Classroom Connections to *TerraNova, The Second Edition*

A Resource Guide for Teachers

Grades 4–5

54382

DATA RECOGNITION
DRC
CORPORATION

®TerraNova
THE SECOND EDITION

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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 4–5.

CD-ROM Table of Contents

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 4" 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.

Table of Contents

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:

Stimulus

The Fishing Cat

by Patricia Scarry

A cat went down to the sea to fish.
He wanted to catch a whale.
Did he catch a big, big whale?

No!
He caught
a big, big log.

Stem → **1** **What did the fishing cat do first?**

Distractors →
- ○ He built a boat.
- ○ He caught a whale.

Correct Response →
- ○ He went to the sea.

☐ 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

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 Skills[1] 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, DRC 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.

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[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

Information gathering underlies many other skills because it is the way the student obtains the informational base necessary 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.

Colonial Industries

The chart below gives information about some American colonies in the 1700s.

Colony	Major Industries
New Hampshire	fishing, logging
New Jersey	iron works, glass production
Rhode Island	dairy farming, corn farming
South Carolina	rice farming, indigo farming

Social Studies

Observe
In this Item, the student gathers information by reading a chart containing historical economic data.

According to the chart, which of these was a major industry of South Carolina?

A fishing
B logging
C rice farming
D glass production

Reading and Language Arts

Recall
This item requires the student to observe and recall the correct spelling of a word or words. The content of the sentence 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 underlined words are spelled correctly, mark "All correct."

A an outstanding student
B a flower arrangement
C a respectful atitude
D All correct

Gather Information

Reading and Language Arts

Recall
As students gather information, they construct meaning. Recalling details serves as a bridge to deeper meaning.

According to the article, how are lighthouses most useful?

A as reminders of the past
B as an efficient use of electricity
C to help sailors find their way
D to employ lighthouse keepers

Mathematics

Recall
This item requires the student to recall a computational procedure. In this case, the procedure is multiplying whole numbers.

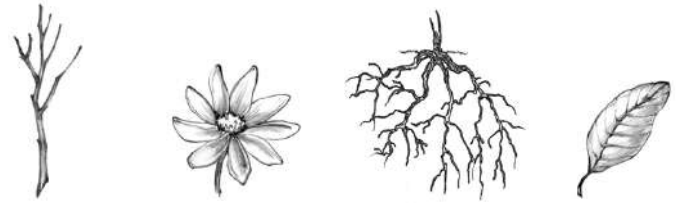
Melinda walks her dog 6 times a week. How many times will she walk her dog in 6 weeks?

A 12
B 35
C 36
D 42

Science

Recall
This item requires the student to recall information about plant parts and their functions. In this item, the student must recall the part of a plant where food is made.

Which picture shows the part of a plant that uses energy from the sun to make its food?



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

Science

Recall
This item requires the student to recall information about measuring tools and what they measure. In this item, the student must recall that mass can be measured using a balance scale.

Which picture shows something that can be used to find the mass of a bone?

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

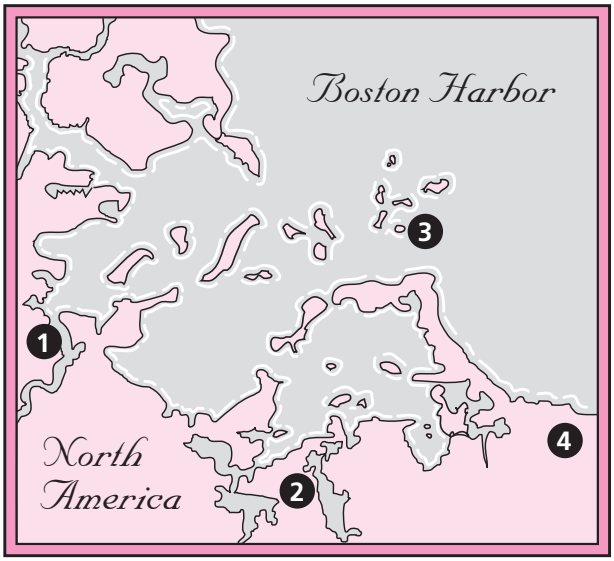
Organize Information

Effectively storing and using information usually requires organizing that information. This skill includes transferring information to or from another representational form, 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 apply this information.

Look at the map showing Boston Harbor.



According to the passage, which point is most likely the site of the lighthouse known as the Boston Light?

A Point 1
B Point 2
C Point 3
D Point 4

Organize Information

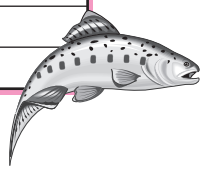
Mathematics

Represent
This constructed-response item requires the student to convert information from one form to another. In this case, the process involves creating a graph from information given in a table.

Joey and his father went trout fishing. The number and type of trout they caught are shown in the table below.

FISHING TRIP RECORD

Type of Trout	Number Caught
Brook	7
Brown	5
Rainbow	9
Steelhead	4



On the grid below, draw a bar graph to show the results of the fishing trip. Be sure to title and label your graph.

Organize Information

Social Studies

Represent
This constructed-response item requires the student to convert data from numerical form to graphic form. Representing data in various forms can make information more accessible.

Some Goods Shipped to the Port of Seascape

Goods	1985	1995
coffee	400 tons	700 tons
bananas	300 tons	650 tons
rubber	100 tons	250 tons

Use the information in the chart to complete the bar graph below.

Analyze Information

Examining the components, or analyzing, is an important step in thinking about an entity, 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 Attributes and Components
This item requires the student to analyze the traits of a character. This kind of analysis aids in determining an author's presentation of character.

How do we know Stuart is an inexperienced sailor?

A He is unable to see the storm.
B He needs directions from the boat owner.
C He looks behind him during the storm.
D He carries his own pocketknife.

Reading and Language Arts

Identify Attributes and Components
This item requires the student to analyze each of the statements and determine which one is an opinion. To do this, the student must be able to recognize the differences between fact and opinion and identify the attributes and components thereof.

Which of these expresses an opinion?

A Dandelions are found in soil.
B Dandelions are among the most useful plants in the world.
C A dandelion is a collection of blossoms.
D A dandelion head holds about two hundred seeds.

Mathematics

Determine Accuracy and Adequacy
This item requires the student to use given information to determine the accuracy of statements.

Annie spent $7.00 for two mystery books. One book cost $3.00 more than the other. Which of these is true?

A The less expensive book cost $1.00.
B The more expensive book cost less than $4.00.
C Each book cost more than $3.00.
D The more expensive book cost $5.00.

Analyze Information

Science

Determine Accuracy and Adequacy
This item requires the student to analyze four different processes to determine which one is an example of a chemical change.

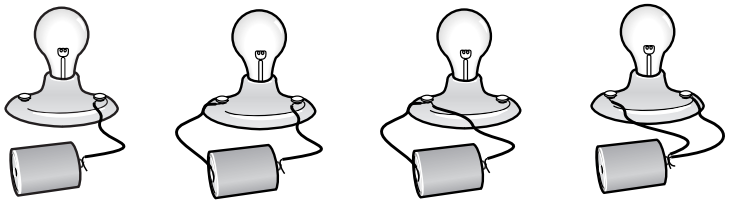
Which of these is an example of a chemical change?

A a candle burning
B ice cream melting
C a puddle evaporating
D sugar dissolving in water

Science

Determine Accuracy and Adequacy
This item requires the student to analyze several circuits to determine which of the given circuits is closed, permitting electricity to flow and pass through the light bulb.

In which of these circuits will the light bulb be lit?



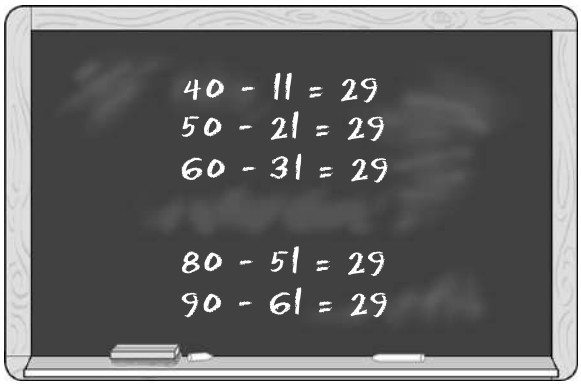
A **B** **C** **D**

Analyze Information

Mathematics

Recognize Relationships and Patterns
This item requires the student to analyze relationships between elements. This is a critical thinking skill and an integral part of the problem-solving process.

Alex wrote this number sentence pattern on the board. One of the number sentences was erased. What number sentence was erased? Write your answer on the line below.



_____ number sentence

Explain how you found the correct number sentence.

_____

_____

_____

Analyze Information

Science

Recognize Relationships and Patterns
This item requires the student to understand which of the movements described in the answer choices causes the apparent movement of the sun across the sky.

Our sun appears to move across the sky during the day because

A Earth spins on its axis
B the sun spins on its axis
C the sun travels around Earth
D Earth travels around the sun

Science

Recognize Relationships and Patterns
This item requires the student to analyze the two sets of data in order to recognize and describe the relationship between them.

Every Saturday for five months, Sue recorded the outside temperature and counted the number of people on her block who washed their cars. Her records are shown in the table below.

Month	Total number of people who washed their cars	Average temperature (in °F)
July	16	84
August	19	91
September	13	82
October	7	64
November	2	57

Describe how the number of people who washed their cars changed as the temperature changed from July to November.

_____

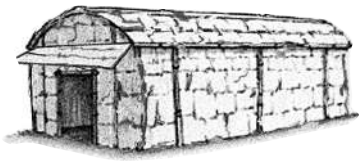
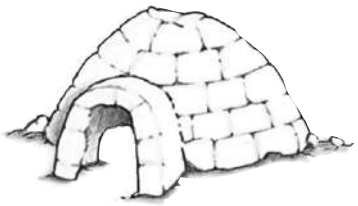
_____

_____

Analyze Information

Use the chart below and your own knowledge to do Number 1.

Some Native American Shelters

A Hopi pueblo  Made from adobe bricks	**B** Mohawk longhouse  Made from wood
C Sioux tipi  Made from buffalo hide	**D** Inuit igloo  Made from snow

Social Studies

Recognize Relationships and Patterns
This item requires the student to recognize the relationship between cultural characteristics and the environment. Knowledge of social studies content and the concept of cause and effect are involved in the process.

Which shelter was most likely built in a desert region?

A Shelter A
B Shelter B
C Shelter C
D Shelter D

Generate Ideas

Generating new ideas requires looking beyond a situation to extend or expand given information. It may include making inferences through inductive or deductive reasoning, drawing conclusions, making generalizations, and formulating hypotheses and predictions of probable future events. Another aspect of generating ideas is restructuring information into a new form or pattern 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 use clues from a passage to infer and form an opinion about a character's experience. Awareness of the implicit central idea in the passage contributes to the process.

By the end of the passage, Tanya probably feels

A proud of what she has accomplished
B irritated with Jamal for stealing her idea
C impatient because growing a tree takes too long
D strong for having successfully dug a hole

Reading and Language Arts

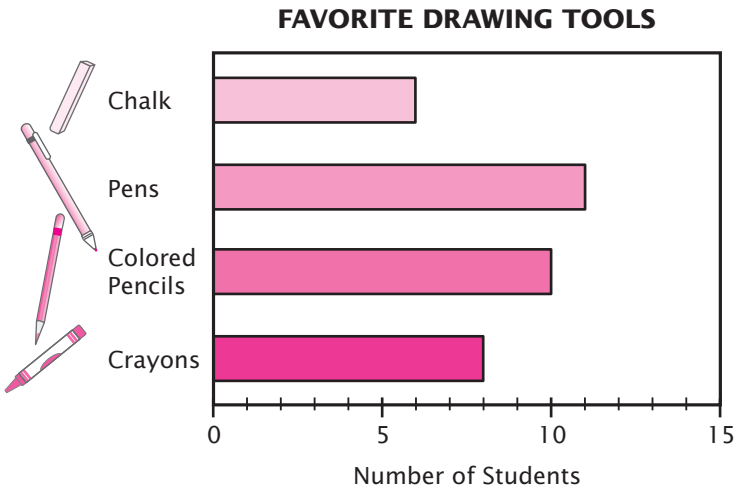
Infer
This item requires the student to infer and interpret the author's use of figurative language. Generating ideas requires students to move beyond given information by making connections or discoveries.

In the passage, the paper bag is described as

A frightening
B silly
C ordinary
D dirty

Generate Ideas

Students in an art class voted on their favorite drawing tools. The bar graph below shows the results of their vote. Study the graph. Then answer the question.



Mathematics

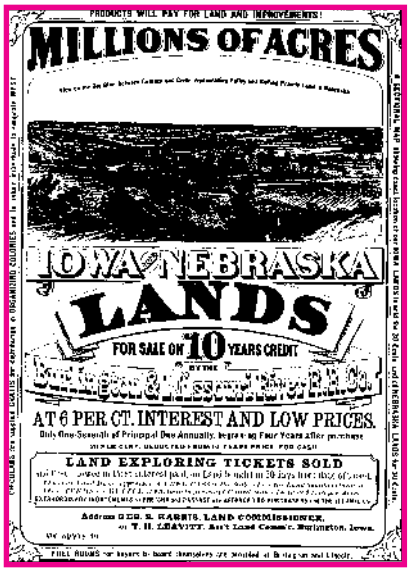
Infer
This item requires the student to infer and draw a conclusion from the information given.

The art teacher will consider the results of the vote when she buys supplies for the class. Which of these should the teacher buy the most of?

A chalk
B pens
C colored pencils
D crayons

Generate Ideas

The advertisement below was used by a railroad company in the late 1800s. Use the advertisement and your own knowledge to do the following question.



Courtesy Library of Congress

Social Studies

Infer
This item requires the student to analyze an advertisement and to use historical knowledge to make an inference about an economic motive.

The advertisement was probably designed to appeal mainly to people who wanted to earn a living by

A mining
B logging
C fishing
D farming

Reading and Language Arts

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

In the future, which of these is *most* likely to occur?

A Lionel will get a job planting trees for Foster.
B Ms. Rosen will take the class on frequent field trips.
C Tanya will visit her oak often to see if it has grown.
D Lionel will help each student in the class buy a plant for the park.

Synthesize Elements

Putting together various elements to create something new is the essence of the synthesizing skill. It can involve summarizing various components or findings into a condensed, comprehensive form. It may also involve integrating different kinds of information into a meaningful whole that has internal and external consistency.

Reading and Language Arts

Summarize
This item requires students to identify and summarize key elements in a text. Combining information in a concise manner is a synthesizing skill.

Modern lighthouses differ from lighthouses of the past. On the lines below, explain how lighthouses have changed over the years. Be sure to support your response with details from the passage.

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

_____

_____

_____

_____

Reading and Language Arts

Summarize
This item relies heavily on the skill of summarizing by requiring students to identify essential information and select the appropriate topic sentence of a paragraph.

Find the best topic sentence for the paragraph.

_____. The first Arbor Day was celebrated in Nebraska on April 10, 1872. It was the idea of J. Sterling Morton, a member of the Nebraska Board of Agriculture. Morton thought that planting trees would beautify the landscape.

A Nebraska, the "Cornhusker" state, is best known for its agricultural products.
B The most important American holiday is Independence Day, celebrated on July 4.
C J. Sterling Morton, who later became U.S. Secretary of Agriculture, was a Nebraskan.
D Each year, many people across the country celebrate Arbor Day by planting a tree.

Synthesize Elements

Social Studies

Summarize
This item requires that the student combine key elements—the consequences of related events on a time line—and select the answer choice that best summarizes their effect.

Use the time line and your own knowledge to answer the question.
(Student sees a time line related to the westward movement.)

Which of these was a result of all the events on the time line?

A Western regions were settled in America.
B People stopped coming to America to live.
C Eastern businesses built fewer factories in cities.
D People produced fewer agricultural products.

Mathematics

Integrate
This item requires the student to synthesize and integrate information from two different sources—the graphic and the stem of the problem—in order to solve the problem successfully.

Jimmy and Susie each have a bottle of juice. Their bottles are exactly the same size. Jimmy's bottle contains 12 ounces of juice. Juice is missing from Susie's bottle. Estimate how many ounces of juice Susie drank from her bottle.

Jimmy's Bottle

Susie's Bottle

_____ ounces

Explain how you made your estimate.

_____

_____

_____

_____

Evaluate Outcomes

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

Reading and Language Arts

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

Think about the passages you have read. Which do you think would take more work, planting an oak tree or planting a field of dandelions? Explain your answer, using details from both *Dandelions—the Dandy "Lions"* and *Tanya's Big Green Dream.*

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

Social Studies

Establish Criteria
This item requires the student to establish a standard for conduct in a given situation. In this case, the student must evaluate the possible consequences of the actions described in the answer choices and determine which would be the most effective for changing government.

Which of these is the best way for citizens to make changes in their community's government?

A write in a diary
B read a newspaper
C vote in an election
D watch television

Evaluate Outcomes

Reading and Language Arts

Verify
This item requires the student to evaluate how well each sentence contributes to the development and coherence of a short paragraph.

Find the sentence that best completes the paragraph.

In one chapter of Stuart Little, a dentist shows Stuart a model car. _____. The dentist gives Stuart the car, and he drives away to seek his fortune.

A There are very few model cars.
B Stuart enjoys life on the open road.
C The car is tiny, but it really does run.
D The dentist also owns a model sailboat.

Student Practice Materials

The purpose of Part 4 is to provide fourth-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.

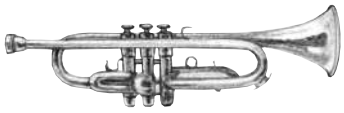
Student Name

Directions **Read this passage from a book by Jill Krementz. Then do Numbers 1 through 6.**

A Very Young Musician

by Jill Krementz

I love to play the trumpet. I love music. I don't know if I want to be a professional trumpet player when I grow up. All I know for sure is that I'd like to be a good musician. My name is Josh Broder.



When I got home from [music] camp, my mom and dad took me to a Wynton Marsalis concert on Long Island to celebrate my eleventh birthday. He's one of my favorite musicians, so this was a special treat. The concert was at a club called Wings. Since I usually set up the sound system for my brother's performances, I knew Wynton would probably be there an hour or two before the concert for a sound check. So I went early, hoping to meet him. Was I ever lucky! He did arrive early, and since I was the only one there, besides the waiters, I sat and watched while he and the rest of his ensemble rehearsed.

Wynton Marsalis is not only a great trumpet player, he's also a great musician. He can play anything from classical concertos to modern jazz. He asked me if I had brought along my horn. I had, and he asked me to play for him. I was scared to death, but I played my long tones* and some slur** exercises.

Then he played his trumpet. He put my hand on his windpipe so he could demonstrate deep breathing—using a lot of air when you're playing—which is essential to trumpet playing. He told me how important it is to practice, to relax

*long tone = holding one note for a long time
**slur = more than one note played with a single breath

when I play, and to be humble. He said I should work on my scales; make every exercise musical; practice every day; and when I'm practicing, to concentrate on every detail—to always know the reason why I'm practicing something. If I do all these things, he said, I'll be really good.

Wynton started playing when he was six and practicing seriously when he was twelve. His brother, Branford, is a great musician, too. Besides playing tenor saxophone, Branford has acted in quite a few movies. They both learned a lot from their father, who is head of the jazz department at the University of New Orleans.

At the end of the lesson, Wynton told me that I should always help other musicians and practice every day—he said that it shows in your tone.

While we waited for his concert to begin, I told my mom and dad that I would remember this birthday until I was a hundred years old.

1 **This passage is mostly about**

A Wynton Marsalis giving a jazz concert
B Josh Broder getting to meet Wynton Marsalis
C Josh Broder giving a special birthday performance
D Wynton Marsalis learning about music from Josh Broder

2 **Why did Josh go to the concert early?**

F He wanted to get a good seat close to the front.
G He had to pose for pictures with Wynton Marsalis.
H He always sets up the sound system for his brother.
J He hoped he would meet Wynton Marsalis.

3 **The photograph shows something described in the passage. What does this picture show?**

A Wynton is demonstrating deep breathing.
B Josh is telling Wynton not to play so loud.
C Josh is learning how to relax while playing.
D Wynton is showing Josh how to play scales.

4 **Which of these would Wynton Marsalis probably tell Josh not to do?**

F brag about how well he plays the trumpet
G listen while Wynton rehearses with his ensemble
H learn how to play both jazz and classical trumpet pieces
J show another trumpet player how to play a particular piece

5 **Josh says he will remember this birthday until he is a hundred years old because**

A he has always wanted to be eleven years old
B the Wynton Marsalis concert was the best music he had ever heard
C being with Wynton Marsalis was a special treat
D meeting a professional musician helped him decide to become one

6 **The passage says that Josh watched Wynton Marsalis and the rest of his ensemble rehearse. *Ensemble* means about the same as**

F acting
G family
H friends
J group

Directions **Here is a letter Dinah wrote home after her first week at summer music camp. There are some mistakes that need correcting. Read the paragraph. Then do Numbers 7 through 9.**

Dear Mom and Dad,

[1] I'm having fun and learning lots of music. [2] Every morning after breakfast, everybody gets into a new group. [3] Each group picks a piece to work on. [4] We rehearse nearly all day. [5] Then, after dinner, there is a concert, each group performs its piece. [6] Do you remember how nervous I usual get when I perform? [7] Here I don't have time to get nervous! [8] I can hardly wait for you to come to a concert. [9] Now I have to go and get ready for dinner. [10] I will write again later.

Your daughter,

Dinah

7 **Choose the best way to write Sentence 6.**

A Do you remember how I get nervous when I usually perform?

B Do you remember how nervous I usually get when I perform?

C Do you remember how I get nervous when I as usual perform?

D Best as it is

8 **Which sentence contains two complete thoughts and should be written as two sentences?**

F Sentence 5

G Sentence 7

H Sentence 8

J Sentence 9

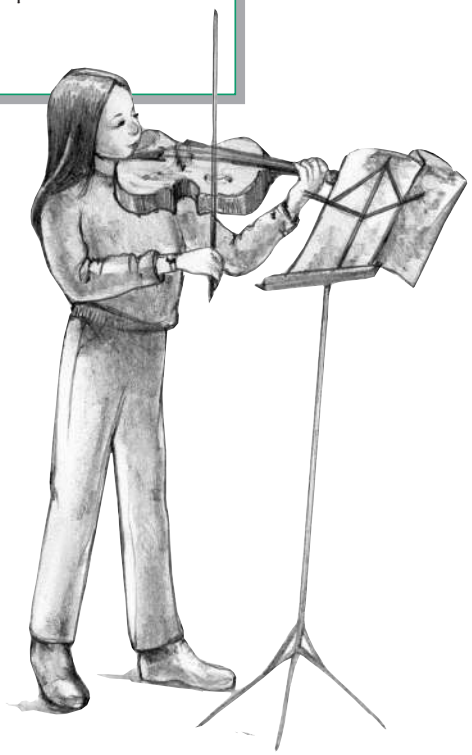
9 **Where would this sentence best fit in the paragraph?**

If we're not too tired, we go swimming before dinner.

A after Sentence 1
B after Sentence 2
C after Sentence 3
D after Sentence 4

10 **Choose the sentence that best completes the paragraph.**

Dinah's dream is to become a professional violinist. _____. Someday she would like to play in an orchestra.



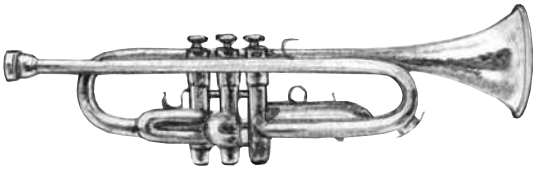
F She also likes soccer and tennis and would like to compete in the Olympics.
G Children need to pay attention in class and not get lost in dreams.
H She practices at least an hour every day and never misses her weekly lesson.
J Orchestras include wind and percussion instruments as well as strings.

11 **Here is a paragraph from a book review. There are three mistakes in grammar, capitalization, and punctuation. Draw a line through each part that has a mistake and write the correction above it.**

Another book by Jill Krementz is the story of a girl named Lauren. She is working hardly to become an actress. The book tells about her training, which includes singing and dancing lessons. The book ends with the opening of Lauren's new show. In which she plays the most important role.

12 **In the passage, Wynton Marsalis gives Josh Broder three bits of advice about playing the trumpet.**

1. **practice**
2. **relax**
3. **always help others**



Think of an activity *other than* playing a musical instrument. Then explain how two of Wynton's bits of advice would probably help a person engaged in that activity.

Activity: _____

How the advice would help: _____

_____

_____

_____

_____

Directions **Read this passage about Helen Keller. Then do Numbers 13 through 18.**

The Silent Storm

by Marion Marsh Brown and Ruth Crone

illustrated by Fritz Kredel

Helen Keller was born in 1880. When she was very young, an illness left her blind, deaf, and unable to speak. When she was about seven years old, her parents hired Annie Sullivan to be her teacher. Annie taught Helen a way to spell words using her fingers, but Helen did not know that they were words, nor what they meant.

Annie, too, was hot and tired, and the thought of a cold drink from the deep well was welcome. As usual, though, she remembered to try to make a lesson of this. As they walked toward the pump she spelled d-r-i-n-k into Helen's hand. Obediently, Helen spelled it back.

Annie began propelling the pump handle up and down. After a moment the silvery, ice-cold water came spurting from the spout. Helen held the big dipper under it until it was full and drank thirstily. When it was filled again she offered it to Annie. Annie patted her head in appreciation and drank deeply.

Then Helen indicated that she wanted Annie to pump some more. Annie again put her weight on the pump handle, thinking that Helen wanted another drink. This time, however, Helen put her hands and arms under the water to cool off. As the cold stream gushed over her hands, Annie was suddenly at her side, spelling w-a-t-e-r into her wet hand.

Helen jumped. Then she stood as if spellbound. Annie watched her with fast-beating heart. Suddenly a new light came into the little face. W-a-t-e-r Helen spelled eagerly into Annie's hand. Annie felt the excitement in the child's fingertips. She

spelled it again and again. Annie was kneeling beside her. She could hardly contain her happiness. "Yes, darling, yes!" She cried, crushing her in her arms and nodding her head vigorously.

Helen understood! She had learned that everything had a name.

She broke from Annie's embrace and threw herself bodily on the ground, patting the earth. Annie was instantly beside her spelling g-r-o-u-n-d into her hand. Helen darted to the pump. P-u-m-p, Annie spelled. Helen's excitement was mounting, and Annie could feel the tears streaming down her own face.

"She understands! She understands!" she cried.

There was a trellis nearby with a great shower of purple bougainvillea dripping from it. Helen ran to it, pulling Annie imperatively with her. T-r-e-l-l-i-s, she spelled. Helen put her hand to the vine. V-i-n-e. The wonder of discovery was glowing in Helen's face and Annie could scarcely contain her joy.

"Let's go tell your mother," Annie said, touching Helen's cheek in her old sign language.

Instead of responding as Annie had expected, Helen stopped suddenly in her darting about and stood perfectly still.

Then she touched Annie.

With her heart full, Annie spelled into her hand, T-e-a-c-h-e-r.

13 **This passage is mostly about how**

A Annie pumps cool water for Helen to drink

B Annie and Helen play outside one afternoon

C Helen enjoys learning about the plants in the garden

D Helen discovers that everything has a name

14 **Annie spells d-r-i-n-k into Helen's hand. Which of these best explains why Helen spelled the same word back?**

F Helen thought spelling was a fun game to play.

G Helen had been taught to repeat whatever Annie spelled to her.

H Helen liked to move her fingers as quickly as she could.

J Helen felt too hot and tired to argue with Annie.

15 **Helen threw herself on the ground and patted the earth to let Annie know she**

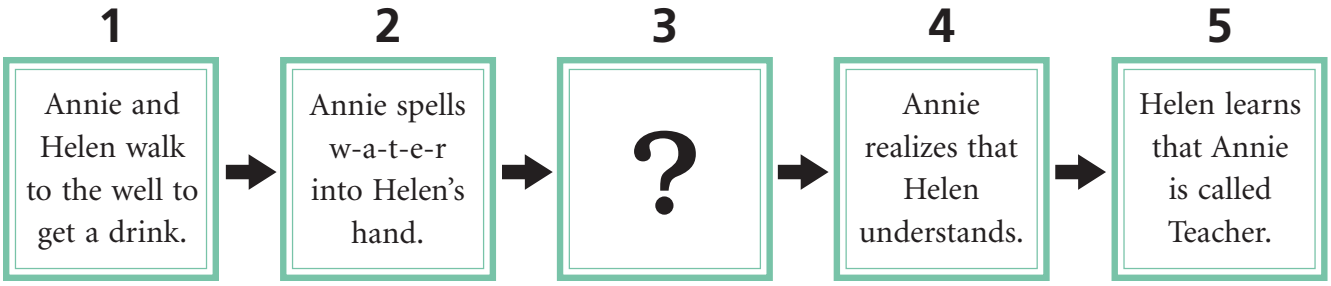
A wanted to play something new

B wanted to know its name

C was feeling very angry

D was ready for a nap

Directions **Here is a diagram about the passage. Use the diagram to do Numbers 16 and 17.**



16 **Which of these should go in Box 3?**

F Annie thanks Helen for the cool drink.
G Helen wants to go inside and spell for her mother.
H Helen begins spelling w-a-t-e-r over and over again.
J Annie understands that Helen wants to play.

17 **This diagram is designed to**

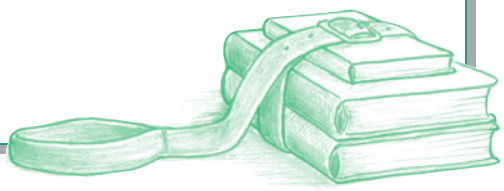
A list the main characters in the passage
B show the order of the events in the passage
C list the places in the passage
D show the importance of the events

18 **The story says that Helen stood as if spellbound. The word *spellbound* means about the same as**

F worried
G satisfied
H exhausted
J fascinated

Directions **Read this student's report about schools in the 1800s. There are several mistakes that need correcting. Then do Numbers 19 through 21.**

[1] During the 1800s, the three Rs—reading, 'riting, and 'rithmetic—were the most important subjects. [2] Students learned mostly by repetition. [3] They memorized arithmetic sums, geography facts, and other lessons then the students recited them out loud for the teacher. [4] Students were also expected to learn the rules of good behavior. [5] One of those rules was the golden rule. [6] This rule says you should treat others as you would like to be treated.



19 **Which sentence contains two complete thoughts and should be written as two sentences?**

A Sentence 1
B Sentence 2
C Sentence 3
D Sentence 4

20 **Choose the best way to combine Sentences 5 and 6.**

F This rule, one of those rules called the golden rule, says you should treat others as you would like to be treated.
G One rule, this rule, and the golden rule, says you should treat others as you would like to be treated.
H One of those rules was the golden rule, which says you should treat others as you would like to be treated.
J This rule was the golden rule and was one of the rules that says you should treat others as you would like to be treated.

21 **Where would this sentence best fit in the paragraph?**

Learning this rule was as important as learning the three Rs.

A after Sentence 1
B after Sentence 2
C after Sentence 4
D after Sentence 6

22 **Annie Sullivan was a good teacher, which helped Helen Keller become a successful adult.**

Think of an important lesson children learn in school. Describe the lesson and give examples of how it helps children become successful.

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

Directions **Read this passage about the history of towns. Then do Numbers 23 through 31.**

Town Origins

by Philip Parker

The history of your town is written into its buildings, hills, valleys, and waterways as well as in books.

Look on a detailed map of your town for streams, rivers, and old woodland. How did the people who first settled here find food, water, and shelter in what is now your town? Why did they choose this particular area to settle?

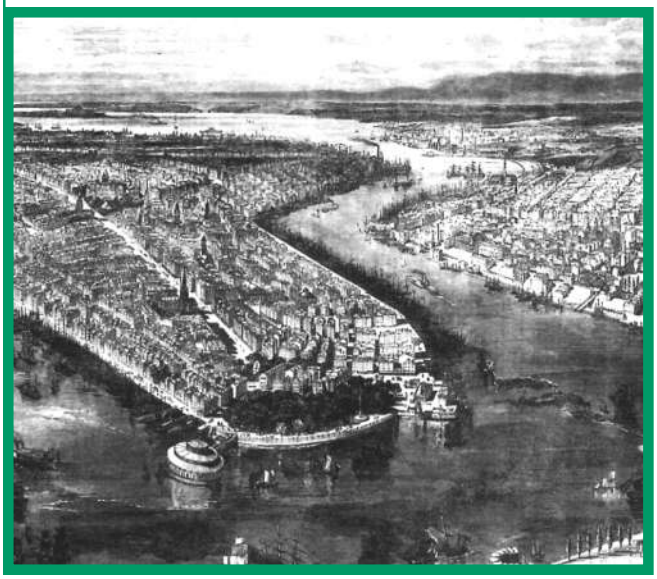
Most towns and cities have grown up in places that are fairly easy to reach and have good supplies of water and food. Many towns were first built beside rivers or on natural harbors by the sea, which made it easy to move things in and out of the city by boat.

One important place to site* a town was where a bridge could be built across a river. Other towns were built on hills that could easily be defended, and sometimes towns grew up around forts or castles.

Another important position for a town is where two or more main roads meet. In the past, such a point would have been important because people from different places could meet and buy and sell goods. Market towns grew at these places.

Over the last 200 years, the development of industry has led to the creation and growth of many towns and cities throughout Europe and North America.

At first, these new towns were built close to raw materials such as iron and coal. These materials were important for industry. More recently, some new towns have been built around large cities to provide homes for city workers. Other new towns have been built in older industrial areas to attract people and new businesses from overcrowded cities.



A bird's-eye view of New York City in 1855.

*to site = to place or build

23 **This passage is mostly about**

A how boats are used to carry goods into cities

B why people choose to live by rivers and lakes

C how cities and towns were protected 200 years ago

D why towns and cities came to be built where they are

24 **The meeting of two or more main roads was a good place to build a town because**

F people could travel through the town quickly

G people could easily meet there to trade goods

H children from different places could go to the same school

J families moved often and needed more roads to travel

25 **Which of these is a fact from the passage?**

A In the past, towns could only be built beside rivers.

B People prefer to live close to where they work.

