My best subjects are geometry and biology. I run cross-country, and I'm a member of the drama club. I played Dorothy's aunt in *The Wizard of Oz* last year. I also enjoy participating in the Science Fair. My sister, who is awesome at science, won first prize last year! I've served in student government since the sixth grade. In seventh grade, I was almost elected President of the Middle School Student Council but ended up getting Vice President instead, and in eighth grade I was President. This experience taught me a lot about student government, as well as how to work with other students, teachers, and administrators. My favorite administrator in Middle School was Vice Principal Anderson. He is so funny! I think a sense of humor is one of the best qualities a person can have. If you elect me to the Student Council, I promise that I'll use my experience to your benefit.

When it comes to the issues that matter to students, I think my views are in sync with most of yours. For example, as you know, the principal wants to add a "community service" requirement for graduation, which by the way, is being moved to the last week of June this year. I fully support this idea. My father still writes to a family he met when he was serving in the Peace Corps in Thailand. We all need to do more to help people in need.



Name _____

What's Your Point?—Worksheet (continued)

Many students have been discussing the soda machine question: Should we get rid of the soda machines, as some parents want? I say no. Instead, I propose we add a bottled water vending machine so kids will have a healthful option. Our bodies are 98% water. My uncle drinks water all the time, and that's why he never gets jet lag, even though he travels constantly. He never drinks coffee.

As most of you know, the administration has been considering adopting a school uniform. Let me go on record as saying I am against uniforms and dress codes of all kinds because they limit freedom of expression. After all, James Madison wrote the First Amendment.

Another issue that has recently come up is special parking privileges for athletes. Even though I'm on a sports team myself, I'm against the idea. Walking is a great way to stay fit. The parking lot isn't that big, either, although there has been some talk about expanding it. The parking privileges idea was proposed by a small group of athletes, and I think it's unfair to the majority of students.

My last point has to do with integrity. If you elect me, I promise to always tell the truth and attend meetings faithfully. So vote for me—Michelle Diaz. Thank you very much.



ACTIVITY

11

Showing Support

Purpose

Students support main ideas with details.

Objective 08: Writing Strategies

Thinking Skills: Analyze Information; Synthesize Elements; Evaluate Outcomes

Description

Students use given information to write a letter to the editor of a newspaper, stating an opinion and backing it up with supporting sentences.

Directions

- 1. Getting Started** Review the relationship between a topic sentence and the sentences that support it. Explain that one hallmark of good writing is the *unified paragraph*, which conveys a single main idea to the reader. This main idea is stated in the topic sentence; the rest of the sentences, which develop the main idea, are supporting sentences. Supporting sentences can contain examples, details, definitions, statistics, or anecdotes. In the following model, the topic sentence is underlined.

My cousin Jake is crazy about animals. He will take in any stray he finds. Jake once told me he likes animals better than people, because they're never mean. Right now he has six cats, a dog, some fish, and two gerbils.

- 2. Worksheet** Distribute copies of the worksheet. Ask for a volunteer to read aloud the directions and the “Lakeside Pavilion Concert Series” information. Then have each student write a letter to the editor, supporting or opposing the concert series. To make their opinions clear, students should write strong topic sentences and develop supporting sentences with carefully chosen details.
- 3. Conclude Activity** When they have completed writing their letters to the editor, have students form small groups and take turns reading their letters aloud. Within their groups, students should discuss the various choices they have made. Finally, discuss the concert issue with the entire class. Ask for volunteers to read their letters.

Variation

Basic On the board, write a list of sentences in scrambled order. Include a topic sentence (e.g., “These concerts are harmful.”); three or four supporting sentences with details from the information sheet; and an unrelated sentence. Have students decide which is the topic sentence, which are supporting sentences, and which sentence does not belong. Students should also determine the best order for the supporting sentences.

Advanced Have students write letters to the editor of a local newspaper, in response to an article of interest.

Name _____

Showing Support–Worksheet

Directions: A recent newspaper article reported that the Moose Lake Town Council is considering canceling the controversial Lakeside Pavilion Concert Series. Read about the series below. Then, on a separate sheet of paper, write a letter to the editor, stating what action you think the council should take. Be sure to include sentences that support your opinion and main ideas.

Lakeside Pavilion Concert Series

Information

The Lakeside Pavilion Summer Concert Series takes place in an outdoor performance area in Lakeside Park, on the second and fourth Saturday of every month from Memorial Day to Labor Day. The series was begun in 1997 by a vote of the Moose Lake Town Council. The purpose is to bring the town much-needed income. To this end, the series promoters book primarily rock 'n' roll and pop groups because they draw the largest audiences.

These large, youthful audiences have had a significant impact on the surrounding residential area. Traffic has become so dense on concert nights that the town has had to pay overtime police officers to direct traffic. Traffic accidents at the intersection of Lakeside and Main Streets have increased 75% since 1997. Reported incidents of littering, petty vandalism, and under-age drinking have also risen.

The concerts themselves are also having an impact. In 1999, a neighborhood group hired a firm to measure the decibel level at regular intervals during six consecutive concerts of amplified rock music. They found the decibel level far exceeded the “healthy” level recommended by medical authorities. In a 2000 poll of people living within 1/4 mile of Lakeside Park, 83% reported that they “usually leave town or go to a friend’s house” on concert nights. More than two-thirds say they feel “driven crazy” by the music. Four neighborhood residents have sought treatment for ringing in the ears and/or partial hearing loss. Nineteen residents have sought psychological counseling.

Positive effects have also been seen, however. Small businesses have benefited from the influx of young people on weekends. Four once-empty storefronts on Main Street are now thriving restaurants. A T-shirt shop, a gift shop, and a bookstore/coffee shop have also opened. Last year the Moose Lake Town Council voted to have Main Street sidewalks in the Lakeside section resurfaced and benches installed. Bus service, which was discontinued in Lakeside in 1989, was resumed in 1998.



ACTIVITY

12

In Agreement

Purpose	Students practice identifying and correcting errors in text. Objective 09: Editing Skills Thinking Skills: Analyze Information; Generate Ideas; Evaluate Outcomes
Description	Students read an exchange of email messages and identify and correct errors.
Materials	colored pencils or pens

Directions

- 1. Getting Started** Review pronoun/antecedent agreement. Remind students that the word or group of words to which a pronoun refers is called its antecedent. Pronouns must agree with their antecedents in gender, number, and person. When antecedents do not agree, or are unclear, writing may be difficult to follow. Write the following example on the board: *Joe's parents always give him lots of presents on his birthday. He just loves them!* Point out that the antecedent of *him*, *his*, and *he* is clearly *Joe*—there is agreement in gender (masculine), person (third), and number (singular). But what is the antecedent of *them*? It is not clear; it could be *parents* or *presents*. Discuss ways to correct this ambiguity.
- 2. Worksheet** Distribute copies of the worksheet. Read the directions and, with the class, correct the first email message sent by Laurel to Josh. Then have students correct the remaining messages individually, in pairs, or in small groups. Instruct students to make editorial corrections in colored pencil or pen.
- 3. Conclude Activity** When students have finished, ask volunteers to read the corrected email messages aloud. Discuss their corrections. Identify any remaining errors, and correct them as a group.

Variation

Basic Break the editing process into steps. Have students circle pronouns; identify antecedents; determine the number, person, and gender of each antecedent; decide if pronoun and antecedent agree; supply correct pronouns.

Advanced Have pairs of students write and exchange messages, purposely including antecedent agreement errors. Have partners correct each other's errors.

Name _____

In Agreement-Worksheet

Directions: Josh and Laurel are running the student committee that is responsible for planning the Middle School Spring Dance. Their email correspondence contains unclear antecedents and errors of agreement, as well as other errors. Read the email messages below and correct the mistakes.



Hi Josh,

After our meeting I called the szechuan palace and talked to the manager Mrs. Lee. They said the banquet hall is available any of the Saturday nights we want. Its a huge room with a stage and plenty of room for dancing and tables. I reserved them for May 14.

Laurel

Laurel,

Great! I'll pick up a menu to bring to our meeting next Thursday. Everyone can look it over and choose their favorite dish. Or maybe the best idea would be to choose a subcommittee and have them decide the menu. How about Sarah, Pablo, and Mike?

Josh

Josh,

Sarah is a good choice, but isn't Pablo and Mike both working on the science fair? I think their too busy. Let's ask for volunteers instead. They can submit menu choices in a few weeks and we can vote on it.

L.

Laurel,

Okay. On Thursday we should also talk about decorating selling tickets and finding a band. Each of these jobs have their own challenges. We both know Sarah's got a good eye for Style. Pablo is real organized. And you and me know a lot about bands and music. How about if we put each person in charge of what they do best?

Josh

Name _____

In Agreement—Worksheet (continued)

Josh,

I like your thinking, and I see where your going with it. Sarah in charge of decorating: perfect! Pablo in charge of ticket sales: great! But I dont know about you and me finding the band. I'm in a band, the Petals, what if kids think I'm just out to get the dance gig for the Petals? That would not be cool. (and it wouldn't be true!)

L.

Laurel,

Good point. How about this idea. We'll have interested bands audition for all the committee members, while we take charge of contacting them and arranging auditions. If your band wants the gig, they can audition like everyone else. In my opinion I think the fact that your in the Petals make you a better judge than most of the quality of a band. Plus, I heard the Petals play last year and you were awesome!

Josh

Josh,

Thanks I'll have to talk to the other Petals and see if they are even interested in the dance gig. Sometimes its more fun to be in the audience and less stressful. Just the thought of playing in front of the middle school gives me butterflies! But I doubt if they will be.

L.

Laurel,

You never know . . . it could turn out to be the Petals big break. And then when your famous and on your world tour, I can say I knew you when you were too nervous to play for the Middle school spring Dance. See you Thursday!

Josh

Mathematics

Teaching Activities

Activity Number and Title		<i>TerraNova, The Second Edition</i> Objective Number and Title	Activity Worksheet	Activity Page Number
1	Back-to-School Sale	10 Number and Number Relations	X	7.46
2	Whale Sounds	11 Computation and Numerical Estimation	X	7.49
3	Housing Development	13 Measurement	X	7.52
4	Street Map	14 Geometry and Spatial Sense	X	7.55
5	Lawn Care	15 Data Analysis, Statistics, and Probability	X	7.57
6	Opening Weekend	15 Data Analysis, Statistics, and Probability	X	7.61
7	Fund-Raising Dinner	16 Patterns, Functions, Algebra	X	7.64
8	A Different Fund-Raiser	17 Problem Solving and Reasoning	X	7.66
Answers to Student Worksheets				7.113

ACTIVITY

1

Back-to-School Sale

Purpose

In this activity, students review the concept of percent and how to solve problems that involve percents.

Objective 10: Number and Number Relations **Thinking Skill:** Analyze Information

Description

Students use a retail scenario as a basis for solving problems that involve percent.

Directions

- 1. Getting Started** Distribute copies of the worksheet.
- 2. Direct Instruction** Remind students that percents can not be added or subtracted. For example, the answer to problem 3 is not 60%.
- 3. Whole Class Activity** Have students solve the problems on the worksheet. When students have finished solving the problems, have volunteers explain their solutions to the class.
- 4. Conclude Activity** Ask students the following question:
 - ♦ Why can't percents be added? For example, why isn't "60%" the answer to problem 3?

Variation

Basic Have students practice finding percents (e.g., 50% of 48, 75% of 50, 90% of 120, etc.) Review the three basic types of percent problems students will encounter in the activity: the unknown quantity is (a) a part of the total, (b) the total, or (c) the percent. Model how to set up and solve each problem, using proportions or other solution methods.

Advanced Have students work with a partner to create and solve percentage problems from information they find in the newspaper. For example, they might compute the percentage of games that a sports team wins, with one student reading aloud "win/loss" records and the other computing the percentages. The student doing the reading can check the answers by converting the column that gives the standings as a decimal to three places. Then students can exchange roles.

Name _____

Back-to-School Sale–Worksheet

Marjorie works at ClothesMania. Her manager, Mr. Thomas, has asked her to help set up for a back-to-school sale. Solve the following problems.

- 1** Shirts that are regularly priced at \$25 have been reduced to \$15. Marjorie is making a sign to advertise the percent reduction. What percent should Marjorie put on the sign?

- 2** Pants that were originally \$45 were reduced by 30% before the sale. For the sale, the pants are being reduced by an additional 50%. What is the price of the pants now?

- 3** Mr. Thomas plans to reduce the price of blouses by 20% and offer coupons for an additional 40% off the sale price. What will be the *total* percent off the original price of a blouse?

- 4** Mr. Thomas changed his mind and decided to reduce the price of blouses by 40% and offer coupons for an additional 20% off the sale price of a blouse. What is the *total* percent off the price of a blouse?

- 5** On the lines below, explain the similarity or difference between the answers to problems 3 and 4.

- 6** A skirt at ClothesMania is regularly priced at \$56. The price is reduced 15% for the sale. There is a sales tax of 5%. What is the *total* price a customer would pay for the skirt?

Name _____

Back-to-School Sale–Worksheet (continued)

- 7** The owner of the restaurant next door to ClothesMania wants to buy 50 shirts for her staff. The shirts are regularly priced at \$30 and have been reduced in price by 20%. In addition, the restaurant owner gets a 10% volume discount. How much will the restaurant owner pay for *each* shirt, including the 5% sales tax? How much will she pay for the shirts in all?
-

- 8** One pair of shoes at ClothesMania regularly sells for \$50, but has been reduced 10% for the sale. Another pair of shoes regularly sells for \$60, but now costs the same as the first pair of shoes. What is the percent reduction for the second pair of shoes?
-

- 9** Mr. Thomas wants to advertise that one style of shirt can be purchased with a twenty-dollar bill, including the 5% sales tax. The shirt regularly sells for \$30. What is the lowest percent reduction possible to make the advertising claim true? Round your answer to the nearest percent.
-

ACTIVITY

2

Whale Sounds

Purpose

In this activity, students use estimation to solve problems.

Objective 11: Computation and Numerical Estimation **Thinking Skill:** Analyze Information

Description

Students use a variety of estimation skills to compare the speed of sound in a variety of contexts.

Directions

- 1. Getting Started** Distribute copies of the worksheet.
- 2. Direct Instruction** Point out that whales navigate by sending out a “signal” and then waiting for the signal to return. This method of navigation is called *echolocation*. Have a volunteer read the following paragraph to the class.

Trevor and Maleeka are studying whales. They are researching how whales are able to navigate in total darkness. They learned that whales use sound waves to “see” their way through the darkness. A whale uses the time it takes a sound wave to travel through the water to an object and bounce back to determine the object’s location and distance from the whale.

Have another volunteer read the first problem aloud. Remind students that exact answers are not required; instead, estimation should be used. Stress that all speeds will have units of miles per hour; feet per second; kilometers per hour; and so on. Point out that the approximate speed of sound, for this problem, will be determined by dividing distance in feet by the time in seconds, giving a speed that is defined in feet per second. Review the following conversion units: 1 mile = 5,280 feet; 1 kilometer = 0.62 miles.

- 3. Whole Class Activity** Have students complete the worksheet. When they have finished, have volunteers share their answers with the class.
- 4. Conclude Activity** Ask students the following question:
 - ♦ How can you check an estimation without actually doing the exact math?

Variation

Basic Review estimation methods. Remind students that they should always check to see if answers make sense, given the context of the problem.

Advanced Write on the board what the approximate speed of sound is for various solid materials: iron = 16,000 feet per second; ice-cold vapor = 4,700 feet per second; granite = 13,000 feet per second; brick = 12,000 feet per second; silver = 8,650 feet per second; gold = 5,700 feet per second. Have students estimate how many times faster sound travels through these other materials than through air and water.

Name _____

Whale Sounds–Worksheet

Directions: Use estimation to solve the following problems.

Trevor and Maleeka are studying whales. They are researching how whales are able to navigate in total darkness. They learned that whales use sound waves to “see” their way through the darkness. A whale uses the time it takes a sound wave to travel through the water to an object and bounce back to determine the object’s location and distance from the whale.

- 1** The first thing Trevor and Maleeka need to know is how fast sound travels under water. They learned that sound travels 1,500 feet under water in approximately 0.3 seconds. About how fast does sound travel, in feet per second, under water?

- 2** About how long does it take sound to travel 1 mile under water? (1 mile = 5,280 feet)

- 3** About how fast does sound travel under water, in miles per hour?

- 4** At top speed, a whale travels at 35 kilometers per hour. About how fast does a whale swim, in miles per hour? (1 kilometer = 0.62 miles)

- 5** About how much faster is the speed of sound under water than the speed of a whale? Does it seem that sound travels fast enough for whales to use it to “see” under water? Explain your answer.

- 6** Light travels at a speed of approximately 200,000 miles per second. About how many times faster is the speed of light than the speed of sound under water? Does this answer change your answer to problem 5?

Name _____

Whale Sounds–Worksheet (continued)

- 7** Trevor and Maleeka measured the speed of sound through the air. They found that sound travels 550 feet in 0.48 seconds. Is the speed of sound faster under water or in air? about how much faster? Does this answer change your answer to problem 5?

- 8** A whale sends out a sound wave under water. About how many seconds will it take the sound wave to reach, and return from, a squid that is 0.8 miles away?

- 9** A whale sends out a sound wave under water. It takes 6 seconds to strike an object and return to the whale. About how many miles away is the object?

ACTIVITY

3

Housing Development

Purpose

In this activity, students use the concept of scale on a grid.

Objective 13: Measurement **Thinking Skill:** Gather Information

Description

Students use a scale drawing to create a map of a housing development.

Directions

- 1. Getting Started** Distribute copies of the worksheet.
- 2. Direct Instruction** Review the rules of the worksheet with the students to ensure that all students understand what they are to do. To allow for erasing, students should work in pencil.
- 3. Whole Class Activity** Have students design housing developments and answer the questions on the second page of the worksheet. Students should work in pencil in order to make erasing possible.
- 4. Conclude Activity** When all students have finished, have them share their designs and answers to the questions on the worksheet.

Variation

Basic Review the concept of scale as it relates to a map, a model, and a floor plan.