C The growth of industry led to new towns and cities.

D Workers leave areas where raw materials are found.

26 **Look at the picture on page 13 showing a bird's-eye view of New York City in 1855. From the picture and what you have read in the passage, you would suppose that New York most likely grew where it did because**

F there was a castle nearby

G it could be reached by boat

H it could be seen from above

J there was a lot of land to build on

27 **Which of these questions could this passage help answer?**

A Who likes to live out in the country?

B When was the first city built?

C How did cars change cities and towns?

D Why did people choose certain places to build towns?

28 **Choose the best way to combine these two sentences.**

The ancient Aztecs built their capital city on an island.

The city was named Tenochtitlán.

F The ancient Aztecs built their capital city, Tenochtitlán, on an island.

G The ancient Aztecs built their capital city on an island, Tenochtitlán.

H The ancient Aztecs built their capital city, it was named Tenochtitlán, on an island.

J The ancient Aztecs built on an island, and their capital city was named Tenochtitlán.

29 **Choose the sentence that is complete and written correctly.**

A The Aztec capital called Place of the Cactus.

B At the center are the main square.

C The largest building was the Temple of the Sun.

D Builded about 600 years ago, the place is now called Mexico City.

30 **Choose the sentence that best completes this paragraph.**

Tenochtitlán was a well-protected city. _____.
The causeways were roads, with bridges that could be lifted out of the water.

F It could be reached only by boat or causeway.

G The Aztecs were excellent builders and engineers.

H It was built in a fertile valley that had lots of water.

J Floating gardens gave the Aztecs more space for growing crops.

31 **Sometimes the name of a city can tell us something about why it grew where it did. Think about what you have read in the passage. Choose the name of one city from the list below.**

Explain what the city's name tells about the place where the city was built. Using material from the passage, explain why the city you chose probably got its name.

Directions Read the sentences. Then choose the word that best completes <u>both</u> sentences.

32 **The set of encyclopedias is missing a _____.**

Please turn up the _____ so I can hear the song.

F speaker
G volume
H tone
J chapter

Directions Choose the answer that shows the correct capitalization.

33
A My best friend lives in Cleveland, ohio.
B I lived in houston, Texas, for three years.
C My family moved here from Richmond, Virginia.
D I was born in portland, oregon.

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

34 **The elevator _____ slowly.**

F desends
G descends
H decsends
J dessends

Student Name

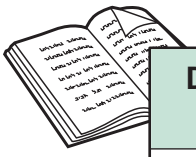
1 Look at the number below.

493,782.561

Which of these numbers is in the ten thousands place?

A 1
B 3
C 4
D 9

2 In the chart below, Franco recorded the number of pages he read each day.



Franco's Reading Chart

Day of the Week	Number of Pages Read
Monday	𝍸 𝍸 IIII
Tuesday	𝍸 𝍸 III
Wednesday	𝍸 𝍸 𝍸
Thursday	𝍸 𝍸 𝍸 I
Friday	𝍸 𝍸 𝍸

How many more pages did Franco read on Thursday than on Monday?

F 2 pages
G 3 pages
H 4 pages
J 6 pages

3 Richard's school is 8 kilometers from his house. How many meters is Richard's school from his house?

A 80 meters
B 800 meters
C 8,000 meters
D 80,000 meters

4

$$\begin{array}{r} 16 \\ 6 \\ +\ 32 \\ \hline \end{array}$$

F 44
G 48
H 52
J 54

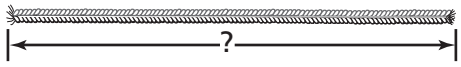
5 Melia has $6.00. A bag of chips costs $1.79, including tax. Estimate how many bags of chips Melia can buy with $6.00.

A 1 bag
B 2 bags
C 3 bags
D 4 bags

6 The Drama Club at Valley Elementary School wants to sell 100 tickets to their next play. They have already sold 35 tickets. What percentage of the 100 tickets has the Drama Club sold?

F 35%
G 65%
H 100%
J 135%

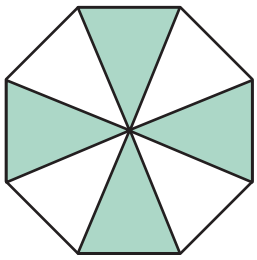
7 Luke measured the piece of string shown below.



Which of these is the best measure for the length of the string?

A 6 millimeters
B 6 centimeters
C 6 meters
D 6 kilometers

8 Look at the shape below.



What fraction of the shape is shaded?

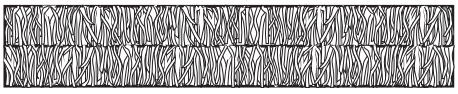
F $\frac{1}{8}$

G $\frac{1}{4}$

H $\frac{1}{2}$

J $\frac{3}{4}$

9 The top views of two jungle huts are shown below.
Which of these best describes the huts?



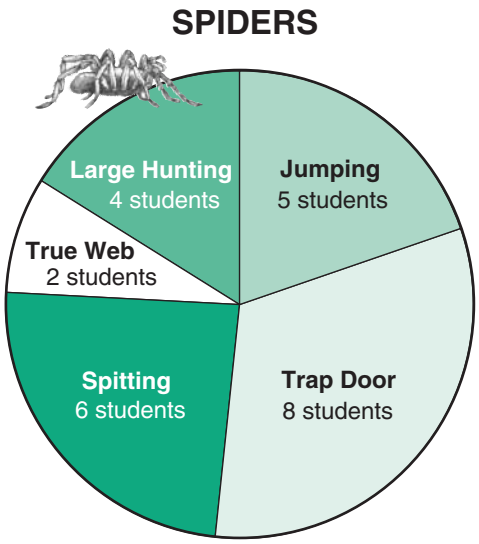
A They are parallel to each other.

B They are intersecting each other.

C They are congruent to each other.

D They are perpendicular to each other.

10 Becky's science class wrote reports about their favorite spiders. The class made the circle graph below to show how many students chose each type of spider.



Which of these shows the spiders in order from favorite to least favorite?

F True Web, Large Hunting, Jumping, Spitting, Trap Door

G Trap Door, Spitting, Jumping, Large Hunting, True Web

H Spitting, Trap Door, Jumping, Large Hunting, True Web

J Trap Door, Jumping, Large Hunting, Spitting, True Web

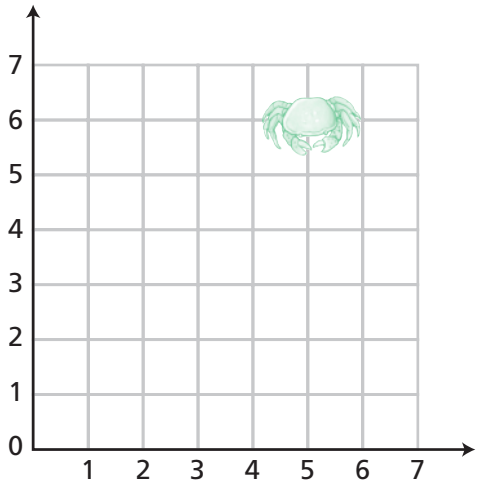
11 Which of these ordered pairs tells where the crab is?

A (5, 5)

B (5, 6)

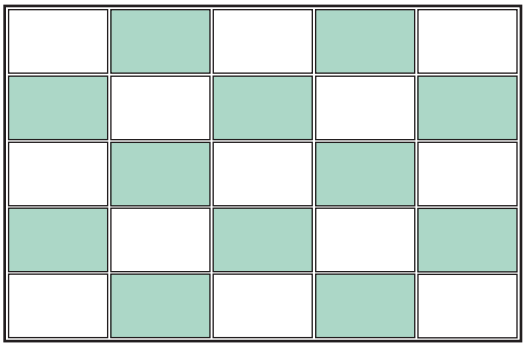
C (6, 6)

D (6, 5)



12 The diagram below shows the pattern of tiles on Margo's kitchen floor.

Row 1
Row 2
Row 3
Row 4
Row 5



If the pattern continues, which of these would be the sixth row of tiles on Margo's kitchen floor?

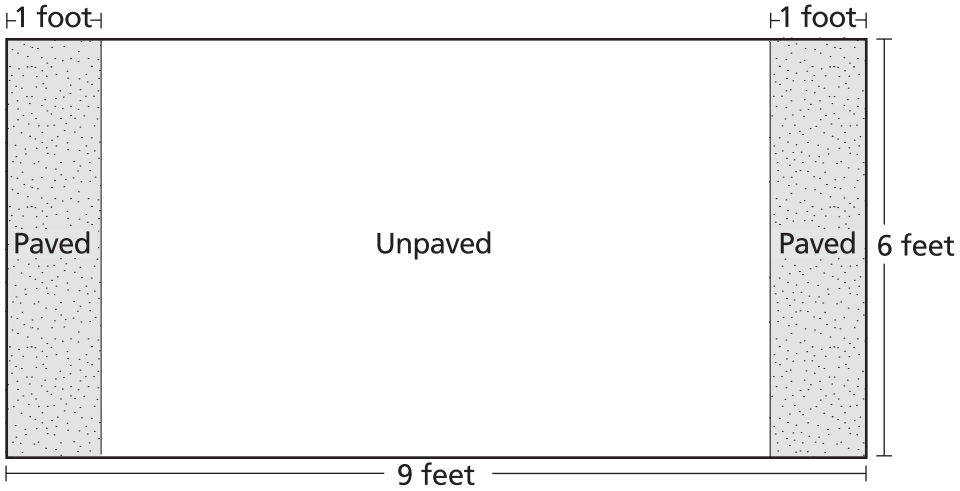
F

G

H

J

13 Look at the diagram of Rafael's yard.



Rafael wants to plant grass in the unpaved section of his yard.
What is the area, in square feet, of the unpaved section of his yard?

A 13 square feet
B 15 square feet
C 42 square feet
D 54 square feet

14 Monica is making a collar for each of her 8 puppies.
She will use 9 inches of cord for each collar.

1 foot = 12 inches

How many feet of cord will she need in order to make the collars?

F 4 feet
G 5 feet
H 6 feet
J 7 feet

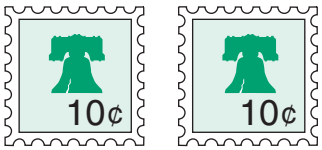
15 Jesse collects stamps. He put the following stamps in a box.

Without looking, Jesse is going to pick one stamp to give to his friend. Which of these could Jesse add to the box so that he would have an equal chance of picking either a 5¢ or 10¢ stamp?

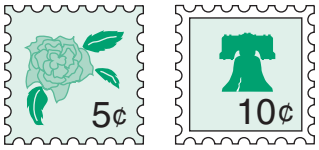
A

B

C



D



16 Chris worked a total of 5 hours last week. She worked $1\frac{1}{2}$ hours on Monday. How many hours did she work the rest of the week?

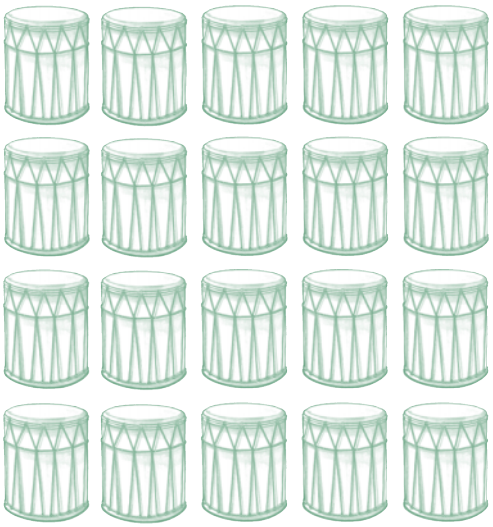
F $1\frac{1}{2}$ hours

G $3\frac{1}{2}$ hours

H $4\frac{1}{2}$ hours

J $6\frac{1}{2}$ hours

17 The picture below shows the Djun-Djun drums made by Ms. Smith's class. Each drum needed 2 drum heads.



Which of these number sentences shows how many drum heads were needed for all the Djun-Djun drums?

A $5 \times 4 \times 2$

B $5 + 4 + 2$

C $(5 \times 4) + 2$

D $(5 + 4) \times 2$

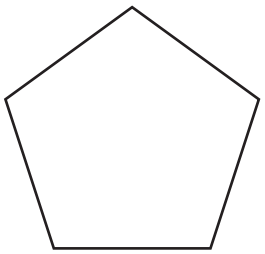
18 Look at the number sentence below.

$(7 + 14) \square 17 = 4$

Which of these operation signs should go in the box to make the number sentence true?

F $+$
G $-$
H $\times$
J $\div$

19 Look at the shape below.

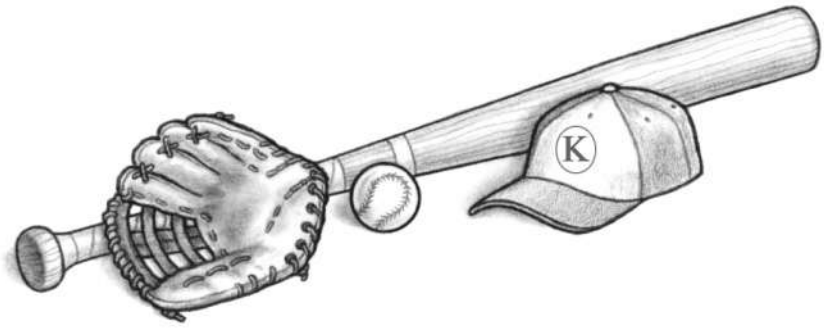


Draw a line of symmetry on the shape.

On the lines below, explain how to identify a line of symmetry.

20 Twenty-four students showed up for baseball team tryouts. The coach wanted the students to line up in rows of equal length.

In the boxes below, draw circles to show 2 different ways the 24 students could have lined up in rows of equal length.



21 Fill in the box to make the number sentence true.

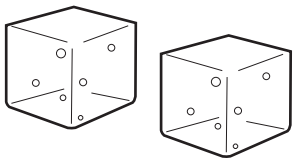
$\square + 8 = 12$

Using the same numbers, write a different **addition** number sentence.
Write your answer on the line below.

On the lines below, explain how you know the addition fact you wrote is correct.

Using the same numbers, write a **subtraction** number sentence.
Write your answer on the line below.

22 Look at the same-sized ice cubes below.



Stanley says that if the two ice cubes were lined up and joined together to form a rectangular prism, the surface of the new shape would have more sides than a cube.

On the lines below, tell why Stanley is not correct.

_____

_____

_____

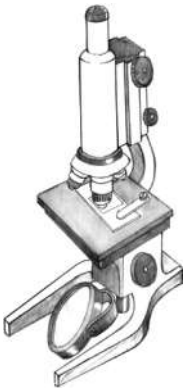
How many sides would the new shape have?

Answer _____ sides

Student Name

1 **Which of these would be most useful for looking at insects on a tree?**

A



B

C

D

2 **When does pond water evaporate the fastest?**

F when it is raining
G on cold, foggy days
H in warm, dry weather
J during sunrise and sunset

3 **In what form is water found just before it condenses into a cloud?**

A fog
B rain
C water vapor
D tiny ice crystals

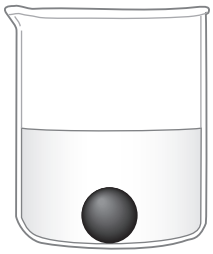
4 **Equal amounts of water and alcohol were heated side by side on a hot plate. The temperatures of these two liquids, as time passed, are shown in the table below.**

Time (min)	Temperature of Water (°C)	Temperature of Alcohol (°C)
0	20	20
1	25	30
2	32	41
3	38	50
4	46	59
5	53	68
6	60	80

Which of these conclusions can you make, given the information in the table?

F When heated, alcohol increases in temperature faster than water.
G Alcohol boils at a lower temperature than water.
H When heated, alcohol increases in temperature more slowly than water.
J Water boils at a lower temperature than alcohol.

5 **Look at the picture of the ball in the container of water.**



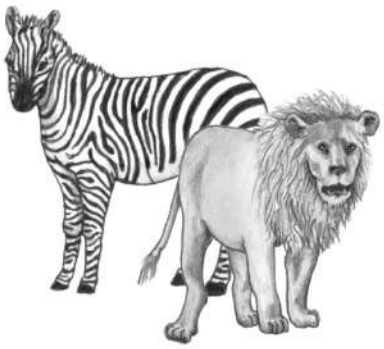
Which of these is the ball <u>probably</u> made of?

wood	steel	plastic	cork
A	**B**	**C**	**D**

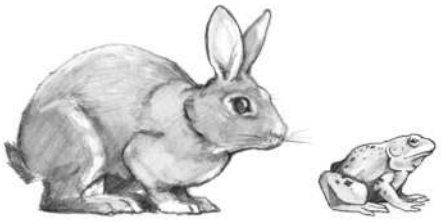
6 **Gary is guessing how many Canadian geese he will see this winter. Which of these is he doing?**

F making a prediction about data
G drawing a conclusion from data
H analyzing data
J gathering data

7 **Which of these pictures shows two animals that sometimes eat the same things?**

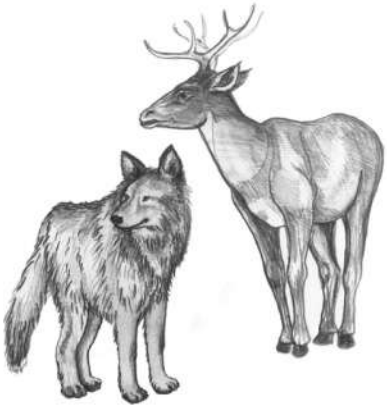


A



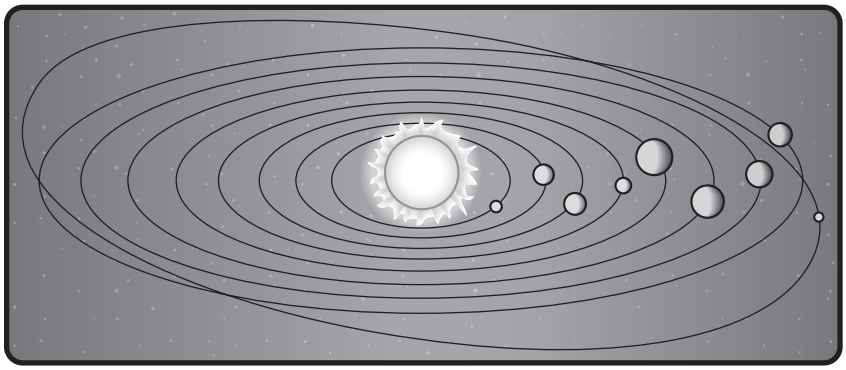
C

B



D

8

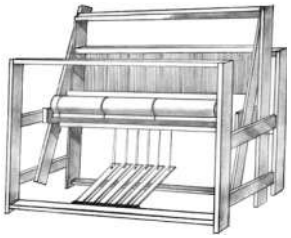


The four planets closest to the sun

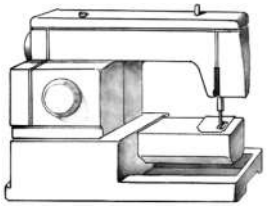
F have rocks on their surfaces
G have 24-hour days
H have grasses and trees
J are partly covered by oceans

9 **Which of these is used to weave cloth?**

A



B



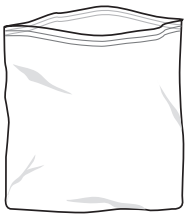
C

D

10 **A certain type of harmless moth looks like a bee. Looking like a bee helps the moth because**

F looking like a bee will help it fly better
G bees share their food with it
H some animals are afraid of bees
J it can live in hives with bees

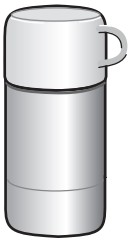
11 **Which lunch box item is least harmful to the environment?**



A

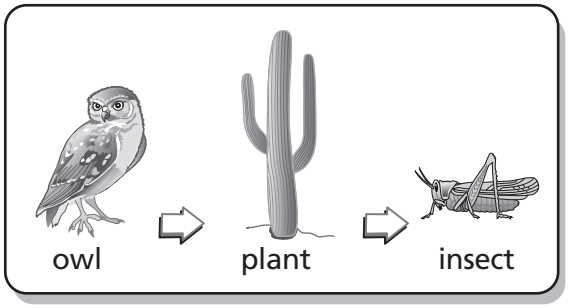
B

C

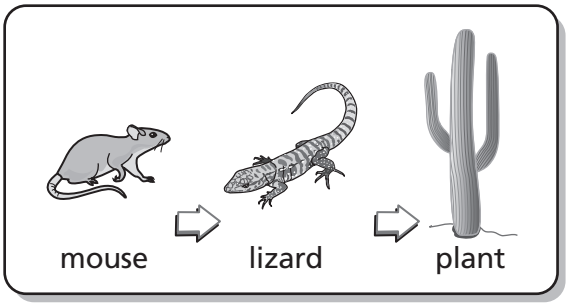


D

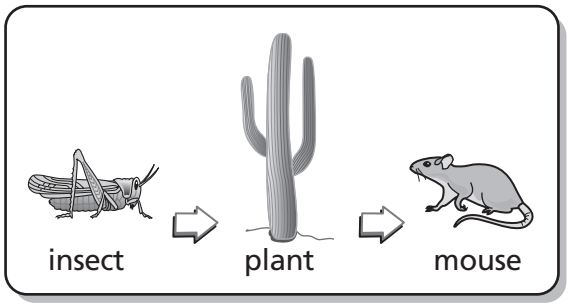
12 **Look at the pictures. Which of these is the correct order for a food chain?**



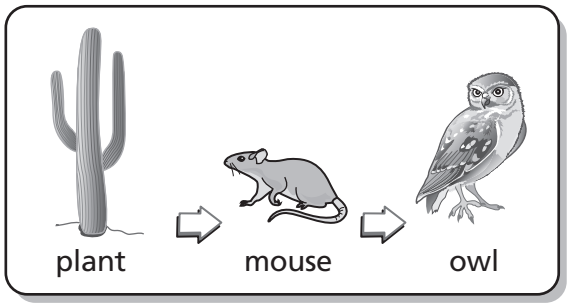
F



H

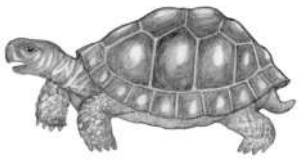


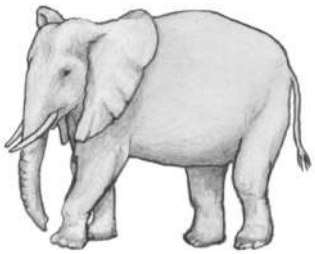
G



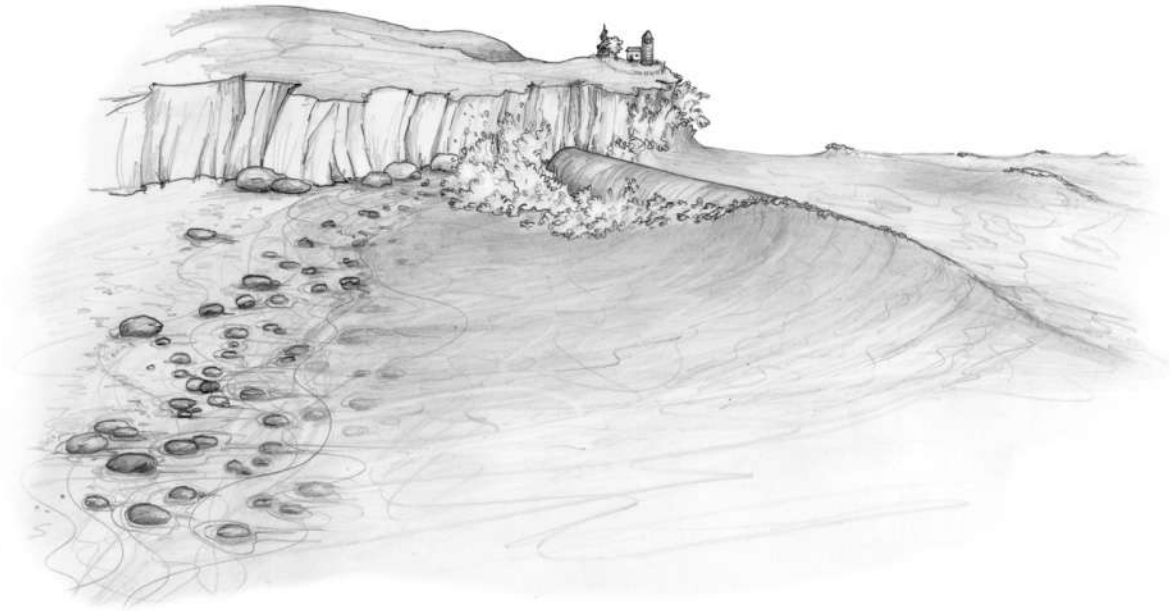
J

13 **Some animals, such as chickens, are hatched from eggs. Other animals, such as dogs, are born live. Look at the pictures of the animals below. Circle all the animals that are born live from their mothers.**



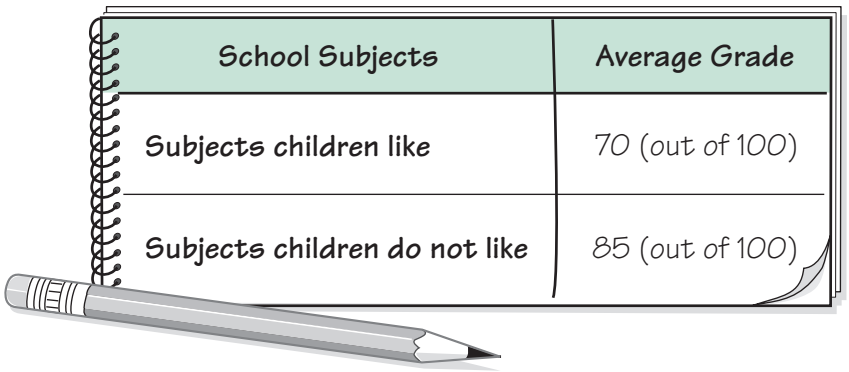


14 **Look at the picture below.**



Why are the rocks on the beach rounded and smooth?

15 **The table below shows how children in one school did in school subjects they like and the subjects they do not like. (School subjects included reading, math, science, writing, and social studies.)**



School Subjects	Average Grade
Subjects children like	70 (out of 100)
Subjects children do not like	85 (out of 100)

Does the information in the table show that children get higher grades in the school subjects they like? Circle your answer.

YES or NO

Use the information in the table to tell why you answered "Yes" or why you answered "No."

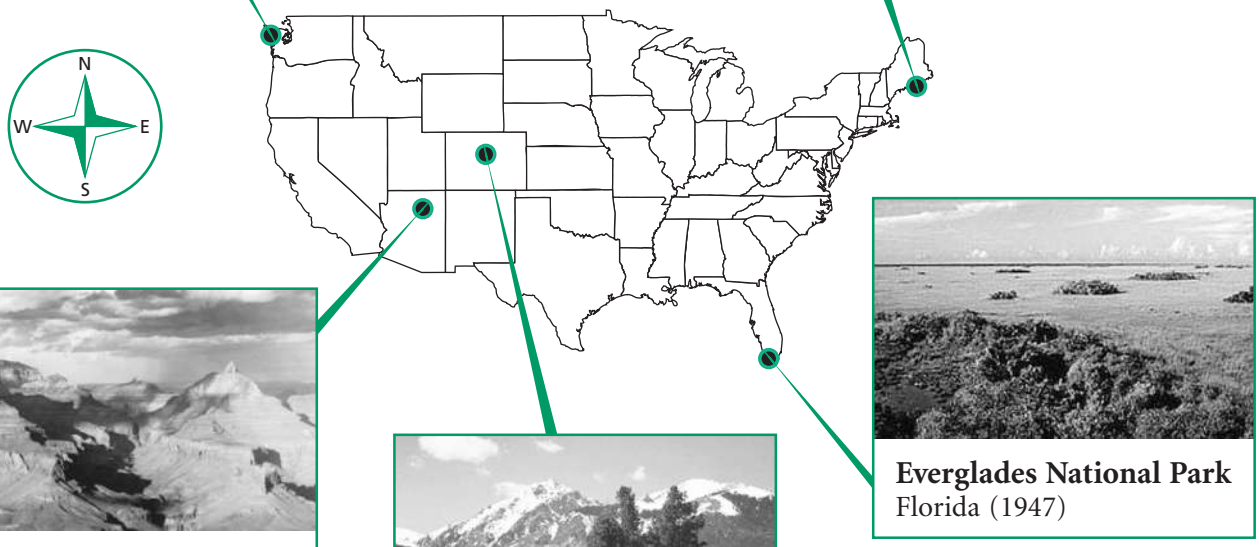
Student Name

National Parks

Directions The map and pictures below give information about some United States national parks. The dates tell when each park was created by the United States Congress. Use the map, the pictures, and your own knowledge to do Numbers 1 through 4.

Olympic National Park
Washington (1938)

Acadia National Park
Maine (1919)



Grand Canyon National Park Arizona (1919)

Rocky Mountain National Park Colorado (1915)

Everglades National Park
Florida (1947)

1 **Which of these national parks is closest to the Pacific Ocean?**

A Acadia
B Olympic
C Grand Canyon
D Rocky Mountain

2 **Which of these national parks is located in a desert region?**

F Acadia
G Everglades
H Olympic
J Grand Canyon

3 **Which of these national parks is located in the southeastern region of the United States?**

A Acadia
B Olympic
C Everglades
D Grand Canyon

4 **Which level of government created these parks?**

F city
G county
H state
J federal

United States Monuments

Directions **The time line below gives information about some United States monuments. The dates tell when the monuments were completed. Use the time line and your own knowledge to do Numbers 5 through 7.**

1921

Women's Portrait Monument honors leaders who worked to give women the right to vote.

1941

Mount Rushmore National Memorial honors some presidents of the United States.

1964

Gateway Arch honors people who moved west to settle the land.

1989

Civil Rights Memorial honors those who worked for equal rights.

5 **When was the Mount Rushmore National Memorial completed?**

A 1921
B 1941
C 1964
D 1989

6 **Which of these monuments was completed longest ago?**

F Gateway Arch
G Civil Rights Memorial
H Women's Portrait Monument
J Mount Rushmore National Memorial

7 **Martin Luther King, Jr., is one of the people honored by the**

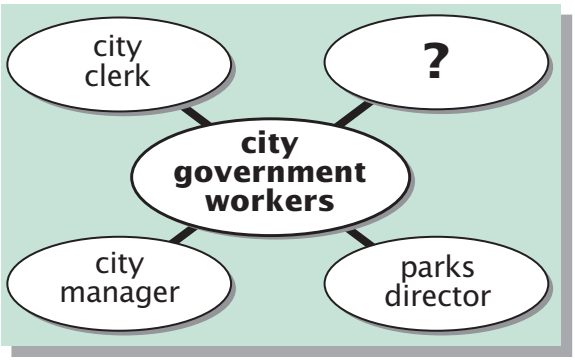
A Gateway Arch
B Civil Rights Memorial
C Women's Portrait Monument
D Mount Rushmore National Memorial

Do You Know?

8 **Which of these actions gives money directly to the national government?**

F voting in elections
G purchasing new products
H paying income taxes
J petitioning the government

9

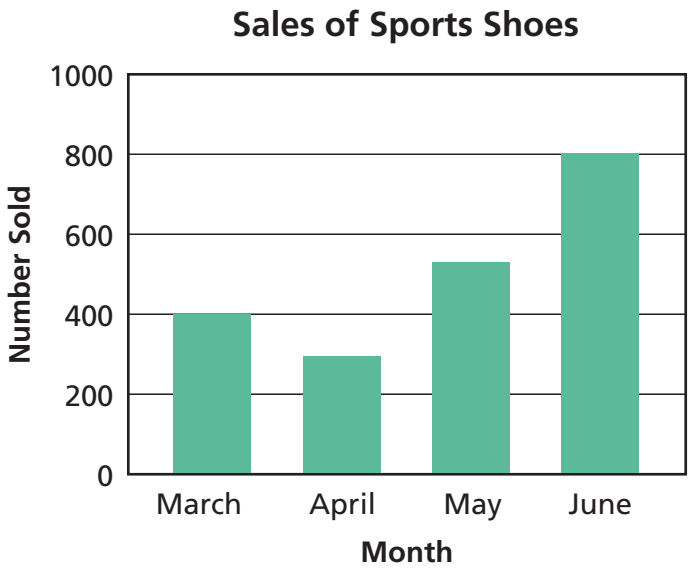


Which of these best completes the diagram above?