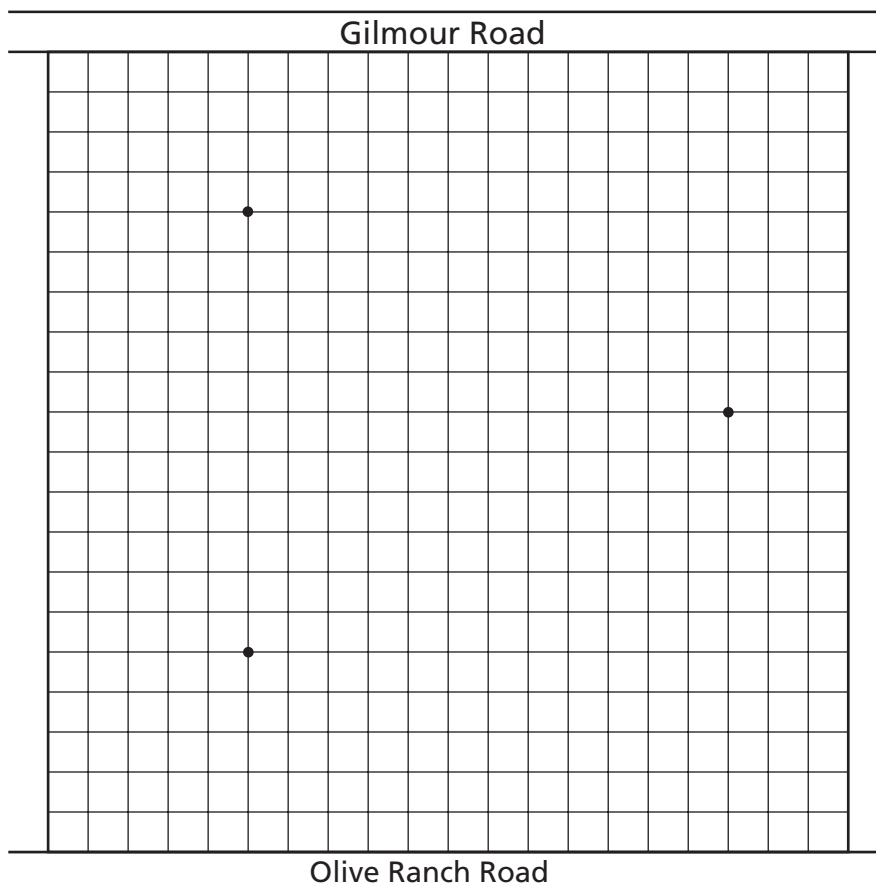
Advanced Have students design the floor plan of a house. The teacher will need to decide on specifications (square footage, number of bedrooms, etc.).

Name _____

Housing Development-Worksheet

Directions: On the grid below, design a housing development. You must follow these guidelines:

- There must be at least 20 lots. The lots may touch each other.
- Each lot must be at least 100 feet by 60 feet.
- There can be no lots within 20 feet of a well.
- All streets must be at least 20 feet wide.
- One street must access Olive Ranch Road, Gilmour Road, or both.
- All lots must be accessible by at least one street. It must be possible to drive from each lot to Olive Ranch Road, Gilmour Road, or both.



KEY	
□	= 20 feet on each side
•	= Well

Name _____

Housing Development-Worksheet (continued)

1 How many tries did it take you to fit 20 lots in the grid? _____

2 What strategies did you use to complete this activity?

3 Could any of the lots be made bigger? how many lots? how many square feet bigger?

ACTIVITY

4

Street Map

- Purpose** In this activity, students apply the concepts of parallel and perpendicular to creating a street map.
- Objective 14:** Geometry and Spatial Sense **Thinking Skill:** Organize Information
- Description** The geometrical concepts of parallel and perpendicular lines are used together to help students create a street map.

Directions

- 1. Getting Started** Distribute copies of the worksheet.
- 2. Direct Instruction** Read aloud the following paragraph:

A road crew in the town of Culverton is putting up new street signs in the business district. Unfortunately, another road crew has already taken down most of the old signs. The supervisor asked the workers putting up the new signs what they know about the business district. Use the information provided by the road crew to fill in the rest of the street names on the map.

Help students fill in Hill Street and Chavez Street using the first clue.

- 3. Whole Class Activity** Have students finish their street maps. Have students exchange maps with a partner and check each other's maps.
- 4. Conclude Activity** Ask students the following question:
 - ♦ What terms and concepts did you need to know in order to complete this activity?

Variation

Basic Review the terms *parallel* and *perpendicular*.

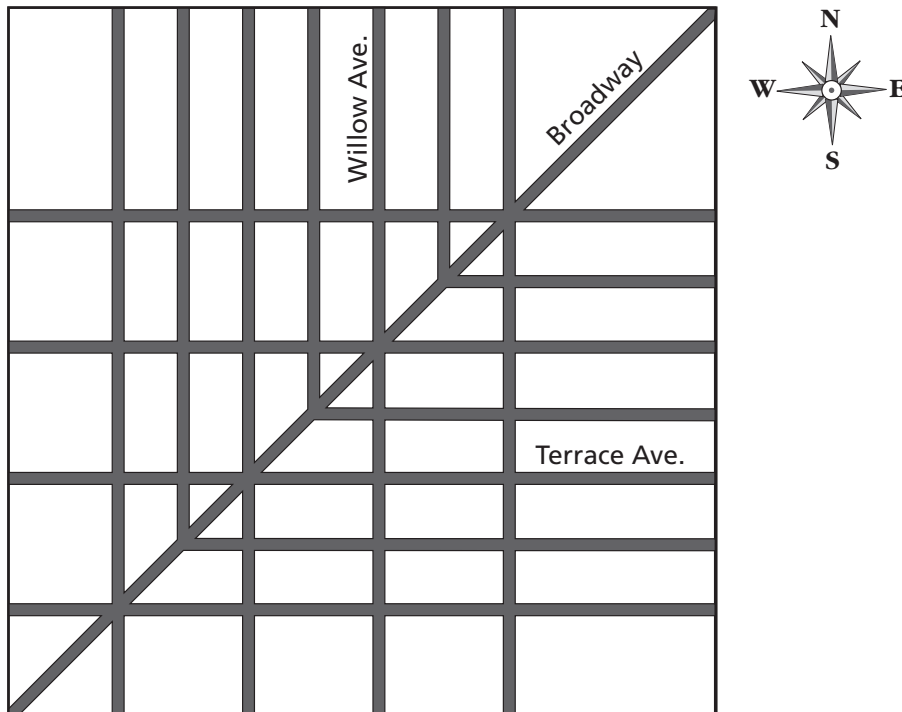
Advanced Have students make or study a street map of their town. Ask them to list similarities and differences between that map and the map on the worksheet.

Name _____

Street Map-Worksheet

A road crew in the town of Culverton is putting up new street signs in the business district. Unfortunately, another road crew has already taken down most of the old signs. The supervisor asked the workers putting up the new signs what they know about the business district. Use the information provided by the road crew to fill in the rest of the street names on the map.

- Hill Street is two blocks south of Terrace Avenue. It intersects Chavez Street at Broadway.
- Ellsworth Avenue, Lincoln Avenue, and Morrison Avenue are perpendicular to Willow Avenue.
- Victoria Lane intersects four streets on the map, including Willow Avenue.
- Ashland Avenue is perpendicular to Terrace Avenue.
- Beach Street is parallel to Willow Avenue and perpendicular to Victoria Lane.
- Harrison Street intersects only three streets: Broadway, Ellsworth Avenue, and Wright Avenue.
- Ellis Street is parallel to Ashland Avenue and intersects Lincoln Avenue, but not Terrace Avenue.
- Brixton Street is located somewhere between Ashland Avenue and Beach Street.
- Wright Avenue has two intersections on the map, and is perpendicular to Beach Street.



ACTIVITY

5

Lawn Care

Purpose

In this activity, students analyze a situation and draw conclusions from data presented in graphs.

Objective 15: Data Analysis, Statistics, and Probability

Thinking Skills: Synthesize Elements; Evaluate Outcomes

Description

Students are presented with a series of graphs. Each graph provides additional information about the effectiveness of a new product.

Directions

- 1. Getting Started** Give a copy of the worksheet to each student. Have students work in pairs.
- 2. Direct Instruction** Review the units of the first graph. The x -axis shows time in days. The y -axis shows the average number of dandelions per square yard on someone's lawn. Have a volunteer read the first problem to the class. Inform students that as they complete the worksheet they will learn more about how effective the product is.
- 3. Whole Class Activity** Have the partners work together to complete the worksheet. Have students share their answers with the class.
- 4. Conclude Activity** Ask students the following question:
 - ♦ How can the wrong scale on a graph lead to misunderstanding?

Variation

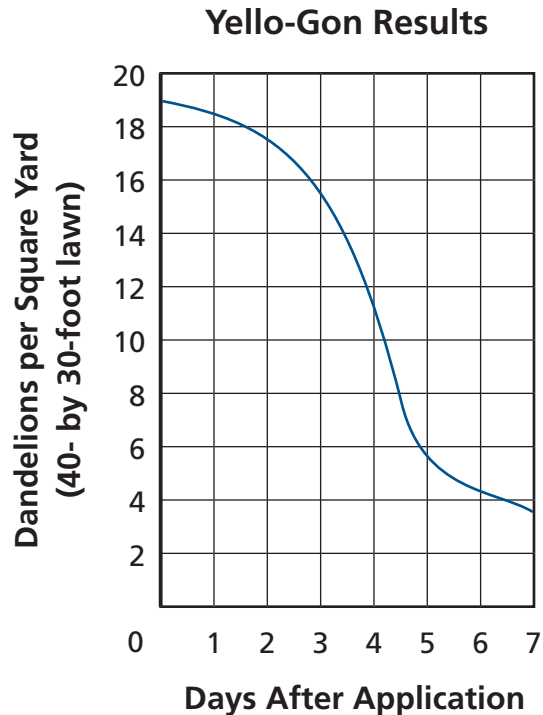
Basic Review how the scale of a graph can change how the data appears.

Advanced Have students make their own graphs that contain information designed to mislead a buyer.

Name _____

Lawn Care-Worksheet

The graph below came from an advertisement for Yello-Gon, a new weed killer.



- 1** According to the graph shown above, how effective would you say Yello-Gon is in getting rid of dandelions? Explain your reasoning.

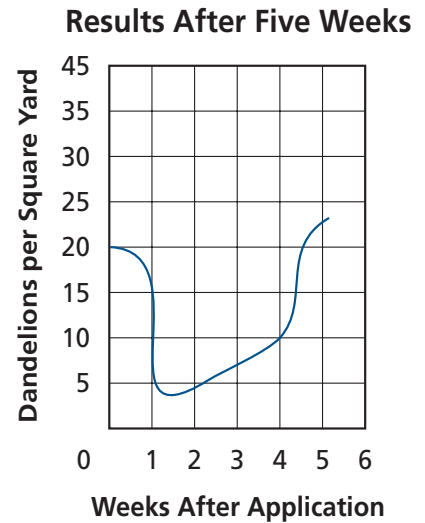
- 2** According to the graph, about how many dandelions would you expect to find in a 40- by 30-foot lawn before applying Yello-Gon? About how many dandelions would you expect to find 7 days after applying Yello-Gon?

- 3** According to the graph, how many days would it take for Yello-Gon to get rid of all the dandelions in a 40- by 30-foot lawn?

Name _____

Lawn Care-Worksheet (continued)

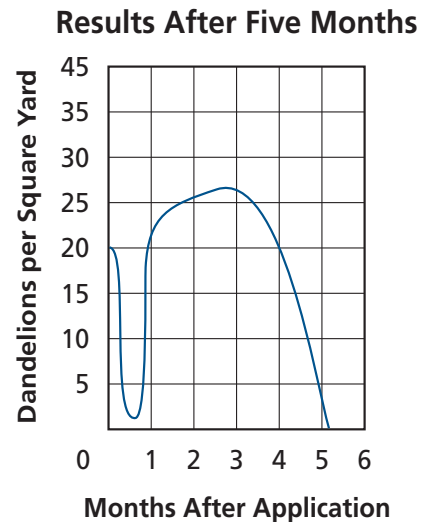
- 4** A consumer advocate did a study on Yello-Gon's long-term effectiveness. According to the graph, is Yello-Gon effective over a period of several weeks? Explain your answer.



- 5** Does the graph change your view of Yello-Gon? Explain your answer.

- 6** A poll conducted by the makers of Yello-Gon found that 90% of the people who used Yello-Gon were satisfied with the product. The consumer advocate conducted another poll and found that 95% of Yello-Gon users were not satisfied. Explain these conflicting results.

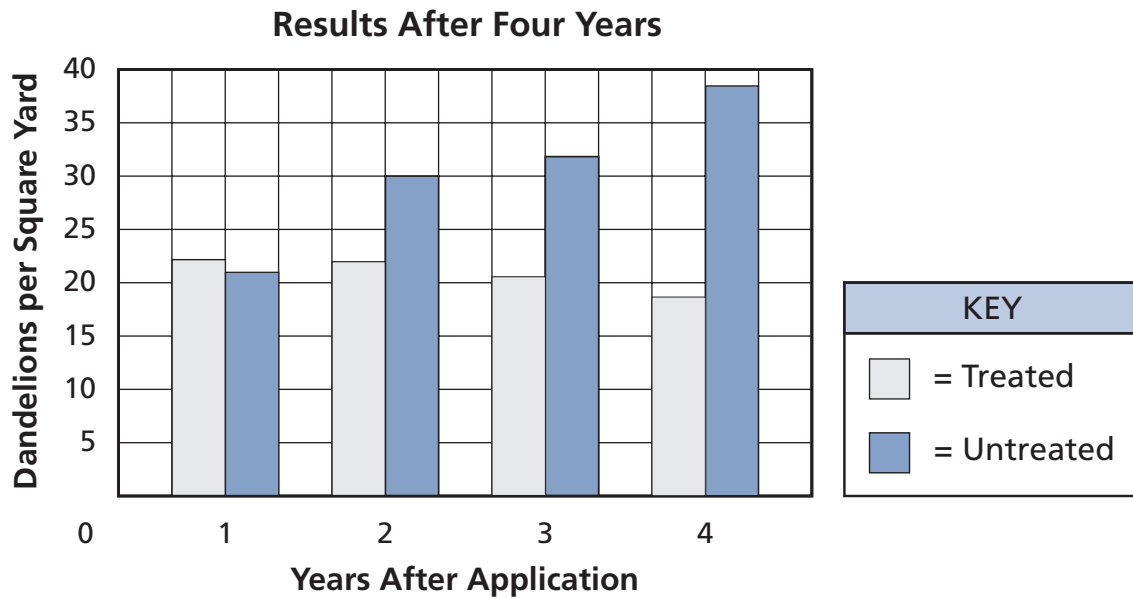
- 7** The makers of Yello-Gon conducted another study, shown to the right, which they said proves that Yello-Gon is effective over time. Do you agree with this claim? Explain your answer.



Name _____

Lawn Care-Worksheet (continued)

- 8** The graph below shows the results of a study of how Yello-Gon affects dandelion growth over several years. The light gray bars show dandelion growth in half of a lawn that was treated with Yello-Gon. The dark gray bars show dandelion growth in the half of the lawn that was left untreated. Both bars show the first spring bloom of dandelions.



What conclusion(s) can you draw from this graph?

ACTIVITY

6

Opening Weekend

Purpose

In this activity, students analyze a distribution of data in table form and draw conclusions.

Objective 15: Data Analysis, Statistics, and Probability

Thinking Skills: Gather Information; Organize Information; Analyze Information

Description

Students analyze and interpret movie reviewers' ratings of several movies.

Directions

- 1. Getting Started** Distribute copies of the worksheet.
- 2. Direct Instruction** Have a volunteer read the first problem to the class. Point out that to find the mean rating, students need to find the sum of the number of stars given by all of the reviewers, then divide the total by the number of reviewers. The reviewers gave ratings of 2, 1, 2, 3, and 4 stars. When the total of 12 is divided by 5, it gives a mean of 2.4.
- 3. Whole Class Activity** Instruct students to work together to solve the remaining problems on the worksheet. When students have finished, have them present their solutions and interpretations to the class.
- 4. Conclude Activity** Ask students the following question:
 - ♦ How can the mean, median, or mode of a set of data be misleading?

Variation

Basic Review the concepts of mean, median, and mode.

Advanced Have students analyze actual movie rating data using newspapers or magazines.

Name _____

Opening Weekend-Worksheet

Movie	Reviewer				
	Entertainment Daily	The Movie Reviewers	Fashion & Fortune Magazine	Cypress Radio Network	The Morning Show
Uncle Farley's Vacation	★★	★	★★	★★★★	★★★★★
Revenge of the Cows	★★★★★	★★	★★★★	★★★★★	★
Thunder and Lightning	★★★★★	★★★★★	★★★★★	★★★★	★★★★★
Out of Time	★★★★★	★★★★★	zero stars	★★★★★	★
Fortune and Fame	★★	★★★★★	★★★★★	zero stars	★★★★★
The Cats Who Saved Christmas	★	★★★★★	★	★	★
The Trouble Seekers	★★★★★	★★★★★	★★★★★	★★★★★	★★

1 What was the mean score for the movie *Uncle Farley's Vacation*? _____

2 Which movie received the highest average score? Explain how you made your choice.

3 Which reviewer gave the highest average rating? the lowest rating?

4 What is the mean rating of all the movies? What is the median rating? What is the mode?

Name _____

Opening Weekend-Worksheet (continued)

- 5** Which measure is the best to use for the average rating of all the movies—mean, median, or mode? Explain your answer.

- 6** Which movie received the most consistent scores? the least consistent scores? Explain your answers.

ACTIVITY

7

Fund-Raising Dinner

Purpose	In this activity, students use coordinate graphs to determine profits from a fund-raiser. Objective 16: Patterns, Functions, Algebra Thinking Skill: Organize Information
Description	Students determine how many people must attend a school's fund-raising dinner in order to meet the fund-raising goal.
Materials	graph paper

Directions

- 1. Getting Started** Hand out graph paper and a copy of the worksheet to each student.
- 2. Direct Instruction** Read the boxed paragraph on the worksheet. Make sure students understand that the fund-raiser must make enough to pay for all of its costs before a profit can be made.
- 3. Whole Class Activity** Have students complete the worksheet. When students have finished, have them discuss their answers. Have students explain how they arrived at their answers.
- 4. Conclude Activity** Ask students the following question:
 - ♦ Consider the number of tickets that need to be sold to break even and the number of tickets that need to be sold to reach the profit goal. Does the difference between these numbers mean that the tickets should be sold at a higher or lower price? Explain your answer.

Variation

Basic Review ordered pair notation.

Advanced If more than 300 people attend the fund-raising dinner, more food will be needed. If the cost for each additional person is \$1 for food, how much additional profit will the fund-raiser make for each ticket sold at \$5, \$6, and \$7? Is this more or less than the profit made per person for the first 300 tickets?

Name _____

Fund-Raising Dinner-Worksheet

Directions: Read the paragraph below. Then answer the questions.

Monroe High School is hosting a fund-raising dinner in order to buy new sports equipment. The multi-purpose room is too small for a large turnout, so the head of the fund-raising committee rented a hall for \$300. The cost of the food is another \$300. Labor costs are \$200. Decorations are \$100. The goal is to raise \$1,500 above the cost of all the fund-raising expenses.

- 1** How many tickets must be sold at \$10 each to break even? _____
- 2** How many tickets must be sold at \$10 each to make a profit of \$1,500? _____
- 3** How many tickets must be sold at \$12 each to break even? _____
- 4** How many tickets must be sold at \$12 each to make a profit of \$1,500? _____
- 5** How many tickets must be sold at \$15 each to break even? _____
- 6** How many tickets must be sold at \$15 each to make a profit of \$1,500? _____
- 7** On a piece of graph paper, make a graph that illustrates the answers to questions 1 through 6.

ACTIVITY

8

A Different Fund-Raiser

Purpose

In this activity, students compare three choices for the fund-raiser and determine which of them seems to be best.

Objective 17: Problem Solving and Reasoning

Thinking Skills: Analyze Information; Generate Ideas

Description

Students evaluate a car wash and a bake sale to see if either fund-raiser seems better than the fund-raising dinner described in Activity 7.

Directions

- 1. Getting Started** Distribute copies of the worksheet.
- 2. Whole Class Activity** Read the boxed paragraph on the worksheet. Then have a volunteer read paragraphs 1 and 2. Have students predict whether the first committee member's suggestion will work. Have students back up their predictions by graphing the situation on the grid. Have students predict whether the second committee member's suggestion will work. Then have them work their calculations in order to back up their predictions. When students have finished, have them share their answers.
- 3. Conclude Activity** Ask students the following question:
 - ♦ What is the minimum amount of information you need in order to find the equation of a line?

Variation

Basic Review the process of graphing the information in Activity 7.

Advanced Have students figure out the number of baked goods the school would need in order to raise \$700 at the bake sale. Have students figure out approximately how many people would need to buy baked goods, based on what they think people would buy to eat or take home.

Name _____

A Different Fund-Raiser-Worksheet

Directions: Read the paragraph below. Then answer the questions.

Monroe High School is hosting a fund-raising dinner in order to buy new sports equipment. The multi-purpose room is too small for a large turnout, so the head of the fund-raising committee rented a hall for \$300. The cost of the food is another \$300. Labor costs are \$200. Decorations are \$100. The goal is to raise \$1,500 above the cost of all the fund-raising expenses.

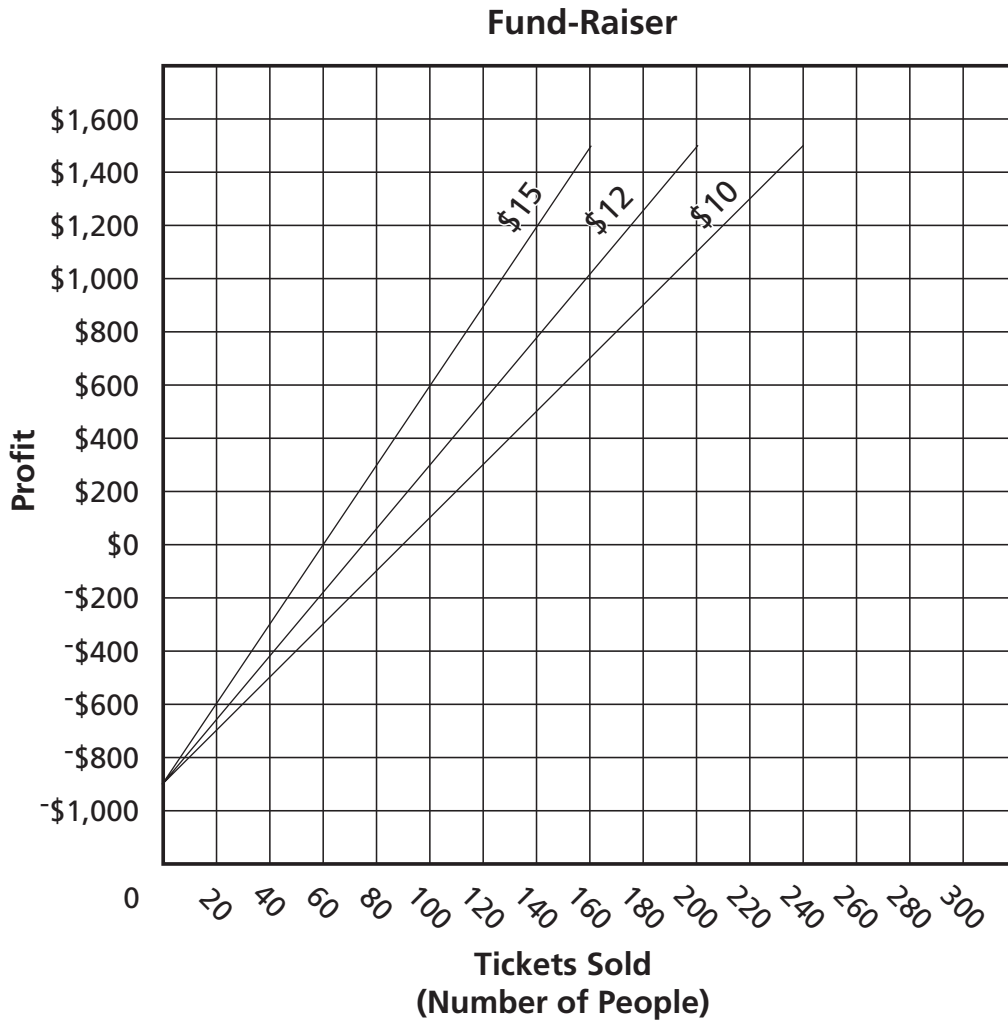
- 1** A member of the school fund-raising committee thought that the school would make too little profit for all the effort on the fund-raising dinner. She suggested that the school hold a car wash instead. She pointed out that the school could rent a car wash for the day at the special rate of \$500, with all supplies included. Students would supply the labor. She said that if they charged \$4 for a car wash including hot wax, they would do better than if they tried to sell tickets for the dinner. Some people thought she was right, but others thought she was wrong. How could those who think she is wrong prove it with a graph?

- 2** Another member of the committee said that spending so much money for the dinner or the car wash would be eating into their profits. It would be better to have a bake sale. There would be no spending and the bake sale could be held at the school. Families of students would volunteer to make all kinds of desserts. All money earned would be profit. The school could charge \$0.50 for a cookie or a cupcake, \$1.00 for a slice of cake or a brownie, and \$10 for a whole cake. The committee figured they would need 20 whole cakes, 24 cakes with 10 slices each, 24 trays of brownies with 12 brownies each, 20 dozen cupcakes, and 20 dozen cookies. Would a bake sale raise adequate funds? Why or why not?

Name _____

A Different Fund-Raiser-Worksheet (continued)

- 3** Graph the results from problem 1 on the grid.



Science

Teaching Activities

Activity Number and Title		<i>TerraNova, The Second Edition</i> Objective Number and Title	Activity Worksheet	Activity Page Number
1	It's in the Genes	19 Science Inquiry 21 Life Science	X	7.70
2	Meats and Vegetables—Pros and Cons	19 Science Inquiry 21 Life Science 24 Personal and Social Perspectives in Science	X	7.73
3	Under the Rainbow	20 Physical Science 25 History and Nature of Science	X	7.75
4	Smaller and Smaller	20 Physical Science	X	7.78
5	Getting the Moon in Shape	19 Science Inquiry 22 Earth and Space Science	X	7.81
6	The Expanding Universe	22 Earth and Space Science 25 History and Nature of Science	X	7.83
Answers to Student Worksheets				7.114

ACTIVITY

1

It's in the Genes

Purpose

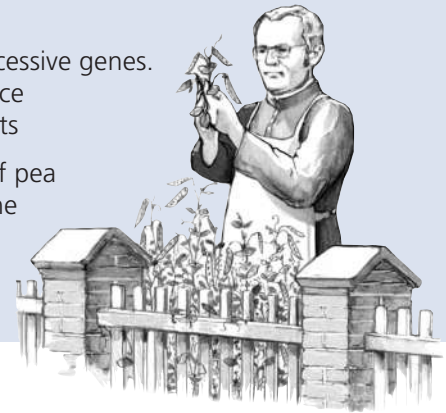
In this activity, students will learn about dominant and recessive genes.

Objective 19: Science Inquiry **Objective 21:** Life Science

Thinking Skills: Analyze Information; Synthesize Elements

Description

Students study a diagram that shows three generations of pea plants in one of Mendel's classic experiments. They use the diagram as a basis for understanding dominant and recessive genes. Then a class poll is taken on four familiar human traits, and the results are analyzed.

**Directions**

- 1. Getting Started** Hand out copies of the worksheets. Have students individually read through the explanatory information and study the diagram on Worksheet 1.
- 2. Small Group Activity** Divide the class into small groups, and have students discuss Mendel's experiment. Make sure students understand what is meant by the terms *dominant gene* and *recessive gene*.
- 3. Tally Traits** For each of the physical features listed on Worksheet 2, have students determine which members of their group possess which traits and record the results on their worksheets.
- 4. Conclude Activity** Have each group of students report their results to the class. Have all students record these results on their charts. For each trait, have students add up the totals for the class. For each feature, ask students which they think is dominant, and why. (All the traits in the first column are dominant.) Students will probably say that the trait most of the students have is dominant. They may be correct, but explain to them that *dominant* is not the same as "most common." Dominance can be determined only through a genetic study using information about traits in several generations.

Variation

Basic Review the fact that all living things that reproduce sexually inherit traits from both parents. The genetic traits result when DNA elements, called genes, control the expression of the traits. Genes are located on the chromosomes in the nuclei of cells. Parents produce gametes—sperm (male) and egg (female) cells that have only half the number of chromosomes present in all other cells of the organism. During reproduction, the two cells combine to produce a new individual with the full number of chromosomes. This new individual inherits half its genetic material from each parent.

Advanced Have students draw Punnett squares for each of the traits in the class poll and complete the squares at home after checking the traits of their parents and siblings. Use the following letters to designate the alleles: *B* for brown eyes, *b* for not brown eyes; *E* for unattached earlobes, *e* for attached earlobes; *P* for having a widow's peak, *p* for not having a widow's peak; *L* for a bent little finger, and *l* for a straight little finger. (For example, a person with a dominant phenotype can have one of two possible genotypes: *Bb* or *BB*.)

Have students look up and define the terms *allele* (the form of a gene that causes a trait) and *phenotype* (the physical appearance of a genetic trait) by using them in sentences.

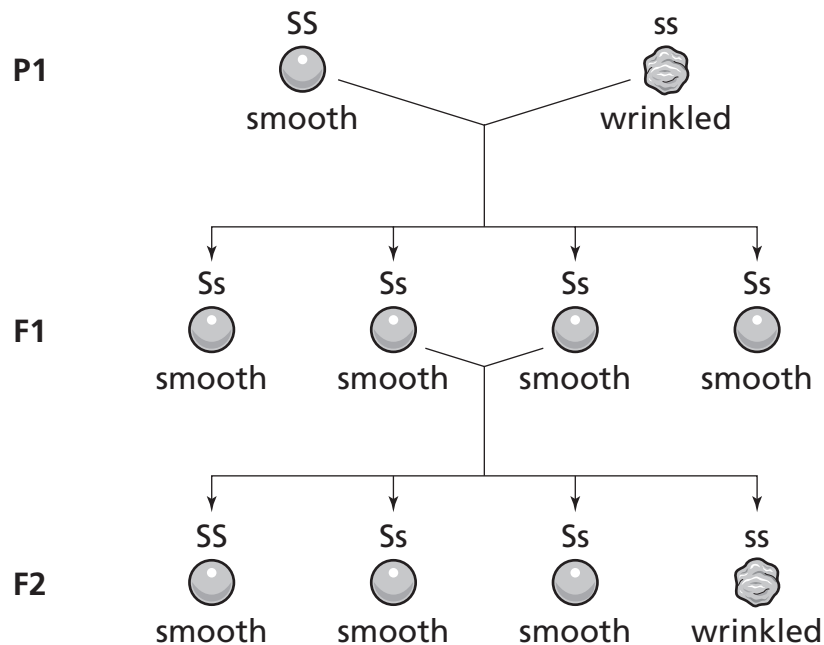
Name _____

It's in the Genes-Worksheet 1

Mendel's Pea Plants

Gregor Mendel (1822–1884) was a monk who lived in what is now the Czech Republic. While working as a substitute teacher at a technical school, he became interested in plant breeding. He selectively bred plants with different characteristics to see what they would produce in the next generation. Over the years, his experiments involved over 28,000 pea plants. His careful and detailed experiments form the basis of the laws of heredity.

Look at the experiment shown in the diagram below. Mendel bred one group of plants that had peas with smooth surfaces and another group that had peas with wrinkled surfaces. He discovered that the gene for a smooth surface is *dominant*, which means that when a smooth gamete and a wrinkled gamete combine (the first parent generation, or P₁), the offspring (F₁) will always be smooth. The trait for a smooth surface *masks* the trait for a wrinkled surface. The dominant form of the gene is symbolized with a capital S and the recessive form with a lowercase s.



If two plants from the F₁ generation are bred, the resulting plants are called the F₂ generation plants. About three out of every four F₂ generation plants will have peas with smooth surfaces, and about one out of four F₂ generation plants will have wrinkled peas. This is because the odds are that only about twenty-five percent of the time, offspring will receive a *recessive* gene (the one for a wrinkled surface) from *both* parent plants.

Name _____

It's in the Genes-Worksheet 2

Trait	Number of Students with	Number of Students with
Eye Color	Brown:	Not Brown:
Earlobe Attachment	Unattached:	Attached:
Widow's Peak	Yes:	No:
Bent Little Finger	Yes:	No:

TOTALS FOR THE CLASS

Eye Color

Brown _____ Not Brown _____

Earlobe Attachment

Unattached _____ Attached _____

Widow's Peak

Yes _____ No _____

Bent Little Finger

Yes _____ No _____

ACTIVITY

2

Meats and Vegetables—Pros and Cons

**Purpose**

In this activity, students will learn the process of gathering information and presenting it in a debate.

Objective 19: Science Inquiry **Objective 21:** Life Science

Objective 24: Personal and Social Perspectives in Science

Thinking Skills: Analyze Information; Generate Ideas

Description

In a debate format, students compare the advantages and disadvantages—financial, environmental, and social—of raising and consuming livestock versus growing and consuming vegetable and grain crops.

Materials

Internet access

Directions

- 1. Getting Started** Divide the class into two groups: “pro-meat” and “pro-vegetarian.” Give each student a copy of the worksheet.
- 2. Small Group Activity** Have each group of students meet separately to plan their side of the debate. Tell students they should focus on the financial, environmental, and health consequences of a society having a primarily vegetarian diet versus a primarily meat-based diet (a diet with at least one large serving of meat per day). Members of each group should use the Internet to gather data in support of their position.
- 3. Worksheet** After they have gathered information, students should complete the worksheet to clarify their thinking about the issues to be debated.
- 4. Prepare to Debate** Have each group select three students to be in the actual debate. As part of the preparation, other students in the group should use their worksheets to give suggestions and ask practice questions of the debaters.
- 5. Debate** Remind students that the debate will focus on three aspects of a vegetarian diet versus a meat-based diet: financial, environmental, and health consequences. Each debater on a team will speak for two to five minutes on one aspect of the topic, followed by a debater from the other team addressing the same aspect.
- 6. Class Discussion** A question-and-answer period of 5 to 10 minutes will follow in which the debaters and the rest of the class can participate.
- 7. Conclude Activity** Provide a summary of the debate for the class. Ask the students which side they think was more convincing in the debate, and why. Discuss with the class some of the ideas that were successfully presented by the two sides in the debate. Discuss how a debate can be a supportive format for scientific inquiry.

Variation

Basic Have students research the diets of various hunter-gatherer and agricultural peoples.

Advanced Have students work in pairs and plan a day’s menu—meat-based or vegetarian—for a family of four. Have students compare nutrition and costs.

Name _____

Meats and Vegetables—Pros and Cons-Worksheet

Preparing for the Debate

I think the most important thing to consider when choosing a diet is

because

I think the most important information given to support our position is

because

I think the least important information given to support our position is

because

I think the most important information we can use to challenge the other team's position is

because

Additional points for our debaters to consider:

ACTIVITY

3

Under the Rainbow

**Purpose**

In this activity, students will learn about wavelengths of light in the electromagnetic spectrum. They will learn that light is refracted in different ways.

Objective 20: Physical Science **Objective 25:** History and Nature of Science

Thinking Skills: Analyze Information; Evaluate Outcomes; Generate Ideas

Description

Students study a chart that shows the wavelengths of visible light as part of the electromagnetic spectrum, and observe how a prism refracts light. They read a short selection about a friar who discovered how rainbows are formed. Using this information, students observe how water drops refract light, and they develop a hypothesis about why we see rainbows.

Materials

a prism, glasses of water, white sheets of paper

Directions

- 1. Getting Started** Hand out copies of Worksheet 1. Have students study the electromagnetic spectrum and the visible light part of the spectrum.
- 2. Look and Ask** Discuss with students Isaac Newton's use of a prism to prove that white light coming from the sun is made up of all the wavelengths of visible light—those of all the colors. Show students how the prism refracts, or bends, the light and separates it into different colors. Ask students the following questions:
 - ♦ Which color of light is refracted the most? the least?
(Violet is refracted the most; red is refracted the least.)
 - ♦ What is the relationship between the degree of refraction and the wavelengths of the colors?
(The smaller the wavelength, the greater the refraction.)
- 3. Small Group Activity** Hand out copies of Worksheet 2 and have students read it. Then set up a workstation by a window where a narrow beam of sunlight can enter. Have students work in pairs or small groups. Each group will place a glass of water in the path of the sunlight, so that the sunlight is refracted onto a white sheet of paper. Have students answer the questions on Worksheet 2.
- 4. Conclude Activity** Review and discuss answers to Worksheet 2.