A store owner
B fire chief
C bank president
D factory supervisor

Sales of Sports Shoes

Directions **The graph below shows some information about sports shoes sold in a shoe store. Use the graph and your own knowledge to do Numbers 10 through 12.**



10 **During which month were the fewest sports shoes sold?**

F March
G April
H May
J June

11 **What does the graph show?**

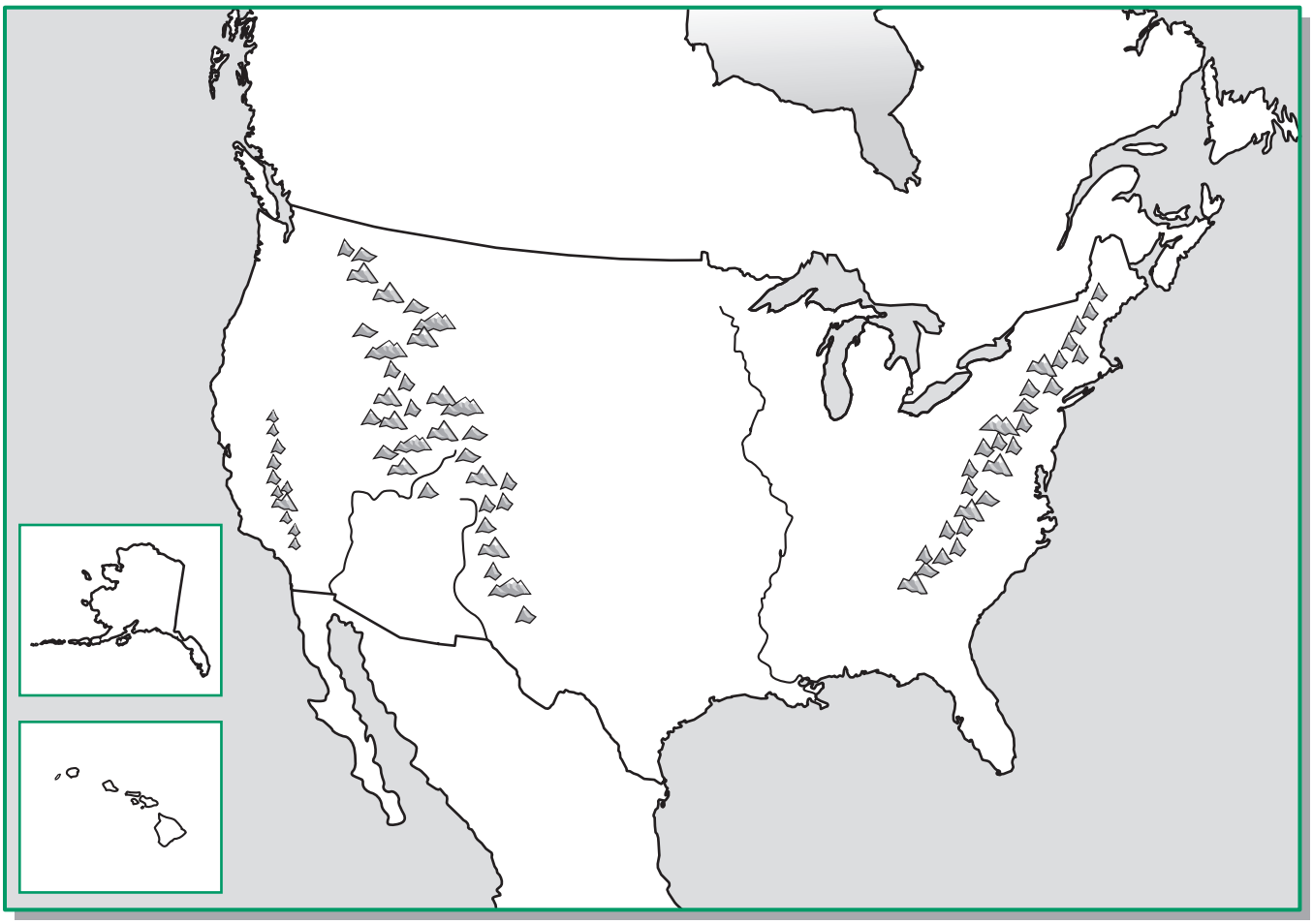
A how much money was spent by the store owners
B how much money was earned by store employees
C how many shoes were bought by customers
D how many shoes were for sale

12 **Which of these would probably help bring more customers to the shoe store?**

F raising prices at the store
G closing the store early each day
H advertising the shoes sold at the store
J selling fewer kinds of shoes at the store

The United States

Directions The map below shows the location of some physical features in the United States. Use the map and your own knowledge to do Numbers 13 and 14.



13 **On the map above, write the name of each of these features in its correct location.**

Rocky Mountains
Great Plains
Mississippi River

14 **On the map, write the names of these countries in the correct locations.**

Canada
Mexico

15 **A community government provides many services to its citizens. One service is police protection. Name another service a community government provides.**

Why do community governments, and not individuals, usually provide this kind of service?

Student Practice Materials

The purpose of Part 5 is to provide fifth-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 this passage about a scientific mystery. Then do Numbers 1 through 9.**

Mysterious Rays of Dr. Röntgen

by Beverly Gherman

illustrated by Stephen Marchesi

Every night Professor Wilhelm Röntgen worked late in his laboratory in Würzburg, Germany, testing electricity and measuring magnetic effects. Often he forgot to go upstairs for supper.

One November night in 1895, his wife Bertha sent their servant downstairs to the laboratory to remind her husband that supper was ready. Still he did not come.

Again Bertha sent the servant and again she waited for Wilhelm to come upstairs.

At last he appeared, his thick black hair on end, his bushy beard askew. He sat at the table, ate a few bites, checked the time on his gold watch, and then rushed back to the laboratory.

For the next few weeks Wilhelm stayed in his laboratory night and day. He ate there. He slept there. But mainly he worked there, repeating his experiments.

No one knew what he was investigating behind closed doors. Bertha had no idea. His students had no clue. The other professors had no inkling what Wilhelm was studying.

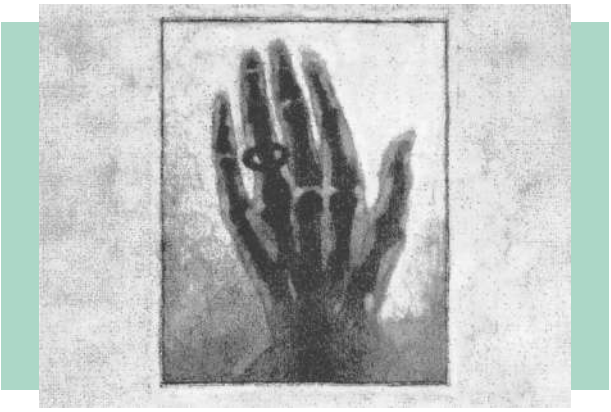
"I have discovered something interesting" was all he would say.

Finally Wilhelm brought Bertha down to the laboratory. He placed her hand on a photographic plate used to take pictures and told her not to move. He wanted to take a picture of her hand. Then he pulled the drapes and put out the lamps. It was pitch black in the laboratory.

Wilhelm turned on a switch that sent electricity through his equipment. The only sound in the laboratory was the ticking of the clock. Five minutes passed. Ten minutes. After fifteen minutes Wilhelm lifted Bertha's hand.

As soon as the photograph was developed Wilhelm rushed to show it to Bertha. She looked at it and shuddered with fear. She saw a picture of bones—her bones. Her wedding ring seemed to be floating around a bony finger.

Wilhelm tried to comfort Bertha, telling her not to be afraid. "I have discovered invisible rays," he said. "These rays penetrate living flesh and show our bones. They also let us see through boxes and books," he explained.



Wilhelm called them X-rays because X stood for the unknown. Although he didn't know what they were, he knew they were important. "This is something new," he told Bertha. "I must investigate."

He built himself a tin box large enough to work in. From inside the darkened box, Wilhelm continued to study the rays. He realized that just as sunlight passed through a glass window, the new rays passed through wood or flesh or other nonmetallic objects.

1 **Which of these best describes Professor Wilhelm Röntgen?**

A He was interested in how he looked.

B He was totally devoted to his work.

C He enjoyed playing jokes on his wife.

D He worked cooperatively with other scientists.

2 **Which of these best supports your answer for Number 1?**

F Professor Röntgen wore a gold watch.

G Professor Röntgen gave clues to his students.

H Professor Röntgen was too busy to comb his hair or to eat.

J Professor Röntgen made Bertha wait alone in the laboratory.

3 **Bertha became frightened when**

A Wilhelm told her not to move

B she saw a picture of her own bones

C Wilhelm began living in the laboratory

D she didn't understand what Wilhelm was studying

4 **Wilhelm learned that the rays penetrate living flesh. As it is used here, *penetrate* means about the same as**

F go through
G photograph
H bounce off
J investigate

5 **From what you have read in this passage, you can conclude that**

A scientific discoveries were rare a hundred years ago
B Professor Röntgen was clever at building metal objects
C hard work and focus can lead to new discoveries
D Bertha and her husband were a successful scientific team

Directions **Here is some more information about solving mysteries—by looking for fingerprints.**

6 **Choose the sentence that best fits this paragraph.**

> Police use colored powder to expose fingerprints left on smooth objects. They dip a brush into the powder and lightly dust over the prints. _____. Then the prints can be photographed or lifted off onto clear tape.

F The powder sticks to the oil and sweat in the fingerprints.
G The fingerprints can be entered into a computer file.
H Detectives gather evidence from the crime scene.
J Fingerprints can be used to identify a person.

7 **Choose the sentence that is complete.**

A There are three basic fingerprint patterns.
B Resembling a hill, a hairpin, and a spiral.
C Similar patterns on the palms of your hands.
D Even on the bottoms of your feet.

8 **Choose the sentence that does <u>not</u> belong in this paragraph.**

> [1] The history of fingerprinting goes back thousands of years. [2] The ancient Chinese used fingerprints to sign important papers. [3] Many centuries later, in the 1880s, a British scientist concluded that no two people have the same fingerprints. [4] Patterns in the irises of people's eyes can also be used as a form of identification.

F Sentence 1
G Sentence 2
H Sentence 3
J Sentence 4

9 **The passage is about Dr. Röntgen's "mysterious" rays. Which events in the story help to create a feeling of mystery about what is going to happen? Give one example of such an event from the passage and explain how the event adds to the feeling of mystery.**

Example of an event from the passage:

_____

_____

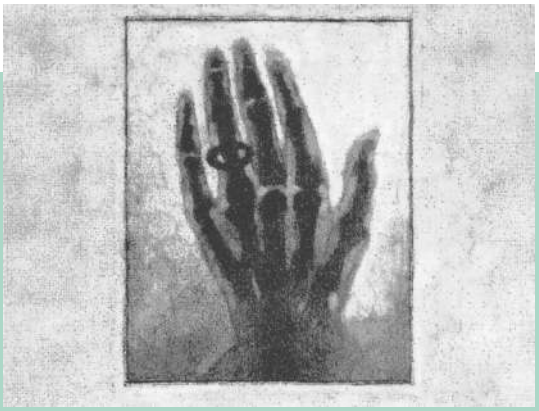
_____

How the event adds to the feeling of mystery:

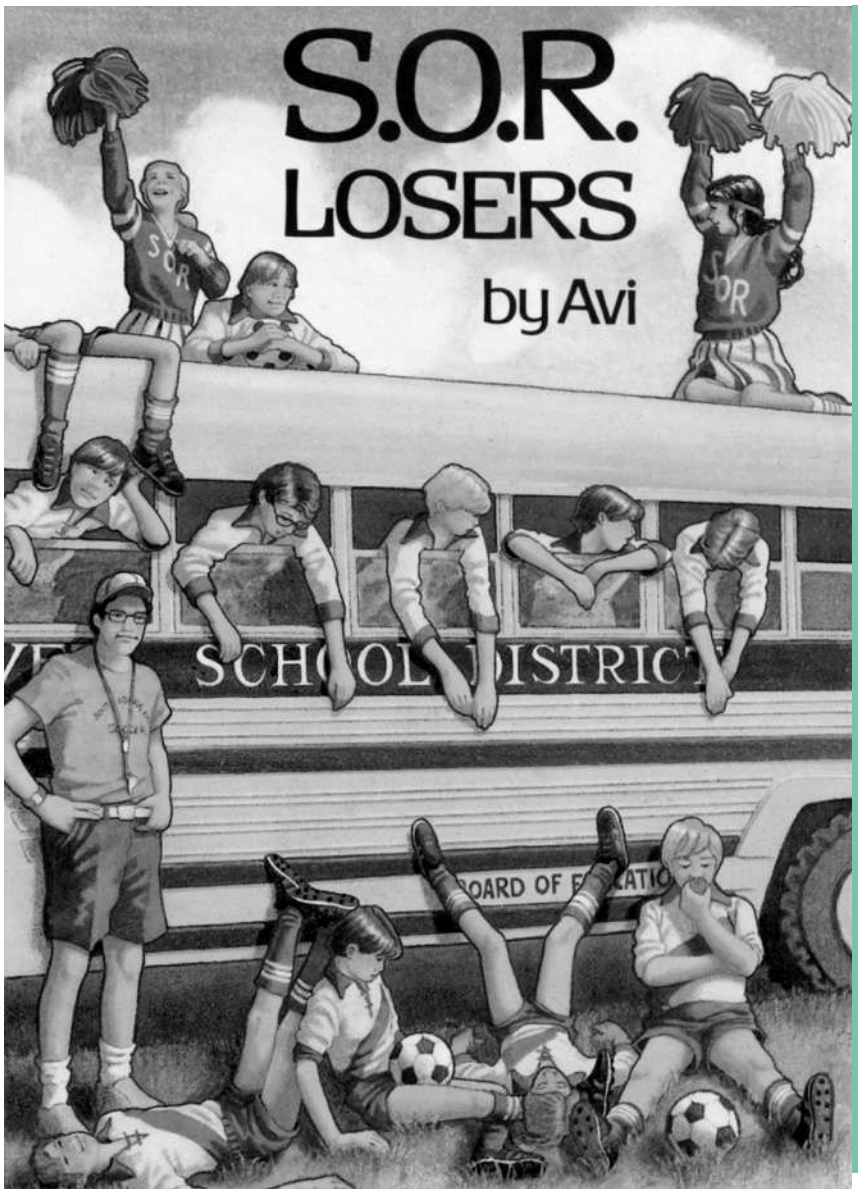
_____

_____

_____



Directions **Here is a passage from *S.O.R. Losers* by Avi. Read the introduction and the passage. Then do Numbers 10 through 15.**



South Orange River Middle School (S.O.R.) has a rule that no student can graduate without playing on at least one school sports team. This year, for the first time, S.O.R. forms a soccer team for boys who have never participated in sports. Their coach is Mr. Tillman. So far, they have lost every game. Everyone at S.O.R. keeps telling them to try harder. The team captain, who narrates the story, has called a team meeting to discuss the situation.

illustration by Jenny Rutherford

Like thieves, we met behind the school, out of sight. I looked around. I could see everybody was feeling rotten.

"I'm sick and tired of people telling me we have to win," said Root.

"I think my folks are getting ready to disown me," said Hays. "My brother and sister too."

"Why can't they just let us lose?" asked Macht.

"Yeah," said Barish, "because we're not going to win."

"We might," Lifsom offered. "Parkville is supposed to be the pits too."

"Yeah," said Radosh, "but we're beneath the pits."

"Right," agreed Porter.

For a moment it looked like everyone was going to start to cry.

"I'd just like to do my math," said Macht. "I like that."

There it was. Something clicked. "Hays," I said, "you're good at music, right?"

"Yeah, well, sure—rock 'n' roll."

"Okay. And Macht, what's the lowest score you've pulled in math so far?"

"A-plus."

"Last year?"

"Same."

"Lifsom," I went on, getting excited, "how's your painting coming?"

"I just finished something real neat and . . ."

"That's it," I cut in, because that kid can go on forever about his painting. "Every one of us is good at something. Right? Maybe more than one thing. The point is, *other* things."

"Sure," said Barish.

"Except," put in Saltz, "sports."

We were quiet for a moment. Then I saw what had been coming to me: "That's *their* problem. I mean, we are good, good at *lots* of things. Why can't we just plain stink in some places? That's got to be normal."

"Let's hear it for normal," chanted Dorman.

"Doesn't bother me to lose at sports," I said. "At least, it didn't bother me until I let other people make me bothered."

"What about the school record?" asked Porter. "You know, no team ever losing for a whole season. Want to be famous for that?"

"Listen," I said. "Did we want to be on this team?"

"No!" they all shouted.

"I can see some of it," I said. "You know, doing something different. But I don't like sports. I'm not good at it. I don't enjoy it. So I say, so what? I mean if Saltz here writes a stinko poem—and he does all the time—do they yell at him? When was the last time Mr. Tillman came around and said, 'Saltz, I *believe* in your being a poet!' "

"Never," said Saltz.

"Yeah," said Radosh. "How come sports is so important?"

"You know," said Dorman, "maybe a loser makes people think of things *they* lost. Like Mr. Tillman not getting into pro football. Us losing makes him remember that."

"Us winning, he forgets," cut in Eliscue.

"Right," I agreed. "He needs us to win for *him*, not for us. Maybe it's the same for the others."

"Yeah, but how are you going to convince them of that?" said Barish.

"By not caring if we lose," I said.

"Only one thing," put in Saltz. "They say this Parkville team is pretty bad too. What if we, you know, by mistake, win?"

That set us back for a moment.

"I think," suggested Hays after a moment, "that if we just go on out there, relax, and do our best, and not worry so much, we'll lose."

10 **In this passage, members of a school team**

F plan their strategy for achieving a world record
G get together after winning a big game
H discuss their feelings about losing all their games
J criticize each other for losing games

11 **At the beginning of the passage, the team members are**

A confident
B quarrelsome
C mischievous
D discouraged

12 **When Hays says his folks are getting ready to disown him, he is probably**

F worrying
G exaggerating
H being serious
J being cautious

Directions For Numbers 13 and 14, look at the chart.

Hays	Macht	Lifsom	Saltz
↓	↓	↓	↓
music	math	?	poetry

13 **Which of these should go in the empty box?**

A art
B sports
C science
D woodshop

14 **The chart shows the boys'**

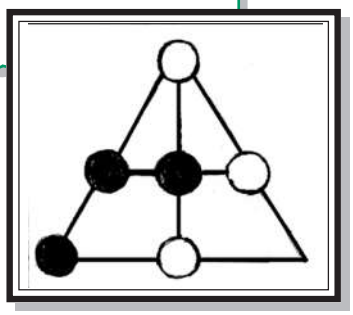
F homework assignments
G after-school activities
H special talents
J basic skills

15 **The team members think that Mr. Tillman wants them to win because it will**

A make up for Mr. Tillman's own disappointment in sports
B impress the team members' families
C help Mr. Tillman get a promotion
D give the team members something to remember

Directions **A girl traveling in Africa wrote home to a friend. Part of her letter describes a game she learned. Read the first paragraph. Then do Number 16.**

1 In Zimbabwe, some kids taught me to play a board game called "Tsoro Yematatu." 2 I have drawn a diagram of the board. 3 There is seven points where two or more lines meet.



16 **Choose the best way to write Sentence 3.**

F There are seven points where two or more lines meet.
G There is seven points where two or more line meets.
H There are seven points where two or more line meets.
J Best as it is

Directions **Read the next paragraph about the game played in Zimbabwe. Then do Numbers 17 and 18.**

[1] Each player has markers of the same color. [2] Each is given three markers. [3] Tsoro Yematatu is kind of like tic-tac-toe, only harder. [4] Players take turns placing markers on points in the diagram, the idea is to get three markers in a row. [5] When all six markers have been placed, players take turns moving one marker to an open point. [6] If nobody makes a mistake, the game can go on a long time.

17 **Which of these best combines Sentences 1 and 2?**

A Each player has markers of the same color and are given three markers.

B Each three players are given markers of the same color.

C Each player has markers of the same three colors.

D Each player is given three markers of the same color.

18 **Which sentence contains two complete thoughts and should be written as two sentences?**

F Sentence 3

G Sentence 4

H Sentence 5

J Sentence 6

19 **The attitude of the members of the S.O.R. soccer team changes in the passage. Explain *how* their attitude changes and *what causes* this change.**

***How* the team members' attitude changes:**

_____

_____

***What causes* the change in the team members' attitude:**

_____

_____

20 **Describe one school activity that you particularly enjoy. Give details about the activity and why you enjoy it.**

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

_____

_____

_____

_____

_____

_____

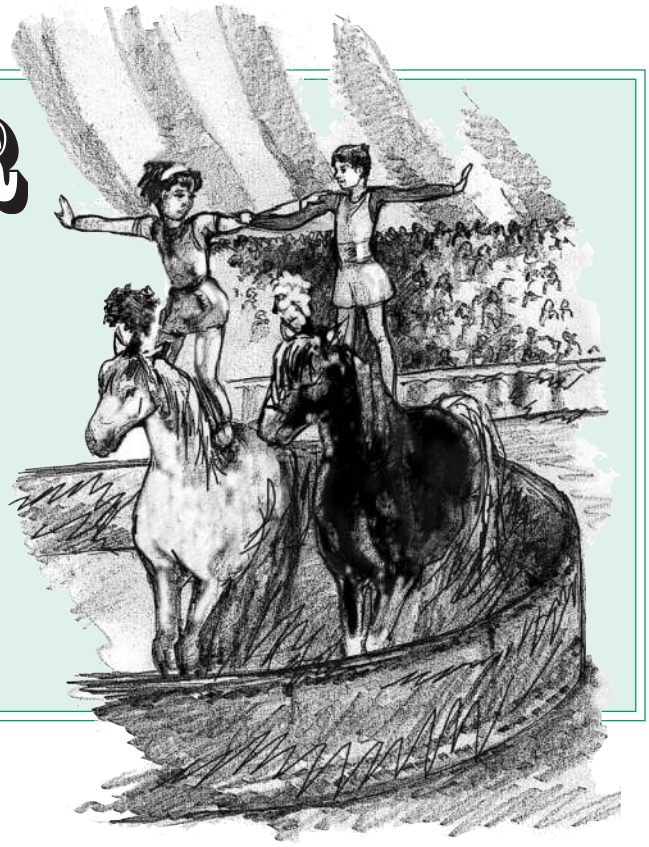
_____

Directions **Here is an excerpt from *Toby Tyler,* by James Otis. Read the introduction and the excerpt. Then do Numbers 21 through 26.**

TOBY TYLER

by James Otis

A boy named Toby Tyler has run away to join the circus. It has not turned out to be as much fun as he had hoped. To earn money for a train ticket home, he sells candy to the circus audience. Later, he trains to do a bareback act with Ella. Toby is about to perform for the first time. He and Ella have each been promised a dollar if they do well.



The horses were all ready—a black one for Toby and a white one for Ella—and they stood champing their bits and pawing the earth in their impatience until the silver bells with which they were decorated rung out quick, nervous little chimes that accorded very well with Toby's feelings.

Ella squeezed Toby's hand as they stood waiting for the curtain to be raised that they might enter, and he had just time to return it when the signal was given, and almost before he was aware of it, they were standing in the ring, kissing their hands to the crowds that packed the enormous tent to its utmost capacity.

Toby had never seen such a crowd before, except as he had seen them as he walked around at the foot of the seats, and then they had simply looked like so many human beings. But as he saw them now from the ring, they appeared like strange rows of heads without bodies, and he had hard work to keep from running back behind the curtain whence he had come.

Mr. Castle acted as the ringmaster this time, and after he had introduced them and the clown had repeated some funny joke, the horses were led in, and they were assisted to mount.

"Don't mind the people at all," said Mr. Castle, in a low voice, "but ride just as if you were alone here with me." The music struck up, the horses cantered* around the ring, and Toby had really started as a circus rider.

"Remember," said Ella to him in a low tone, just as the horses started, "you told me that you would ride just as well as you could, and we must earn the dollars Mamma promised."

It seemed to Toby at first as if he could not stand up; but by the time they had ridden around the ring once and Ella had again cautioned him against making any mistake, for the sake of the money which they were going to earn, he was calm and collected enough to carry out his part of the "act" as well as if he had been simply taking a lesson.

The act consisted in their riding side by side, jumping over banners and through hoops covered with paper, and then the most difficult portion began.

The saddles were taken off the horses, and they were to ride first on one horse and then on the other, until they concluded their performance by riding twice around the ring side by side, standing on their horses, each one with a hand on the other's shoulder.

All this was successfully accomplished without a single error, and when they rode out of the ring, the applause was so great as to leave no doubt but that they would be recalled and thus earn the promised money.

In fact, they had hardly got inside the curtain when one of the attendants called to them, and before they had time even to speak to each other, they were in the ring again, repeating the last portion of their act.

*cantered = ran at a slow gallop

21 **This passage tells about Toby's**

- **A** riding lesson with Mr. Castle
- **B** wish to become a famous circus performer
- **C** first performance in the circus
- **D** plan to make a lot of money in the circus

22 **The passage says the tent was packed "to its utmost capacity." The word *capacity* probably refers to**

- **F** how many people the tent will hold
- **G** how impatient the crowd is getting
- **H** the place where the audience sits
- **J** the deafening noise of cheering

23 **The word *whence* in the phrase "whence he had come" is one example of the story's**

A old-fashioned language
B limited vocabulary
C use of circus slang
D historical accuracy

24 **From the way Ella talks to Toby, it seems likely that**

F Toby will perform well only if Ella pays him
G Toby does not like Ella telling him what to do
H Ella is jealous of Toby's great skill on horseback
J Ella has more experience as a performer than Toby

25 **Look at the picture on Page 13. According to the story, which of these does the picture show?**

A Toby getting his first riding lesson
B Ella showing Toby what to do
C Toby and Ella waiting to begin their act
D Toby and Ella at the close of their performance

26 **At the end of the passage, Toby and Ella repeat the last portion of their act. They probably do this because**

F they made some mistakes and must do the act again
G the horse trainer reminds them that they forgot part of the act
H the crowd likes their act and wants to see more
J they want more money than was promised

Directions **For Numbers 27 through 29, choose the sentence that is complete and written correctly.**

27

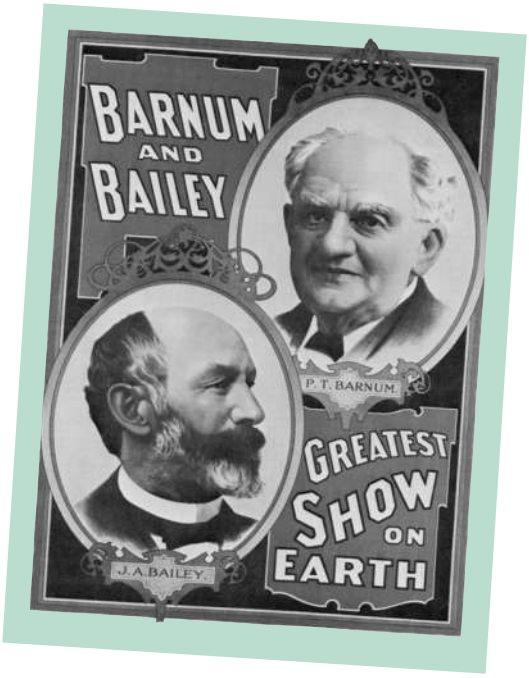
A Most of the circus people likes Toby.
B They think Toby is friendly and smart.
C Mr. Castle training Toby as a bareback rider.
D Although Mr. Castle is stern, Toby learn quick.

28

F Toby likes his partner, Ella, she helps him get ready to perform.
G Toby and Ella, called by different names on the circus poster.
H The act goes well, but Toby, feeling homesick and wanting to leave.
J Having saved enough money, Toby finally runs away from the circus.

29

A James Bailey had ran a highly successful circus.
B P. T. Barnum and James Bailey combined his circuses.
C Eventually, the Ringling family bought the Barnum and Bailey Circus.
D Today the circus is call the Ringling Brothers' and Barnum and Bailey Circus.



30 **Choose the sentence that best fills the blank in the paragraph.**

> May Wirth was probably the greatest bareback rider of all time. Her most famous stunt was turning backward somersaults on the back of a galloping horse. _____.

F The most daring stunts are often first performed at circuses.
G In 1856, a man turned twenty-three somersaults without stopping.
H All acrobats, then and now, need to be in top physical condition.
J To make the stunt more difficult, she performed it with baskets tied to her feet.

31 **This paragraph has <u>three</u> mistakes in grammar, capitalization, and punctuation. Draw a line through each part that has a mistake, and write the correction above it.**

> Al, Otto, Alf, Charlie, and John Ringling always loved the circus. As children, they put on shows for the people of their town, later the brothers formed their own circus. At first they did not sell many tickets, but they did not quit. Soon they had one of the most big circuses in the country.

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

32 **future occupation**

F contribution
G campaign
H consequence
J profession

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

33 The orchestra leader asked, Do you have any questions about tonight's performance?"

A asked, do
B asked, "Do
C asked? "do
D Correct as it is

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 reallistic fiction
G perilous situation
H reluctant witness
J All correct

Student Name

1 Look at the number below.

189,673

Which of these is the value of the 8 in the number above?

A 800
B 8,000
C 80,000
D 800,000

2 Which of these lists shows the fractions listed from least to greatest?

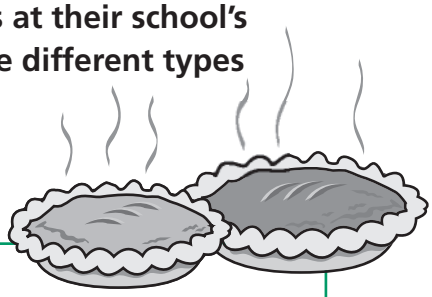
F $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{8}$

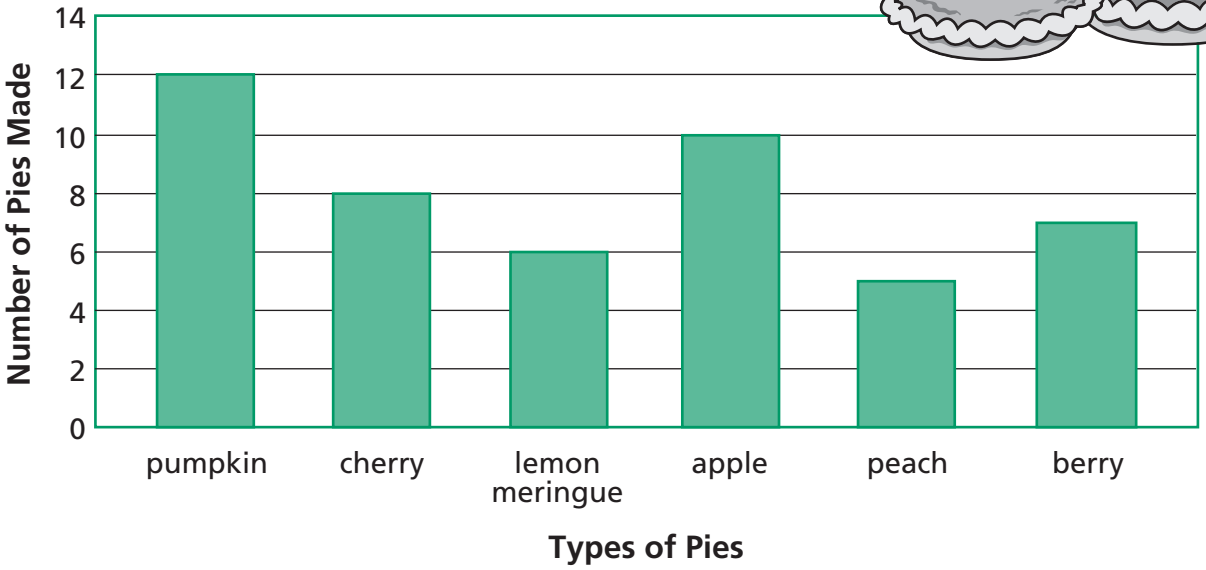
G $\frac{1}{3}, \frac{1}{8}, \frac{1}{4}, \frac{1}{2}$

H $\frac{1}{4}, \frac{1}{2}, \frac{1}{3}, \frac{1}{8}$

J $\frac{1}{8}, \frac{1}{4}, \frac{1}{3}, \frac{1}{2}$

Directions Jim and Sandy are selling homemade pies at their school's bake sale. The bar graph below shows the different types of pies they made.





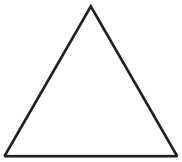
3 Which type of pie did Jim and Sandy make the least of?

A peach
B berry
C pumpkin
D lemon meringue

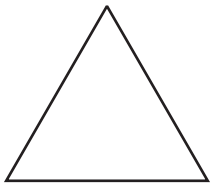
4 Ronnie gave Rafting Adventures $15.00 to pay for her ticket that cost $10.95. How much change did she receive?

F $4.05
G $4.95
H $5.05
J $5.95

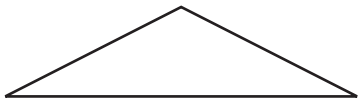
5 Look at the figure below.



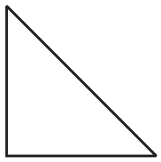
Which of these shapes appears to be similar to the figure shown above?



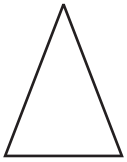
A



C



B



D

6

$$\begin{array}{r} 75 \\ \times\ 26 \\ \hline \end{array}$$

F 1,820
G 1,920
H 1,950
J 1,970

7 Thirteen thousand eight hundred seventy-two students attend Harrington College. Which of these represents the number of students at the college?

A 872.13
B 1,387.2
C 13,872
D 138,720

8 Ray's dog is 6 months old. What information does Ray need to know in order to design a doghouse?

F the rate at which the dog will grow
G the time it will take to build the doghouse
H the size the dog will be when it is an adult
J the amount of food the dog will eat every week

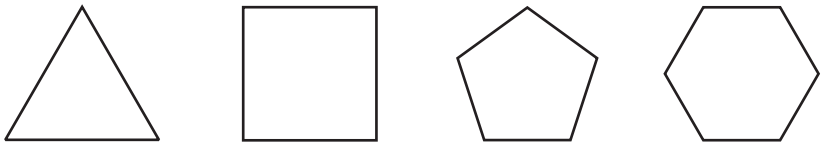
9 Look at the equation below.

$$72 \square 8 = x$$

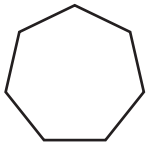
When placed in the box, which of these symbols makes x the smallest number possible for this equation?

A $+$
B $-$
C $\times$
D $\div$

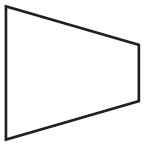
10 Look at the pattern of the shapes.



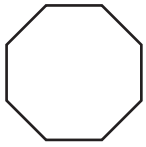
If this pattern continues, which of these will be the sixth shape in the pattern?



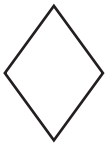
F



H



G



J

11 Last week Alana counted the number of candy bars she sold each day and recorded them in the table.

If Alana sells candy bars all 5 days next week, what is a reasonable estimate of the number of candy bars she will sell for the week?