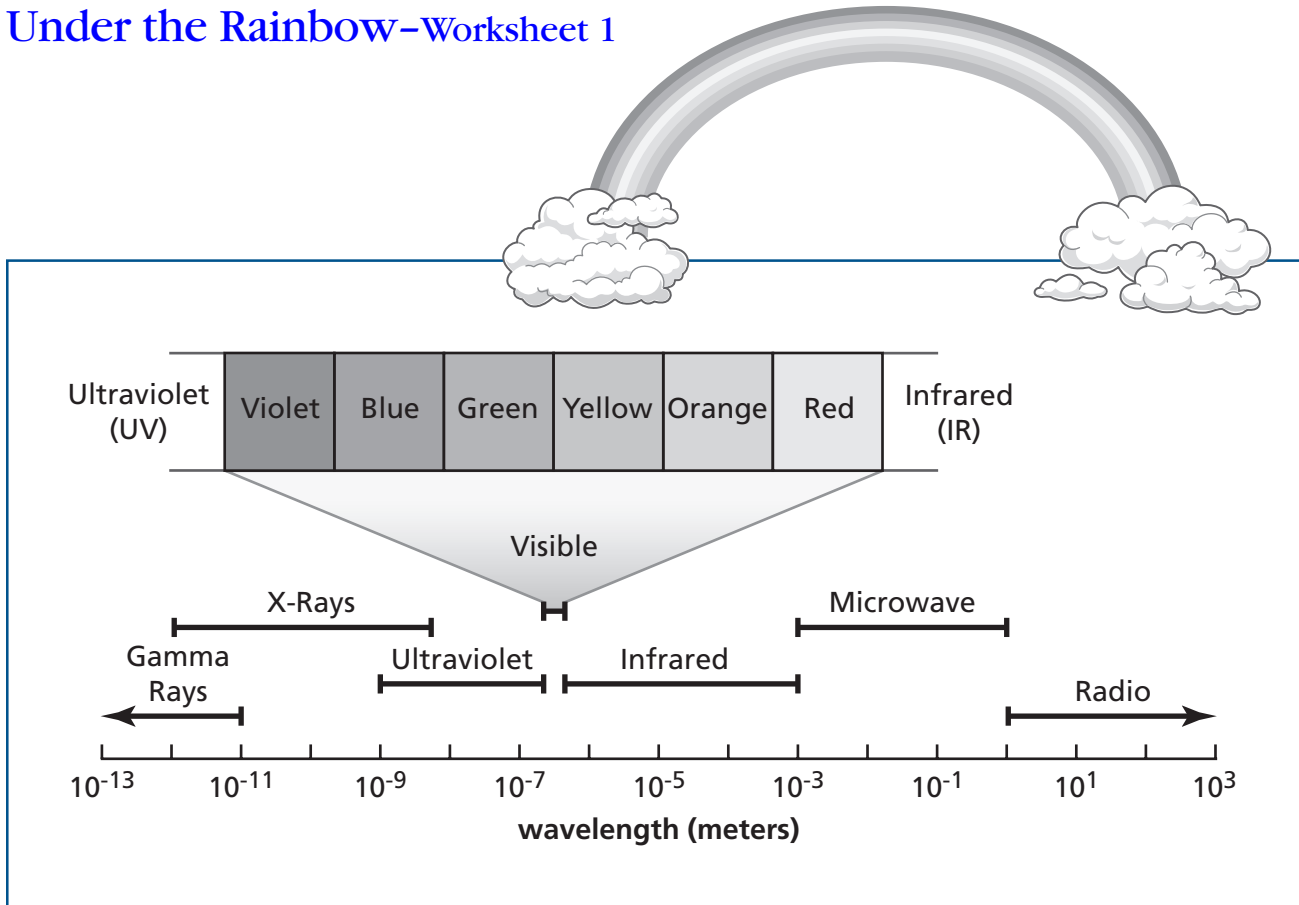
Variation

Basic Have students draw a rainbow with the colors of light correctly sequenced; then have students compare this rainbow with the colors of the visible light segment of the electromagnetic spectrum.

Advanced Review with students that visible light is part of the electromagnetic spectrum, which consists of waves from the shortest gamma rays (10^{-13} meters) to the longest radio waves (10^5 meters). Visible light falls in the range of 4×10^{-7} to 7×10^{-7} meters (400 to 700 nanometers), with violet light having the shortest wavelength and red light the longest. White light, as from the sun, is the combination of all the colors.

Name _____

Under the Rainbow-Worksheet 1



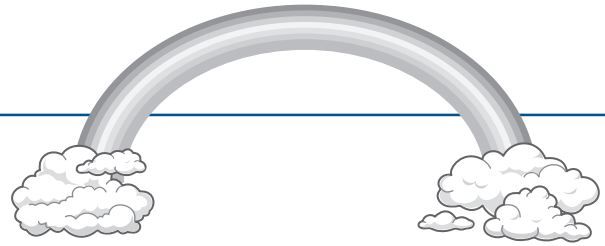
Name _____

Under the Rainbow—Worksheet 2

The Giant Raindrops of Theodoric

Theodoric of Freiberg was a friar—a brother in a religious order—who lived in northern Germany about 700 years ago. He was interested in how the world worked, and he used as much of his time as he could to read and study. To further his education, he was sent to Paris, at that time the cultural and intellectual center of northern Europe. Theodoric became known as a natural philosopher—the medieval equivalent of a scientist. Unlike almost all European scholars since Aristotle, he studied nature through direct observation and experimentation, instead of merely theorizing about it. Theodoric was one of the first to investigate nature by what was to become the scientific method.

Theodoric was especially interested in how rainbows are formed. He observed that rainbows were not only in the sky but also in dewdrops, in spider webs, in water spray. He thought rainbows



must have something to do with how light shines on water drops.

In one of his experiments, Theodoric hung heavy curtains on his windows and filled a glass container with water in order to make a “giant raindrop.” He placed the container in a narrow beam of sunlight entering the room. He saw the light enter the water near the top, bounce off the back, and come out near the bottom. When he closed one eye and stared into the water, he saw just red light. When he moved his head slightly, he saw only yellow light, and so on—until he saw all the colors of the rainbow.

Throughout his life, Theodoric investigated many types of natural phenomena. He is best known for his research on light, and his sophisticated theories on the bending of light waves were verified by scientists 450 years later.

- 1** When you look at your “giant raindrop” from different positions, do you see different colors as Theodoric did? Explain why this happens.

- 2** How does seeing a rainbow depend on your position in relation to the position of water drops in the sky?

ACTIVITY

4

Smaller and Smaller

Purpose

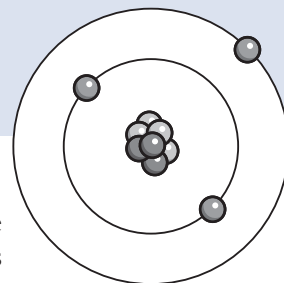
Students will learn about an important theory of the structure of atoms and how this theory relates to the periodic table of elements.

Objective 20: Physical Science

Thinking Skills: Gather Information; Analyze Information; Evaluate Outcomes

Description

Students are shown the Bohr model of the atom, which depicts the energy levels of electrons. Students then identify diagrams of atoms by using the periodic table and their understanding of atomic structure.

**Directions**

- 1. Getting Started** Explain that Danish scientist Niels Bohr discovered there are only certain energy levels for electrons within an atom. These electrons seemed to exist in shells around the nucleus. The electrons in the shell closest to the nucleus have the lowest energy, with each added shell having a higher energy level. Bohr's discovery was based on the connection between matter and light. He found that when electrons move from one energy level to another, they emit or absorb radiation in the form of light. He called these "packets" of light *photons*, or *quanta*. The shorter the wavelength, the higher the energy. The maximum numbers of electrons in the first four shells, from the inner to the outer, are 2, 8, 18, and 32.
- 2. Worksheet** Hand out copies of the worksheets. Have students identify the diagrams of the atoms by matching the numbers of electrons and protons to the atomic numbers of the elements.
- 3. Conclude Activity** Ask students the following question:
 - ♦ Why do you think the periodic table is organized the way it is? (Answers will vary, but should include the idea that the periodic table is organized so that elements with similar properties are located in the same column. Also, students should notice that all the elements in each column have the same number of electrons in their outer shell.)

Variation

Basic Review the structure of an atom: the nucleus, with protons and (except for hydrogen) neutrons, and the electrons surrounding the nucleus. Protons have a positive electric charge, neutrons have no charge, and electrons have a negative charge. The number of protons, which equals the number of electrons, is an element's *atomic number*. Elements are ordered in the periodic table by their atomic number.

Advanced Have students draw additional diagrams of atoms and then trade diagrams with a partner and identify the diagrams by using the periodic table.

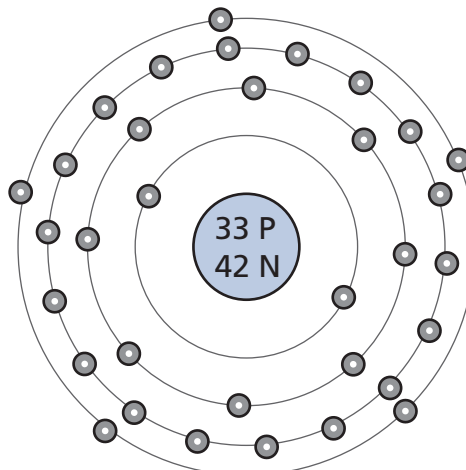
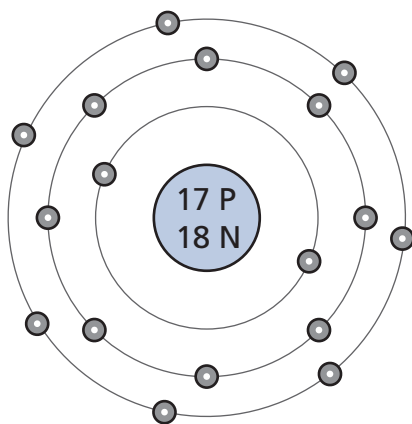
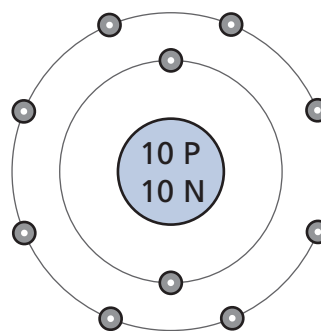
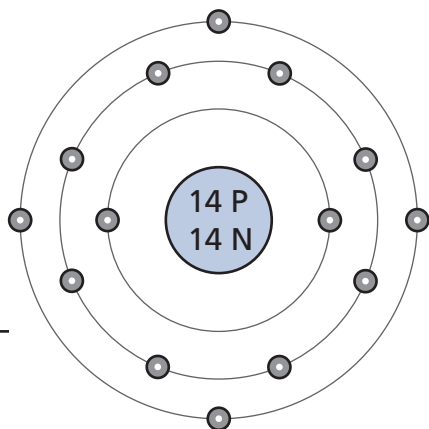
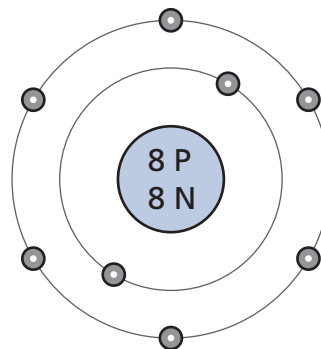
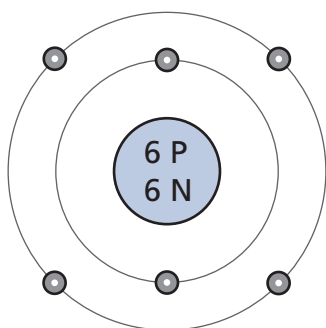
Name _____

Smaller and Smaller-Worksheet 2

Diagrams of Atoms

For each atom diagram, count the number of electrons and use this number to find the correct element in the periodic table. Write the symbol of the element on the line next to the diagram.

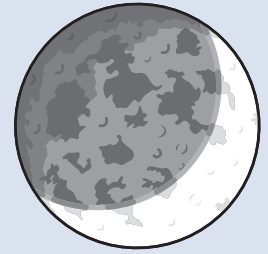
KEY
P = protons
N = neutrons



ACTIVITY

5

Getting the Moon in Shape

**Purpose**

In this activity, students will understand why the moon changes shape throughout the month.

Objective 19: Science Inquiry **Objective 22:** Earth and Space Science

Thinking Skills: Gather Information; Organize Information; Synthesize Elements; Generate Ideas

Description

Students observe and record the shape of the moon for four weeks. Then they create a model using a light source and two round objects to explain the shapes they have recorded.

Materials

Internet access; flashlight, two round objects of different sizes (such as a grapefruit and a golf ball) for each pair of students

Preparation

Use a Web site (such as <http://aa.usno.navy.mil>) to get the times when the moon will be rising and setting in your location. Record this information on the appropriate lines on a copy of the worksheet, starting with the date you intend the activity to begin. (For any date on which the moon sets after midnight, include both dates.) Make copies of this prepared worksheet for students.

Directions

- 1. Getting Started** Tell students they will be observing and recording the changing shape of the moon over a period of four weeks.
- 2. Worksheet** Hand out copies of the prepared worksheet. Tell students they should look at the moon's rising and setting times in order to plan their observation times. Have them think about where the moon will be in the sky when they want to make their observations. Students may choose to schedule some of their observations early in the morning rather than late at night. Tell them to draw the shape they see each night (or day) in the small space provided on the worksheet chart. (When clouds make observations impossible, students should note this in their charts.)
- 3. Look and Compare** After four weeks—or at intervals during the four weeks—have students compare their charts in class. (The charts should all be similar.)
- 4. Small Group Activity** Divide students into small groups or pairs. Have them research and discuss why the visible part of the moon changes shape as it does. For each of the shapes they have drawn on their worksheets, have students use a flashlight and two objects to demonstrate where the moon is in relation to Earth.
- 5. Conclude Activity** Have students explain to the class why the moon changes shape.

Variation

Basic Explain to students that the sun and the moon appear to rise and set because of Earth's rotation on its axis.

Advanced Discuss with students how the rotation of Earth on its axis and the revolution of the moon around Earth determine the rising and setting times of the moon.

Name _____

Getting the Moon in Shape-Worksheet

Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____
Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____	Date____ Moonrise _____ Moonset _____ Time observed _____
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ACTIVITY

6

The Expanding Universe

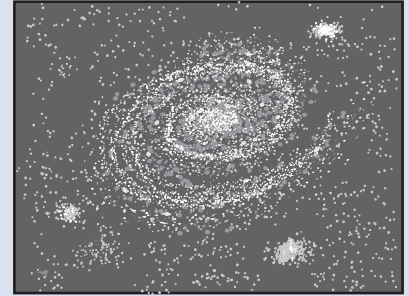
Purpose

In this activity, students will learn about Edwin Hubble's contributions to astronomy and how astronomers use their understanding of the Doppler effect and the "red shift" to determine that the universe is expanding.

Objective 22: Earth and Space Science

Objective 25: History and Nature of Science

Thinking Skills: Analyze Information; Synthesize Elements



Description

Students read about Edwin Hubble and the Doppler effect, and then discuss these topics.

Directions

- 1. Getting Started** Distribute copies of Worksheet 1 and allow students time to read it.
- 2. Discuss** Discuss with students that before Hubble's discoveries, the universe was thought to consist of just the millions of stars in our own Milky Way galaxy. Ask students how the discovery of thousands of other galaxies has changed our view of the universe.
- 3. Worksheet** Distribute copies of Worksheet 2 and allow students time to read it.
- 4. Explain and Ask** Make sure that students understand how the Doppler effect works. Ask students the following questions:
 - ◆ As a sound source approaches you, why is its pitch higher than it would be if the sound source were stationary? (The sound source is catching up with its own sound waves and compressing them.)
 - ◆ As a sound source moves away from you, why is its pitch lower than it would be if the sound source were stationary? (The sound source is moving away from its own sound waves and is stretching them out.)
 - ◆ If a sound source is approaching you at a constant speed, does the pitch or frequency get higher and higher the closer it gets? (No. The pitch remains constant; but it is higher than it would be if the sound source were stationary relative to the listener.)
 - ◆ If a sound source is traveling away from you at a constant speed, does the pitch or frequency get lower the farther away it gets? (No. Again, the pitch remains constant; but it is lower than it would be if the sound source were stationary relative to the listener.)
- 5. Conclude Activity** Ask students the following questions:
 - ◆ How are sound and light similar? (They both exist as wave forms.)
 - ◆ How are sound and light different? (Sound must travel through a medium, such as air. Light is an electromagnetic energy form and doesn't need a medium.)
 - ◆ What does the fact that galaxies are moving away from each other say about the universe? (It is expanding.)

Variation

Basic Discuss with students the location of our solar system in the Milky Way galaxy. Show students pictures of the Milky Way galaxy, and then show them pictures of other galaxies.

Advanced Have students do research on Christian Doppler, the scientist after whom the Doppler effect is named. Have students describe other examples of the Doppler effect.

Have students do research on the Hubble Space Telescope.

The Expanding Universe—Worksheet 1

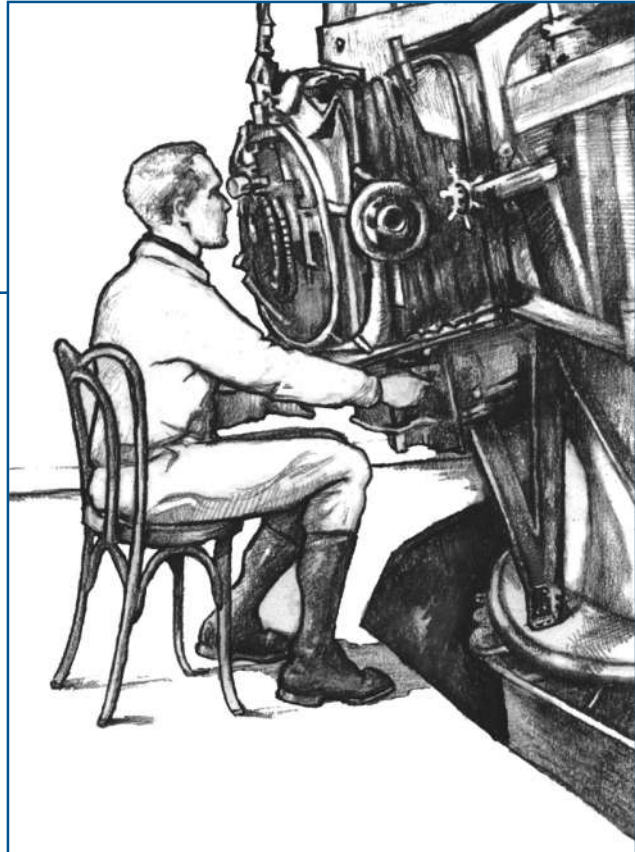
Edwin Hubble

Edwin Hubble was born in Missouri in 1889. He was an excellent athlete in his youth, studied and practiced law, and taught high school Spanish before finally changing his career to astronomy. He worked as an astronomer until his death in 1953, and it was in this field that he made discoveries that changed astronomy.

Until the 1920s, the fuzzy patches of light called *spiral nebulae* were thought to be groups of distant stars, but no one knew how far away they were. Hubble, working with the largest telescope at the time, at Mount Palomar in California, was able to measure the distance to several of these nebulae. He proved that they were so far away that they must be separate galaxies. He also confirmed what some scientists had already theorized: that these nebulae, or galaxies, were moving away from us and from each other. What he also discovered, now known as Hubble's Law, was that the farther away a galaxy is, the faster it is moving away from us.

Among the scientists interested in this discovery was Albert Einstein, who had believed that the universe was neither expanding nor contracting. Hubble's discovery proved to him that the universe was in fact expanding, evidence that actually helped Einstein prove his theories of relativity.

Since Hubble's death, many more galaxies have been discovered. Many thousands have been discovered by the Hubble Space Telescope, which was named in his honor and launched into orbit in 1990.



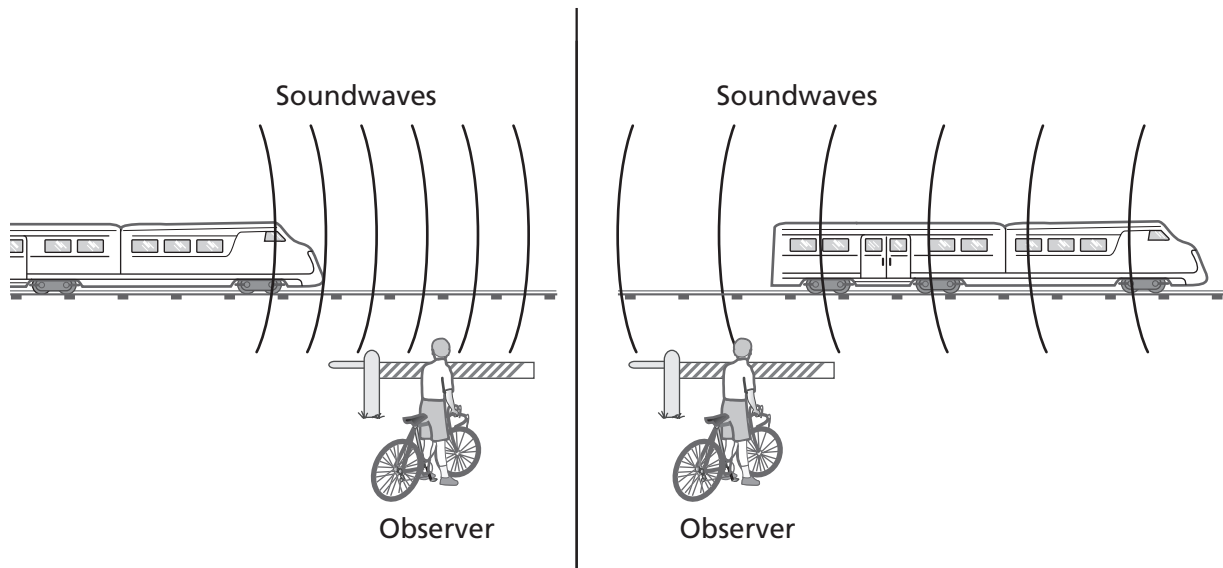
Name _____

The Expanding Universe—Worksheet 2

The Doppler Effect and Red Shift

Hubble was able to calculate the speeds at which galaxies are traveling away from us by using the phenomenon known as the Doppler effect.

You are already familiar with the Doppler effect from hearing a sound-producing object pass by you, such as a race car or a train blasting its horn. What happens is that as the sound approaches, the sound waves become compressed, because the sound source is “catching up” with its own sound. As the sound-producing object passes, the sound waves become “stretched out,” because the object is “running away” from its own sound waves.

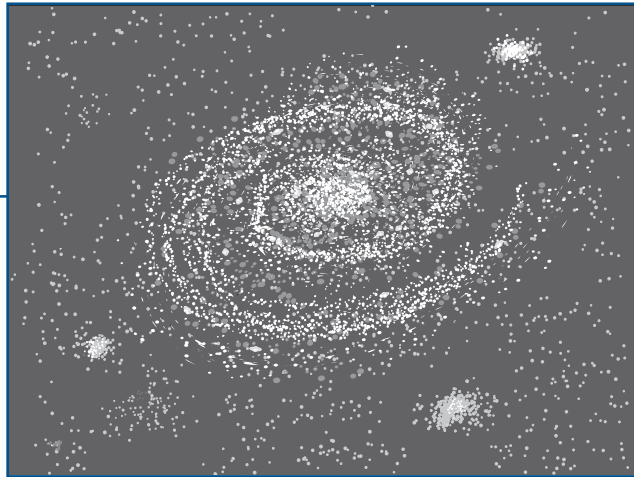


If the train is moving at a constant speed, the pitch of its horn will be higher than it would be if the train were stationary. This is because the frequency (how often the waves occur in any one period of time) is higher, and a higher wave frequency, in sound, results in a higher pitch. (Of course the sound gets *louder* as it approaches, but it gets increasingly higher in pitch only if the train, or race car, is accelerating as it approaches you.) When the train passes you, the sound waves suddenly become farther apart from each other, because the source of the sound (the train) is moving away from the sound waves it is producing. It is always this “moving away” sound that people notice, because the change from one pitch to a lower pitch is so dramatic (especially to a person standing close to the train tracks).

The Expanding Universe—Worksheet 2 (continued)

The Doppler effect holds true for any source of energy that emits waves, including light. Hubble and other scientists could prove that galaxies were moving away from us by measuring the light waves coming from those galaxies. Just as with sound waves, where the source (such as the train) is moving away from the observers, the light waves coming from these light sources become longer, or “stretched out.” These light waves are shifted toward the red part of the light spectrum (the part with the longest wavelengths), so this phenomenon came to be called the “red shift.” The faster the galaxy is moving away from us, the more its light waves are stretched out toward the red part of the spectrum.

By comparing the different red shifts of various galaxies, Hubble discovered that there is an exact ratio (known as Hubble’s constant) between how distant a galaxy is from us and how fast it is moving. This discovery came to be known as Hubble’s law. Scientists have since discovered that almost all galaxies are speeding away from each other, as if they had started their journey through space from the same place.



Social Studies

Teaching Activities

Activity Number and Title		<i>TerraNova, The Second Edition</i> Objective Number and Title	Activity Worksheet	Activity Page Number
1	What Makes a Region?	26 Geographic Perspectives	X	7.88
2	Family Life in Two Ancient Cultures	27 Historical and Cultural Perspectives	X	7.90
3	Notes from a Voyager's Journal	27 Historical and Cultural Perspectives	X	7.93
4	Voter Turnout	28 Civics and Government Perspectives	X	7.98
5	The Right Business	29 Economic Perspectives	X	7.102
6	Using Climographs	26 Geographic Perspectives	X	7.105
Answers to Student Worksheets				7.115

ACTIVITY

1

What Makes a Region?

Purpose

Students learn that there are many kinds of regions, each defined by certain physical and human characteristics that make it a distinctive place.

Objective 26: Geographic Perspectives

Thinking Skills: Analyze Information; Generate Information

Description

Students discuss some physical and human characteristics that make a region a distinctive place and provide examples of different kinds of regions. They learn that views of regions may be objective or subjective, and that personal impressions of some regions may be subject to bias.

Directions

1. Getting Started Ask students to form mental images of these places as you read them aloud, pausing for a few seconds between each name:

- ♦ Europe; the Rocky Mountains; Latin America; the Arctic; Lexington and Concord; the Corn Belt

Ask students what mental images they formed for each of these places. List the places and the students' responses for each place on the board.

2. Explain and Discuss Explain to students that the places they described can all be classified as regions because of the physical and/or human characteristics that make each place distinct. Explain that regions can be defined by physical characteristics such as landforms and climate (e.g., the Rocky Mountains, the Arctic), but that many regions are also defined by their human characteristics. Ask students the following question:

- ♦ What are some human characteristics that make the other places listed on the board unique regions? (Europe—language, culture, economic/social activities; Latin America—language, culture, history, religion; Lexington and Concord—areas related to an important historic event; Corn Belt—region in the midwestern United States where corn is a major crop)

3. Worksheet Activity Divide the class into groups of 2 or 3. Hand out one copy of the worksheet to each group. Review the directions on the worksheet with students. After students have completed the worksheet, review their answers.

4. Conclude Activity Explain to students that places are classified as regions based on objective and subjective criteria. People's views of a region may differ based on their personal experiences or general perceptions. Discuss how perceptions of places may be misleading. Ask students the following questions:

- ♦ What statement can be made about Europe that is true about the **entire** region? (Europe has a common currency.)
- ♦ What misleading perceptions may result by viewing this vast area as one unit? (One might attribute the same characteristics to the entire region, regardless of the fact that Europe consists of independent countries with differing physical features, histories, government systems, economies, cultures, and ethnic groups.)

Variation

Basic Have students work in groups to identify and map out various regions of their state according to physical and human characteristics. Have groups present their maps to the class. Discuss how views of the regions may differ between groups.

Advanced Have students work in groups to identify and map out various regions in the world according to physical and human factors. Have groups present their maps to the class. Discuss how views of the regions may differ between groups.

Name _____

What Makes a Region?–Worksheet

Directions: Complete the chart below. In column 2, write the names of places that are examples of the types of regions listed in column 1. In column 3, describe what characteristics make each place a unique region. An example has been done for you.

Regions Around the World

1. Type of Region	2. Example of Region	3. Characteristics of This Region
Climate	desert	hot and dry all year
Bodies of Water		
Ethnic/Cultural		
Tourist		
Economic		
Geographic		
Historic		

ACTIVITY

2

Family Life in Two Ancient Cultures

Purpose

Students compare family life in two ancient cultures by presenting information in a graphic organizer.

Objective 27: Historical and Cultural Perspectives

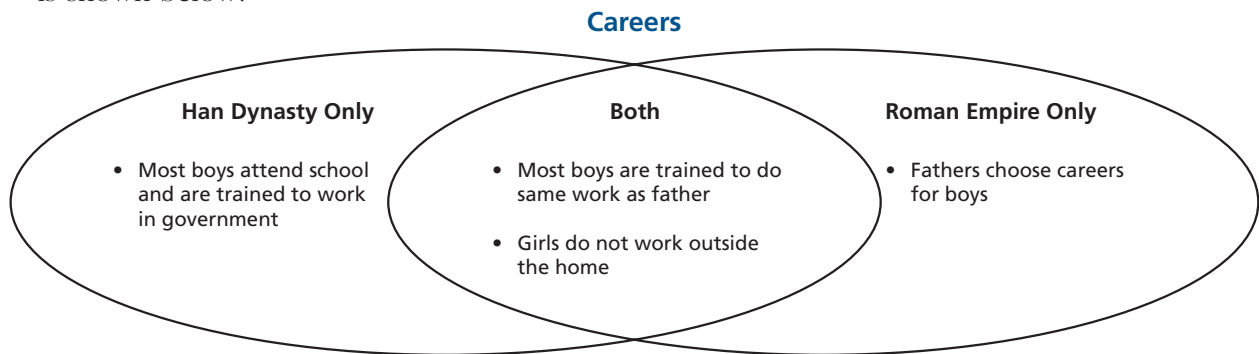
Thinking Skill: Organize Information

Description

Students study a chart comparing family life in two cultures: ancient Rome and ancient China. They select pertinent information to place in a Venn diagram.

Directions

- 1. Getting Started** Distribute copies of Worksheet 1. Explain to students that the chart compares family life in the Han Dynasty of China from about 207 B.C. to A.D. 220 with family life in the ancient Roman Empire beginning about 27 B.C. Have students look at the different aspects of family life that are compared.
- 2. Using Venn Diagrams** Explain to students that a Venn diagram graphically compares two bodies of information. Draw the outline structure of a Venn diagram on the board. Then, as a class, use the “Careers” information from the chart to fill in the Venn diagram. An example is shown below:



- 3. Worksheet 2** Divide the class into 5 groups. Hand out one copy of Worksheet 2 to each group. Assign each group one of the five remaining topics from the chart: Family Structure, Education, Housing, Clothing, and Food. Instruct each group to graph the information for their topic in the Venn diagram. Have each group present its Venn diagram to the class.
- 4. Conclude Activity** Ask students the following questions:
 - ♦ Why do you think boys were given preferential treatment over girls in both cultures? (In male-dominated societies, boys would become the head of the family and would retain the family name.)
 - ♦ What are the ways in which treatment of male and female children has changed or remained unchanged today? (Answers will vary.)

Variation

Basic Have students practice filling in Venn diagrams to make comparisons, using other information related to social studies topics.

Advanced On a separate sheet of paper, have students make a chart with entries for another ancient society or for today’s society.

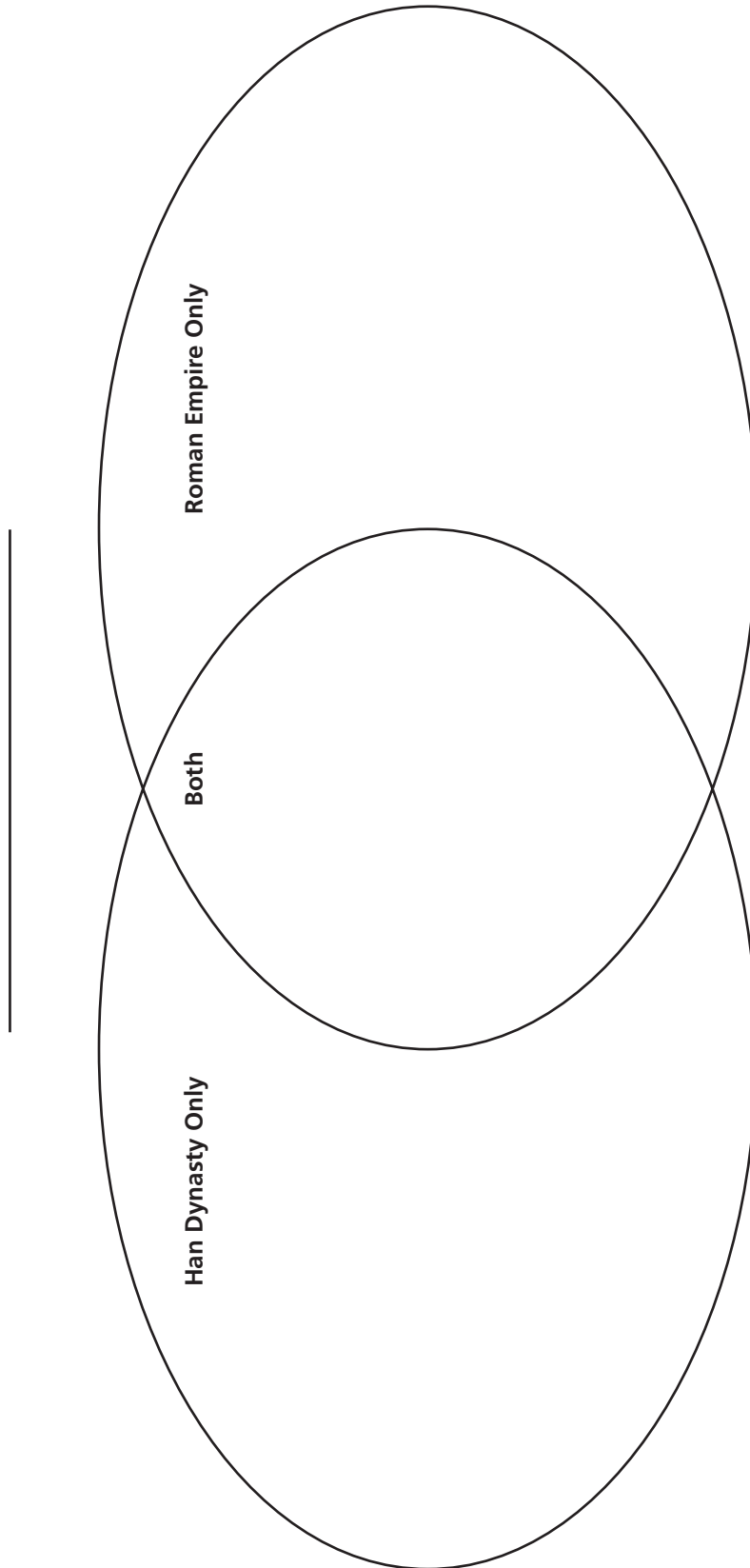
Name _____

Family Life in Two Ancient Cultures–Worksheet 1

	Han Dynasty	Roman Empire
Family Structure	<ul style="list-style-type: none"> ◆ Large family with father as head ◆ Grandparents, parents, and children live together ◆ Wives serve husbands and family; have no property rights ◆ Marriages are arranged by father 	<ul style="list-style-type: none"> ◆ Large family with father as head ◆ Wealthy people own slaves ◆ Wives serve husbands as companions and helpers; oversee slaves; have no property rights ◆ Marriages are arranged by father
Education	<ul style="list-style-type: none"> ◆ Schools train boys to become government officials, to write calligraphy, and to study the works of Confucius ◆ Wealthy families send boys to school or have private tutors; smart, poor boys attend school if someone pays ◆ Wealthy girls have home tutors; poor girls learn household skills from mother 	<ul style="list-style-type: none"> ◆ Primary schools teach reading, writing, counting, grammar, and literature to both wealthy and poor boys and girls ◆ Wealthy boys and especially talented boys might later attend special schools to learn such subjects as rhetoric ◆ Apprenticeships to prepare for public life are offered to boys
Housing	<ul style="list-style-type: none"> ◆ Wealthy families live in large, comfortable homes built around a central courtyard; homes have carved furniture and painted walls ◆ Poor families live in crowded conditions in small houses in cities or in rural mud houses together with other families 	<ul style="list-style-type: none"> ◆ Wealthy families live in large, comfortable stone or brick houses with an atrium, a large roofless room ◆ Poor families might live in crowded city apartment buildings
Clothing	<ul style="list-style-type: none"> ◆ Wealthy people wear belted silk robes; in cold weather, fur coats and leather slippers ◆ Poor people wear simple, rough hemp clothing and straw sandals 	<ul style="list-style-type: none"> ◆ Wealthy men wear long white woolen togas in public; most men wear tunics ◆ Wealthy women wear long tunics with shawls; poor women wear rough woolen tunics
Careers	<ul style="list-style-type: none"> ◆ Most boys attend school and are trained to work in government ◆ Boys not attending school are trained to do the same work as father ◆ Girls do not work outside the home 	<ul style="list-style-type: none"> ◆ Fathers choose boys' careers ◆ Most boys are trained to do same work as father ◆ Girls do not work outside the home
Food	<ul style="list-style-type: none"> ◆ Rice or wheat, steamed dumplings, stir-fried meat or fish and vegetables ◆ Seasonings: salt, plum, soy sauces, sugar, honey ◆ Tea to drink 	<ul style="list-style-type: none"> ◆ Many fruits and vegetables, bread, meat, fish, and fowl ◆ Seasonings: honey or grape juice as sweeteners ◆ Olives and olive oil ◆ Wine or milk to drink

Name _____

Family Life in Two Ancient Cultures—Worksheet 2



ACTIVITY

3

Notes from a Voyager's Journal

Purpose

Students examine a primary and a secondary source and assess their importance in researching historical events.