A 9 candy bars
B 10 candy bars
C 50 candy bars
D 75 candy bars

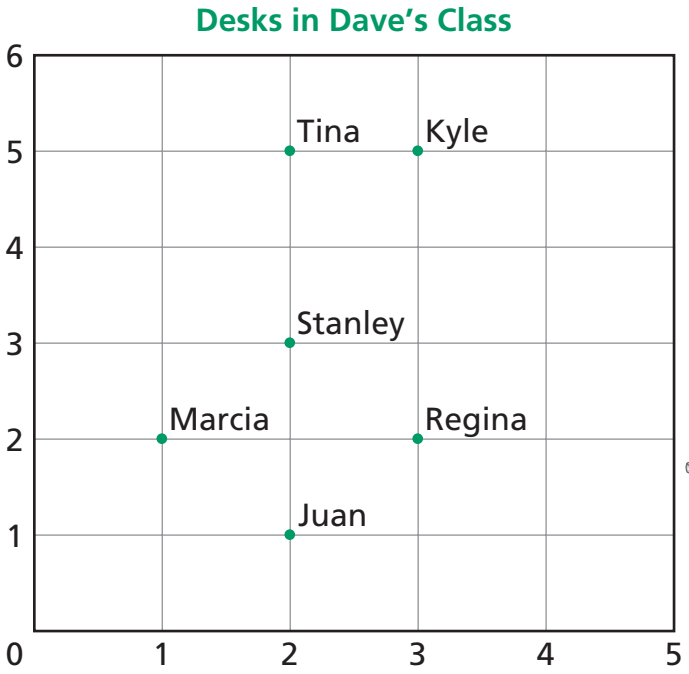
Candy Bars Alana Sold

Day	Number of Candy Bars
Monday	10
Tuesday	8
Wednesday	9
Thursday	10
Friday	9

12 Which of these units would be most appropriate for measuring the height of a building?

F meters
G kilometers
H millimeters
J centimeters

13 Dave recorded the location of some of his classmates' desks on the coordinate grid below.



What ordered pair gives the location of Regina's desk?

A (2, 1)
B (2, 3)
C (3, 2)
D (3, 5)

14 Which of these equals two hundred fifty thousand?

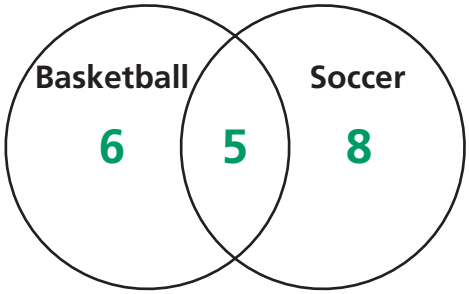
F $25 \times 1{,}000$
G $25 \times 10{,}000$
H $25 \times 100{,}000$
J $25 \times 1{,}000{,}000$

15 A female baby tiger is about 12 inches long at birth. When she grows up she will be about 6 feet long. About how many more inches will the baby tiger grow to reach her adult size?

12 inches = 1 foot

A 18 inches
B 60 inches
C 72 inches
D 84 inches

16 George asked his classmates if they played soccer or basketball. The results of his survey are shown in the diagram below.



How many of George's classmates play soccer?

F 5 classmates
G 8 classmates
H 11 classmates
J 13 classmates

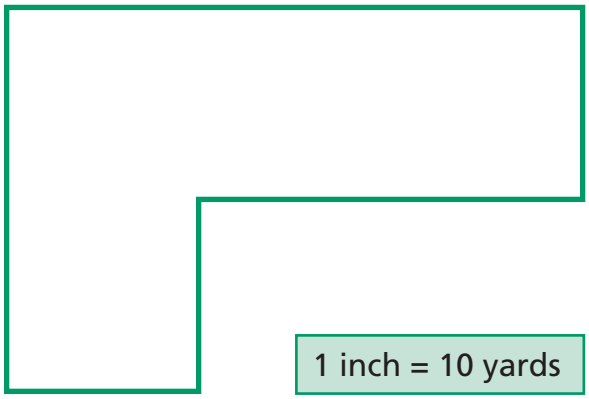
17 Andy learned that the ancient Greeks used a unit called a "stadion" to measure length. One stadion is 622 feet. About how many stadions are in 1 mile?

1 mile = 5,280 feet

A between 4 and 5 stadions
B between 6 and 7 stadions
C between 8 and 9 stadions
D between 9 and 10 stadions

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

Molly's House



What is the perimeter, in yards, of Molly's house?

F 10 yards
G 30 yards
H 100 yards
J 110 yards

19 Use the symbols +, −, ×, or ÷ to make this number sentence true. You may use any symbol more than once.

(10 ☐ 1) ☐ 3 ☐ 2 = 1

To check your answer, which step should you perform first? Explain your answer on the lines below.

20 The Drama Club held a car wash to raise money. The chart below shows the number of cars the students washed every 2 hours.

Drama Club Car Wash

Number of Hours	Number of Cars Washed
2	4
4	8
6	12

How many cars would the Drama Club have washed in 8 hours?

Answer _____ cars

On the lines below, write the rule that explains how to find the number of cars washed from the number of hours the club washed cars.

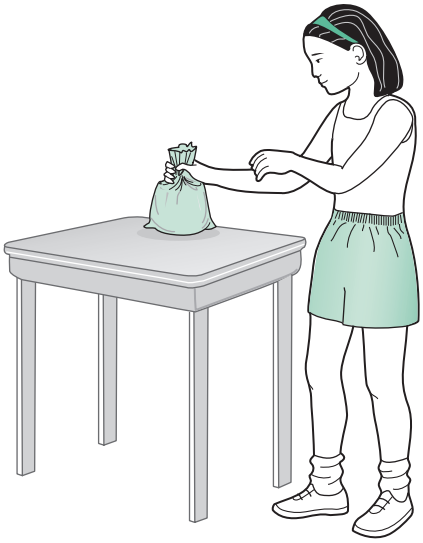
_____

_____

_____

21 Erica has a bag of candy. There are 5 green candies and 7 blue candies in the bag. What is the probability that, without looking, Erica will choose a green candy?

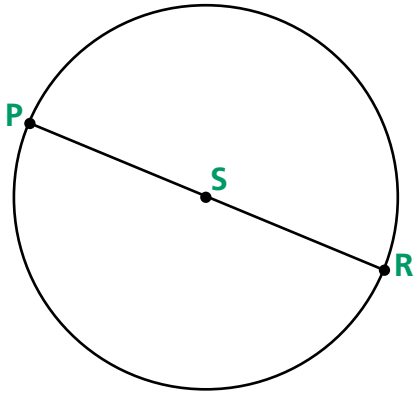
Answer _____



After eating one piece of green candy from the bag, what is the probability that, without looking, Erica will choose another green candy next?

Answer _____

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



What is the diameter of the circle?

Answer _____ inches

On the lines below, explain how you can use the length of the diameter to find the length of the radius.

_____

_____

Student Name

1 **Julie wanted to find out whether pure water and salt water take the same amount of time to evaporate. She put a glass of pure water and a glass of salt water on her window sill. At the end of each day she measured the height of the water in each glass. Her measurements are shown in the table.**

Height of Water in Glass

	Day 0	Day 1	Day 2	Day 3	Day 4	Day 5
Salt water	50 mm	43 mm	35 mm	28 mm	20 mm	13 mm
Pure water	50 mm	40 mm	31 mm	23 mm	12 mm	4 mm

The measurements in the table show that

A salt water and pure water evaporate at the same rate
B salt water evaporates faster than pure water
C pure water evaporates faster than salt water
D pure water evaporates but salt water does not

2 **Which of these activities does the most to strengthen your heart?**

F running
G stretching
H sit-ups
J pull-ups

3 **Which of these is true for mammals only?**

A They have lungs.
B They have backbones.
C They are warm-blooded.
D They give milk to their young.

4 **Bill measured the height of each student in his fourth-grade class and found that the girls were taller than the boys. Which of these can he correctly conclude?**

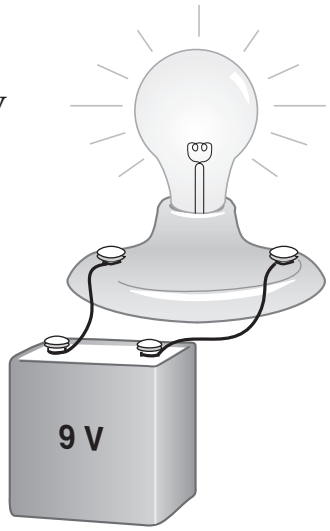
F All girls are taller than boys.
G Girls are usually taller than boys.
H All girls in fourth grade are taller than boys in fourth grade.
J Girls in Bill's fourth-grade class are taller than boys in his class.

5 **Which of these can not be tested scientifically?**

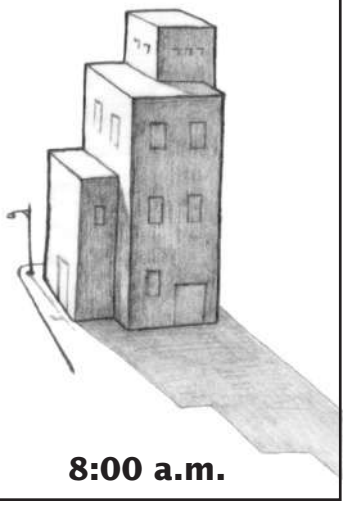
A whether loud rock music can damage hearing
B whether rock music is better than country music
C whether more people like country music or rock music
D whether older people like country music more than young people do

6 **If you use electrical wires to attach a battery to a light bulb, you will make an electric**

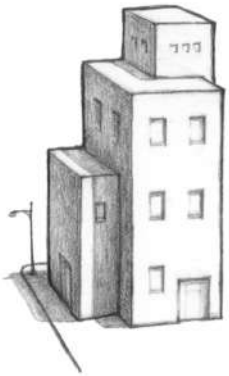
F plug
G switch
H circuit
J motor



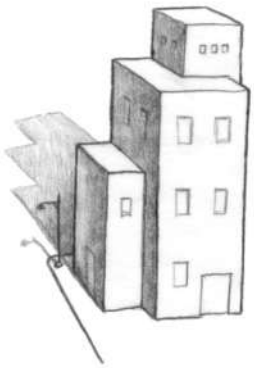
7



8:00 a.m.



12:00 p.m.



5:00 p.m.

What causes the shadow of the building to change throughout the day?

A the sun orbiting Earth
B the sun turning on its axis
C Earth turning on its axis
D Earth traveling around the sun

8 **Which of the following is not matter?**

F wood
G heat
H water
J air

9 **Which of these is the best way to tell if one block of cement has more mass than another block of cement?**

A weigh the blocks on a scale
B measure the height of the blocks
C see which block is widest
D compare the distance around each block

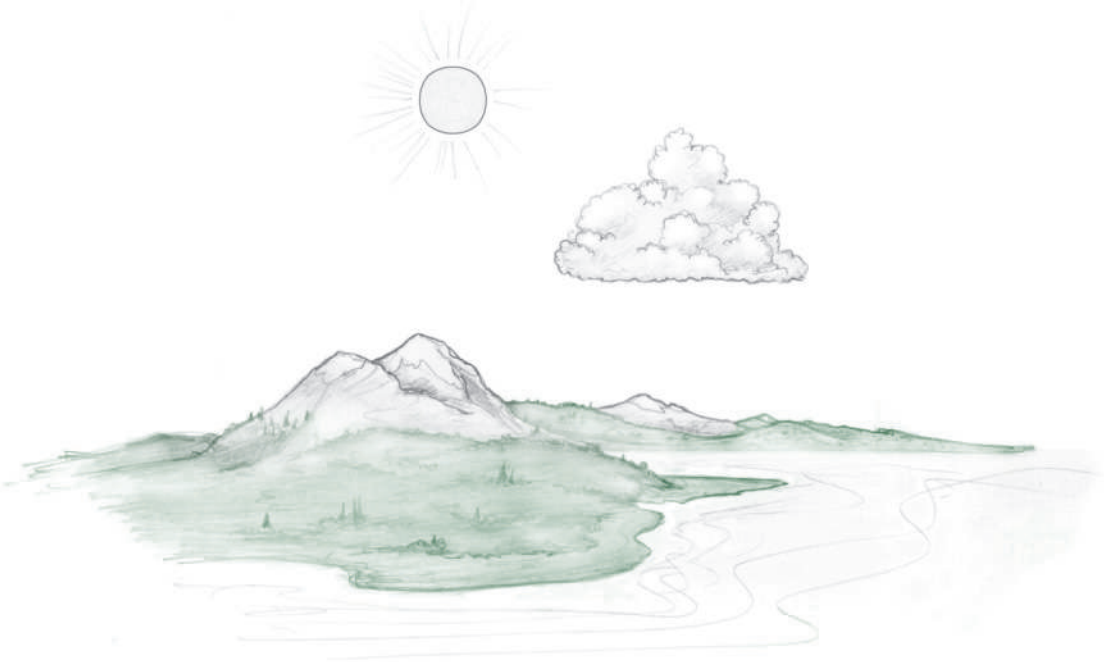
10 **The pictures show an apple tree at different times of the year. Which picture shows when farmers probably want beehives brought to their orchards?**

F

G

H

J



11 **Which of these has the strongest influence in the making of weather?**

A the mountain
B the ocean
C the cloud
D the sun

12 **Some machines use wind, moving water, or the sun to make**

F geothermal power
G natural gas
H crude oil
J electrical energy

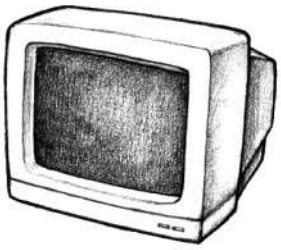
13 **The table below gives information about four different types of breakfast cereals.**

	Cereal A	Cereal B	Cereal C	Cereal D
Fat (grams per cup)	1	1	1	0
Calories (per cup)	90	90	90	70
Salt (milligrams per cup)	340	340	260	230

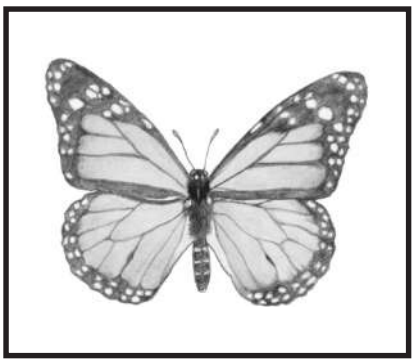
Which cereals have less than 300 milligrams of salt per cup?

_____

14 **Circle the things below that people use to share information and ideas with others that may be far away.**



15



1

2

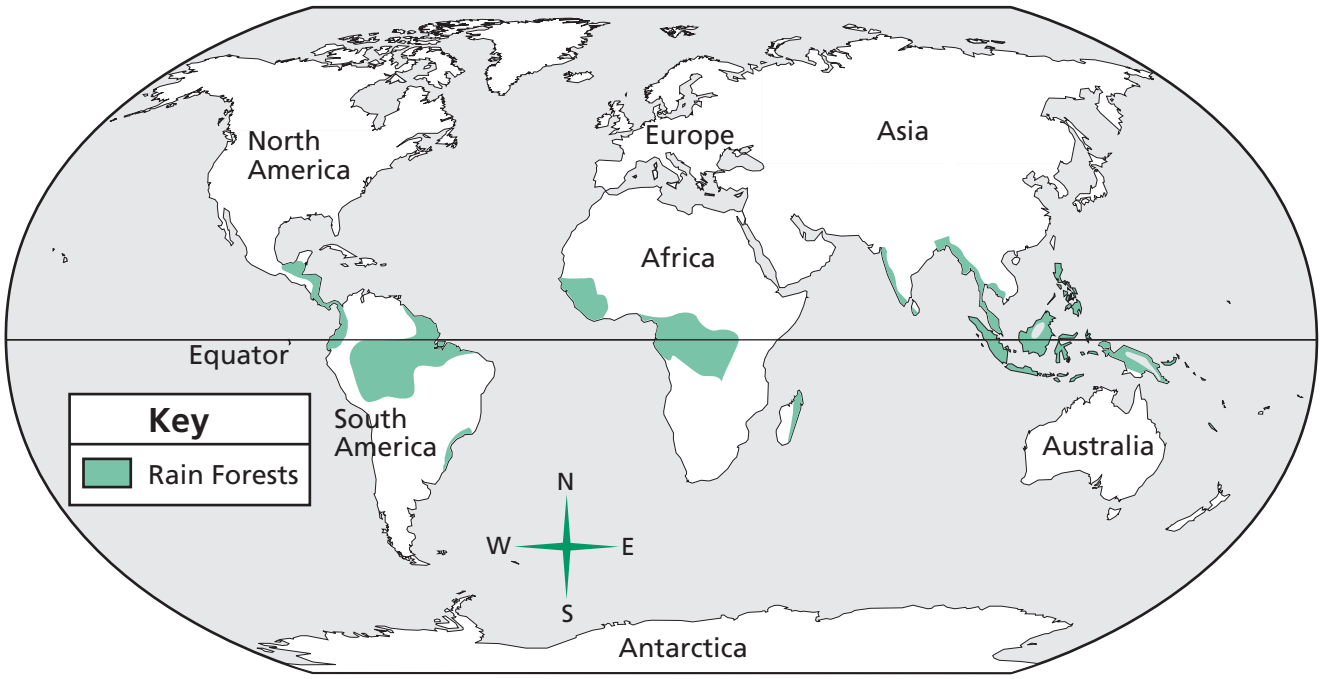
Birds do not eat the butterfly shown in the box because it tastes bitter. Butterfly 1 and butterfly 2 do not taste bitter. Birds eat butterfly 1 but do not eat butterfly 2.

What is the most likely reason that birds do not eat butterfly 2?

Student Name

TROPICAL RAIN FORESTS

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



1 According to the map, which continent has the largest tropical rain forest area?

A Europe
B Australia
C North America
D South America

2 Which of these countries has tropical rain forests?

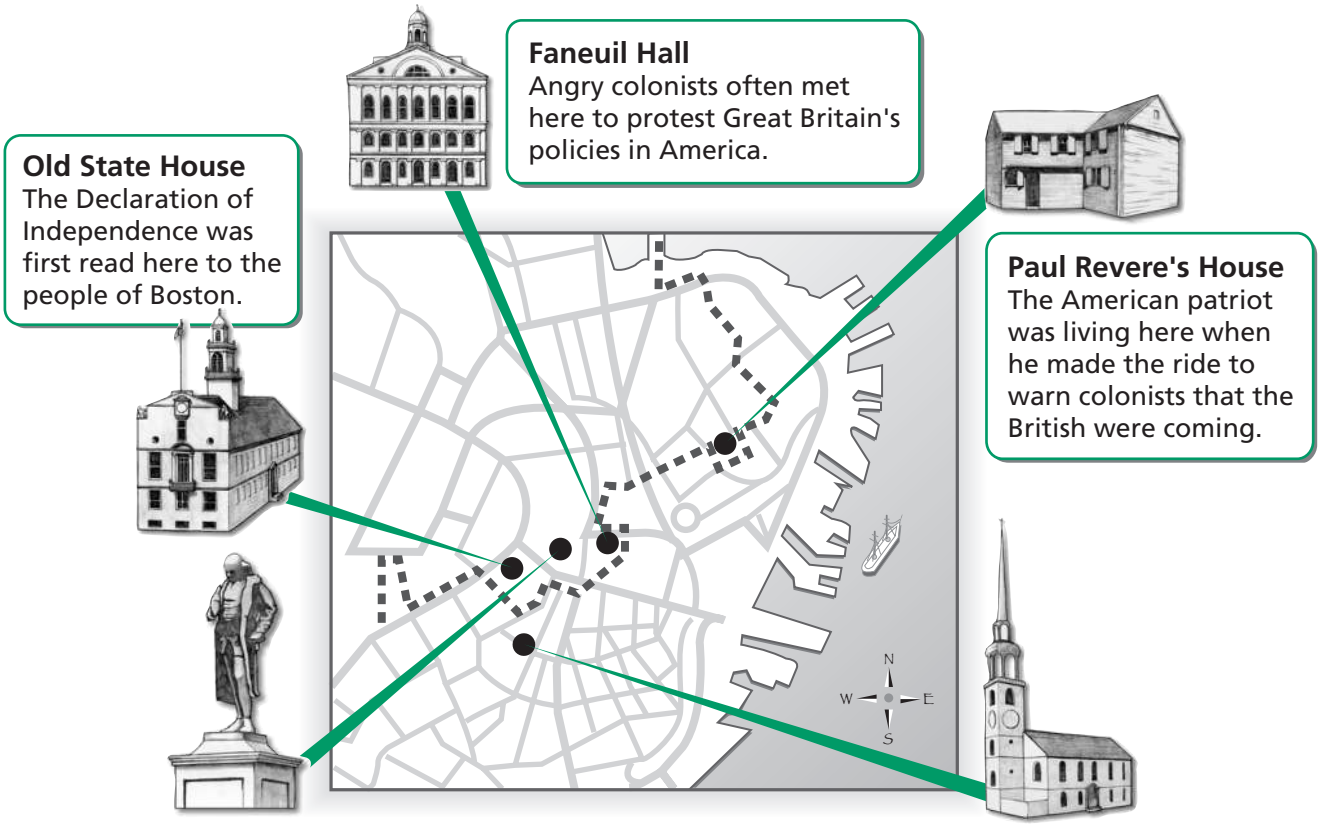
F Brazil
G Canada
H Spain
J Russia

3 Which of these describes <u>all</u> the rain forest areas shown?

A They are located on islands.
B They are located near the equator.
C They are located near the North and South poles.
D They are located in the Northern Hemisphere.

Boston Freedom Trail

Directions **The Freedom Trail is a path that leads to some of Boston's historic landmarks. Use the map, the information below, and your own knowledge to do Numbers 4 through 6.**



4 **The places on the map are mainly associated with the**

F Civil War
G American Revolution
H westward movement of pioneers
J first European exploration of America

5 **Which of these explains why Benjamin Franklin is honored by a statue?**

A He was one of the first United States presidents.
B He was one of the first British colonists.
C He helped form the United States government.
D He led the army that defeated Great Britain.

6 **The main reason the colonists organized the Boston Tea Party was to protest Great Britain's**

F slave trade
G taxes on goods
H war with France
J treaties with Native Americans

A Community Project

Directions **The flow chart below describes some events that took place as part of a community project. Use the flow chart and your own knowledge to do Numbers 7 through 9.**

January 10
Some citizens sign a petition asking the local government to build a history museum.

January 16
At a city council meeting, several citizens speak in favor of a history museum.

February 5
The city council members vote to use city money to build the museum.

March 15
A construction company begins building the museum.

December 20
The museum directors open the museum to the public.

7 **According to the flow chart, who voted to use city money for the museum project?**

A the citizens
B the city council
C the construction company
D the museum directors

8 **Which of these probably happened between February 5 and March 15?**

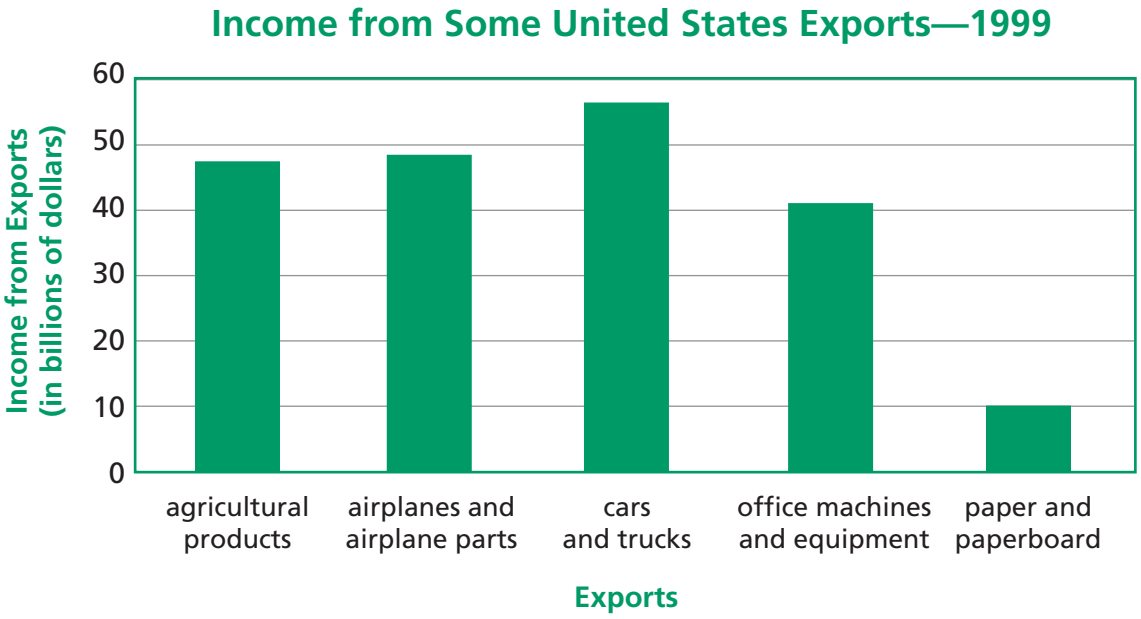
F Carpenters built the walls of the new museum.
G Guides gave tours of the new museum.
H Designers drew up plans for the new museum.
J Citizens asked people to sign a petition for a new museum.

9 **The events described in the flow chart show how**

A voters can choose government leaders
B cities can raise money for new building projects
C museums can find historical objects
D citizens can help to make changes in their communities

UNITED STATES EXPORTS

Directions Use the bar graph below and your own knowledge to do Numbers 10 through 12.



10 About how much income was made from exporting airplanes and airplane parts in 1999?

F $7 billion
G $15 billion
H $28 billion
J $48 billion

11 Which of these products would most likely be included in the "office machines and equipment" section of the graph?

A tractors
B clothing
C computers
D gasoline

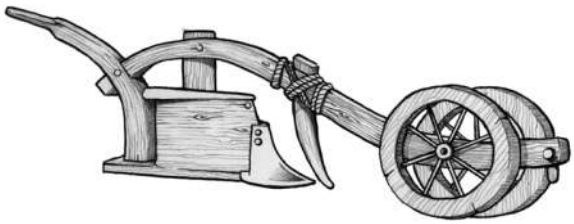
12 A lack of rainfall in the United States would most directly affect the price of

F agricultural products
G airplanes and airplane parts
H cars and trucks
J office machines and equipment

Everyday Life in the American Colonies

Objects Used in Colonial Times

spinning wheel



wooden plow

butter churn

13 **Look at the objects shown above. Then complete the chart below to explain how life today has changed from life in colonial days. An example has been done for you.**

Object	Life in Colonial Days	Life Today
spinning wheel	People used a spinning wheel to make yarn at home.	Yarn is made in factories and sold in stores.
wooden plow		
butter churn		

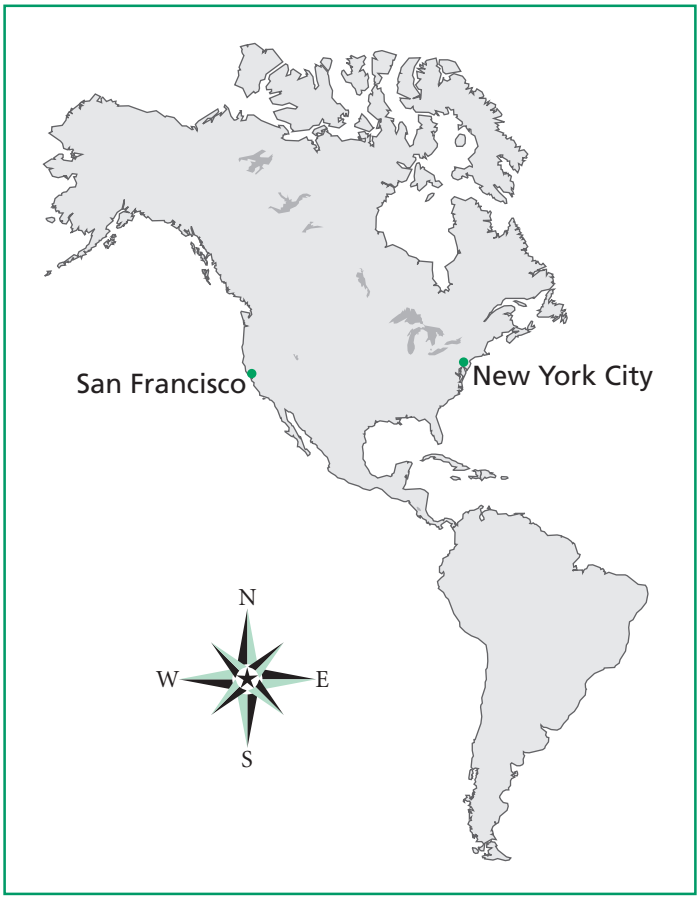
TO CALIFORNIA!

An advertisement for a ship traveling from New York to California in 1849.

Corbis-Bettmann

14 **The ship advertised in the poster above sailed from New York City directly to San Francisco.**

- **On the map, draw a line to show the ship's route.**
- **Now write the names *Pacific Ocean* and *Atlantic Ocean* in the correct places on the map.**



The Bill of Rights Today

Directions **The information below shows some amendments found in the Bill of Rights. Use the information and your own knowledge to do Number 15.**

Some Basic Rights

First Amendment
- freedom of religion
- freedom of speech
- freedom of the press

Fourth Amendment
- protection against having your home searched without a good reason

Sixth Amendment
- right to a trial by jury
- right to have a lawyer

Eighth Amendment
- protection from unfair fines

15 **Read the situations in the chart below. Then complete the chart by doing the following tasks.**

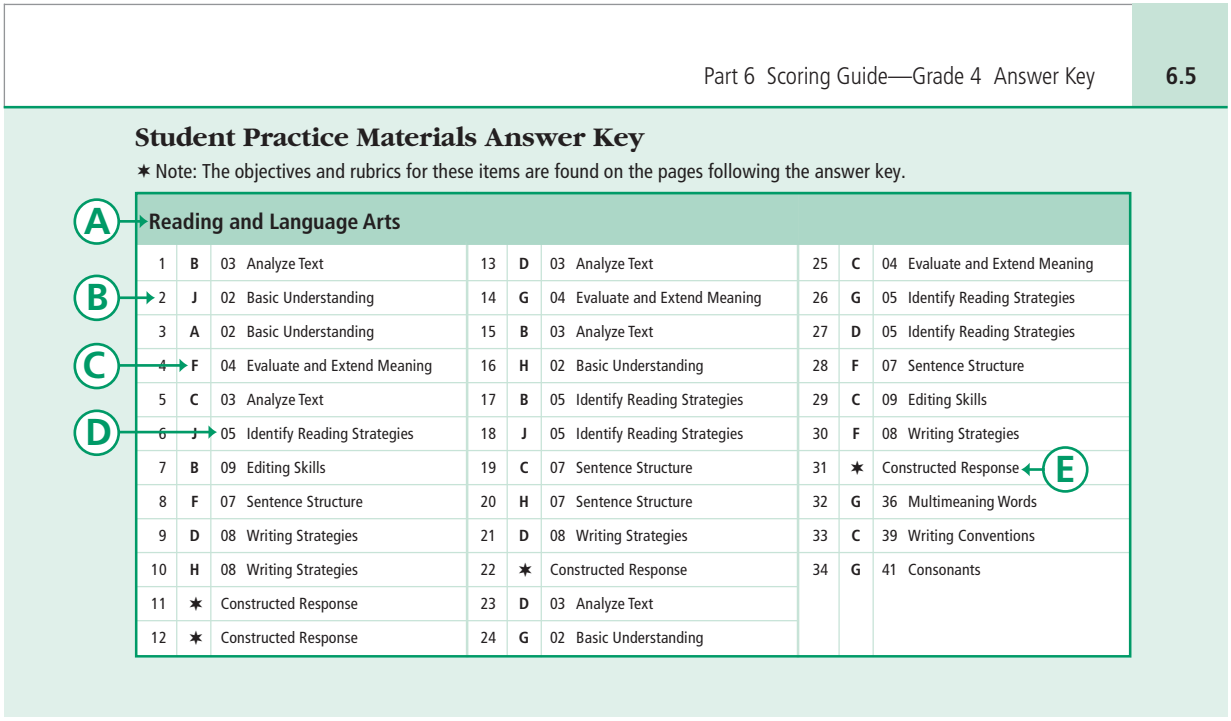
- **Write the number of the amendment which protects a citizen's right in each situation.**
- **Then explain what right that amendment gives to each citizen.**

Situation	Amendment Number	What Right the Amendment Gives to Citizens
At a meeting, a citizen spoke against a new law passed by the city council. The citizen was arrested for expressing an opinion.		
When a citizen was accused of a crime, he asked to have a lawyer. The judge refused.		

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 4 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 4 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.

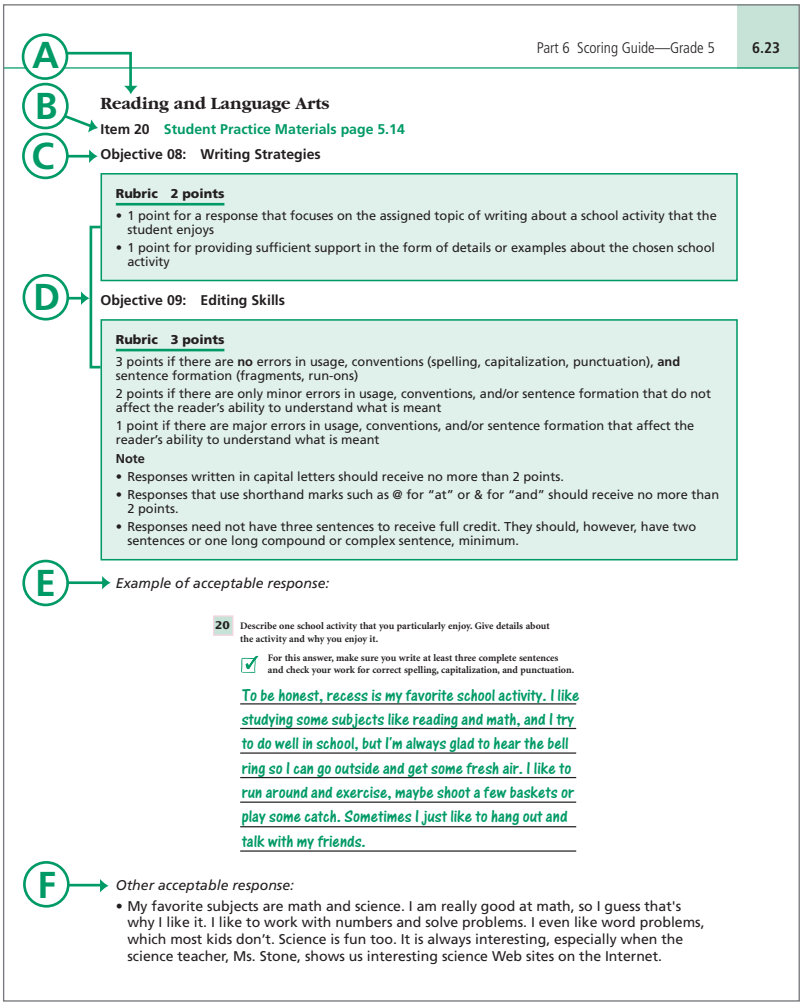
Reading and Language Arts

1	B	03 Analyze Text	13	D	03 Analyze Text	25	C	04 Evaluate and Extend Meaning
2	J	02 Basic Understanding	14	G	04 Evaluate and Extend Meaning	26	G	05 Identify Reading Strategies
3	A	02 Basic Understanding	15	B	03 Analyze Text	27	D	05 Identify Reading Strategies
4	F	04 Evaluate and Extend Meaning	16	H	02 Basic Understanding	28	F	07 Sentence Structure
5	C	03 Analyze Text	17	B	05 Identify Reading Strategies	29	C	09 Editing Skills
6	J	05 Identify Reading Strategies	18	J	05 Identify Reading Strategies	30	F	08 Writing Strategies
7	B	09 Editing Skills	19	C	07 Sentence Structure	31	✶	Constructed Response
8	F	07 Sentence Structure	20	H	07 Sentence Structure	32	G	36 Multimeaning Words
9	D	08 Writing Strategies	21	D	08 Writing Strategies	33	C	39 Writing Conventions
10	H	08 Writing Strategies	22	✶	Constructed Response	34	G	41 Consonants
11	✶	Constructed Response	23	D	03 Analyze Text			
12	✶	Constructed Response	24	G	02 Basic Understanding			

- **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 5. The letters in circles describe how each part of the scoring guide is used.