Objective 27: Historical and Cultural Perspectives **Thinking Skill:** Analyze Information

Description

Students read excerpts adapted from Captain James Cook's journals written during his second Pacific voyage. They also read a secondary source account of this voyage. Students differentiate between the two types of sources, examine how these sources help researchers learn about the past, and draw some conclusions about Cook's contributions.

Directions

- 1. Getting Started** On the board, write "Captain James Cook (1728–1779)." Explain to the class that Cook was a British explorer who made three separate voyages in the South Pacific Ocean. Although he is best known for his discovery of the Hawaiian Islands, some consider Cook's greatest achievement to be the written accounts of his discoveries.
- 2. Worksheet 1** Distribute copies of Worksheet 1. Read to the class the secondary account of Cook's second voyage. Then have students take turns reading the journal excerpts. Ask students the following question:
 - ♦ What is the difference between the primary source (Cook's journals) and the secondary source? (A primary source is an eyewitness account, written in the person's own words. A secondary source is written by someone else, usually long after the event has taken place.)
- 3. Mapping the Voyage** On a classroom world map, have students locate some of the places visited by Captain Cook, as well as the places mentioned in the secondary source. (You may wish to have students locate on the map some or all of these places.)
 - ♦ Antarctic Circle
 - ♦ Antarctic Ocean
 - ♦ Cape of Good Hope
 - ♦ New Zealand
 - ♦ Cook Islands
 - ♦ 66° south latitude and 39° east longitude
 - ♦ New Caledonia
 - ♦ Easter Island
 - ♦ Strait of Magellan
 - ♦ Tahiti (Society Islands)
 - ♦ Tonga
 - ♦ New Hebrides (now Vanuatu)
 - ♦ Marquesas Islands
 - ♦ Tuamotu Islands
- 4. Worksheet 2** Divide the class into groups of 2 or 3. Give one copy of Worksheet 2 to each group. With the class, review the directions on the worksheet. When groups have completed the worksheet, review their answers and write them on the board.
- 5. Conclude Activity** Ask students the following question:
 - ♦ Suppose that a hundred years from now, historians are studying the beginnings of space exploration. What primary sources could they use to study this event? (They could use film footage of space launches, interviews with astronauts, autobiographies, and television and radio accounts of the events.)

Variation

Basic Have students use the latitude and longitude coordinates described by Captain Cook to locate his position on the ocean. Then give students the latitudes and longitudes for the places he visited and have them locate these places on a classroom map.

Advanced Have students conduct library and/or Internet research to find other primary sources related to events in world history, such as the journals of Christopher Columbus and the account of the eruption of Mt. Vesuvius by Pliny the Younger.

Name _____

Notes from a Voyager's Journal-Worksheet 1

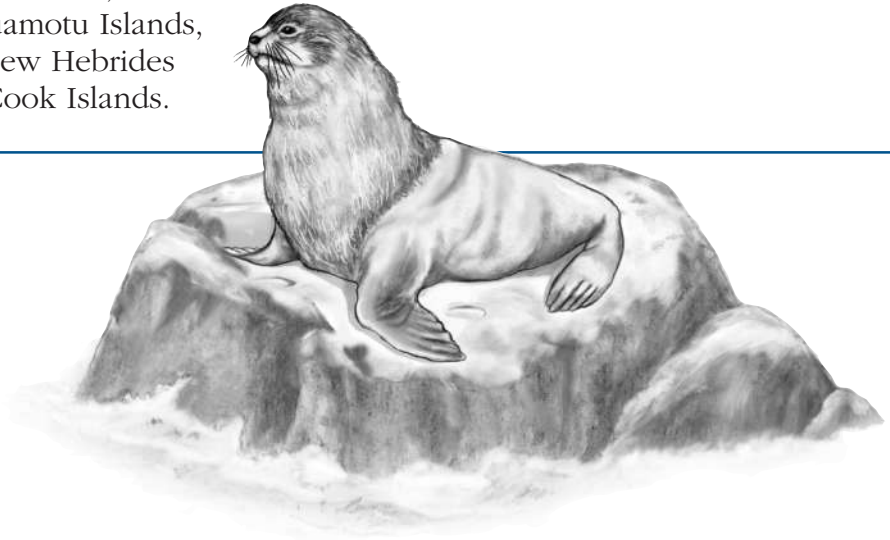
The Second Pacific Voyage of Captain James Cook

[A Secondary Account]

Cook's second voyage to prove whether there was a habitable continent near the South Pole lasted from 1772 to 1775. In the course of his journeys, he mapped much of the Pacific. He and the scientists and naturalists aboard his ships wrote detailed accounts of the plant and animal life and of the native peoples they encountered at various island ports.

His two ships left Plymouth, England, sailed around the Cape of Good Hope, and then southward toward the Antarctic Ocean. Cook was the first navigator to record crossing the Antarctic Circle. He spent the summer months crossing the Pacific and South Atlantic at extreme southern latitudes in search of a southern continent.

He retreated northward during the winter months, visiting Tahiti and New Zealand. He also located and mapped islands that earlier explorers had failed to place accurately on maps. He visited Easter Island, the Marquesas Islands, the Tuamotu Islands, New Caledonia, Tonga, New Hebrides (now Vanuatu), and the Cook Islands.



Name _____

Notes from a Voyager's Journal—Worksheet 1 (continued)

Excerpts Adapted from the Journals of Captain James Cook Written During His Second Voyage

[1773]

~ **SUNDAY 17th January** ~ 66° South Latitude, 39° East Longitude. At about a quarter past 11 o'clock we crossed the Antarctic Circle, for at noon we were four miles and a half south of it and are undoubtedly the first and only ship that ever crossed that line.

~ **WEDNESDAY 19th May** ~ Knowing that celery and scurvy grass and other vegetables were to be found in Queen Charlotte Sound and that they are extremely beneficial both in curing and preventing scurvy,* I went myself at daylight in search of some. I gave orders that it should be boiled with wheat or oatmeal for the crew of both sloops every morning for breakfast and also with peas every day for dinner.

~ **TUESDAY 17th August** ~ After anchoring in Oaiti-piha Bay, both sloops were surrounded by a great number of the natives in their canoes. They brought with them coconuts, bananas, apples, yams and other roots which they exchanged for nails and beads. To several who called themselves arree's (chiefs) I made presents of shirts, axes and various other articles and in return they promised to bring me hogs and fowls.

[1774]

~ **SATURDAY 17th December** ~ The land now before us can be no other than the west coast of Terra del Fuego and near the west entrance to the Straits of Magelhanes [Magellan].

~ **SATURDAY 31st December** ~ [Near Cape Horn] On landing we found they were a different animal to seals, and we called them lions on account of the great resemblance the male has to a land lion. Here were also the same sort of seals which we found in New Zealand.

[1775]

~ **MONDAY 6th February** ~ It is however true that the greatest part of this Southern Continent (supposing there is one) must lie within the Polar Circle where the sea is so pestered with ice that the land is thereby inaccessible. The risk one runs in exploring a coast in these unknown and icy seas is so very great that I can be bold to say that no man will ever venture farther than I have done and that the lands which may lie to the south will never be explored.

*scurvy: a disease caused by a lack of vitamin C

Name _____

Notes from a Voyager's Journal-Worksheet 2

Directions: Use Captain Cook's journal entries and your own knowledge to answer Numbers 1 through 4.

- 1** Describe three observations found in Cook's journals that were probably useful to other explorers.

- _____

- _____

- _____

- 2** In the entry from August 17, 1773, Cook describes the gifts he and the native peoples exchanged. Explain why these exchanges were important to both sides.

Why the gifts were important to Cook and his men:

Why the gifts were important to the native peoples:

Name _____

Notes from a Voyager's Journal-Worksheet 2 (continued)

- 3** Cook and the naturalists aboard his ships wrote detailed accounts of the plants and animals they saw. Why was this information important? Give two reasons.

- _____

- _____

- 4** Explain how a report about a person or event may be more accurate if the researcher uses both primary and secondary sources.

ACTIVITY

4

Voter Turnout

Purpose

Students analyze voter turnout trends in United States elections and propose ways to increase voter participation.

Objective 28: Civics and Government Perspectives

Thinking Skills: Analyze Information; Generate Ideas

Description

Students analyze charts showing voter turnout trends in United States elections. They propose ways to increase voter participation, take positions on the pros and cons of compulsory voting, and discuss the implications of low voter turnout for a democracy.

Directions

- 1. Getting Started** Remind students that today all citizens over the age of eighteen have the right to vote, but that this situation was not always so. In our nation's early history, those who had the right to vote were mainly wealthy, white, property-owning males. It was not until the twentieth century that suffrage was fully extended to women, to African Americans, to Native Americans, and to eighteen- to twenty-year-old citizens.
- 2. Worksheet 1** Divide the class into groups of 2 or 3. Give a copy of Worksheet 1 to each student. Tell students that they will be looking at voting trends for some presidential elections. Review with students the directions on the worksheet. Discuss students' answers and opinions.
- 3. Worksheet 2** Give each group a copy of Worksheet 2. Review the information on the chart with the class. After students have completed Worksheet 2, have them engage in an informal debate about the pros and cons of making voting compulsory.
- 4. Conclude Activity** Ask students the following question:
 - ♦ Democracy means rule by the people. What may happen to our democratic form of government as fewer and fewer people participate in elections? (would not be representative of most people; would become more responsive to special interests and to those who do vote)

Take a class survey, either by a show of hands or by ballot, in which students are asked:

- ♦ Do you plan to register to vote when you are eighteen? (Yes/No/Not sure)

Discuss the results of the survey and reasons for the students' responses.

Variation

Basic Have students study Amendments 15, 17, 19, 23, 24, and 26 to the United States Constitution, and the Voting Rights Act of 1965. Have them describe how each amendment has extended voting rights to a greater number of people.

Advanced Have students conduct a survey at their school to determine student views about voting—whether they plan to vote and why, what issues are of concern to them, whether they would support compulsory voting, etc.

Name _____

Voter Turnout–Worksheet 1

Directions: Study the chart. Then answer the questions below.

Voting in United States Presidential Elections, 1988–2000

	1988	1992	1996	2000
Percent of eligible voters who voted	50.1	55.1	49.1	51.3
Voting age				
18–24 years	36.2	42.8	32.4	32.3
25–44 years	54.0	58.3	49.2	49.8
45–64 years	67.9	70.0	64.4	64.1
65 years and older	68.8	70.1	67.0	67.6
Education completed				
Less than 9th grade	36.7	35.1	29.9	26.8
Grades 9–12, no diploma	41.3	41.2	33.8	33.6
High school graduate	54.7	57.5	49.1	49.4
College, 1–2 years	64.5	68.7	60.5	60.3
Bachelor’s degree+	77.6	81.0	72.6	72.0

Source: Federal Election Commission and U.S. Census Bureau, age/education

- 1** Approximately what percent of eligible voters actually voted in the last four presidential elections?

- 2** Which age group had the lowest voter turnout in these elections? _____

Give one possible reason for the low turnout for this age group.

- 3** Which age group had the highest voter turnout in these elections? _____

Give one possible reason for the higher turnout for this age group.

Name _____

Voter Turnout-Worksheet 1 (continued)

- 4** What conclusion can be made regarding the voter turnout percentage and the level of education of the voters?

- 5** What are some possible reasons for the low voter turnout?

- _____
- _____
- _____

- 6** What are two ways of increasing voter turnout? Explain your reasoning.

- _____

- _____

ACTIVITY

5

The Right Business

Purpose

Students act as entrepreneurs and use economics skills to determine which business to establish, based on a fact sheet of a community.

Objective 29: Economic Perspectives **Thinking Skills:** Analyze Information; Generate Ideas

Description

Students act as entrepreneurs and decide which of several proposed new businesses would be most profitable, based on the fact sheet of a fictional community. Students then plan an advertising campaign for that business.

Directions

- 1. Getting Started** Explain to students that as *entrepreneurs* they will be using a “fact sheet” to choose a new business for a community. Give a copy of Worksheet 1 to each student. Review with students the meanings of the economic terms listed on the worksheet.
- 2. Group Activity** Divide the class into 6 groups. Give each group a copy of Worksheet 2 and assign to each group one proposed new business from the “Proposed New Businesses for Mountain Lake.” Have each group write the name of the assigned business in the space provided on the worksheet. Go over the directions with students to make sure they understand what they are to do.
- 3. Discuss Choices** Have each group of students take turns explaining why they think their new business would or would not be profitable in Mountain Lake. Make sure each group presents at least three reasons in support of its argument. Then have the class vote on which business should be established in Mountain Lake.
- 4. Conclude Activity** Re-assign the students to groups of 3 or 4. Have each group act as entrepreneurs, naming the new business and planning an advertising campaign for it. Campaigns may include ideas for newspaper, magazine, or telephone yellow-pages ads; radio spots; television commercials; posters; billboards; celebrity endorsements/spokespersons; jingles and/or slogans.

Have each group present its advertising campaign. Then have the class vote on which name and campaign to use for the new business.

Variation

Basic Remind students that an important part of starting any new business is taking into account the competition. Have students discuss what type of competition might affect the success of the new business in Mountain Lake.

Advanced Have students plan and create their own business by developing a business plan. Have them include a name for the new business; a general description of the business; a description of the product or service the business will provide; a description of the way this product or service will be provided; a description of the location of the business; a list of potential customers; a list of potential competitors; an opening date; and a plan for marketing and advertising.

Name _____

The Right Business—Worksheet 1

Directions: Discuss with the class the economic terms listed below. Then look over the fact sheet about Mountain Lake.

Some Economic Terms

entrepreneur—one who organizes, manages, and assumes the risks of a business or enterprise

demographics—population characteristics such as statistics relating to density, growth, and decline

business plan—an outline of how a new business will operate

investment—the outlay of money for income or profit; capital outlay

profit—the money that is left over after all expenses have been paid

risk—the chance of loss

competition—the rivalry between producers and sellers of the same goods and services to gain more business by offering the most favorable terms

marketing—the act or process of selling or purchasing in a market

market research—the gathering of factual information about consumer preferences for goods and services

Mountain Lake Fact Sheet

- **Population:** 15,956
- **Median Age:** 38
- **Median Household Income:** \$27,522
- **Major Industry:** four-season tourism
- **Seven Largest Employers:** Mountain Lake Ski Resort, Big Mountain Ski Resort, Mountain Lake School District, Mountain Lake Hospital, City of Mountain Lake, Mountain Lake Forestry Services, Green Lumber
- **Median Resale Housing Costs:** \$103,925
- **Seasonal and Visitor Population:** Approximately 50,000 people visit Mountain Lake on a peak holiday weekend. Approximately 68% of the city's housing are second homes.
- **Topography:** mountain (used for skiing); lake (used for boating, swimming, fishing); valley (business and residential)
- **Climate:** four seasons—warm summer; short, cool spring and fall; cold winter
- **Average Yearly Snowfall:** 9 feet

Name _____

The Right Business–Worksheet 2

Directions: Write the name of your proposed business in the space provided. Tell whether you think this business would be profitable in Mountain Lake. Then, using the information on the fact sheet and your own knowledge, list reasons you think this business might or might not be profitable in Mountain Lake. Be sure to list at least three reasons to support your answer.

Proposed New Businesses for Mountain Lake

- New Car Dealership
- Lake Boat and Water Sports Equipment Rental Company
- Ski Rental Shop and Indoor Ski School
- Indoor Fitness Club
- Book Store and Coffee House
- Real Estate Management Office

Proposed Business _____

Would this business be profitable in Mountain Lake? YES _____ NO _____

Give at least three reasons for your answer below:

- _____

- _____

- _____

ACTIVITY

6

Using Climographs

Purpose	Students learn how to use and create climographs, and analyze how climate affects different regions and their populations. Objective 26: Geographic Perspectives Thinking Skills: Organize Information; Analyze Information
Description	Students interpret two climographs and determine which types of climate regions they represent. Students use data to create a climograph, and analyze how climate affects the physical environment and human activities in different regions.
Materials	map of climate regions found in atlases (optional)

Directions

- 1. Getting Started** Distribute copies of Worksheet 1. Review with students the information about climographs. Have the students work in groups of 2 or 3 to complete the questions on the worksheet.
- 2. Discuss Worksheet 1** Discuss the answers to the questions on the worksheet in class. Then, ask students the following questions:
 - ♦ Which climograph describes Cairo, Egypt? Why? (City A; desert climate—hot and dry area)
 - ♦ Could City B be a city in the United States? In which state could it be located? (Anchorage, Alaska)
- 3. Worksheet 2** Distribute copies of Worksheet 2. Review with students the directions on the worksheet. When they have completed the climograph, ask students the following questions:
 - ♦ What does the climograph tell you about the climate in this city? (at least 68 degrees throughout the year; rain each month)
 - ♦ In what region of the United States do you think this city is located? (southeast—Miami, Florida)
- 4. Conclude Activity** Tell students that climate influences the physical characteristics of regions as well as the lifestyles of the people who live there. Ask students the following questions:
 - ♦ How does the climate of a region affect its physical environment? (vegetation, wildlife)
 - ♦ How does the climate of a region affect the people who live there? (shelter, clothing, foods grown, transportation used)

Variation

Basic Obtain temperature and precipitation readings for your city for different years. Divide the class into groups and have each group make a climograph for a different year. Have groups compare results to see if the climate pattern for the city has remained consistent over the years.

Advanced Have students make climographs of cities located in different climate regions. Ask them to report on ways the climate has affected the physical environment and the lifestyles of the people who live in those climate regions.

Name _____

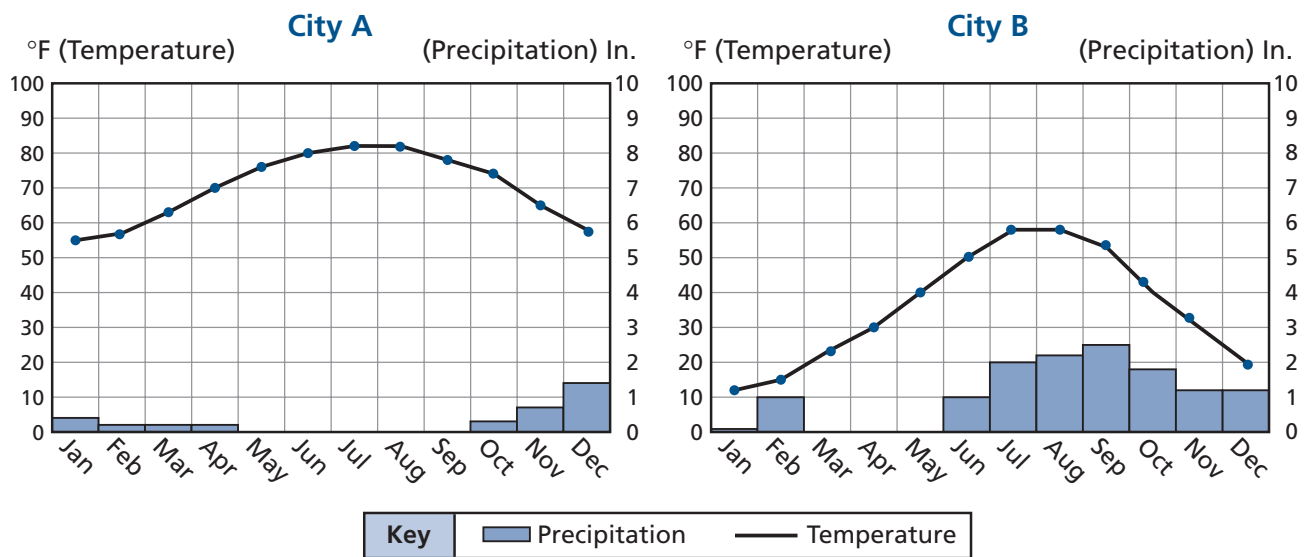
Using Climographs–Worksheet 1

What Are Climographs?

Climographs show the yearly climate pattern in specific places. They present two kinds of information:

- (1) the **average temperature** pattern of a place for a year
- (2) the **average precipitation** (rain, snow, sleet) pattern over a year

A climograph combines a bar graph and a line graph. The bar graph shows the average amount of precipitation in each month of the year, and the line graph shows the changes in the average temperature.



1 What is the lowest temperature reading for City A? _____

2 What is the lowest temperature reading for City B? _____

3 How much precipitation does City A get in July? _____

4 How is the yearly temperature pattern for City A different from that of City B?

5 Given the information about the climates, would you prefer to live in City A or City B? Why?

Name _____

Using Climographs—Worksheet 2

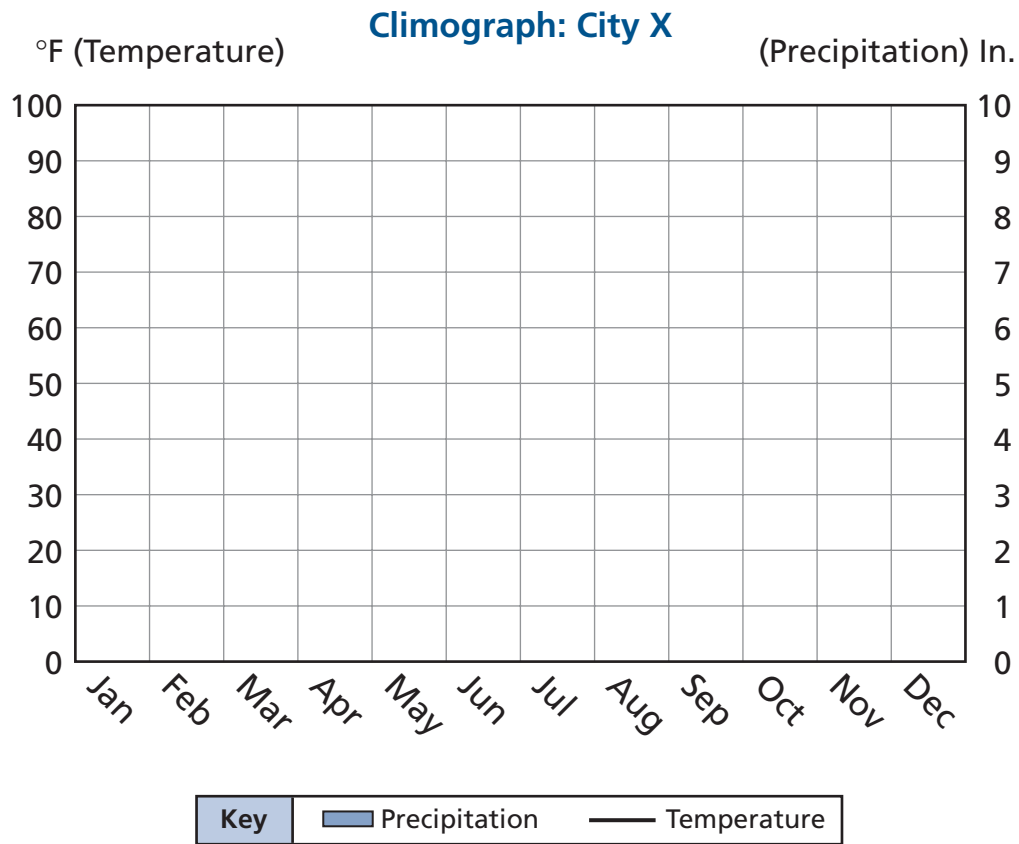
Directions: Use the temperature and precipitation data below to create a climograph for City X in the United States. Remember to use the vertical axis on the left to record temperature (in line graph form) and the vertical axis on the right to record precipitation (in bar graph form).

Average Temperature (Fahrenheit)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
68	68	70	75	78	80	82	84	82	80	75	70

Average Precipitation (in inches)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2.0	2.0	2.0	3.0	6.5	7.5	6.0	9.0	8.0	7.0	2.5	1.5



Answers to Student Worksheets

□ Reading and Language Arts

Activity 1: Planning a Trip

- Answers will vary, but may include:

Weekend Schedule and Itinerary

Travel: Take 7 P.M. train to Beaumont Friday evening.
Take 5 P.M. Sunday train back to Cole City; home about 7 P.M.

Where to stay: Ivy Inn on Friday and Saturday nights.

SATURDAY

Where to eat:

Breakfast: Ivy Inn

Lunch: picnic on Village Green

Dinner: Michi Kusa

What to do (and how to get there):

Morning: Walk around Village; shop on High Street. Check out Fur Trader Museum.

Afternoon: Take shuttle to Ski Lodge and go hiking.

Evening: 8:00 show at Village Improv Theatre.

SUNDAY

Where to eat:

Breakfast: Ivy Inn

Lunch: Cider Mill

Dinner: —

What to do (and how to get there):

Morning: Walk around Village till 10:00. Take shuttle to Glass Factory. Bus to Cider Mill around noon.

Afternoon: Take shuttle back to Ivy Inn by 3:00 and pack. Hang out at Old Miner Playground till 4:30. Take shuttle bus to train station.

Evening: —

Notes: If weather is bad on Saturday, eat lunch at Buddy's Burger Joint, then take shuttle to Cinema for matinee.

Activity 2: Family Resemblances

- Answers will vary, but may include:

MARGARET

Clues to her personality:

Vain about hands; sweet mouth.

Conclusions:

Nice but maybe bland; vain about her looks.

JO

Clues to her personality:

Coltish; awkward (limbs); decided (mouth); comical (nose); sharp (eyes); “fly-away” (clothes); beautiful hair but ties it up; seems to not want to grow up.

Conclusions:

A tomboy, she isn't vain. Seems smart, lively, and interesting (lots of information about her). She's probably the main character.

BETH

Clues to her personality:

Bright-eyed, shy, timid, peaceful. Lives in a happy world of her own. Father calls her “Little Tranquility.”

Conclusions:

A dreamy person. Probably nice, like Margaret; like Jo, not vain.

AMY

Clues to her personality:

Thinks she's a “most important person.” Carries herself like a young lady who is mindful of her manners.

Conclusions:

Probably self-centered, interested in appearances; maybe shallow. Maybe vain like Margaret, but not as nice. The author is sarcastic about her.

Activity 3: Word Portraits

- Answers will vary, but may include:

Figurative Language (a)

Type of Figure of Speech (b)

What It Means (c)

- a “squeezing, wrenching, . . . man”
- b hyperbole
- c describes Scrooge's greedy nature
- a “hard and sharp as flint”
- b simile
- c conveys Scrooge's callousness and lack of human feeling
- a “secret, and self-contained, and solitary as an oyster”
- b simile
- c captures Scrooge's alienation from everyone
- a “cold within him froze . . . nipped . . . shrivelled . . . stiffened . . . frosty rime . . . iced his office . . . didn't thaw it one degree . . .”
- b extended metaphor
- c implied comparison of Scrooge to winter itself vividly conveys his cold-hearted nature
- a “he was a tight-fisted hand at the grindstone”
- b metaphor
- c describes his selfishness and greed; also suggests that he is a harsh employer

Activity 4: Critiquing Poetry

- Answers will vary, but may include:

1. Any three of the following: happy, cheerful, pastoral, light-hearted, sunny, merry.

2. **Personification** (e.g., “green woods laugh,” “voice of joy,” “meadows laugh,” “grasshopper laughs”) creates the image of Nature itself rejoicing and happy. **Imagery** both vibrant and cheerful (“voice of joy,” “lively green,” “painted birds” “cherries and nuts”) as well as pastoral (“green woods,” “green hill,” “dimpling stream,”). **Repetition** of “laugh/sing,” “merry,” and “Ha ha he” to convey laughter. The use of **rhyiming** lines (wit/it, green/scene) adds a singing feeling. **Lilting**, dance-like **rhythm** conveys light-heartedness.
3. Personification, because it is used so frequently and creates the impression of Nature—air, water, land, animals—surrounding the reader with laughter.

Activity 5: Thinking Ahead

- Answers will vary, but may include:

What do you think the narrator’s mystery is?

The narrator traveled from the year 2001 to the time in which he is writing the letter.

What do you think is going to happen in this story?

The narrator will try to go back through the door; somehow he will be transported back or forward in time.

Why do you think so?

Reasons include: his emphasis on the date April 10, 2001; his remarks about the chronology of the school; his description of the rumor; his way of talking about “high fives” and “boyish slang” as if they were part of an entirely different world; the ominous last line “I agreed because I was certain nothing would come of it.”

What actually did happen?

The narrator and his friend went into the closet and it took them back 100 years.

Activity 6: Know Your Genres

- Answers will vary, but may include:

The General’s Wife

Genre: Fiction/possibly folktale

The General Takes a Wife

Genre: Historical Fiction

Mrs. General Washington

Genre: Biography

Red Planet Rising

Genre: Science Fiction

Red Planet

Genre: Poetry

Mars: The Red Planet

Genre: Non-fiction/science or reference

My Life as a Village Artist

Genre: Autobiography/Memoir

Village Clowns

Genre: Comic drama/Farce

Village at Risk

Genre: Non-fiction/scientific report

The East Villagers

Genre: Fiction

Activity 7: Ready . . . Set . . . Define!

- Answers will vary, but may include:

1. **apologetically:** in a way that shows regret; context clues: He says he’s sorry.
2. **disconsolate:** so unhappy that nothing will comfort; context clues: She’s crying. Decoding: dis + console.
3. **horde:** a large, moving crowd or throng; context clues: They swarmed.
4. **novelty:** newness or freshness; context clues: The new model.
5. **rapt:** completely fascinated or absorbed; context clues; synonyms: She was fascinated.
6. **brusque:** abrupt or rough in speech; context clues: Wasting no time.
7. **erratic:** having no fixed course or purpose; context clues; synonyms: He wandered aimlessly.
8. **passable:** barely satisfactory, adequate; context clues; word root and suffix: Will pass but won’t win awards.
9. **miscellaneous:** varied, mixed; context clues: Didn’t fit in a category.
10. **foretell:** tell or announce beforehand; context clues; word parts: Tell + before.

Activity 8: Old and New Meanings

- Answers will vary, but may include:

Word (a)

Meaning I Know (b)

Meaning in Context (c)

a rude

b impolite, nasty

c crudely built, rustic

a arched

b bent into a curve

c spanned

a flood

b overflow of water

c stream or river

a embattled

b involved in a fight

c involved in a fight (same meaning)

a foe

b opponent, enemy

c opponent, enemy (same meaning)

a votive

b a type of candle

c done in fulfillment of a pledge or vow

- a **redeem**
- b to turn in for a prize
- c to justify or make worthwhile

a **sires**

- b lords
- c fathers

a **bid**

- b offer a price; the price offered
- c ask

a **shaft**

- b a long, narrow column, as a shaft of light or the shaft of an arrow
- c stone monument, obelisk, or column

Activity 9: Everything in Its Place

- Answers will vary, but may include:

Should You Get a Dog?

1. The decision to get a dog, with its far-reaching consequences, is not one that should be taken lightly.
2. Dogs, like people, require a lot of attention and care.
3. no error
4. Some dogs, such as greyhounds and huskies, need a place to run.
5. Others, like the bichon frisé, are diggers and won't be happy without a garden to uproot.
6. All dogs, large and small, want the love of their owners.
7. If you're willing to give a dog food and shelter only, but not loving attention, you might think about getting a fish instead.

At the Toy Store

1. Walking up and down the aisles of the toy store, Jim Green and his little brother Ben looked at all the exciting new toys.
2. no error
3. Suddenly, a voice over a loudspeaker asked James Green to come to the front desk.
4. Jim and Ben exchanged scared looks and started toward the front of the store as the loudspeaker continued blaring.
5. no error
6. Arriving at the front desk, Jim told a clerk, "I'm James Green."
7. With a dirty look, the clerk handed Jim a phone.
8. no error
9. He heard his mother's bright and cheery voice say, "Hey Jim—don't forget the plastic sand toys!"
10. no error
11. no error

Another Shakeup at the State House

1. The Governor, who single-handedly fired the Transportation Commissioner, met today with the Cabinet.

2. According to Cabinet aides, the meeting, held in the Governor's office, was highly contentious.
3. One source, speaking on condition of anonymity, described it as a "verbal slugfest."
4. no error
5. The Governor reacted with a fit of temper, storming out of the office and slamming the door.
6. Predictably, the meeting resulted in a wave of resignations by Cabinet members.
7. no error

Activity 10: What's Your Point?

- Answers will vary, but may include:

Vote for Me!

Good morning, everyone. Thank you and welcome.

My name is Michelle Diaz, and I want to be your freshman class representative on the Student Council. I realize many of you don't know me, even though I've lived here since sixth grade. ~~when I moved from Illinois. In the Illinois town where I lived, the middle school included ninth grade, not like here where ninth graders like us are freshmen in high school. If I lived there, I'd still be in middle school!~~ You're probably asking yourself—why should I vote for Michelle? Well—that's what I'm here to tell you. And I can sum up the answer in three words: experience, issues, integrity.

Let me tell you a little bit about my experience. I'm taking college prep classes. ~~My best subjects are geometry and biology.~~ I run cross-country, and I'm a member of the drama club. ~~I played Dorothy's aunt in *The Wizard of Oz* last year.~~ I also enjoy participating in the Science Fair. ~~My sister, who is awesome at science, won first prize last year!~~ I've served in student government since the sixth grade. In seventh grade, I was ~~almost~~ elected [Vice] President of the Middle School Student Council ~~but ended up getting Vice President instead,~~ and in eighth grade I was President. This experience taught me a lot about student government, as well as how to work with other students, teachers, and administrators. ~~My favorite administrator in Middle School was Vice Principal Anderson. He is so funny! I think a sense of humor is one of the best qualities a person can have.~~ If you elect me to the Student Council, I promise that I'll use my experience to your benefit.

When it comes to the issues that matter to students, I think my views are in sync with most of yours. For example, as you know, the principal wants to add a "community service" requirement for graduation. ~~which by the way, is being moved to the last week of June this year.~~ I fully support this idea. ~~My father still writes to a family he met when he was serving in the Peace Corps in Thailand.~~ We all need to do more to help people in need.

Many students have been discussing the soda machine question: Should we get rid of the soda machines, as some parents want? I say no. Instead, I propose we add a bottled water vending machine so kids will have a healthful option. ~~Our bodies are 98% water. My uncle drinks water all the time, and that's why he never gets jet lag, even though he travels constantly. He never drinks coffee.~~

As most of you know, the administration has been considering adopting a school uniform. Let me go on record as saying I am against uniforms and dress codes of all kinds because they limit freedom of expression. ~~After all, James Madison wrote the First Amendment.~~

Another issue that has recently come up is special parking privileges for athletes. Even though I'm on a sports team myself, I'm against the idea. ~~Walking is a great way to stay fit. The parking lot isn't that big, either, although there has been some talk about expanding it.~~ The parking privileges idea was proposed by a small group of athletes, and I think it's unfair to the majority of students.

My last point has to do with integrity. If you elect me, I promise to always tell the truth and attend meetings faithfully. So vote for me, Michelle Diaz. Thank you very much.

Activity 11: Showing Support

Answers will vary, but may include:

To the Editor:

I am writing to express my opposition to the Lakeside Pavilion Concerts. I am opposed to them for several reasons.

The concerts' large audiences have had a detrimental impact on the surrounding area. Traffic is so dense on concert nights that traffic officers are working overtime. The large crowds of concert-goers and their cars have put residents at greater risk of a traffic accident. Littering and vandalism of neighborhood properties has increased.

The concerts are also negatively affecting the residents themselves. Neighborhood residents can't stay in their homes on concert nights because the music is so loud. A study has found that the high decibel level of the music is harming people's hearing. It's also causing psychological problems.

I hope the Moose Lake Town Council will decide to cancel the concerts.

Sincerely,

Activity 12: In Agreement

Answers will vary, but may include:

Hi Josh,

After our meeting, I called the Szechuan Palace and talked to the manager, Mrs. Lee. ~~They~~ She said the banquet hall is available any of the Saturday nights we want. It's a huge room with a stage and plenty of room for dancing and tables. I reserved ~~them~~ it for May 14.

Laurel

Laurel,

Great! I'll pick up a menu to bring to our meeting next Thursday. Everyone can look it over and choose ~~their~~ his or her favorite dish. Or maybe ~~the best~~ a better idea would be to choose a subcommittee and have ~~them~~ it decide the menu. How about Sarah, Pablo, and Mike?

Josh

Josh,

Sarah is a good choice, but ~~isn't~~ aren't Pablo and Mike both working on the science fair? I think ~~their~~ they're too busy. Let's ask for volunteers instead. They can submit menu choices in a few weeks and we can vote on ~~it~~ them.

L.

Laurel,

Okay. On Thursday we should also talk about decorating, selling tickets, and finding a band. Each of these jobs ~~have their~~ has its own challenges. We both know Sarah's got a good eye for style. Pablo is really organized. And you and ~~me~~ I know a lot about bands and music. How about if we put each person in charge of what ~~they do~~ he or she does best?

Josh

Josh,

I like your thinking, and I see where ~~you~~ you're going with it. Sarah in charge of decorating: perfect! Pablo in charge of ticket sales: great! But I don't know about you and me finding the band. I'm in a band, the Petals. ~~What~~ if kids think I'm just out to get the dance gig for the Petals? That would not be cool. (And it wouldn't be true!)

L.

Laurel,

Good point. How about this idea: We'll have interested bands audition for all the committee members, while we take charge of contacting ~~them~~ bands and arranging auditions. If your band wants the gig, ~~they~~ you can audition like everyone else. ~~In my opinion~~ I think the fact that ~~you~~ you're in the Petals makes you a better judge than most of the quality of a band. Plus, I heard the Petals play last year and you were awesome!