Part 6 Scoring Guide—Grade 5 6.23

A → **Reading and Language Arts**

B → Item 20 Student Practice Materials page 5.14

C → Objective 08: Writing Strategies

Rubric 2 points

- 1 point for a response that focuses on the assigned topic of writing about a school activity that the student enjoys
- 1 point for providing sufficient support in the form of details or examples about the chosen school activity

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 written in capital letters should receive no more than 2 points.
- 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:*

20 Describe one school activity that you particularly enjoy. Give details about the activity and why you enjoy it.

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

To be honest, recess is my favorite school activity. I like studying some subjects like reading and math, and I try to do well in school, but I'm always glad to hear the bell ring so I can go outside and get some fresh air. I like to run around and exercise, maybe shoot a few baskets or play some catch. Sometimes I just like to hang out and talk with my friends.

F → *Other acceptable response:*

- My favorite subjects are math and science. I am really good at math, so I guess that's why I like it. I like to work with numbers and solve problems. I even like word problems, which most kids don't. Science is fun too. It is always interesting, especially when the science teacher, Ms. Stone, shows us interesting science Web sites on the Internet.

Ⓐ The content area of the Student Practice Materials you administered.

Ⓑ The item that is being scored.

Ⓒ 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.)

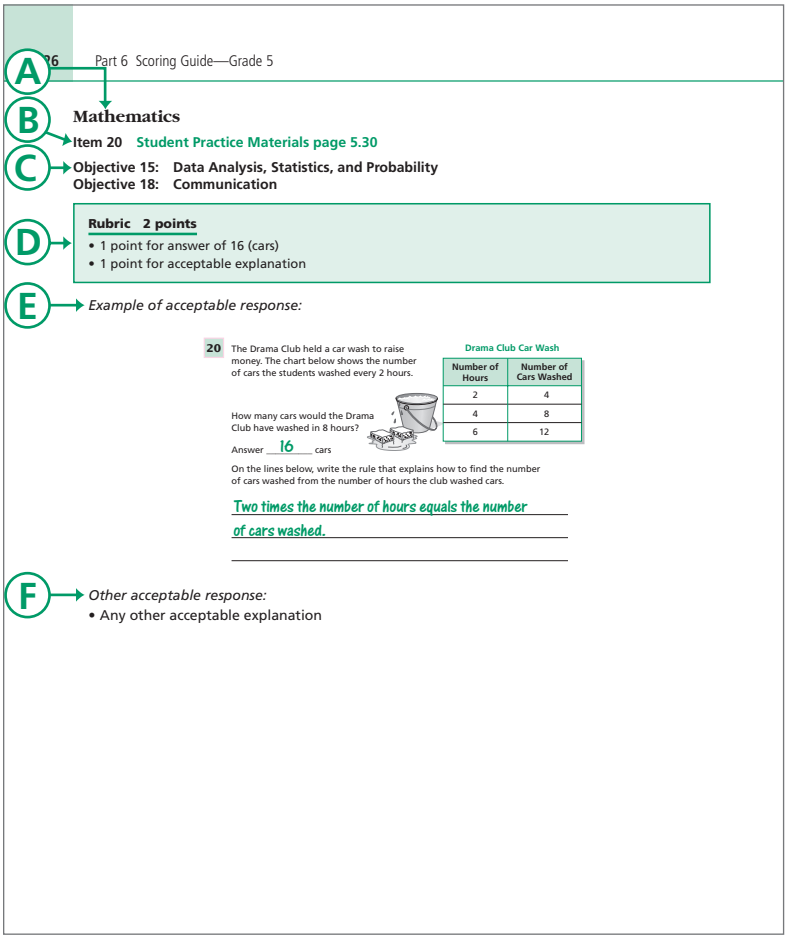
Ⓓ Number of score points. (The rubric tells you how to evaluate student performance and assign score points.)

Ⓔ Example of acceptable response. (A sample student response is printed in color.)

Ⓕ Other acceptable responses.

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 5. The letters in circles describe how each part of the scoring guide is used.



- **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 15 and Objective 18. 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.)
- **F** Other acceptable responses.

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	B	03 Analyze Text	13	D	03 Analyze Text	25	C	04 Evaluate and Extend Meaning
2	J	02 Basic Understanding	14	G	04 Evaluate and Extend Meaning	26	G	05 Identify Reading Strategies
3	A	02 Basic Understanding	15	B	03 Analyze Text	27	D	05 Identify Reading Strategies
4	F	04 Evaluate and Extend Meaning	16	H	02 Basic Understanding	28	F	07 Sentence Structure
5	C	03 Analyze Text	17	B	05 Identify Reading Strategies	29	C	09 Editing Skills
6	J	05 Identify Reading Strategies	18	J	05 Identify Reading Strategies	30	F	08 Writing Strategies
7	B	09 Editing Skills	19	C	07 Sentence Structure	31	✶	Constructed Response
8	F	07 Sentence Structure	20	H	07 Sentence Structure	32	G	36 Multimeaning Words
9	D	08 Writing Strategies	21	D	08 Writing Strategies	33	C	39 Writing Conventions
10	H	08 Writing Strategies	22	✶	Constructed Response	34	G	41 Consonants
11	✶	Constructed Response	23	D	03 Analyze Text			
12	✶	Constructed Response	24	G	02 Basic Understanding			

Mathematics

1	D	10 Number and Number Relations	8	H	10 Number and Number Relations	16	G	11 Computation and Numerical Estimation
2	F	15 Data Analysis, Statistics, and Probability	9	A	14 Geometry and Spatial Sense	17	A	12 Operation Concepts
3	C	13 Measurement	10	G	15 Data Analysis, Statistics, and Probability	18	G	12 Operation Concepts
4	J	11 Computation and Numerical Estimation	11	B	14 Geometry and Spatial Sense	19	✶	Constructed Response
5	C	11 Computation and Numerical Estimation	12	G	16 Patterns, Functions, Algebra	20	✶	Constructed Response
6	F	10 Number and Number Relations	13	C	13 Measurement	21	✶	Constructed Response
7	B	13 Measurement	14	H	17 Problem Solving and Reasoning	22	✶	Constructed Response
			15	B	15 Data Analysis, Statistics, and Probability			

Science

1	C	19 Science Inquiry	6	F	19 Science Inquiry	11	D	24 Personal and Social Perspectives in Science
2	H	20 Physical Science	7	B	21 Life Science	12	J	21 Life Science
3	C	22 Earth and Space Science	8	F	22 Earth and Space Science	13	✶	Constructed Response
4	F	19 Science Inquiry	9	B	23 Science and Technology	14	✶	Constructed Response
5	B	20 Physical Science	10	H	21 Life Science	15	✶	Constructed Response

Social Studies

1	B	26 Geographic Perspectives	6	H	27 Historical and Cultural Perspectives	10	G	29 Economic Perspectives
2	J	26 Geographic Perspectives	7	B	27 Historical and Cultural Perspectives	11	C	29 Economic Perspectives
3	C	26 Geographic Perspectives	8	H	28 Civics and Government Perspectives	12	H	29 Economic Perspectives
4	J	28 Civics and Government Perspectives	9	B	28 Civics and Government Perspectives	13	✶	Constructed Response
5	B	27 Historical and Cultural Perspectives				14	✶	Constructed Response
						15	✶	Constructed Response

Reading and Language Arts

Item 11 Student Practice Materials page 4.8

Objective 09: Editing Skills

Rubric 3 points

- 1 point for changing *hardly* to hard
- 1 point for changing the period after *show* to a comma
- 1 point for lowercasing the *I* in *in which*

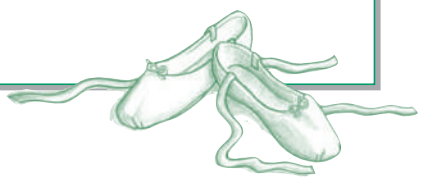
Note

- 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:

11 **Here is a paragraph from a book review. There are three mistakes in grammar, capitalization, and punctuation. Draw a line through each part that has a mistake and write the correction above it.**

Another book by Jill Krementz is the story of a girl named Lauren. She is working ~~hardly~~ hard to become an actress. The book tells about her training, which includes singing and dancing lessons. The book ends with the opening of Lauren's new show, ~~In~~ in which she plays the most important role.



Reading and Language Arts

Item 12 Student Practice Materials page 4.9

Objective 04: Evaluate and Extend Meaning

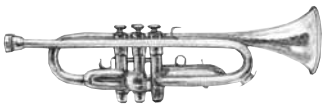
Rubric 2 points

- 1 point for each explanation of how an element of Marsalis's advice helps a person engaged in a specific activity

Example of acceptable response:

12 In the passage, Wynton Marsalis gives Josh Broder three bits of advice about playing the trumpet.

1. practice
2. relax
3. always help others



Think of an activity *other than* playing a musical instrument. Then explain how two of Wynton's bits of advice would probably help a person engaged in that activity.

Activity: Sports.

How the advice would help: No matter what sport you play, it helps to practice. If you're a soccer goalie, you want to practice saves against kicks into the goal. It is always good advice to try to be relaxed, too. You do better than if you're all worried or nervous.

Other acceptable response:

- Math. Wynton Marsalis's advice about practicing is good no matter what you're doing. Take math, for example. The more math problems you do, the better you get at it. Also, you should help people who are having trouble with math. When you explain something to someone, it can help you understand it better too.

Reading and Language Arts

Item 22 **Student Practice Materials page 4.14**

Objective 08: Writing Strategies

Rubric 2 points

- 1 point for focusing on the assigned task of writing about something important learned in school
- 1 point for giving a valid example of how what is learned is helpful

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 written in capital letters should receive no more than 2 points.
- 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:

22 **Annie Sullivan was a good teacher, which helped Helen Keller become a successful adult.**

Think of an important lesson children learn in school. Describe the lesson and give examples of how it helps children become successful.

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

In school, students learn to get along with others. Even out on the playground, teachers help everyone to play fair and give everyone a turn. When you are grown up, you have to get along with others at work, too.

Other acceptable response:

- Reading is the most important subject to learn in school. You have to know how to read to get a good job. You have to know how to read to drive a car or understand directions on a map.

Reading and Language Arts

Item 31 Student Practice Materials page 4.18

Objective 04: Evaluate and Extend Meaning

Rubric 2 points

- 1 point for a response that includes a hypothesis as to what the city's name implies about some geographical feature
- 1 point for a response that ties the geographical feature into some idea from the passage

Example of acceptable response:

31 Sometimes the name of a city can tell us something about why it grew where it did. Think about what you have read in the passage. Choose the name of one city from the list below.

Explain what the city's name tells about the place where the city was built. Using material from the passage, explain why the city you chose probably got its name.

Bridgeport was probably named that because there was a port there. That would make it possible to move goods in and out. There was probably a bridge over a river, too.

Other acceptable responses:

- Farmersville was probably in a place where there was good land to grow crops. Towns begin where there is enough food. Farmers could bring their crops to the town to sell.
- People need food to live. Farmersville probably was in a place near a lot of farms. Farmers could come to town and sell their crops.
- Fort Worth probably grew because there was a fort there. People would feel safe near a fort. There they would be defended.
- People need water to live. Rock Springs is probably a place where water is coming out of the ground. That would make it a good place to start a town.

Mathematics

Item 19 **Student Practice Materials page 4.30**

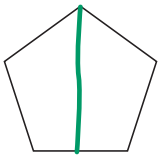
Objective 14: Geometry and Spatial Sense
Objective 18: Communication

Rubric 2 points

- 1 point for a line of symmetry drawn on the figure
- 1 point for an acceptable explanation

Example of acceptable response:

19 Look at the shape below.



Ⓐ Draw a line of symmetry on the shape.

Ⓑ On the lines below, explain how to identify a line of symmetry.

A line of symmetry divides a shape exactly in half.

Other acceptable responses:

Ⓐ Any other line of symmetry

Ⓑ Any other acceptable explanation

Mathematics

Item 20 Student Practice Materials page 4.31

Objective 10: Number and Number Relations
Objective 18: Communication

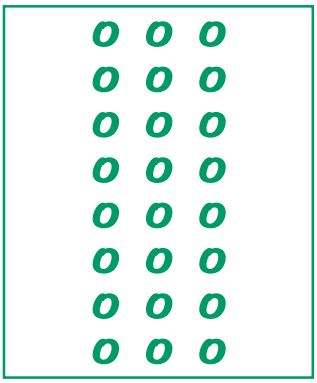
Rubric 2 points

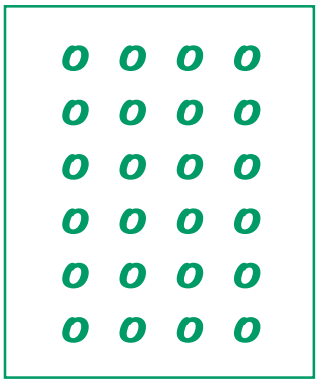
- 1 point for each acceptable way students could have lined up

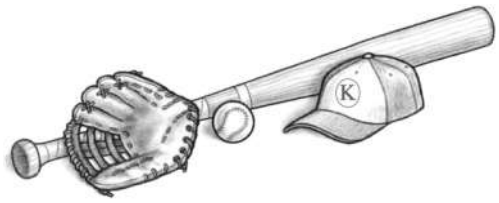
Example of acceptable response:

20 Twenty-four students showed up for baseball team tryouts. The coach wanted the students to line up in rows of equal length.

In the boxes below, draw circles to show 2 different ways the 24 students could have lined up in rows of equal length.







Other acceptable responses:

- 2 rows of 12
- 4 rows of 6
- 3 rows of 8
- 12 rows of 2

Mathematics

Item 21 **Student Practice Materials page 4.32**

Objective 16: Patterns, Functions, Algebra
Objective 18: Communication

Rubric 4 points

- 1 point for a correct answer of 4
- 1 point for the addition sentence 8 + 4 = 12
- 1 point for a correct explanation
- 1 point for the subtraction sentence 12 − 8 = 4 **or** 12 − 4 = 8

Example of acceptable response:

21 Fill in the box to make the number sentence true.

$\boxed{4} + 8 = 12$

Ⓐ Using the same numbers, write a different **addition** number sentence.
Write your answer on the line below.

8 + 4 = 12

Ⓑ On the lines below, explain how you know the addition fact you wrote is correct.

You can add any two numbers in a different order and get the same answer.

Ⓒ Using the same numbers, write a **subtraction** number sentence.
Write your answer on the line below.

12 − 4 = 8

Other acceptable response:

Ⓑ Any other acceptable explanation

Ⓒ 12 − 8 = 4

Mathematics

Item 22 Student Practice Materials page 4.33

Objective 14: Geometry and Spatial Sense
Objective 17: Problem Solving and Reasoning

Rubric 2 points

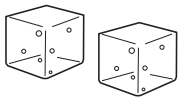
- 1 point for acceptable explanation
- 1 point for answer of 6 (sides)

Note

- Award full credit if the answer line is blank but the answer of 6 sides is included in a correct explanation.

Example of acceptable response:

22 Look at the same-sized ice cubes below.



Stanley says that if the two ice cubes were lined up and joined together to form a rectangular prism, the surface of the new shape would have more sides than a cube.

On the lines below, tell why Stanley is not correct.

Stanley is not correct because a cube has 6 sides and a rectangular prism also has 6 sides.

How many sides would the new shape have?

Answer 6 sides

Other acceptable response:

- Any other acceptable explanation

Science

Item 13 Student Practice Materials page 4.40

Objective 21: Life Science

Rubric 1 point

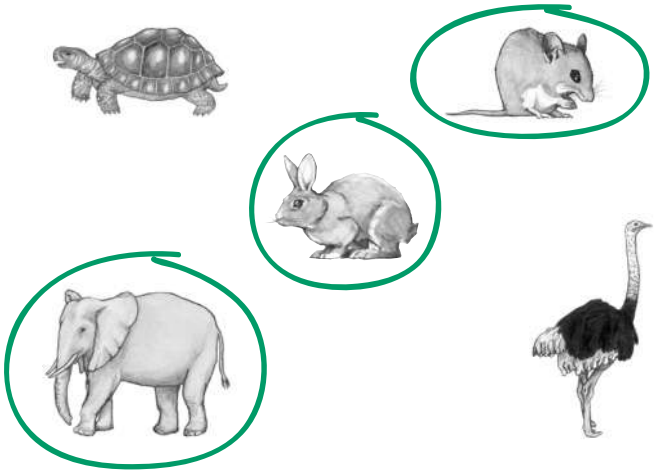
- 1 point for circling or otherwise indicating all three: elephant, mouse, and rabbit

Note

- 0 points if ostrich or turtle is circled.

Example of acceptable response:

13 Some animals, such as chickens, are hatched from eggs. Other animals, such as dogs, are born live. Look at the pictures of the animals below. Circle all the animals that are born live from their mothers.



Science

Item 14 Student Practice Materials page 4.41

Objective 22: Earth and Space Science

Rubric 1 point

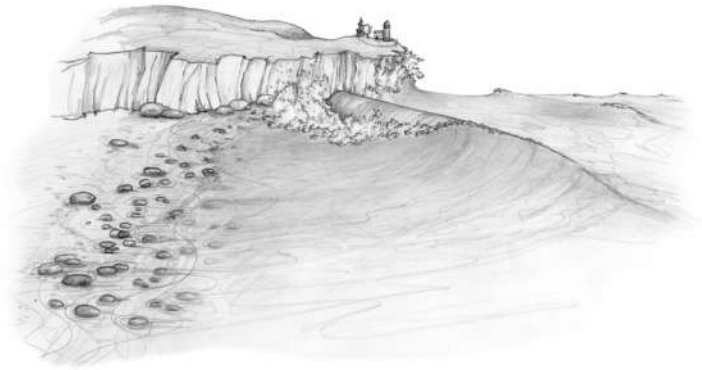
- 1 point for indicating that the waves or the moving sand or both wear down, weather, or smooth the rocks

Note

- Accept waves or wave action, grinding action of stones and/or sand.
- No credit for a response such as "something ate the rocks," or a response that mentions water or salt water only, with no motion involved.

Example of acceptable response:

14 Look at the picture below.



Why are the rocks on the beach rounded and smooth?

The waves pound on them every day.

Science

Item 15 Student Practice Materials page 4.42

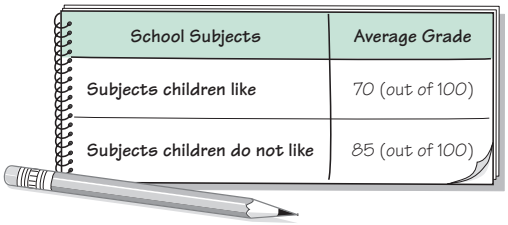
Objective 19: Science Inquiry

Rubric 1 point

- 1 point for circling **NO** and indicating that students get better grades in subjects they don't like

Example of acceptable response:

15 The table below shows how children in one school did in school subjects they like and the subjects they do not like. (School subjects included reading, math, science, writing, and social studies.)



School Subjects	Average Grade
Subjects children like	70 (out of 100)
Subjects children do not like	85 (out of 100)

Does the information in the table show that children get higher grades in the school subjects they like? Circle your answer.

YES or (NO)

Use the information in the table to tell why you answered "Yes" or why you answered "No."

No. The chart shows that averages were better in classes they don't like.

Other acceptable response:

- No, because the average score is lower in classes they like.

Social Studies

Item 13 Student Practice Materials page 4.48

Objective 26: Geographic Perspectives

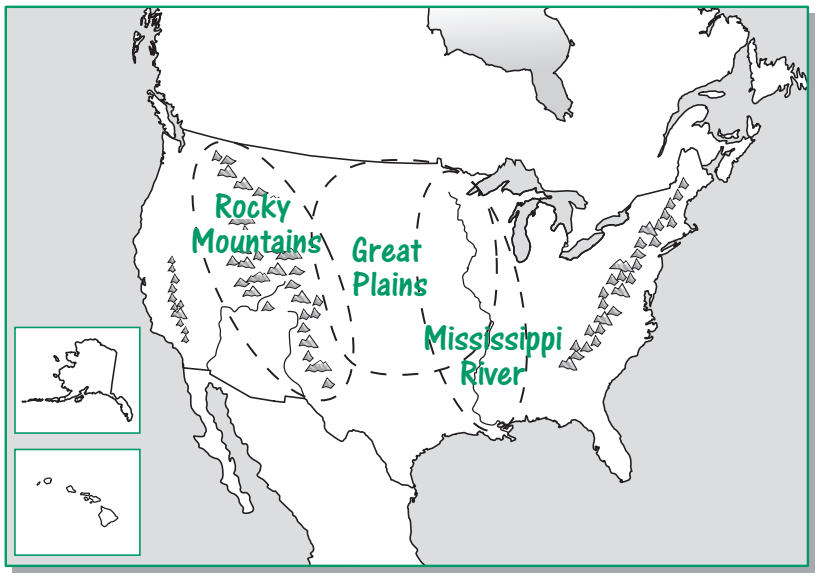
Rubric 3 points

- 1 point for each correctly labeled feature

Note

- Acceptable ranges are indicated by dotted lines.

Example of acceptable response:



13 **On the map above, write the name of each of these features in its correct location.**

Rocky Mountains
Great Plains
Mississippi River

Social Studies

Item 14 Student Practice Materials page 4.48

Objective 26: Geographic Perspectives

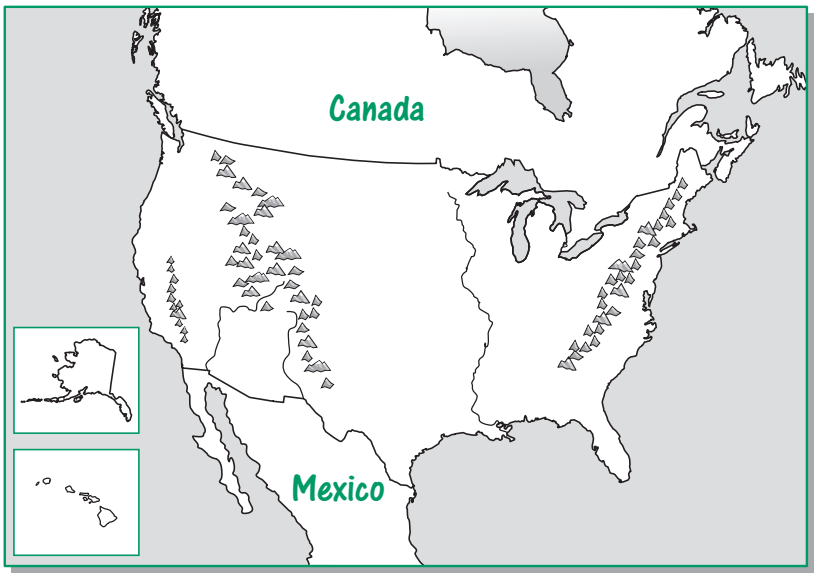
Rubric 2 points

- 2 points for 2 places correctly labeled
- 1 point for 1 place correctly labeled

Note

- Give credit for writing the names *Canada* and *Mexico* anywhere in the respective countries.

Example of acceptable response:



14 **On the map, write the names of these countries in the correct location.**

Canada

Mexico

Social Studies

Item 15 Student Practice Materials page 4.49

Objective 28: Civics and Government Perspectives

Rubric 2 points

- 1 point for naming another community service
- 1 point for explaining why community governments provide services

Note

- Give full credit for responses related to services provided by any level of government.
- Answers may relate to community services in general or to a specific community service.
- Students may discuss why families/individuals don't provide services.

Example of acceptable response:

15 A community government provides many services to its citizens. One service is police protection. Name another service a community government provides.

A community government provides parks.

Why do community governments, and not individuals, usually provide this kind of service?

Governments have more people and money to provide services.

Other acceptable responses:

- any other response related to the services provided by a community government, such as libraries, schools, fire departments, public pools, medical facilities, garbage service, road building/maintenance

Other acceptable responses:

Responses related to:

- ability of the government to organize and to mobilize people/goods/money
- resources available to the government (i.e., people, tax money)
- people don't want to
- people don't have the skills to do some of the things

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	B	03 Analyze Text	13	A	03 Analyze Text	25	D	05 Identify Reading Strategies
2	H	05 Identify Reading Strategies	14	H	04 Evaluate and Extend Meaning	26	H	03 Analyze Text
3	B	02 Basic Understanding	15	A	02 Basic Understanding	27	B	09 Editing Skills
4	F	05 Identify Reading Strategies	16	F	09 Editing Skills	28	J	08 Writing Strategies
5	C	04 Evaluate and Extend Meaning	17	D	07 Sentence Structure	29	C	09 Editing Skills
6	F	08 Writing Strategies	18	G	07 Sentence Structure	30	J	07 Sentence Structure
7	A	07 Sentence Structure	19	✶	Constructed Response	31	✶	Constructed Response
8	J	08 Writing Strategies	20	✶	Constructed Response	32	J	35 Word Meaning
9	✶	Constructed Response	21	C	02 Basic Understanding	33	B	38 Sentences, Phrases, Clauses
10	H	02 Basic Understanding	22	F	05 Identify Reading Strategies	34	F	42 Structural Units
11	D	03 Analyze Text	23	A	05 Identify Reading Strategies			
12	G	03 Analyze Text	24	J	04 Evaluate and Extend Meaning			

Mathematics

1	C	10 Number and Number Relations	8	H	17 Problem Solving and Reasoning	16	J	15 Data Analysis, Statistics, and Probability
2	J	10 Number and Number Relations	9	D	12 Operation Concepts	17	C	11 Computation and Numerical Estimation
3	A	15 Data Analysis, Statistics, and Probability	10	G	16 Patterns, Functions, Algebra	18	H	13 Measurement
4	F	11 Computation and Numerical Estimation	11	C	15 Data Analysis, Statistics, and Probability	19	✶	Constructed Response
5	A	14 Geometry and Spatial Sense	12	F	13 Measurement	20	✶	Constructed Response
6	H	11 Computation and Numerical Estimation	13	C	14 Geometry and Spatial Sense	21	✶	Constructed Response
7	C	10 Number and Number Relations	14	G	10 Number and Number Relations	22	✶	Constructed Response
			15	B	13 Measurement			

Science

1	C	19 Science Inquiry	6	H	20 Physical Science	11	D	22 Earth and Space Science
2	F	24 Personal and Social Perspectives in Science	7	C	22 Earth and Space Science	12	J	23 Science and Technology
3	D	21 Life Science	8	G	20 Physical Science	13	✶	Constructed Response
4	J	19 Science Inquiry	9	A	20 Physical Science	14	✶	Constructed Response
5	B	19 Science Inquiry	10	F	21 Life Science	15	✶	Constructed Response

Social Studies

1	D	26 Geographic Perspectives	6	G	27 Historical and Cultural Perspectives	10	J	29 Economic Perspectives
2	F	26 Geographic Perspectives	7	B	28 Civics and Government Perspectives	11	C	29 Economic Perspectives
3	B	26 Geographic Perspectives	8	H	28 Civics and Government Perspectives	12	F	29 Economic Perspectives
4	G	27 Historical and Cultural Perspectives	9	D	28 Civics and Government Perspectives	13	✶	Constructed Response
5	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 03: Analyze Text

Rubric 2 points

- 1 point for citing a suitable event from the passage (may be quoted or paraphrased)
- 1 point for explaining how the event cited contributes to a sense of mystery or suspense in the story

Example of acceptable response:

9 The passage is about Dr. Röntgen's "mysterious" rays. Which events in the story help to create a feeling of mystery about what is going to happen? Give one example of such an event from the passage and explain how the event adds to the feeling of mystery.

Example of an event from the passage:

The professor keeps looking at his watch and then rushes back to the laboratory.

How the event adds to the feeling of mystery:

It makes you wonder what is going on in the lab that is so important it can't wait.

Other acceptable responses:

- *Example of an event from the passage:* "No one knew what he was investigating behind closed doors."
  How the event adds to the feeling of mystery: This makes the reader want to find out about what Dr. Röntgen is investigating.
- *Example of an event from the passage:* The professor puts Bertha's hand on a photographic plate and turns on a switch.
  How the event adds to the feeling of mystery: The reader thinks something weird is about to happen to Bertha.

Reading and Language Arts

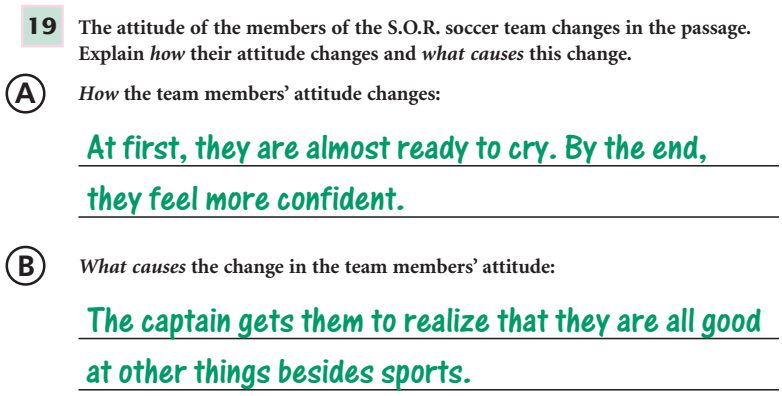
Item 19 Student Practice Materials page 5.14

Objective 03: Analyze Text

Rubric 2 points

- 1 point for characterizing the change in attitude as negative to positive
- 1 point for explaining that the change in attitude is owing to the team members' recognition that (a) they are good at other things besides sports; and/or (b) that losing at soccer is not something they themselves really care about (it's somebody else's concern)

Example of acceptable response:



19 The attitude of the members of the S.O.R. soccer team changes in the passage. Explain *how* their attitude changes and *what causes* this change.

(A) *How* the team members' attitude changes:

At first, they are almost ready to cry. By the end, they feel more confident.

(B) *What causes* the change in the team members' attitude:

The captain gets them to realize that they are all good at other things besides sports.

Other acceptable responses:

(A)
- They are sad at the beginning, but then they cheer up.
- They feel better at the end.

(B)
- They remember that they don't care about sports, even if everybody else does. They like other things.
- They figure out that although other people want them to win, they don't care if they lose.

Reading and Language Arts

Item 20 Student Practice Materials page 5.14

Objective 08: Writing Strategies

Rubric 2 points

- 1 point for a response that focuses on the assigned topic of writing about a school activity that the student enjoys
- 1 point for providing sufficient support in the form of details or examples about the chosen school activity

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 written in capital letters should receive no more than 2 points.
- 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:

20 Describe one school activity that you particularly enjoy. Give details about the activity and why you enjoy it.

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

To be honest, recess is my favorite school activity. I like studying some subjects like reading and math, and I try to do well in school, but I'm always glad to hear the bell ring so I can go outside and get some fresh air. I like to run around and exercise, maybe shoot a few baskets or play some catch. Sometimes I just like to hang out and talk with my friends.

Other acceptable response:

- My favorite subjects are math and science. I am really good at math, so I guess that's why I like it. I like to work with numbers and solve problems. I even like word problems, which most kids don't. Science is fun too. It is always interesting, especially when the science teacher, Ms. Stone, shows us interesting science Web sites on the Internet.

Reading and Language Arts

Item 31 Student Practice Materials page 5.19

Objective 09: Editing Skills

Rubric 3 points

- 1 point for changing the comma after *town* to a period
- 1 point for capitalizing the *l* in *later*
- 1 point for changing *most big* to *biggest*

Example of acceptable response:

31 **This paragraph has three mistakes in grammar, capitalization, and punctuation. Draw a line through each part that has a mistake, and write the correction above it.**

Al, Otto, Alf, Charlie, and John Ringling always loved the circus. As children, they put on shows for the people of their town. ~~later~~ Later the brothers formed their own circus. At first they did not sell many tickets, but they did not quit. Soon they had one of the ~~most big~~ biggest circuses in the country.

Mathematics

Item 19 Student Practice Materials page 5.29

Objective 12: Operation Concepts
Objective 17: Problem Solving and Reasoning

Rubric 2 points

- 1 point for correctly placing all three symbols
- 1 point for acceptable explanation

Example of acceptable response:

19 Use the symbols +, −, ×, or ÷ to make this number sentence true.
You may use any symbol more than once.

(10 [—] 1) [÷] 3 [—] 2 = 1

To check your answer, which step should you perform first? Explain your answer on the lines below.

The first step is to subtract 10 – 1, because the parentheses are done first.

Other acceptable response:

- Any other acceptable explanation

Mathematics

Item 20 **Student Practice Materials page 5.30**

Objective 15: Data Analysis, Statistics, and Probability
Objective 18: Communication

Rubric 2 points

- 1 point for answer of 16 (cars)
- 1 point for acceptable explanation

Example of acceptable response:

20 The Drama Club held a car wash to raise money. The chart below shows the number of cars the students washed every 2 hours.