Josh

Josh,

Thanks. I'll have to talk to the other Petals and see if they are even interested in the dance gig. ~~But I doubt if they will be.~~ Sometimes it's more fun ~~and less stressful~~ to be in the audience. ~~and less stressful.~~ Just the thought of playing in front of the middle school gives me butterflies! ~~But I doubt if they will be.~~

L.

Laurel,

You never know . . . It could turn out to be the Petals' big break. And then, when ~~you~~ you're famous and on your world tour, I can say I knew you when you were too nervous to play for the Middle School Spring Dance. See you Thursday!

Josh

□ Mathematics

Activity 1: Back-to-School Sale

- 40%
- \$15.75
- 52%
- 52%
- Answers will vary, but may include: 20% off leaves 80%, and 40% off leaves 60%. 60% of 80% of the original price is 48%. Switching the order of percents makes no difference. 80% of 60% of original price is 48%.
- \$49.98
- \$22.68; \$1,134.00
- 25%
- 37%

Activity 2: Whale Sounds

- 5,000 feet per second
- 1 second
- 3,400 miles per hour
- 22 miles per hour
- The speed of sound is about 150 times as fast as the speed of a whale. Explanations will vary. Students should see that this seems fast enough.
- 200,000 times as fast. Answers may vary.
- Underwater sound is about 5 times as fast as sound in air. Answers will vary. Students should see that whales can probably make good use of sound under water for navigation, since it travels much faster than sound in air.
- About 1.7 seconds
- About 11 miles away

Activity 3: Housing Development

- Answers will vary.
- Answers will vary, but may include starting at one edge, starting around the wells, drawing the streets first, using symmetry, etc.
- Answers will vary. Students should be able to make a few of the lots bigger, depending on the configuration on the grid.

Activity 4: Street Map



Activity 5: Lawn Care

- Answers will vary. Students should recognize that Yello-Gon seems effective.
- 2,500; 533
- Answers should be in the range of 10–14 days.
- No; after 5 weeks, the lawn has more dandelions than it started out with.
- Answers will vary. Students should see that Yello-Gon is only temporarily effective, and that the dandelions come back.
- The makers of Yello-Gon conducted their poll during the first 2 weeks after consumer use of the product. The consumer advocate took its poll after 4 or 5 weeks.
- Answers will vary. Sample response: No, dandelions naturally disappear as the weather gets cold.
- Answers will vary.

Activity 6: Opening Weekend

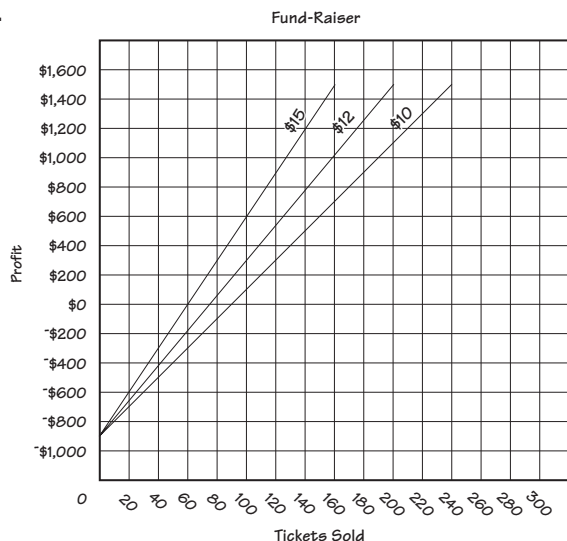
- 2.4 stars
- Answers will vary. Sample response: *Thunder and Lightning* had a mean rating of 4.2 stars. Students should explain that they used the mean score (or median or mode) to make their decisions.
- Highest:** The Movie Reviewers—mean: 3.43 stars, median: 4, mode: 4 **Lowest:** The Morning Show—mean: 2.43 stars, median: 2, mode: 1
- Mean: 3.03, median: 4, mode: 4
- Answers will vary, but students should see that the median and mode were skewed toward the high side of the distribution.
- Answers will vary. **Most consistent:** *The Cats Who Saved Christmas* was given 1 star by 4 out of 5 critics. **Least consistent:** *Out of Time*—Three critics gave it 4 or more stars; two critics gave it 1 or fewer stars.

Activity 7: Fund-Raising Dinner

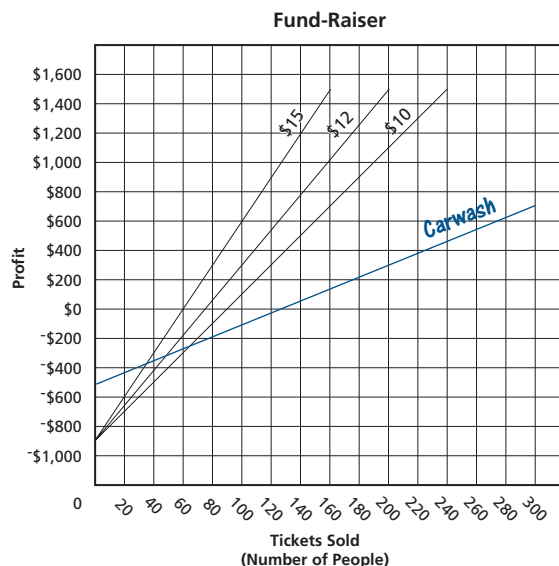
• Variation-Advanced

\$4 profit for \$5 ticket; \$5 profit for \$6 ticket; \$6 profit for \$7 ticket. In each case, the per ticket profit is more than the per ticket profit for the first 300 tickets.

- 90 tickets
- 240 tickets
- 75 tickets
- 200 tickets
- 60 tickets
- 160 tickets
-

**Activity 8: A Different Fund-Raiser**

- Even though the car wash has a lower break-even point (125 cars), students would have to wash 500 cars to make \$1,500 profit. This is more than charging \$5 for the dinner.
- This is not a good idea because it generates only \$968 profit if everything is sold. This could work if the school could provide about 33 percent more baked goods for its sale.
-



□ Science

Activity 1: It's in the Genes

- Answers will vary according to the phenotypes of the class.

Activity 2: Meats and Vegetables—Pros and Cons

- Students use the worksheet to prepare for a class debate.

Activity 3: Under the Rainbow

- Answers will vary. Students should be able to see different colors in the glass of water from different positions because of the angle at which the light reaches their eyes.
- Depending on where you are in relation to the rainbow, you will see different amounts of different colors.

Activity 4: Smaller and Smaller

C (carbon)	O (oxygen)
Si (silicon)	Ne (neon)
Cl (chlorine)	As (arsenic)

Activity 5: Getting the Moon in Shape

- Students record their observations of the moon.

Activity 6: The Expanding Universe

no written answers for these worksheets

□ Social Studies

Activity 1: What Makes a Region?

- Answers will vary, but may include:

Type of Region (a)

Name of Region (b)

Characteristics of This Region (c)

a Bodies of Water

- b Great Lakes
- c Places in the United States and Canada are geographically connected to this area; economic activities are often dependent on the Great Lakes.

a Ethnic/Cultural

- b Chinatown
- c Areas in the U.S. and around the world have places where Chinese immigrants have created settlements.

a Tourist

- b Florida
- c People associate this state with a vacation area because of its warm climate, beaches, and other tourist attractions.

a Economic

- b Wheat belt
- c Areas in the Midwest (or any country) where most of the wheat for the country is grown.

a Geographic

- b Middle East, Pacific Rim, Southeast Asia
- c Areas that are linked through their geographic proximity and/or cultural similarities.

a Historic

- b Gettysburg
- c The site of a battle during the Civil War; the site where President Lincoln delivered his famous address.

Activity 2: Family Life in Two Ancient Cultures

- Worksheet 2

Family Structure

Han Dynasty Only

- Grandparents, parents, and children live together

Both

- Large family with father as head
- Wives serve husbands
- Wives have no property rights
- Marriages arranged by father

Roman Empire Only

- Wealthy own slaves

Education

Han Dynasty Only

- Boys are trained to become government officials
- Boys learn about Confucius and are taught calligraphy
- Girls learn household skills from mothers; wealthy girls have tutors

Both

- All boys may attend school
- Boys are trained to serve in public life

Roman Empire Only

- Boys and girls may attend school to learn reading, writing, counting, grammar, and literature
- Boys may attend special schools to learn such subjects as rhetoric
- Boys are offered apprenticeships to work in public life

Housing

Han Dynasty Only

- Homes of wealthy have central courtyards, carved furniture, and painted walls
- Some poor live in rural mud houses with other families

Both

- Wealthy live in large, comfortable houses
- Poor live in crowded conditions in cities

Roman Empire Only

- Homes of wealthy have atriums and are made of stone or brick
- Some poor live in crowded city apartment buildings

Clothing

Han Dynasty Only

- Wealthy wear silk robes, fur coats, and leather slippers
- Poor wear rough hemp clothing and straw sandals
- Men and women dress similarly, regardless of status

Both

- Clothing of wealthy is more luxurious than clothing of poor

Roman Empire Only

- Wealthy men wear long white woolen togas in public; other men wear tunics
- Poor women wear rough woolen tunics
- Men and women dress differently

Food

Han Dynasty Only

- rice
- wheat
- dumplings
- salt
- plums
- soy sauce
- sugar
- tea

Both

- meat
- vegetables
- honey
- fish

Roman Empire Only

- bread
- fowl
- olives and olive oil
- milk
- fruits
- grape juice
- wine

Activity 3: Notes from a Voyager's Journal

- **Worksheet 2** Answers will vary, but may include:

1. Information of use to explorers:

- locating places using latitudes and longitudes
- how to treat scurvy
- which ports and places are available for supplies
- how to deal with native peoples
- what animals are found in various places
- description of lands, conditions near Antarctic

2. Why gifts were important to Cook and his men:

- needed to replenish their supplies
- needed fresh fruit to combat scurvy

Why gifts were important to native peoples:

- received goods not available to them
- desired iron goods (nails, axes), beads, cloth goods

3. Importance of accounts of plants and animals:

- to learn what was available on certain islands
- to learn about new plants and animals
- to know what might be grown back home

4. How primary and secondary sources help accuracy of reports:

- A primary source gives an eyewitness account of an event; a secondary source helps verify that account.
- A primary source could contain biased information; a secondary account may be more objective.
- A primary source is often the view of one person; a secondary source may compile views of many people.
- A secondary source has the advantage of being written later and may therefore be more objective.
- Using both types of sources contributes to a better understanding of a person or event.
- A primary source may offer the only known view of an event; the secondary source could offer more perspective to an event.

Activity 4: Voter Turnout

- **Worksheet 1**

1. **Percent who voted:** about 50%
2. **Lowest voter turnout:** 18–24 years; focused on own life; preoccupied with school, plans, jobs; many issues don't affect them

3. **Highest voter turnout:** 65 years and older; more time to vote, read about issues; concerned with government-sponsored programs such as social security, medicare

4. **Education and voter turnout:** the more education voters have, the higher the turnout; voting is related to education, income, occupation

5. **Reasons for low turnout:** "turned off" by negative campaigning; lack of real issues; little difference between candidates; too many elections; campaign period is too long; vote won't make a difference; opinion polls have decided who the winner will be; residency requirements hamper a mobile population

6. **Ways to improve voter turnout:** shorten the campaign period; make voting easier (through mail-in ballots, electronic voting, having a national registration so it doesn't matter if you move); move the election days to Sundays; reform campaign spending; restrict television ads

- **Worksheet 2**

For compulsory voting: higher turnout makes government more representative; preserves the idea of rule by the people; it is a civic responsibility; time and money would not have to be spent trying to get people out to vote

Against compulsory voting: takes away freedom of choice; many ballots will be blank, invalid, marked randomly; some countries where voting is not compulsory have high voter turnout; difficult to enforce the law

Activity 5: The Right Business

- **Worksheet 2** (Answers will vary, but should be supported largely by fact sheet information.)

New Car Dealership—probably **won't** succeed due to lack of population and income in area to support it; inconvenient location; inclement weather in winter for car buying

Lake Boat and Water Sports Equipment Rental Company—probably **will** succeed due to location, lake access, local recreation needs, and summer tourism

Ski Rental Shop and Indoor Ski School—probably **will** succeed due to close proximity to major ski resorts; year-round local recreation needs; winter tourism

Indoor Fitness Club—probably **won't** succeed due to lack of population to support the cost of building it and running it; most people come to Mountain Lake to take advantage of outdoor activities

Book Store and Coffee House—probably **will** succeed due to low cost of operation and start up; local interest; tourism business

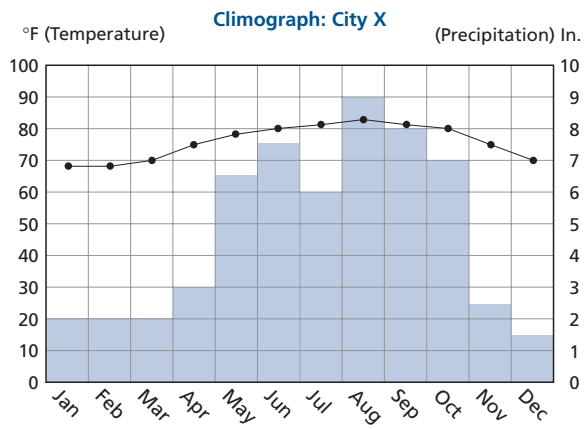
Real Estate Management Office—probably **will** succeed due to large percentage of second homes/ rental properties in the area; need for management of vacant properties seasonally, local home sales, and local business commercial real estate needs

Activity 6: Using Climographs

- Worksheet 1

1. about 55°
2. about 12°
3. 0 inches
4. City A is much warmer all year long; in the 70s and 80s most of the year; doesn't get below 55°
City B is below freezing for half of the year; temperature never gets above 60°
5. Answers will vary.

- Worksheet 2



Parents' Guide to Understanding *TerraNova, The Second Edition* Achievement Tests

Your child's class is participating in a test called *TerraNova, The Second Edition*, a standardized test given to students in schools across the nation. This guide is designed to help you understand the nature of the *TerraNova, The Second Edition* achievement test, what it asks your child to do, how to prepare your child for testing, and how to use the test results. It is intended to help you support your child during the testing process.

Q Why Test?

A Testing is an important part of education. *TerraNova, The Second Edition* provides objective information about each child's progress in four areas: Reading and Language Arts, Mathematics, Science, and Social Studies. When used in conjunction with other measures, such as classroom observations and teacher-made tests, the *TerraNova, The Second Edition* achievement test helps you and the teacher see your child's strengths and the areas needing improvement.

Q What Is the *TerraNova, The Second Edition* Test Like?

A *TerraNova, The Second Edition* is a standardized achievement test. It is always administered with similar questions, the same directions, the same time limits, and the same scoring criteria for all students. The results compare your child's performance with that of other students across the country.

The *TerraNova, The Second Edition* test differs from traditional achievement tests you may recall from your own experience by focusing assessment on what students can do, and not simply on speed. Every part of *TerraNova, The Second Edition* challenges students to apply basic skills and to interpret, synthesize, and evaluate information—all essential skills for the twenty-first century. In addition, testing times allow virtually all students to complete the test.

The *TerraNova, The Second Edition* format has been carefully designed to help students do their best work and move smoothly and efficiently through the test. For example:

- There are strong thematic connections among the items.
- Items are highlighted so students can locate them at a glance.
- Headings, directions, graphics, and item designs have been tested for clarity and helpfulness.
- Students are not required to turn pages to refer to source information for most items.

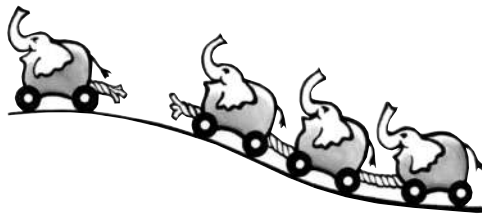
Your child may be asked to answer both selected-response (multiple-choice) and constructed-response items on the *TerraNova, The Second Edition* test. Selected-response questions ask your child to choose one answer from among those given as possible correct responses.

A Selected-Response Item

(Examiner reads directions aloud to students.)

Four carts were on top of a hill. The rope broke and three carts rolled downhill. Find the number sentence that tells how many carts were left on top of the hill.

1



$4 - 3 = 1$	$3 + 1 = 4$	$4 + 1 = 5$	$3 - 1 = 2$
<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Constructed-response questions ask students to produce original responses to short-answer items or open-ended questions. Children may be asked to write an essay, produce a graph, or perform a science experiment.

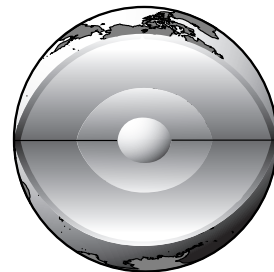
A Constructed-Response Item

2 Geologists studying seismic waves have learned that the Earth is divided into distinct layers. Using the words in the box below, label each of Earth's layers.

Suppose you were able to drill a hole to the center of the Earth and examine a sample from each layer. Describe one characteristic you would observe for each layer.

- 1 _____
- 2 _____
- 3 _____

Mantle
Core
Crust



Q What Should I Know About *TerraNova, The Second Edition* Test Scores?

A *TerraNova, The Second Edition* achievement test scores are based on the overall pattern of correct responses. Pattern scoring accounts for which questions, what types of questions, and how many questions the student answers correctly.

Each student's results are presented as a national percentile rank. A percentile rank is a comparison score within a particular grade level. For example, if a student scored at the 65th percentile, this means he or she scored higher than 65 percent of his or her peers in the national sample group. A percentile rank does not refer to the percentage of items answered correctly.

Q How Can I Help My Child Prepare for the Test?

A While your child is the one who ultimately is responsible for his or her performance on a test, you can play an important role in helping your child prepare. The best approach, however, is to be matter-of-fact about the test. Your child should know what the test will be about, when it will be given, and how long it will take. Share the view that the test is an opportunity for students to show what they have learned so far in school.

Taking a test is hard work and takes a lot of energy. We recommend that your child get plenty of sleep and eat a nourishing breakfast and lunch on test days. Be sure he or she is at school on time, and remember to ask about the testing each day.

Q How Can I Use the Test Information?

A You can help your child benefit from the results in several ways:

- Compare the test results with your child's class work, projects, tests, and other school achievements completed close to the time of the *TerraNova, The Second Edition* test. Look for similarities and differences.
- Use information about specific strengths and challenges to help your child set learning goals.
- Ask the teacher about specific ways you can work together to build on your child's strengths and to increase competence in areas needing improvement.

□ Remember

Above all, remember that the *TerraNova, The Second Edition* test represents a “snapshot” of your child's achievement—it is only one measure of your child's progress. Teacher observation, results of class tests, and class participation, for example, are equally important measures of your child's progress.