Drama Club Car Wash

Number of Hours	Number of Cars Washed
2	4
4	8
6	12

How many cars would the Drama Club have washed in 8 hours?

Answer 16 cars

On the lines below, write the rule that explains how to find the number of cars washed from the number of hours the club washed cars.

Two times the number of hours equals the number of cars washed.

Other acceptable response:

- Any other acceptable explanation

Mathematics

Item 21 Student Practice Materials page 5.30

Objective 15: Data Analysis, Statistics, and Probability
Objective 17: Problem Solving and Reasoning

Rubric 2 points

- 1 point for answer of $\frac{5}{12}$
- 1 point for answer of $\frac{4}{11}$

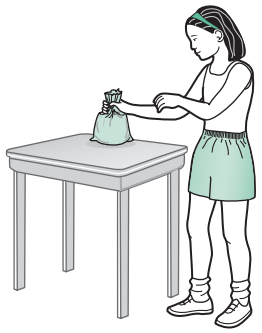
Note

- Award 1 point if second answer is correct based on incorrect first answer.

Example of acceptable response:

21 Erica has a bag of candy. There are 5 green candies and 7 blue candies in the bag. What is the probability that, without looking, Erica will choose a green candy?

Answer $\frac{5}{12}$



After eating one piece of green candy from the bag, what is the probability that, without looking, Erika will choose another green candy next?

Answer $\frac{4}{11}$

Mathematics

Item 22 Student Practice Materials page 5.31

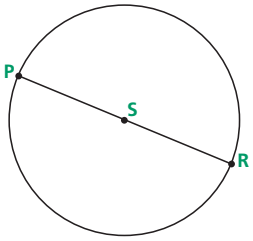
Objective 13: Measurement
Objective 18: Communication

Rubric 2 points

- 1 point for answer of 2 (inches)
- 1 point for acceptable explanation

Example of acceptable response:

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



What is the diameter of the circle?

Answer 2 inches

On the lines below, explain how you can use the length of the diameter to find the length of the radius.

The diameter is 2 times the length of the radius,
so divide the diameter by 2.

Other acceptable responses:

- Divide the diameter by 2.
- Any other acceptable explanation

Science

Item 13 Student Practice Materials page 5.38

Objective 19: Science Inquiry

Rubric 1 point

- 1 point for indicating that both cereals C and D have less than 300 milligrams of sodium per cup

Example of acceptable response:

13 The table below gives information about four different types of breakfast cereals.

	Cereal A	Cereal B	Cereal C	Cereal D
Fat (grams per cup)	1	1	1	0
Calories (per cup)	90	90	90	70
Salt (milligrams per cup)	340	340	260	230

Which cereals have less than 300 milligrams of salt per cup?

C and D

Science

Item 14 Student Practice Materials page 5.38

Objective 23: Science and Technology

Rubric 1 point

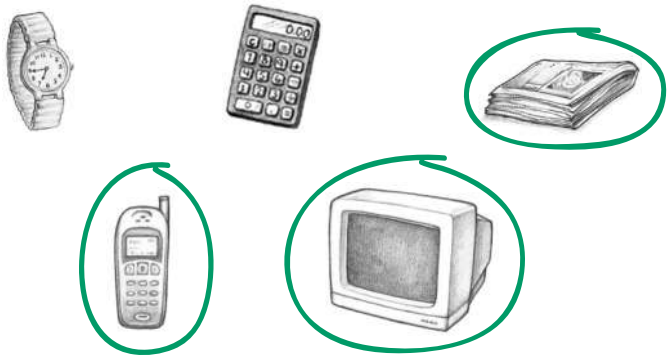
- 1 point for circling or otherwise indicating all three: television, newspaper, and telephone

Note

- 0 points if watch or calculator is circled.

Example of acceptable response:

14 Circle the things below that people use to share information and ideas with others that may be far away.



Science

Item 15 Student Practice Materials page 5.39

Objective 21: Life Science

Rubric 1 point

- 1 point for indicating that butterfly 2 looks like the butterfly in the box

Note

- No credit for a response that says butterfly 2 tastes bad.

Example of acceptable response:

15

1

2

Birds do not eat the butterfly shown in the box because it tastes bitter. Butterfly 1 and butterfly 2 do not taste bitter. Birds eat butterfly 1 but do not eat butterfly 2.

What is the most likely reason that birds do not eat butterfly 2?

Birds don't like to eat the butterfly in the box, so they won't eat butterfly 2 because it looks like the butterfly in the box.

Other acceptable response:

- They think it will taste bad.

Social Studies

Item 13 Student Practice Materials page 5.46

Objective 27: Historical and Cultural Perspectives

Rubric 2 points

2 points for correctly completing four boxes
1 point for correctly completing 2 or 3 boxes

Example of acceptable response:

13 **Look at the objects shown above. Then complete the chart below to explain how life today has changed from life in colonial days. An example has been done for you.**

Object	Life in Colonial Days	Life Today
spinning wheel	People used a spinning wheel to make yarn at home.	Yarn is made in factories and sold in stores.
wooden plow	People did plowing by hand.	People today use tractors.
butter churn	People made butter at home.	People buy butter at the store.

Other acceptable responses:

Wooden Plow (Colonial Days)
- Plows were made of wood.
- Plows were pulled by horses.
- Plows were used for farming/growing food.
- Plowing was hard work.

Wooden Plow (Today)
- Plows are made of steel/metal.
- Machines are used for plowing.
- Plowing is easier.
- People don't have to grow their own food/people can buy food in stores.

Butter Churn (Colonial Days)
- Butter was made in a churn.
- People churned their own butter.

Butter Churn (Today)
- Butter is made in dairies/plants.

Social Studies

Item 14 Student Practice Materials page 5.47

Objective 26: Geographic Perspectives

Rubric 2 points

- 1 point for drawing the line on the map showing the route the ship took: from New York, around the tip of South America, and north to San Francisco
- 1 point for labeling the Pacific Ocean and the Atlantic Ocean in the correct places on the map

Example of acceptable response:

14 The ship advertised in the poster above sailed from New York City directly to San Francisco.

- On the map, draw a line to show the ship's route.
- Now write the names *Pacific Ocean* and *Atlantic Ocean* in the correct places on the map.

Social Studies

Item 15 Student Practice Materials page 5.48

Objective 28: Civics and Government Perspectives

Rubric 3 points

3 points for 4 boxes correctly filled in
2 points for 3 boxes correctly filled in
1 point for 2 boxes correctly filled in

Note

- Give no credit for generalized responses such as "because citizens are protected by the Bill of Rights" or "because it is against the First/Sixth Amendment."

Example of acceptable response:

15 **Read the situations in the chart below. Then complete the chart by doing the following tasks.**

- **Write the number of the amendment which protects a citizen's right in each situation.**
- **Then explain what right that amendment gives to each citizen.**

Situation	Amendment Number	What Right the Amendment Gives to Citizens
At a meeting, a citizen spoke against a new law passed by the city council. The citizen was arrested for expressing an opinion.	First (1)	freedom of speech
When a citizen was accused of a crime, he asked to have a lawyer. The judge refused.	Sixth (6)	right to have a lawyer

Other acceptable responses:

First: responses related to the idea that a person has a right to express an opinion

Sixth: responses related to the idea that a person has a right to legal representation

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.

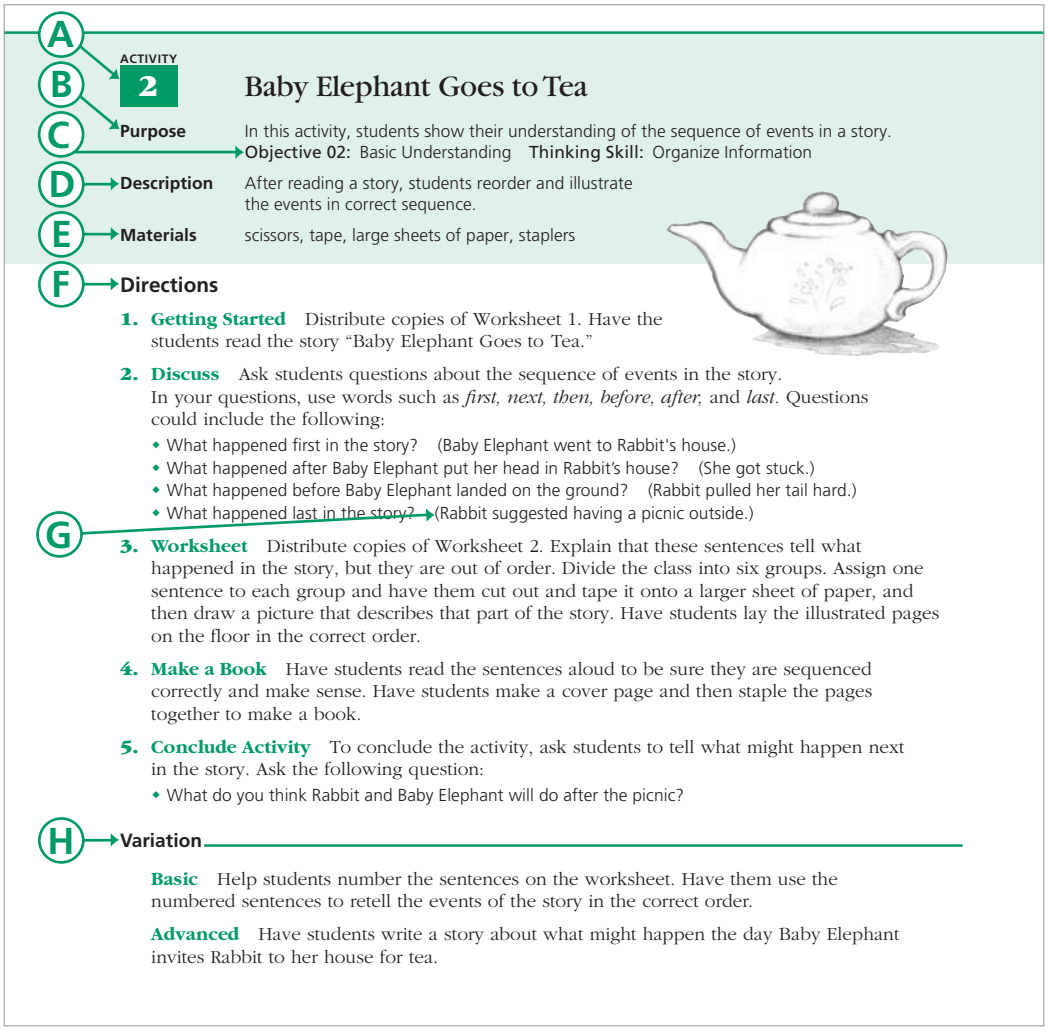
With some activities, a prompt, passage, or worksheet has been included and can be found on separate pages immediately following the activity. These materials are suggested for teacher use and can be substituted or expanded with other appropriate selections. Before beginning an activity, it is recommended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



ACTIVITY 2

Baby Elephant Goes to Tea

Purpose In this activity, students show their understanding of the sequence of events in a story.
Objective 02: Basic Understanding **Thinking Skill:** Organize Information

Description After reading a story, students reorder and illustrate the events in correct sequence.

Materials scissors, tape, large sheets of paper, staplers

Directions

1. **Getting Started** Distribute copies of Worksheet 1. Have the students read the story "Baby Elephant Goes to Tea."
2. **Discuss** Ask students questions about the sequence of events in the story. In your questions, use words such as *first, next, then, before, after,* and *last.* Questions could include the following:
   - What happened first in the story? (Baby Elephant went to Rabbit's house.)
   - What happened after Baby Elephant put her head in Rabbit's house? (She got stuck.)
   - What happened before Baby Elephant landed on the ground? (Rabbit pulled her tail hard.)
   - What happened last in the story? (Rabbit suggested having a picnic outside.)
3. **Worksheet** Distribute copies of Worksheet 2. Explain that these sentences tell what happened in the story, but they are out of order. Divide the class into six groups. Assign one sentence to each group and have them cut out and tape it onto a larger sheet of paper, and then draw a picture that describes that part of the story. Have students lay the illustrated pages on the floor in the correct order.
4. **Make a Book** Have students read the sentences aloud to be sure they are sequenced correctly and make sense. Have students make a cover page and then staple the pages together to make a book.
5. **Conclude Activity** To conclude the activity, ask students to tell what might happen next in the story. Ask the following question:
   - What do you think Rabbit and Baby Elephant will do after the picnic?

Variation

Basic Help students number the sentences on the worksheet. Have them use the numbered sentences to retell the events of the story in the correct order.

Advanced Have students write a story about what might happen the day Baby Elephant invites Rabbit to her house for tea.

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. A list of materials needed. Materials that are common to classrooms (paper, pencils, etc.) or that are provided in this binder (passages, worksheets), are not listed.
F. Complete directions for each step of the activity.
G. Answers (in parentheses) are provided in some cases as a convenience to teachers.
H. Alternate ways to approach the activity. Some activities provide basic and more advanced activities for those students who need additional practice or enrichment.

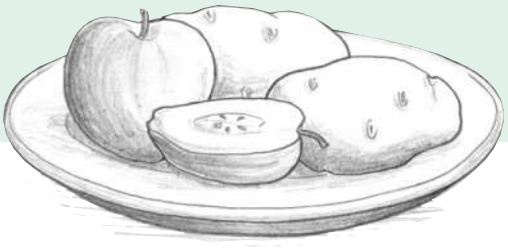
Reading and Language Arts Teaching Activities

ACTIVITY
1

What's Cooking?

Purpose Students show basic understanding by identifying stated information.
Objective 02: Basic Understanding
Thinking Skill: Gather Information

Description Students read a passage and a recipe and fill out a chart using information from the recipe.



Directions

1. **Getting Started** Ask students to name some of their favorite vegetables. If *potato* is not mentioned, suggest it. Discuss different ways potatoes are prepared in the United States, e.g., chips, French fries, potato salad, soup, baked, or mashed potatoes. Explain to students that potato dishes are served in many countries around the world.

2. **Worksheet** Distribute copies of the worksheets. Have students read the paragraph on Worksheet 1. Ask questions that require students to state information from the article, e.g.,
   - What's the Italian word for potato? (patata)
   - What's the French word for potato? (pomme de terre)
   - What's the Russian word for potato? (kartofel)

3. **Discuss** Refer to Worksheet 2. Point out how the organization of information in a recipe highlights important facts, such as the ingredients and utensils required. Ask students to state two important uses of numbers in a recipe. Explain that numbers in recipes serve as measurements, telling how much of each ingredient is needed. Numbers also tell the order of the steps for preparation. Explain that students are going to read a recipe for a popular Jewish and Eastern European dish, known by the Yiddish word *latkes* (potato pancakes). When they have finished reading, ask students the following questions:
   - What kitchen utensil is used to make the potato gratings fine and smooth? (food processor)
   - What ingredient is used to fry the latkes? (oil, butter, or shortening)
   - How should the latkes look when they are fully cooked? (golden and fluffy)
   - How many people does this recipe serve? (four)
   - What toppings are suggested for the latkes? (applesauce and sour cream)

   Ask the students to read through the directions again and determine which utensils are needed to make the latkes. Then have them list the utensils under the heading "Utensils You Will Need."

4. **Conclude Activity** Encourage students to be creative and modify this recipe by using different ingredients or a different kind of topping. Have them write their new recipe on the back of the worksheet.

Variation

Basic Have students bring their own recipes to compile in a class cookbook. Have students work in groups to arrange the class cookbook into categories, such as *breakfast, lunch,* and *dinner* or *main dishes, side dishes, snacks,* and *desserts.*

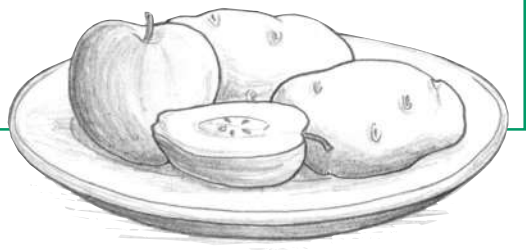
Advanced Ask students to determine proportions of one ingredient to another, e.g., *If you doubled the amount of potatoes, how would the amounts of the other ingredients in the recipe have to be changed?*

Name _____

What's Cooking?–Worksheet 1

Directions: Read the paragraph and be prepared to answer questions about it.

The potato is popular throughout the world and is known by many different names. Would you like to order a potato in Spain or Italy? Ask for a *patata.* In France, you might order *pomme de terre.* And in Finland, you might like a *peruna.* In the markets of Colombia, you might ask about the price of a *papa.* And in Russia, you could ask the chef to cook some *kartofel* in your *borscht,* or beet soup. One thing is certain: no matter where you travel, a potato by any other name will taste just as terrific as it does right here at home!



Name _____

What's Cooking?–Worksheet 2

Directions: Look at the ingredients, and read the steps in the Recipe Directions below. Use this information to think about the utensils you will need for each step in this recipe. List them under the heading "Utensils You Will Need." Then, on the back of the page, create your own latke recipe. Use different ingredients, such as sweet potatoes, or think of another kind of topping for your latkes.

Potato Latkes

Ingredients:	Utensils You Will Need:
3 large potatoes 1 lemon to squeeze for juice 1 onion 1 egg 2 tablespoons flour 2 teaspoons baking powder 1/4 teaspoon each, salt and pepper 1 tablespoon butter, oil, or shortening Applesauce Sour Cream	

Recipe Directions:

1. Peel the potatoes and grate them. Place them in a large bowl of cold water. Add lemon juice.
2. After 30 minutes, drain the potato gratings and squeeze them dry with your hands. Run the gratings through a food processor until they are smooth. Transfer the mixture to a large bowl. Add a grated onion, a lightly beaten egg, flour, baking powder, salt and pepper. Stir until smooth.
3. Put a skillet over medium heat. Add butter, oil, or shortening. Drop the potato mixture (by tablespoonfuls) into the skillet. Cook until golden and fluffy on one side. Flip the latkes and cook the other side. Place on a rack and keep warm in an oven preheated to 250°.
4. Cook the remaining latkes in the same way. Serve hot, topped with applesauce or sour cream.

   Serves 4.

ACTIVITY **2**

What's the Big Idea?

Purpose Students identify the theme or main idea of a story.
Objective 03: Analyze Text **Thinking Skill:** Analyze Information

Description Students review the definitions of *fable* and *theme*. Then they read assorted fables to determine the moral or lesson of each story.

Directions

1. **Getting Started** Remind students that a fable is a story that teaches a lesson. The story's lesson is called its *moral*. Have a volunteer retell a familiar fable, such as "The Tortoise and the Hare" or "The Lion and the Mouse." Then have students determine the moral of each story. Discuss how the story elements in each fable lead to the moral. Point out that the moral of a fable is its *theme,* or the fable's main idea.

2. **Worksheet** Distribute copies of the worksheet. Tell students that you are going to read the first fable on the worksheet. Ask them, as they read along, to look for ways in which the story events point to the main idea, theme, or moral.

3. **Discuss** Help students determine the main idea by asking the following questions:
   - How did Camel feel as he watched Monkey? (jealous)
   - Why did Camel decide to dance? (to get attention)
   - What is the moral of this story? (Don't try to be something you are not.)
   - What's another way of stating it? (A good friend will like you for who you are.)

4. **Conclude Activity** Ask students to read the other two fables on the worksheet and answer the questions. Review the answers as a class and discuss the moral, or theme, of each one.

Variation

Basic Read each fable with the students. At the end of each fable, provide two choices for the moral of the story and have students choose the one that fits.

Advanced Have students write a fable whose moral is *Being first isn't always being best* or a fable based on a moral of their own choosing. As you read stories together, have students determine whether or not each story has a moral, and if so, state what the moral is.

Name _____

What's the Big Idea?–Worksheet

Directions: Read the passage. Think about the main idea.

The Monkey and the Camel

One day, the desert animals had a party. Everyone was happy when Monkey arrived, for she was the best dancer.

"Please dance for us, Monkey," they sang out.

So, Monkey danced and put on a great show.

But Camel was jealous of all the attention his friend was getting. Soon, Camel began to dance and put on his own show. His head went one way; his tail went another. One leg went up, while the other went out. He looked so silly that the animals began to laugh, but that just made Camel dance harder until he became all tangled up. In no time at all, he fell flat on his face.

"That's what you get for trying to be a show-off!" said Monkey.

Directions: Read the next two fables. Then answer the question just below each fable. The answer will provide the main idea.

The Fox and the Crow

Fox saw Crow with a piece of cheese in her beak. Fox was hungry, so he walked right up to Crow.

"Good morning, Crow," said Fox. "How beautiful you look today! Your feathers are so shiny! Your eyes are so bright!"

Crow liked being flattered and she smiled, but the cheese was still in her beak.

"Crow, could you please sing for me? I am certain that your song is even more beautiful than you are."

So Crow opened her mouth and screeched, "Caw, caw, caw!"

The piece of cheese fell from her mouth into the waiting jaw of the fox. Fox gulped it down and said, "Thank you! That was what I wanted. Now I will give you some advice."

1 What advice do you think Fox will give to Crow?

_____

_____

Name _____

What's the Big Idea?–Worksheet (continued)

The Dog and His Reflection

One day a dog found a piece of meat, so he carried it home to eat. On the way, he passed a river. When he paused, he looked down into the still, black water and saw his reflection. He thought it was another dog with a bigger piece of meat. So he jumped into the water and opened his mouth to grab it. When he stood up in the water, the meat had disappeared along with his reflection.

2 What lesson might the dog have learned from this experience?

_____

_____

ACTIVITY 3

Erin's Lunch Box: A Mini-Mystery

Purpose Students show comprehension by drawing conclusions about a story.
Objective 03: Analyze Text **Thinking Skills:** Analyze Information; Evaluate Outcomes

Description Students read a story and draw conclusions about characters and events, based on prior knowledge and clues in the story.

Directions

1. **Getting Started** Tell students that an author doesn't always describe every single event or every single aspect of a character. Readers sometimes have to draw conclusions about what happens in a story. Explain that readers do this by thinking about what they already know, using information the author supplies, and using their own judgment about events in a story.

2. **Worksheet** Distribute copies of the worksheet. Explain that students are going to read a story called "Erin's Lunch Box: A Mini-Mystery." Tell them that as they read they are going to learn more about the characters and events in the story.

3. **Discuss** Have students read Part 1 of "Erin's Lunch Box." When they have finished reading, ask students the following questions:
   - When the story begins, is Erin having a good day or a bad day? How can you tell? (She's having a good day; she is proud of her new lunch box and has received a compliment from a friend.)
   - How does Erin feel after Carla bumps into her? (She's probably annoyed and confused because her friend didn't apologize for knocking her lunch out of her hand.)
   - By the end of Part I, is Erin having a good day or a bad day? How can you tell? (She's having a bad day; her birthday has gotten off to a bad start because she has lost her lunch box.)

   Now have students read Part 2 of "Erin's Lunch Box." When they have finished, ask students the following questions:
   - Why does Erin reach for her lunch box? (She has probably forgotten that it is missing.)
   - Why does Erin check the lost-and-found before heading off for lunch? (She's probably hoping that someone has turned it in.)
   - Does Carla's behavior seem suspicious? Why or why not? (Yes, Carla is smiling for no reason and generally acting strangely.)

   Finally, have students read Part 3, the conclusion of "Erin's Lunch Box." When they have finished, ask students the following questions:
   - Why do you think Erin stares at Carla without answering her? (She probably doesn't know what to make of Carla's strange behavior.)
   - Why is Erin's birthday something out of the ordinary? What traditionally happens on April Fools' Day? (Her birthday is on April Fools' Day, which is traditionally an occasion for playing practical jokes.)
   - What can you conclude about Carla and Ricky? Give two or three words to describe them. (Carla and Ricky are friends. They also like to play tricks.)

4. **Conclude Activity** To help children draw conclusions about the characters in the story, point out that what the characters do and say tells a lot about them. Draw character webs and guide students to the following conclusion: *Carla and Ricky are probably Erin's best friends.*

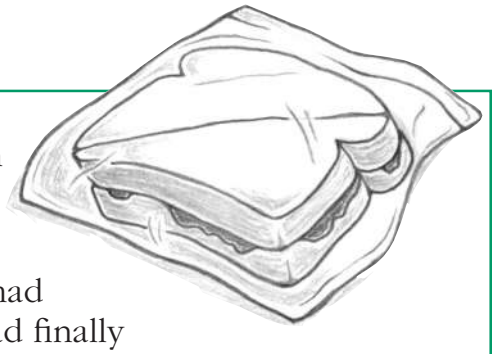
Variation

Have students write an alternative ending to the story. Have them read their stories to their classmates.

Name _____

Erin's Lunch Box: A Mini-Mystery–Worksheet

Part 1



I was walking to school carrying my new lunch box when Ricky passed me on his bike.

"Hey, Erin!" he called. "Cool lunch box!"

Ricky was right. It *was* very cool. For a year, I had been bringing my lunch in a paper bag. My dad had finally bought me a new lunch box for my birthday. On it were pictures of my favorite television actors.

I was turning into the schoolyard when Carla bumped me from behind. My lunch box fell out of my hand. As it hit the ground, the latch sprang open and a sandwich, chips, and celery spilled out on the lawn.

"That's got to be the best-fed grass around!" Carla joked. Nearby, Ricky and a couple of his friends started laughing.

I stood there waiting for an apology from Carla, but she just waved and skipped up the steps to school. By the time I turned around, my lunch box was gone—and so was my lunch!

Not a great way to start your birthday, Erin, I thought as I slowly started up the steps.

Part 2

When the lunch bell rang, I reached under my desk. Then I remembered—my lunch box wasn't there! I checked the lost-and-found at the back of the room, but it was nowhere to be found.

"Line up, students!" Mr. Quintero said.

I stood at the classroom door with the rest of my class. Looking around, I noticed Carla smiling at me.

What was going on?

Name _____

Erin's Lunch Box: A Mini-Mystery–Worksheet (continued)

Part 3

In the lunchroom, I sat down at a table. I had nothing to eat, so I sipped a glass of water. Carla came over and sat down beside me.

"I'm sorry, Erin," she said. "I didn't mean to make you drop your lunch box."

I stared at her. If she was sorry, why was she grinning? Just then, Ricky came over to the table. He was hiding something behind his back.

"April fools!" Carla and Ricky both chanted.

Ricky brought his hand out from behind his back and handed me my lunch box.

When I opened it, I found three cupcakes with "HAPPY BIRTHDAY, ERIN!" written in frosting.

"I guess that's what I get for being born on April Fools' Day," I said. Then we each ate a cupcake to celebrate my birthday—and our very *fool*–ish friendship.

ACTIVITY 4

Beginnings

Purpose Students evaluate an author's effectiveness in getting the reader's attention.
Objective 04: Evaluate and Extend Meaning
Thinking Skills: Analyze Information; Synthesize Elements

Description Students read the opening passages of both a fiction and a nonfiction piece and evaluate whether the author is successful in getting the reader's attention.

Directions

1. **Getting Started** Ask students how they decide whether or not they want to read a new book. Students may suggest that the cover, the title, and the subject matter of the book all play a role. Ask students if they ever read the first few pages of a book to see if it interests them. Point out that the beginning of a piece of writing is very important in determining whether or not one might like to read it.

2. **Worksheet** Distribute copies of the worksheet. Explain that students are going to read two "beginnings," or opening lines, of two different passages. As a class, they are going to determine how effective each beginning is.

3. **Discuss** Have a student read aloud the opening lines of "What Did It Say?" Then ask students the following questions:
   - What do you think this article is going to be about? (animal communication)
   - What kinds of animals does the author tell about? (gorillas, horses, and dogs)
   - Does the author leave any unanswered questions? Would you like to know more? (Yes; the questions make you want to know more.)
   - Would you like to read on? Why or why not? (Students might say they would like to read on to find out more about these and other animals.)
   - Did the author get your attention? How? (Students might say the author was successful in getting their attention with amusing animals, an interesting subject, or with unanswered questions that made them want to read on.)

4. **Read Aloud** Ask for a volunteer to read aloud the opening lines of "The Music Room" on the worksheet. Ask students the following questions:
   - Look at the two pieces: "What Did It Say?" and "The Music Room." Which one is fiction and which one is informational? ("The Music Room" is fiction; "What Did It Say?" is an informational article.)
   - Explain why you think so.
   - What parts of the story is the writer leaving to your imagination? (Something strange is going on; the small figure is possibly a reduced version of Mrs. Andrews, the piano teacher.)
   - Would you like to read on? Why or why not? (Students might say they would like to read on to find out what happened in the music room.)
   - Has the author captured your attention? (Students might say that the author has captured their attention with all these mysterious details.)

5. **Evaluate** Finally, have students read the opening lines of "The Eggs" and write a list of three to five questions that will help them evaluate how successful this story beginning is. Have them answer their own questions and formulate their own judgments about the success of the passage. Then ask students to share their questions and answers with the rest of the class.

6. Conclude Activity Take a survey of students to determine how many think the author of "The Eggs" was successful in capturing the reader's attention. Ask students the following question:

- Why is it important for an author to grab your attention at the beginning of a story or an informational article? (A strong beginning makes the reader want to read more to find out what happens next. A weak beginning quickly "turns off" the reader to the substance of the book.)

Variation

Basic Read aloud the first page of a story. Have students tell whether or not they would want to read more, and have them tell why.

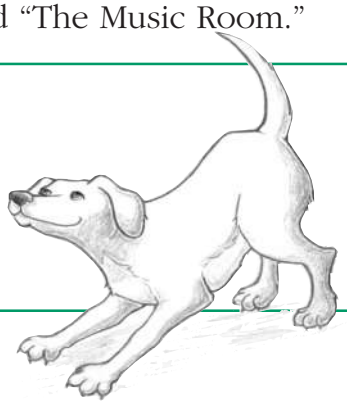
Advanced Have students write their own opening lines to a story. Have other students tell how these stories might turn out.

Name _____

Beginnings–Worksheet

Directions: Read the opening lines of "What Did It Say?" and "The Music Room."

What Did It Say?



Gorillas stick out their tongues. Horses rub noses. Dogs stretch their front legs out in front of them. What are they doing? What are they saying?

The Music Room

Yakeem clutched his music to his chest. He pushed open the door to the music room.

Tick, tock. Tick, tock. The only sound in the room was the sound of the clock. Although it was a hot day, the window was closed. Mrs. Andrews' music was in a neat pile beside the metronome. But where was Mrs. Andrews?

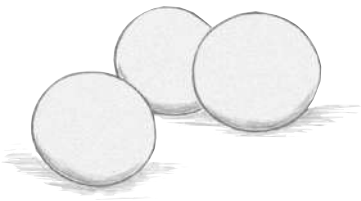
"Yakeem! Yakeem!" a soft voice called from behind the piano.

Yakeem put his music down on the bench and tiptoed closer to the piano. He saw a small figure where only dust balls should have been.

"What are YOU doing here?" he asked.

Directions: Read the opening lines of "The Eggs." On the back of this page, write three to five questions to help you decide how successful this beginning is. Then answer your own questions to help you decide whether or not you would want to read on.

The Eggs



Matt had been sitting in the same spot for three hours. He bent his head over the small box that held the tan ovals. He brushed off the ones on the left. Then he sat up and stared at them. Then he brushed some more.

"Matt!" his boss said. "Take a break! Those dinosaur eggs aren't going anywhere today."

Matt kept working. He knew these were not just ordinary eggs. They might be the proof he needed to show that dinosaur mothers cared for their young.

ACTIVITY 5

What's Next?

Purpose Students show comprehension by making predictions.
Objective 04: Evaluate and Extend Meaning
Thinking Skills: Synthesize Elements; Evaluate Outcomes

Description Students read a passage, predict what will happen next, and compare the outcome of the story with their predictions.

Directions

1. **Getting Started** Explain that as we read, we can better understand and enjoy a story by making predictions about what will happen next.
2. **Worksheet** Distribute copies of the worksheet. Have students read "A Good Kick." Then have them predict what will happen next in the story and write an ending related to their predictions.
3. **Discuss** Have students share their predictions with their classmates.
4. **Conclude Activity** Read the end of the story, shown below. Ask students to compare their predictions with what actually happened in the story.

> "Cason!" Coach Dodd yelled across the soccer field. She always calls me by my last name. She gestured for me to come to the sidelines.
>
> "What's up, Coach?"
>
> Mr. Paxton, the girls' flag football coach, spoke first, "Our team needs a strong player to kick field goals."
>
> I stared at him with disbelief. I had played soccer for many years, but I had never played flag football.
>
> "Would you mind trying out?" Mr. Paxton asked.
>
> I looked at Coach Dodd. She smiled and said, "Go for it. But you still have to play with us."

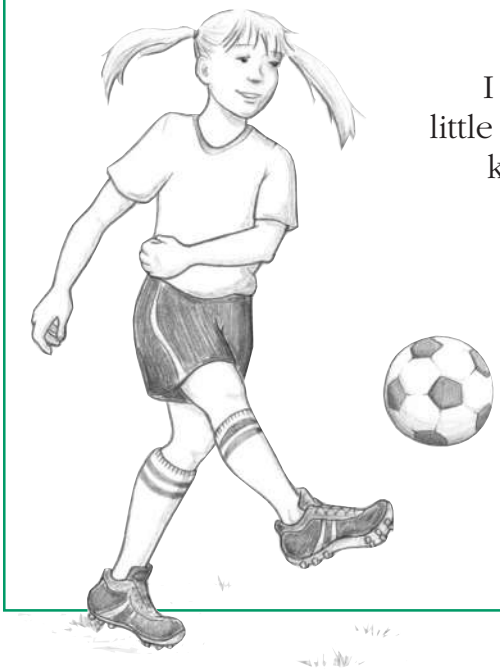
Variation

Suggest different situations and have students choose one. For example, the girl in the story could be nervous and kick the ball wildly; she could fall down in front of the coach; or she could be called over to the coach to talk to him again. Then have students tell what happens next.

Name _____

What's Next?–Worksheet

Directions: Read the story. On the lines below, write one sentence that tells what you think will happen next. Then write an ending to the story based on what you predict.



A Good Kick

I have always loved to kick things. When I was a little girl, I kicked rocks. I kicked sticks and cans. I kicked any object I could find.

When I started school, I discovered soccer. Not only could I kick things, but when I kicked the ball into the net, people cheered!

I was pretty good, and my teammates always passed the ball to me so I could kick it inside the other team's goal.

Then one day when I was sixteen, the girls' flag football coach saw me kick. That day my life changed.

1 What do you think happened next? Write your answer.

_____

_____

2 Suggest an ending to the story, related to your prediction.

_____

_____

_____

_____

_____

ACTIVITY
6

Just the Facts

Purpose Students summarize what they read.
Objective 05: Identify Reading Strategies
Thinking Skills: Gather Information; Synthesize Elements

Description Students identify important details from announcements and newspaper articles in order to summarize what they read.

Directions

1. **Worksheet** Distribute copies of the worksheets. Ask students to read the poster advertising the "Holly Fair" on Worksheet 1.

2. **Discuss** Explain that this poster organizes the information in a way that makes it easy to see what is important about the fair. Have students circle the important facts and events. Ask for volunteers to answer the following questions:
   - What is the main event?
   - Where will the fair be held?
   - When will the fair take place?
   - What snacks will be served?
   - Why should people attend?

   Have a volunteer list the less important information on the poster.

3. **Summarize** Next, work with students to write two sentences that summarize or tell the most important things about the fair (e.g., "On Saturday, December 11, come and enjoy the Holly Fair at Wordsworth Hall from 8:00 a.m. to 4:00 p.m. The Holly Fair will have a play, a puppet show, hot food, arts and crafts, and even face painting.").

4. **Summarize Individually** Refer to Worksheet 2. Have students read the article, "Eagles Swoop Down on Gators." Tell them to work individually or in pairs to write a summary of the article. Explain that they can use the *5Ws—who, what, where, when,* and *why*—to help them summarize the article. Or they can ask themselves the following questions:
   - What is this article mainly about?
   - What information is most important?
   - What information is less important?

5. **Conclude Activity** Ask students the following question:
   - When might you want to read a summary of an article? (when you want just the essential information and want it quickly)

Variation

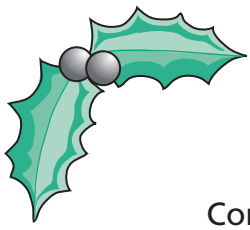
Basic To help students summarize the announcement, strike out any superfluous sentences or information. Have students use the remaining text to write their summaries.

Advanced Have students choose a news feature from a newspaper and write a summary paragraph about it. Repeat this procedure, using many different kinds of newspaper stories (e.g., local, national, and international news articles; the arts section; the sports section; the editorial columns).

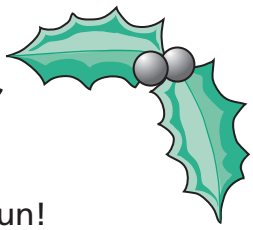
Name _____

Just the Facts–Worksheet 1

Directions: Read the poster below.



Holly Fair



Come one, come all! Join the fun!

Want to find some unique gifts?
We have Arts and Crafts for sale.

Want to get warm?
We have hot apple cider, hot dogs, and popcorn.

Want to dress up?
We offer Face Painting.
Fun for One! Fun for All!

Where? Wordsworth Hall
When? Saturday, December 11
From 8:00 a.m. to 4:00 p.m.
Why? To have the time of your life!

And, Check This Out!
1:00 p.m. "The Snow Ride," a play by Eric Rogers
3:00 p.m. "Goldilocks and the Three Bears," a puppet show

Name _____

Just the Facts–Worksheet 2

Directions: For a school newsletter, you have been asked to write a summary about your local high school's latest basketball game. What is the challenge? You must do it in only two sentences! Read the newspaper article about the event, and write your summary on a separate sheet of paper.

Eagles Swoop Down on Gators

Friday was a day the Boynton Bay Eagles will not forget. After losing the last five basketball games, they finally brought back a win for the home team.

It was a dark day for the Lake Worth Gators. They had been only one game away from a championship. That dream died yesterday when the Eagles won 60 to 59.

"I just think we wanted to win more than Lake Worth," said the Eagles' team captain, Gabriel Ferrar. He had attempted four straight shots from the foul line and made them all. His game total came to 18 points.

"I just had a good day," Ferrar said.

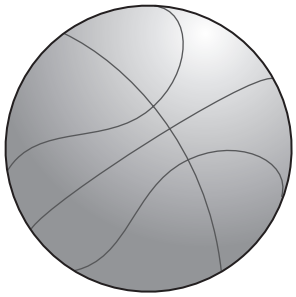
The captain of the Gators, Marc Miguel, said, "Everything we have worked for just disappeared. We were one game short of being champions, and we blew it."

Lake Worth Coach Bobby Scott added, "The Eagles were on. Our timing was off. It was a tough game, and the Eagles deserved to win."

During the first half, it seemed the Gators could do no wrong. At the buzzer they were ahead 35 to 24, and things looked bad for the Eagles.

Then something happened. Maybe it was too many fouls against the Gators. Maybe it was the raw determination of the Eagles. Whatever it was, the Eagles came out for the second half bound for glory. Meanwhile, the Gators simply ran out of steam. By the end of the third quarter, the score was 48 to 48, and the Eagles had a rally going.

In the last quarter, each team squared off against the other. They ran up and down the court, each team matching a goal for a goal. Then the buzzer sounded. The Eagles had won. Their losing streak was finally over!



Hint In writing a summary of a newspaper article, remember to include the answers to five questions about the story: *who? what? where? when? why?*

ACTIVITY 7

Overcoming Obstacles

Purpose Students summarize ideas and make connections between texts.
Objective 05: Identify Reading Strategies **Thinking Skill:** Evaluate Outcomes

Description Students identify parallels between the life of a historical figure and that of a contemporary sports star.

Directions

1. **Getting Started** Brainstorm with students and create a list of names of people they admire. Draw a two-column chart on the board listing "Name" and "Attitude That Helped Them." Encourage students to think of family members and friends, as well as famous people.
2. **Discuss** Discuss the adversities or hardships these people may have had to overcome to achieve their goals. Guide students to see how they can summarize such people's lives to serve as lessons in perseverance, responsibility, creativity, flexibility, compassion, and other fine qualities of character. Have students use a dictionary to define these terms.
3. **Worksheet** Distribute copies of the worksheet. Have students read the brief biographies—"A Will to Read" and "From Gold to Silver"—and answer the questions that follow.
4. **Conclude Activity** Have volunteers share their responses with the rest of the class.

Variation

Basic Read aloud the situations below. Ask students which of the two biographies they might read to friends as inspiration for achieving their goals:

- Your best friend is a great speller. She is selected to go to the all-state spelling bee. When she gets onstage, she is so scared that she cannot even say her name. This friend would probably be inspired by the story of _____. ("From Gold to Silver")
- A new student arrives at school. He can't speak a word of English, and no one at home can help him. After thirty minutes in class, he is confused and frustrated, but he is determined to learn to speak English. This student would probably be inspired by the story of _____. ("A Will to Read")

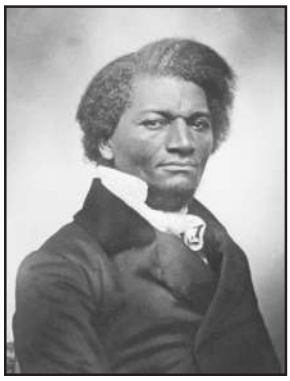
Advanced Have students read more about Frederick Douglass to learn about his role as an abolitionist. Then have students research a contemporary civil rights leader, such as Dr. Martin Luther King, Jr., and make connections between his life and that of Frederick Douglass. Alternatively, ask sports enthusiasts to do the same activity for Midori Ito, making connections between her life and that of another sports figure.

Name _____

Overcoming Obstacles–Worksheet

Directions: Read the passages. Then answer the questions that follow.

A Will to Read



Frederick Douglass was a well-known writer and speaker who lived in the 1800s. He was also an ***abolitionist,*** someone who worked to free the slaves.

Douglass himself was born a slave. When he was very young, his master's wife began to teach him to read. When his master found out, he became angry. The master reminded his wife that it was illegal to teach a slave to read.

Still, Frederick wanted to learn to read more than anything else in the world. He devised a plan. When he ran errands in town, Frederick secretly brought a book with him. He tried to make friends with boys who already knew how to read. Soon, one boy agreed to give Frederick reading lessons in exchange for a gift of bread.

From Gold to Silver

In 1992, Midori Ito was a skating star. She was chosen to perform in the Olympics. Her home country of Japan expected her to bring back the gold.

The week before the competition, Midori became nervous. She stopped smiling. She missed jumps. She became quiet.

When it was time to skate on her first day of Olympic Competition, Midori went onto the ice and jumped. She fell, and her hopes for a gold medal shattered. The next day, newspapers in Japan read, "MIDORI FAILS."

But Midori had other plans.

Midori forgot her bad performance. On the last day of the competition, she took a chance. She tried a triple axel, a difficult twist and jump. She did it! The crowd roared. No one had ever completed such a jump in the Olympics.

Midori won a silver medal, not the gold. Still, it was a sweet victory—she had achieved what seemed impossible!

Name _____

Overcoming Obstacles–Worksheet (continued)

1 Douglass and Ito each had obstacles to overcome in order to achieve their goals. Describe the obstacles for each one.

2 Both Douglass and Ito found a way to overcome obstacles. Describe what each one did.

3 What can Frederick Douglass's experience teach you about learning to do something important when others try to prevent you?

4 What can Midori Ito's experience teach you about trying hard to accomplish something even though you've failed before?

ACTIVITY **8**

Silly Sentences

Purpose Students demonstrate their knowledge of subjects and predicates.
Objective 07: Sentence Structure **Thinking Skill:** Synthesize Elements

Description Students use subjects and predicates to create silly sentences.

Materials scissors, paste

Directions

1. Getting Started Write the following on the board:

A complete sentence expresses a complete thought using a "subject" and a "predicate."

Subject	Predicate
1. Example of a simple subject	**1. Example of a simple predicate**
"The fifth-grader	*plays soccer."*
who or what	what the subject does, has, or is
2. Complete subject	**2. Complete predicate**
"The athletic fifth-grader plays soccer every afternoon."	
all the words in the subject	all the words in the predicate

Talk with students about what a complete sentence is. Remind them that a complete sentence expresses a complete thought and needs a *subject* and a *predicate*. The *simple subject* tells who or what the sentence is about. The *complete subject* includes all the words that tell about the subject. The *simple predicate* tells what the subject is, has, or does. The *complete predicate* includes all the words in the predicate that tell about the predicate.

After showing students the subject and predicate in a simple subject, have a volunteer draw one line beneath the subject and two lines beneath the predicate of the complete subject and complete predicate of the second sentence. Use a "sentence of the week" to give them additional practice.

2. Discuss Next, tell students that you are going to read some sentence fragments, and point out that these are incomplete thoughts. As you read each fragment aloud, ask students which part of the sentence it represents—the subject or the predicate.

- Our current class president
- Tomorrow's field trip
- cracks the whip as he holds out a flaming hoop of fire
- are the only two states not located in the continental United States

Once each sentence part has been correctly identified, have a volunteer complete each thought by adding a subject or predicate, and then writing each sentence on the board.

3. **Worksheet** Distribute copies of the worksheet. Have partners work together to cut each sentence into two parts: the complete subject and the complete predicate.
4. **Conclude Activity** Have each pair of students read aloud the sentence parts to be sure they have been cut apart correctly. Ask student pairs to correct any errors as you work through this review process. Finally, have students mix and match the sentence parts to make silly sentences. Students may also add sentences of their own to include in the mix.

Variation

Basic Have students circle the simple subject and the simple predicate in each sentence before choosing the complete subject and complete predicate.

Advanced Have students create new silly sentences by changing the subjects and predicates.

Name _____

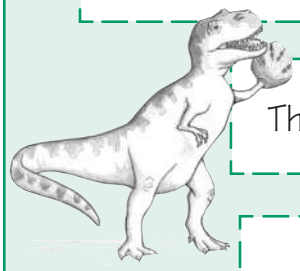
Silly Sentences–Worksheet

Directions: Cut out the sentences along the dotted lines. Read each sentence, and decide which words form the complete subject and which words form the complete predicate. Then cut each sentence into its parts: the subject and the predicate. Pair different subjects with different predicates to form silly sentences. Paste those sentences on a separate sheet of paper.

An excited Red Sox fan caught the fly ball with her glove.

The lonely frog telephoned a princess.

The astronaut slipped inside a space suit before going on a space walk.



The friendly tyrannosaurus rex looked for someone to play with.

A fluffy brown teddy bear sleeps on my pillow.

My little brother hates to brush his teeth.

Directions: Add two more sentences of your own. Make sure they include a complete subject and a complete predicate.

_____

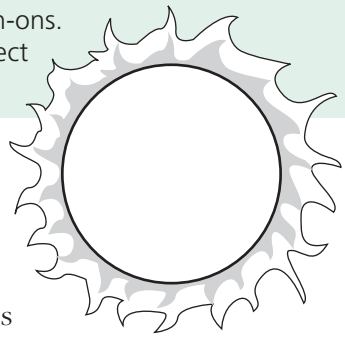
_____

ACTIVITY 9

Is This a Sentence?

Purpose Students show their understanding of complete sentences, fragments, and run-ons.
Objective 07: Sentence Structure **Thinking Skill:** Analyze Information

Description Students identify complete sentences, sentence fragments, and run-ons. Then they create complete sentences from the fragments and correct the run-ons to form clear, concise sentences.



Directions

1. Getting Started Remind students that a complete sentence has a subject and a predicate. A complete sentence expresses a complete thought. A sentence can have more than one subject; this is called a *compound subject.* A sentence can also have more than one verb; this is called a *compound predicate.* A compound subject or a compound predicate may be linked by the words *and, but,* or *or.* Write the following sentences on the board:

- The sun rises in the morning and sets at night.
- The moon and the stars shine brightly in the night sky.

Have a volunteer draw a double line under the compound predicate in the first sentence and a single line under the compound subject in the second sentence.

2. Discuss Explain that a *fragment* is not a complete sentence and does not express a complete thought. You can add information to a fragment to make it complete. Write the following fragment on the board and have a volunteer add information to make it a complete sentence:

- Is very hot during the day.

Explain that a *run-on* sentence includes more than one complete thought. Write the following run-on on the board, and ask students to divide it into two complete sentences:

- The sea is very deep it is made up of salty water.

3. Worksheet Distribute copies of the worksheet. Ask students to read "The Sun or the Moon?" Review proofreading marks and work through the first paragraph together. Then have students correct the sentence fragments and run-ons.

4. Conclude Activity Have students share their answers.

Variation

Basic Work with students to revise the first three paragraphs of "The Sun or the Moon?" Then have them complete the rest of the story on their own.

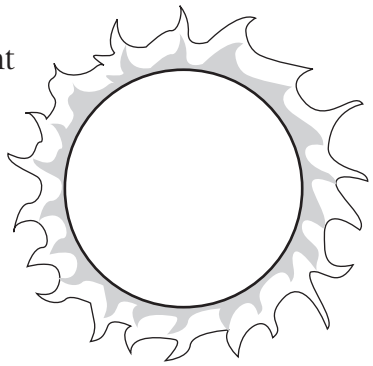
Advanced Ask students to examine a favorite novel or story and hunt for sentence fragments or run-ons. Point out that some good and very experienced writers sometimes use sentence fragments for effect. Fans of Gary Paulsen, for example, will easily find sentence fragments in his writing.

Name _____

Is This a Sentence?–Worksheet

Directions: Read the following folk tale. Find the sentence fragments and run-ons. Then use the proofreading marks to show where you will add punctuation. Write the punctuation above the mark. You may also use proofreading marks to show where you will break up a run-on sentence and use capitalization and punctuation.

The Sun or the Moon?



Lioness and Hyena argued about which gave better light for hunting. The sun or the moon.

Hyena always hunted at night, she said, "The moon lights up even the darkest night."

Lioness hunted only during the day. She replied, "Instead of going to sleep. Wait till the sun comes up. You'll see how bright it is."

So Hyena stayed awake to see the sun, that day, however, the sun remained hidden behind a cloud. Even so, Hyena could see perfectly well she thought to herself, "In the daytime there is plenty of light! The sun has such an easy job. That it doesn't even bother to try!"

For her part, Lioness stayed up late. To see the moon. As it happened,

however, there was no moon that night. Lioness thought, "How wrong Hyena is about the brightness of the moon, I can't see a thing!"

So neither animal changed her mind about when to go hunting.

Proofreading Marks	
in ^	Add.
⊙	Add a period.
C ≡	Capitalize.
out ℓ	Take out.
⌀	Make lowercase.

ACTIVITY
10

What's It About?

Purpose Students identify and create topic sentences for paragraphs.
Objective 08: Writing Strategies **Thinking Skill:** Organize Information

Description Students read paragraphs and determine topic sentences.

Directions

1. **Getting Started** Tell students that you will read the first paragraph of a magazine article and then ask them what the paragraph is about.

2. **Worksheet** Distribute copies of the worksheet and read aloud "Boy Turns Hero." Then ask what the paragraph is about. Tell students you are going to reread the paragraph. Have students raise their hands when they hear the sentence that tells what the paragraph is mainly about. (The first sentence tells the main idea.)

3. **Write A Topic Sentence** Have students read each paragraph of "My Busy Life." Ask them to write a topic sentence for each paragraph. Point out to students that the topic sentence does not always have to be the first sentence of the paragraph. Sometimes it works best to place the topic sentence last, in order to provide a brief summary.

4. **Discuss** Tell students you are going to read the opening paragraph of a novel and they will then create a topic sentence that tells what the paragraph is about. Read aloud the second paragraph on the worksheet—"The Dog Lovers."

   Ask students to create a topic sentence that tells what the paragraph is about. Have them share their topic sentences with the rest of the class (e.g., "I wanted so much to have a dog!").

5. **Conclude Activity** Divide students into small groups and have them share their ideas about topic sentences. Ask students the following question:
   - When you are writing a paragraph, how can a topic sentence help you stay on the subject? (It can help you decide what to include and what not to include in the paragraph.)

Variation

Basic Have students underline the most important words and phrases in each paragraph. Then dictate to the class or have them write a topic sentence.

Advanced Have students choose three paragraphs from a textbook or their favorite novel and select the topic sentence for each one. If a paragraph has no clear topic sentence, have students write one.

Name _____

What's It About?–Worksheet

Directions: Listen as the teacher reads the following paragraphs. Raise your hand when you hear the topic sentence in each paragraph.

Boy Turns Hero

One January morning, Jeff Stone started out for school as an ordinary boy, but by the time he got there, he was a hero. Jeff rose early and took his usual route to school. On his way past the pond, which had been frozen for weeks, Jeff spotted his friend Alex taking a shortcut across the ice. At that moment, Jeff heard a loud crack and saw Alex fall through the ice into the pond. Jeff snapped into action. He stretched a long board over the ice so that Alex could grab hold of it and be pulled to safety.

The Dog Lovers

My mom said I was born loving dogs, but my father wouldn't let me have one. He thought it was unfair to keep a dog in an apartment. Still, as soon as I set my eyes on Boomer, I knew we were meant to be together. Now, how could I convince my dad of that?

Directions: Read the paragraphs and add topic sentences that tell what the paragraphs are about.

My Busy Life

1 _____. First I walked the dog. That is the best thing I do after school. Then I did my homework. The last thing I did before dinner was set the table. After dinner, I practiced the clarinet.

2 _____. I have to agree with my mother. I play soccer on Mondays, Tuesdays, and Thursdays. I take clarinet lessons on Monday afternoon. On Wednesdays after school, I go to Scout meetings. Each Saturday we have a soccer game. I'm so busy that I hardly have any time left for my friends!

3 _____. This is my chance to just goof off a little. So I phone my friend Jennifer to see if she wants to hang out with me. If she has a free day, she always says yes. She's usually just as busy as I am!

ACTIVITY
11

Rainy Days

Purpose Students practice writing supporting sentences that develop a topic sentence.
Objective 08: Writing Strategies **Thinking Skill:** Analyze Information

Description Students listen to a passage, identify supporting sentences, and then write supporting sentences of their own.

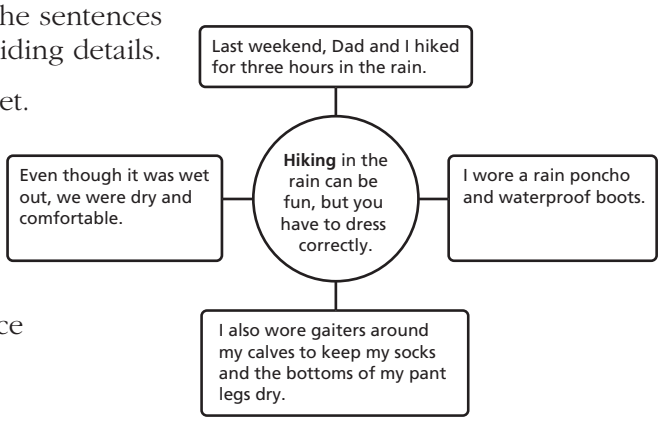
Materials overhead projector (optional)

Directions

1. **Getting Started** Discuss with students how the sentences that follow a topic sentence support it by providing details.

2. **Worksheet** Distribute copies of the worksheet. Read aloud "A Wet Walk." Ask students to listen for the topic sentence. (first sentence)

   Use a diagram, such as the one shown, to show how details in a well-constructed paragraph support the topic sentence. Recreate a blank diagram on the board, or place it on an overhead projector.



3. **Discuss** Now read aloud this topic sentence:

   At four o'clock, we stopped to put up the tent.

   Have volunteers come up with sentences that support this topic sentence. Write their sentences on the board. After students have tried this activity, you may also wish to read aloud the following as an example of sentences that support the topic sentence:

> At four o'clock, we stopped to put up the tent. Rain was still falling, so we had to be careful not to let the water get inside the tent. There is nothing worse than a wet sleeping bag!

4. **Conclude Activity** Tell students they can use their own experiences to provide supporting details for each topic sentence in the "Rainy Days" section of the worksheet. Have volunteers read their sentences aloud.

Variation

Basic Have students make a list of three things they might do on a warm day. Ask them to rewrite the list as a paragraph—and open or close it with a strong topic sentence.

Advanced Have students find examples of topic sentences and supporting details in informational articles. Ask them to map an especially good paragraph in a diagram similar to the one shown above.

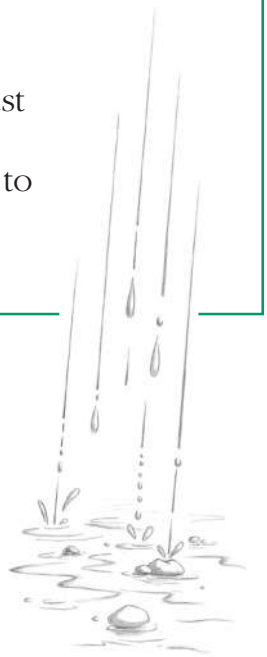
Name _____

Rainy Days–Worksheet

Directions: Listen as the teacher reads the paragraph. Raise your hand when you hear the topic sentence.

A Wet Walk

Hiking in the rain can be fun, but you have to dress correctly. Last weekend, Dad and I hiked for three hours in the rain. I wore a rain poncho and waterproof boots. I also wore gaiters around my calves to keep my socks and the bottoms of my pant legs dry. Even though it was wet out, we were dry and comfortable.



Directions: Read each topic sentence. Then use what you know about rainy days to complete each paragraph with supporting details.

Rainy Days

1 I was very happy when it rained last Saturday.

_____

_____

_____

_____

2 Last Saturday, the rain ruined Dave's plans.

_____

_____

_____

_____

ACTIVITY
12

Get the Message?

Purpose Students show knowledge of writing conventions by identifying and correcting errors in existing text.
Objective 09: Editing Skills **Thinking Skill:** Analyze Information

Description Students work together to proofread sentences and rewrite them correctly.

Directions

1. **Getting Started** Tell students that they are going to read a message that a mother sent in a hurry to her daughter. There are many mistakes to correct.

2. **Worksheet** Distribute copies of the worksheet. Have students use what they already know about sentence fragments and run-ons, as well as capitalization and punctuation, to correct the errors in this note. Review Mom's note and model the use of proofreading marks that they will use to complete their worksheets.

   Then ask students to proofread Ana's response for sentence fragments and run-ons, as well as for any errors in capitalization and punctuation, and correct them using proofreading marks.

3. **Conclude Activity** Have students exchange their completed work with a partner and review the errors and corrections. Then have students work in groups to choose the strongest samples to share with the class.

Variation

Basic Read each sentence aloud. Have students decide whether or not the sentence is complete. Then guide them to correct it.

Advanced Students can look in their writing portfolios or notebooks for examples of sentence fragments or run-on sentences and rewrite any they find to form clear, concise, complete sentences.

Name _____

Get the Message?–Worksheet

Directions: Read the e-mail Ana's mother sent to her daughter. Find run-on sentences and correct them. Find sentence fragments and rewrite them to make complete sentences. Find and correct errors of capitalization and punctuation. Then write a corrected version of the note on a separate sheet of paper.

Ana

I am coming home late today. Please feed the dog the fish in the refrigerator is for you to eat Picking up your Sister at the gym. Your friend Sam phoned call her must hurry! I will be in the car you won't be able to reach me. See you later Dad will be at his office if necessary you can call him.

Mom

Proofreading Marks	
in ^	Add.
⊙	Add a period.
C ≡	Capitalize.
~~out~~	Take out.
⫽	Make lowercase.

Directions: Read the note that Ana left her mother after reading her e-mail. Find run-on sentences and correct them. Find sentence fragments and rewrite them to make complete sentences. Find and correct any errors of capitalization and punctuation. Then write a corrected version of the note on a separate sheet of paper.

Dear Mom,

I fed the dog fish then I phoned Sam and called her "Must Hurry." She was confused about that so was I! The dog loved the fish there was nothing left in the refrigerator. Then dad got an idea. Going out to the pizza place. At the mall. The pizza is great there! Maybe you could join us. Won't even have to clean the kitchen!

Ana

Mathematics Teaching Activities

ACTIVITY 1

Number Line Labels

Purpose In this activity, students use a number line to work with fractions and mixed numbers.
Objective 10: Number and Number Relations **Thinking Skill:** Synthesize Elements

Description Students place fractions and mixed numbers on a number line.

Materials sticky notes

Directions

1. **Getting Started** On the board, draw a number line labeled "0" at the left end and "4" at the right, and direct students to draw a similar number line on paper. Make a small vertical mark at about the midpoint of the line. Ask students to estimate the value represented by the mark (2) and explain their reasoning. As you label the midpoint of the number line on the board with "2," have students do the same on the number lines they drew.

2. **Direct Instruction** Make a small vertical mark halfway between 0 and 2 and halfway between 2 and 4. Have students label the marks with values (1 and 3) on their number lines as you record the numbers on the board. Have students mark and label their number lines at the $\frac{1}{2}$, $1\frac{1}{2}$, $2\frac{1}{2}$, and $3\frac{1}{2}$ points. Then mark and label the number line on the board. Ask students to check their work against it.

Give each student a small sticky note. Ask each student to write on the sticky note a fraction or mixed number between 0 and 4 that is not already on the number line. Have students draw an arrow on their notes straight up from their numbers (to point to the place on the number line where their number belongs).

3. **Whole Class Activity** Have students approach the board one at a time and place their sticky notes in the correct place on the number line. Invite classmates to evaluate the accuracy of the placements and revise, if needed. Have students choose any six of their classmates' numbers on the board and record them on their own number lines.

4. **Independent Work** Hand out copies of the worksheet. Have students solve each problem independently.

5. **Conclude Activity** Ask students to think about the activity in order to answer the following question:
   - What methods did you use to decide where to place each fraction or mixed number on the number line?

Variation

Basic Have students model, read, and write fractions and mixed numbers. Students can model fractions by drawing a circle and dividing it into halves and quarters or by cutting a large piece of paper in half or in quarters.

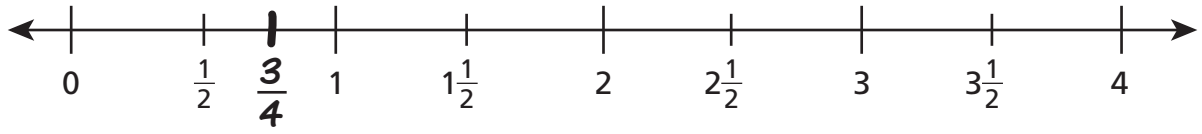
Advanced Have students write expressions using the $>$ and $<$ signs that compare different numbers on the number line.

Name _____

Number Line Labels–Worksheet

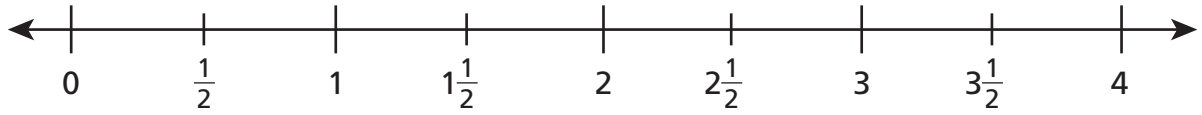
Directions: For each number line, mark and label in the correct places the values from the box below it. The first fraction has been marked and labeled for you.

1



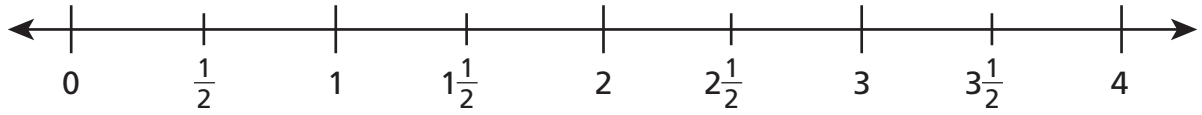
$\frac{3}{4}$ $1\frac{1}{4}$ $2\frac{2}{3}$ $3\frac{5}{8}$

2



$\frac{1}{8}$ $1\frac{2}{3}$ $2\frac{3}{8}$ $3\frac{3}{4}$

3

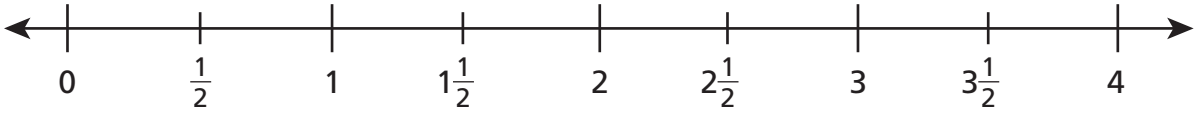


$\frac{3}{8}$ $1\frac{1}{3}$ $2\frac{3}{4}$ $3\frac{7}{8}$

4 For each range given, write a value that is not already shown on the number line below. Then mark and label the values on the number line.

Between 0 and 1 _____ Between 1 and 2 _____

Between 2 and 3 _____ Between 3 and 4 _____



ACTIVITY **2**

Factor Factory

Purpose This activity provides practice defining and identifying factors.
Objective 10: Number and Number Relations
Thinking Skills: Synthesize Elements; Analyze Information

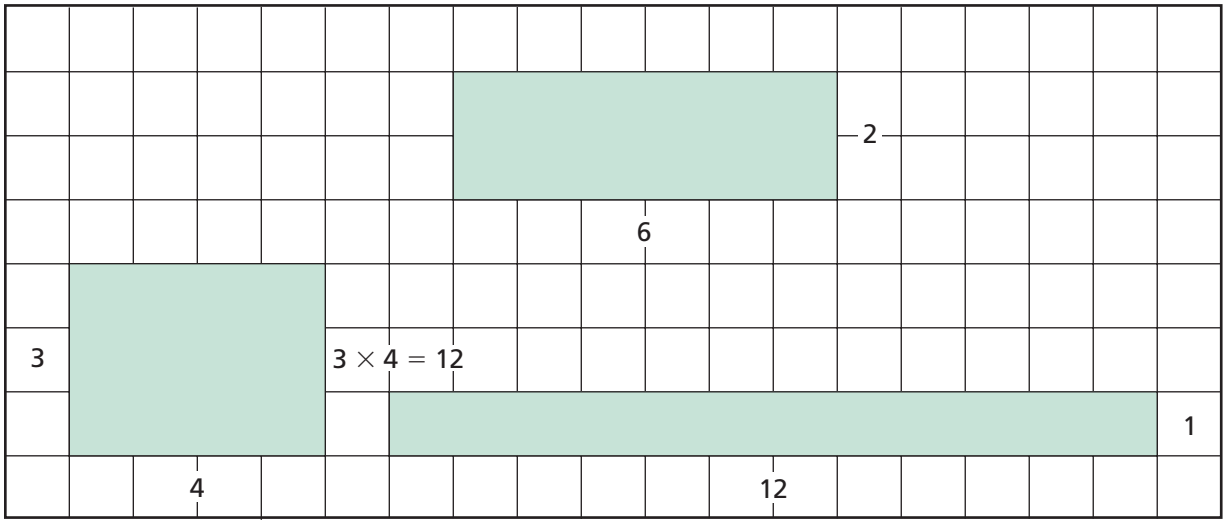
Description Students use graph paper to find factors.

Materials graph paper

Directions

1. Getting Started Hand out graph paper to each student. Have students outline and shade a 3- by 4-unit rectangle, as shown below. Next to the rectangle, have students write the equation $3 \times 4 = 12$. Point out that 3 and 4 are called *factors* of 12. This means that they are numbers that can be multiplied to make the number 12.

2. Individual Work Have students find other factors of 12 by outlining and shading new rectangles on another part of their graph paper. Tell students that they should think of multiplication problems that have a product of 12. Have some students create a list of factors of 12 on the board and have other students record the factors on graph paper.



3. Repeat Have students find factors of 16 and 24 using the same process they used to find the factors of 12.

4. Conclude Activity Ask students the following question:

- Which numbers from 1 to 20 have exactly 2 factors? (2, 3, 5, 7, 11, 13, 17, 19)

Variation

Basic Have students use connecting cubes or counters instead of graph paper to show and list multiples of 2, 3, and 4.

Advanced Have students skip-count by one factor of 48. Ask them to circle 48 in their skip-counting to show that it is a multiple of its factor. Ask students the following question:

- How are factors and multiples related?

ACTIVITY 3

What's for Lunch?

Purpose This activity provides practice in making multiple purchases within a budget.
Objective 11: Computation and Numerical Estimation
Thinking Skills: Evaluate Outcomes; Organize Information; Analyze Information

Description Students purchase lunch for a group of friends. They have to figure out how much they need of each item and stay within a budget of $20.

Directions

1. **Getting Started** Tell students that they have $20 to spend on lunch for 8 people. Hand out copies of the worksheet.
2. **Group Work** Arrange students in groups of three. Have each student make up his or her own menu, using the directions and facts shown on the worksheet. Students within each group may assist each other. Monitor groups to make sure they understand the activity, and assist where necessary.
3. **Conclude the Activity** Have each group of students share their menus and the total costs of their menus with the entire class. Write the cost of each correctly designed menu on the board. Ask students the following questions:
   - Which menu is the most expensive? the least?

Variation

Basic Have students practice adding, subtracting, multiplying, and dividing with decimals. Give students play money with which to work if they have trouble doing the computations.

Advanced Have students practice adding, subtracting, multiplying, and dividing 1-, 2-, and 3-digit decimals (extended to thousandths).

Name _____

What's for Lunch?–Worksheet

Directions: You are planning lunch for 8 people. Each person will have one hot dog or hamburger, one snack, one drink, and one dessert. You must plan your menu so that you can feed all 8 people for $20 or less.

Menu Choices

Item	Price per Package	Servings per Package
Hot Dogs	$3.58	4
Hamburgers	$4.68	4
Snacks		
Carrot Sticks	$2.79	8
Corn Chips	$2.99	8
Drinks		
Cola	$2.99	4
Milk	$2.39	4
Desserts		
Brownies	$2.29	4
Fruit	$3.00	8

1 Fill in the table below to show your menu.

Item	Number of Packages	Price per Package	Total Cost (for 8 people)

Total cost of lunches for 8 people: _____

ACTIVITY 4

School Play

Purpose This activity provides practice in identifying the operation and solving problems involving addition, subtraction, and multiplication with whole numbers.
Objective 12: Operation Concepts **Objective 17:** Problem Solving and Reasoning
Thinking Skill: Analyze Information

Description Students solve problems using different operations.

Directions

1. **Getting Started** Hand out one copy of the worksheet to each student. Tell students that they should listen as you tell them about seating for a school play.

   > Congratulations! The principal has chosen you to be in charge of seating for the "Family Performance" of the school play. Read each problem on the worksheet. Use the data shown in the picture to solve each problem.

   Have students solve each problem independently.

2. **Whole Class Activity** As a class, review each question from the worksheet. Encourage students to share alternate explanations and solution strategies. Point out that there are many paths to the same solution. If necessary, help students identify appropriate operations and work through the solution processes.

3. **Conclude Activity** Ask students the following question:
   - How did you know which operations were needed to solve each problem?

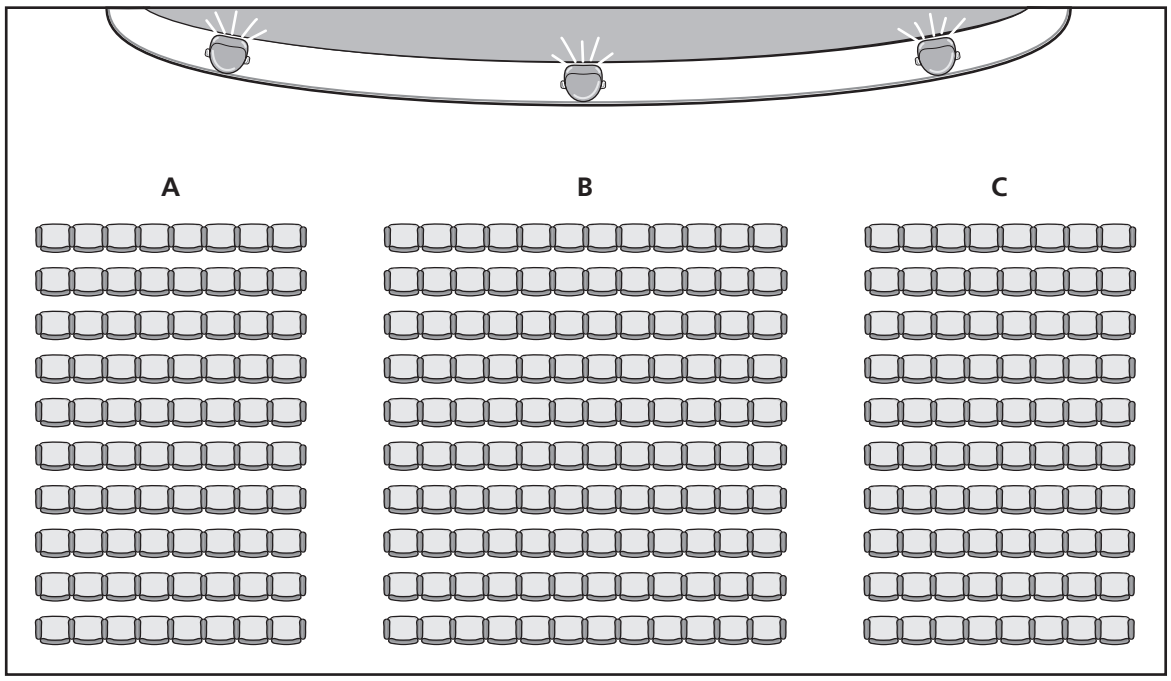
Variation

Basic Help students identify in the worksheet illustration the data needed to solve each problem. Then help them decide which operation to use. Finally, assist them through the solution process.

Advanced Have students write their own problems about seating at the school play and challenge their classmates to solve these problems.

Name _____

School Play–Worksheet



1 Can a greater number of people be seated in 5 rows of Section B or 7 rows of Section C? Explain.

2 What is the total number of seats in the picture? Explain how you found your answer.

3 There are 15 empty seats in Section A. How many of the seats in Section A are not empty? Explain how you found your answer.

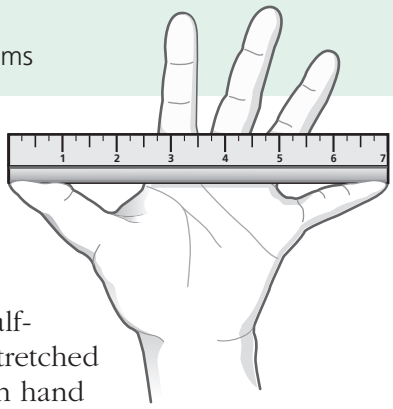
ACTIVITY 5

"Handy" Estimates

Purpose This activity provides practice estimating the lengths of objects.
Objective 13: Measurement **Thinking Skill:** Generate Ideas

Description Students use their own hand spans to estimate lengths of classroom objects (pencils, rulers, books, etc.).

Materials rulers with standard measurement units, various classroom items



Directions

1. **Getting Started** Distribute one copy of the worksheet to each student. Make sure that each student has a ruler. Tell the students that they will learn how to estimate length using the size of their hands. Show students how to measure a hand span. Have students work in pairs to measure each other's hand spans to the nearest half-inch. Make sure that they correctly measure the length of one outstretched hand from thumb to pinky. Have each student enter his or her own hand span measurement on the worksheet.

2. **Whole Class Activity** Describe how to use the hand span to estimate length. Say:

   "Suppose your hand span is 6 inches and a desk is about 4 hand spans long. The desk is about 24 inches long, because 4 hand spans times 6 inches equals 24 inches."

   Have students choose five classroom objects to measure. They should list these objects on their worksheets. Have each student use his or her own hand span to estimate each object's length. Then have them measure the objects to check the accuracy of their estimates.

3. **Conclude Activity** Ask students the following question:
   - When should you use exact measurements rather than estimates?

Variation

Basic Have students chose an object that could be used to estimate the length of other classroom objects (e.g., pencil, stapler, etc.). Have students use this object to describe the lengths of other objects in the classroom.

Advanced Have students make a list of objects outside of the classroom that they can measure with their hand spans. Then have them guess how many hand spans long the objects are. Ask students to explain their estimates.

Name _____

"Handy" Estimates–Worksheet

Directions: Use this recording sheet to keep track of your estimates and measurements. Remember to multiply the number of hand spans by the length of your hand span to find the estimated length before measuring with your ruler.

My hand span is about _____ inches long.

Classroom Item	Number of Hand Spans	Estimated Length (inches)	Measured Length (inches)

ACTIVITY 6

Building a Fence

Purpose This activity provides practice in finding area and perimeter.
Objective 13: Measurement **Thinking Skill:** Evaluate Outcomes

Description Students design a fenced-in area to be as large as possible, given a specific supply of fencing.

Materials graph paper and rulers, or connecting cubes

Directions

1. Getting Started Distribute graph paper and a ruler, or connecting cubes to each student. Then write the following story problem on the board and read it to the students.

> **Dan's Fence**
>
> Dan wants to build a 4-sided pen for his chickens. He has 8 meters of fencing, and he wants the pen to have the greatest area possible. Use the materials that I give you to model plans that Dan might choose. For each plan that you model, write the length of each side of the pen, and describe the shape.

2. Group Work Divide students into small groups. Suggest that students let one space or one connecting cube represent 1 meter as they sketch or model possible solutions.

3. Class Discussion Have each group of students share their results with the class. Encourage students to describe their solution process and justify their plans for the pen. Then ask the students the following question:

- Do you think a square would always make the greatest area of a pen? Why or why not?

4. Individual Work Distribute one copy of the worksheet to each student. Have students work independently and answer the questions on the worksheet.

5. Conclude Activity Ask students the following question:

- What do you know about the perimeters of a square and a rectangle that have the same area? (The perimeter of the square is smaller.)

Variation

Basic Review the concept of perimeter by wrapping string around shapes and measuring the string to find the perimeter of each shape.

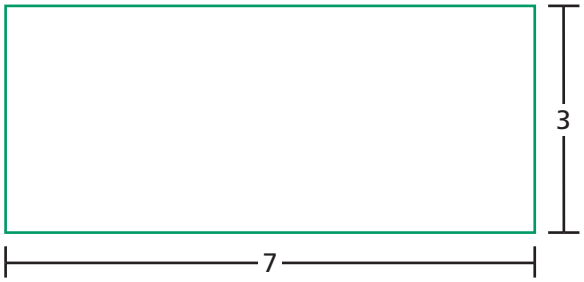
Advanced Ask students to find the least amount of fencing required for a fenced-in area of 100 square meters. Then ask them to find the largest amount of fencing required to fence in an area of 100 square meters with sections of fence that are 1 meter long.

Name _____

Building a Fence–Worksheet

Directions: Find the area and perimeter of each shape.

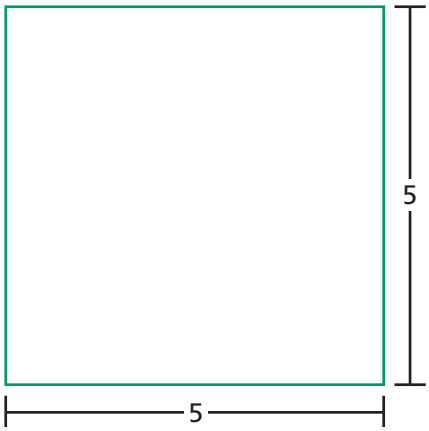
1



area: _____

perimeter: _____

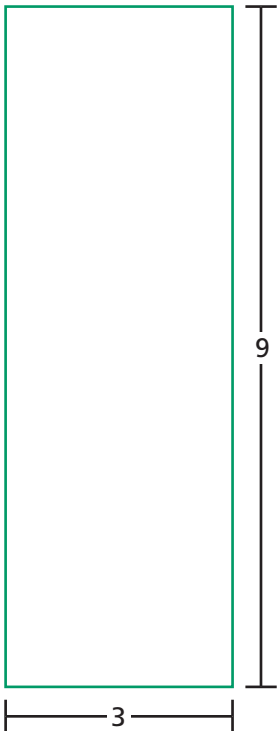
2



area: _____

perimeter: _____

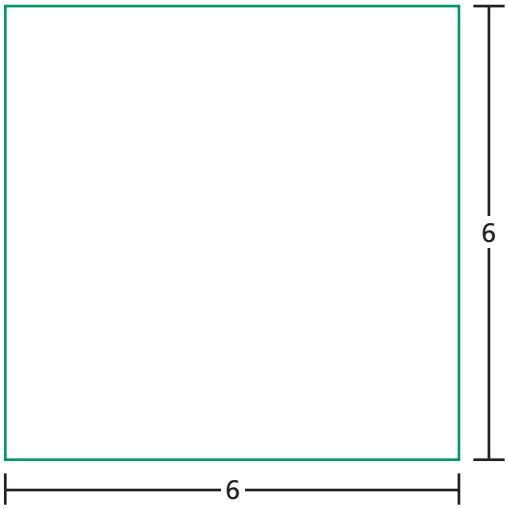
3



area: _____

perimeter: _____

4



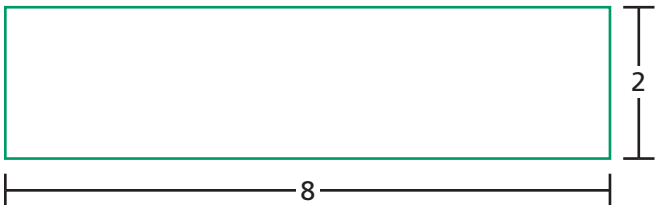
area: _____

perimeter: _____

Name _____

Building a Fence–Worksheet (continued)

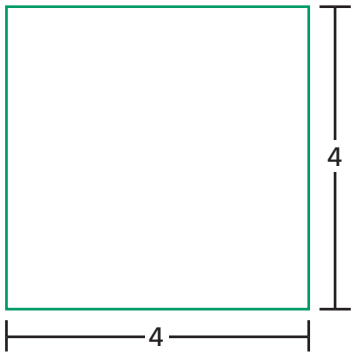
5



area: _____

perimeter: _____

6



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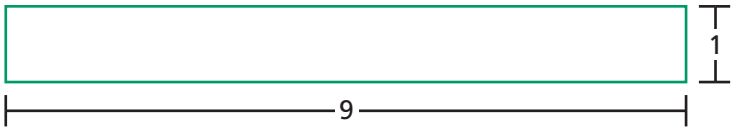
perimeter: _____

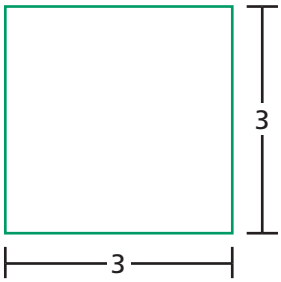
7



area: _____

perimeter: _____

8



area: _____

perimeter: _____

ACTIVITY 7

A Plot of Secret Points

Purpose This activity provides practice in identifying, locating, and describing points on a coordinate grid.
Objective 14: Geometry and Spatial Sense
Thinking Skills: Gather Information; Analyze Information

Description Students will practice marking the locations of ordered pairs on a coordinate grid. They will make a triangle using three such ordered pairs.

Materials rulers

Directions

1. **Getting Started** Draw a coordinate grid on the board. Show students how to locate ordered pairs such as (2, 5). Ask students to come to the board, one at a time, and locate additional ordered pairs. Distribute two copies of the worksheet and one ruler to each student.
2. **Small Group Work** Have students work in pairs. Ask students not to show their papers to their partners. Have one student in each pair plot three points on one worksheet and use a ruler to connect the points, forming a triangle. When the students have finished plotting their points and creating triangles, have them face their partners. Have the student who plotted the triangle read aloud the location of each of the three points to his or her partner. Have the partner plot the points on his or her own worksheet. The partner then uses a ruler to connect the points. The students should then compare their papers. Have students switch roles and repeat the entire process.
3. **Repeat** If time and interest permit, distribute two more copies of the worksheet to each student and have them repeat the activity, plotting four points.
4. **Conclude Activity** Ask students the following questions:
   - If the coordinates of each of the three points in the triangle were reversed, would the size of the triangle change? Would the location of the triangle change?

Variation

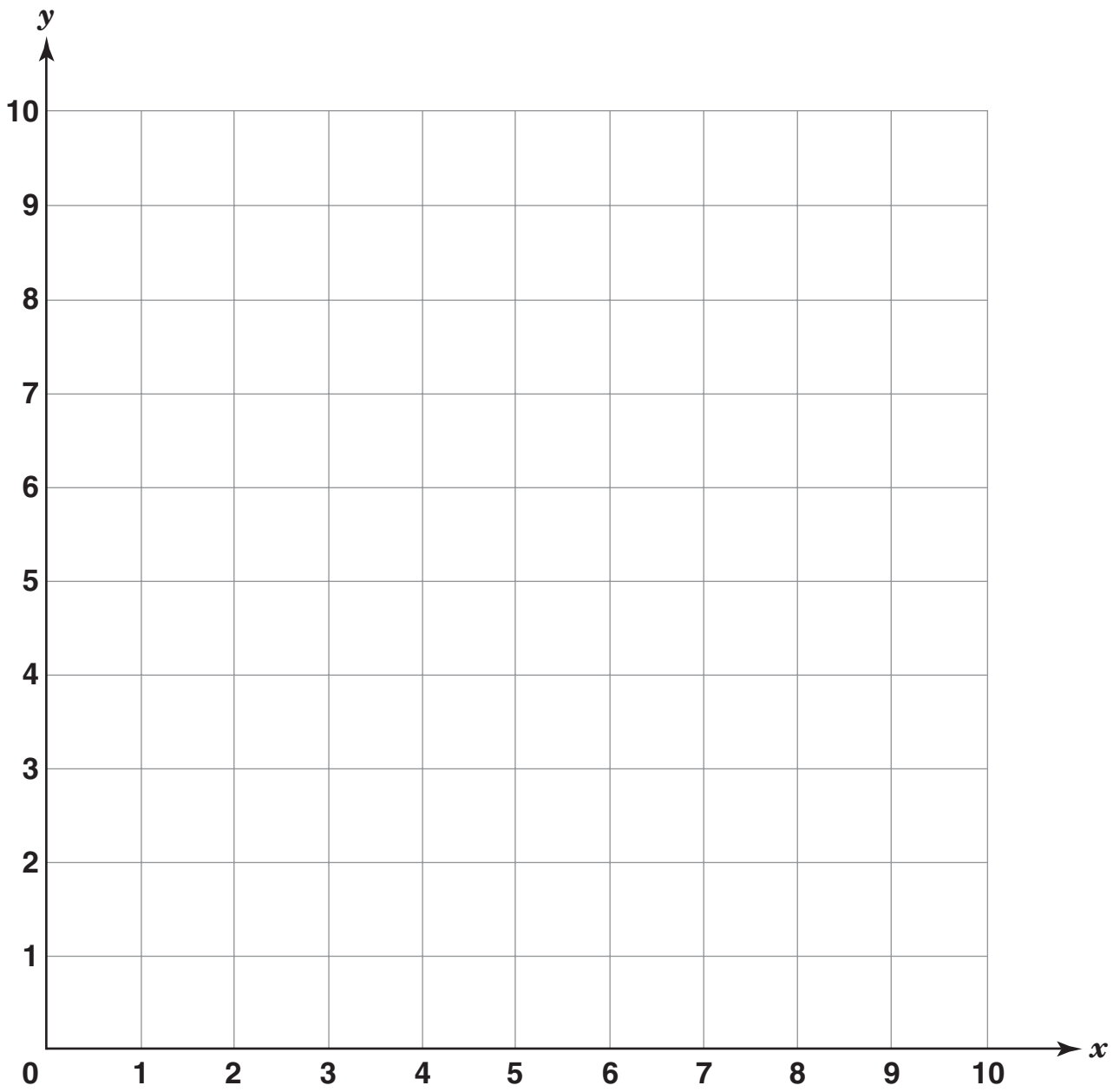
Basic Draw a shape on the grid and have students determine the corresponding ordered pairs for each vertex of the shape.

Advanced Have students plot points for a right triangle or equilateral triangle.

Name _____

A Plot of Secret Points–Worksheet

Directions: Plot points on the graph. Join the points to construct a figure.



ACTIVITY
8

Gather and Graph Information

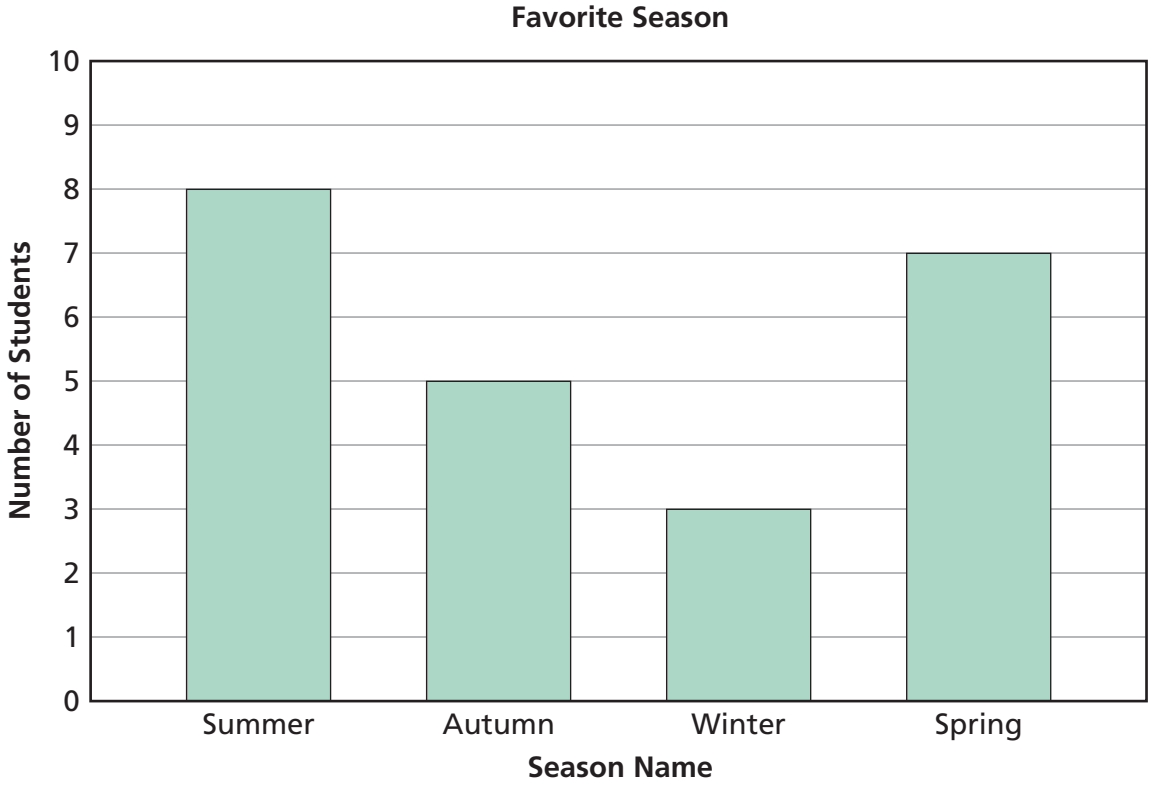
Purpose This activity provides practice in constructing bar graphs and analyzing trends.
Objective 15: Data Analysis, Statistics, and Probability
Thinking Skills: Gather Information; Organize Information; Evaluate Outcomes

Description Students create bar graphs, and analyze graphed data for trends.

Materials graph paper

Directions

1. Getting Started Review the parts of a bar graph with students. Draw vertical and horizontal axes on the board. Point out that all bar graphs contain a title and two labeled axes. Title the graph "Favorite Season." Tell students that one axis in a bar graph is usually not numbered. Write *Summer, Autumn, Winter,* and *Spring* as column labels under the horizontal axis. Number the vertical axis 0 to 10. Poll the class on their favorite season and show students how to graph the results on the bar graph. Make sure that each student votes for only 1 season. An example of what your bar graph may look like is shown below.



2. Whole Class Activity Ask the students to suggest other topics to graph. If they are unable to suggest anything, offer prompts such as: favorite colors, favorite day of week, favorite pets, etc. List all of the topics suggested on the board. Pick the topic that most students agree upon or that you think will make the best bar graph. Conduct a survey in class to gather data. Display the data on the board in a table.

3. **Small Group Work** Have students work in small groups to create a bar graph for the data in the table on the board. Supply each student one sheet of paper to use to graph the data. Write the following questions on the board:

> 1. What should the title of the graph be?
> Title the graph with the name that your group agrees on.
> 2. What should the bars be labeled?
> Label the bottom of the graph with a name for each bar.
> 3. What is the highest number of votes?
> Label the side of the graph from 0 to one more than the highest number of votes.

Tell students to answer the questions with the help of their group members. Make sure that they follow the directions on the board and graph the data correctly. After students have answered the questions, tell them to complete the graph by drawing each bar to show the correct number of votes.

4. **Individual Work** Distribute one copy of the worksheet to each student. Have the students work independently to complete the worksheet.

5. **Conclude Activity** After the worksheets have been completed, ask volunteers to explain how they answered each of the questions on the worksheet. Ask students the following question:
   - Is it easier to understand data by reading a table or a bar graph? Explain.

Variation

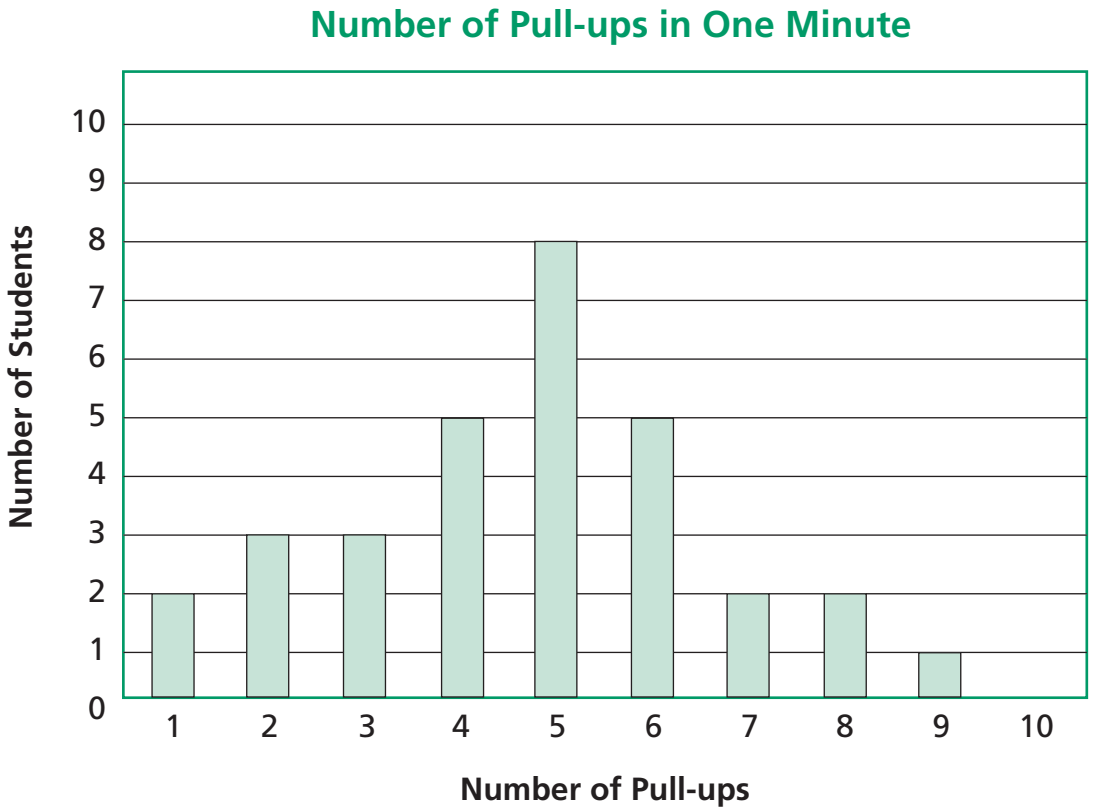
Basic Have students create a bar graph showing the pencils, pens, and markers found in one student's desk. Use one-unit increments for the vertical axis, and the names of the writing implements along the horizontal axis.

Advanced Have students write five questions that can be answered using the data on the worksheet. Have students work in pairs to answer each other's questions.

Name _____

Gather and Graph Information – Worksheet

Directions: Use the bar graph below to answer questions 1 through 6. Write your answers in complete sentences.



1 How many pull-ups did 8 students do in one minute?

_____

2 How many students did 7 or more pull-ups in one minute?

_____

3 How many students did fewer than 5 pull-ups in one minute?

_____

Name _____

Gather and Graph Information – Worksheet (continued)

4 How many students are represented by the data in the bar graph?

_____

5 How can the bar graph help you make a prediction about the number of pull-ups another group of students might do in one minute?

_____

_____

6 How many of the students could do more than 10 pull-ups in one minute? Explain your answer on the lines below.

_____

_____

_____

ACTIVITY 9

Book Collections

Purpose This activity provides practice in analyzing data in a pictograph and a bar graph.
Objective 15: Data Analysis, Statistics, and Probability **Thinking Skill:** Analyze Information

Description Students analyze data and make decisions based on information given in a pictograph and a bar graph.

Directions

1. **Getting Started** Distribute copies of the worksheet, which shows information about Manuel's and Amanda's book collections. Tell students that they will be comparing information about the two book collections and then making decisions about them.
2. **Discussion** Engage students in a discussion about the graphs. Ask the following questions:
   - How are the graphs alike?
   - How are they different?
3. **Individual Work** Have students answer the questions that appear on the second page of the worksheet.
4. **Conclude Activity** Ask students the following questions:
   - Which of the two collections would be better for a large group of readers who like different kinds of books? Why?

Variation

Basic Review with students how to read pictographs and bar graphs, emphasizing scales and keys with increments greater than 1.

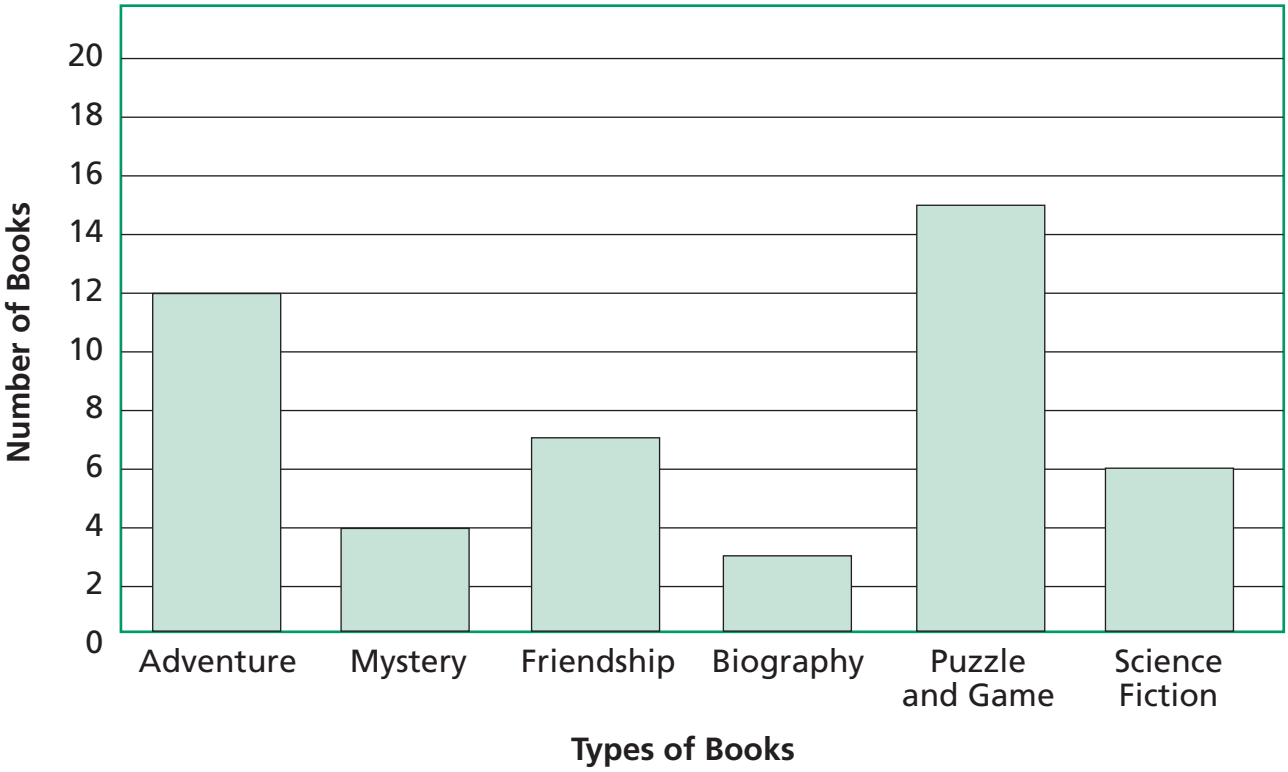
Advanced Have students conduct research to find out how fast various animals can run (e.g., ostrich, cheetah, etc.) and then create a bar graph showing these speeds.

Name _____

Book Collections–Worksheet

Directions: Use the graphs to answer the questions. Write your answers in complete sentences.

Manuel's Book Collection



Amanda's Book Collection

Adventure	1
Mystery	5
Friendship	7
Biography	3
Puzzle and Game	3
Science Fiction	6

KEY
= 2 books

Name _____

Book Collections–Worksheet (continued)

1 How many more adventure books than friendship books does Manuel have?

_____

2 How many fewer biographies than science fiction books does Amanda have?

_____

3 How many more adventure books does Manuel have than Amanda?

_____

4 How many more puzzle and game books does Manuel have than Amanda?

_____

5 Which kinds of books does Amanda have more of than Manuel?

_____

6 How many more books does Manuel have in all than Amanda?

_____

ACTIVITY
10

Name That Pattern!

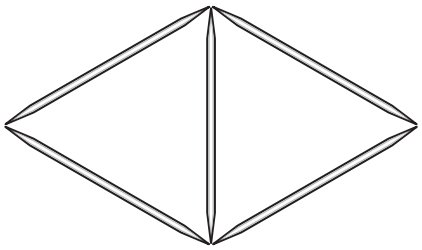
Purpose This activity provides practice recognizing and continuing number patterns.
Objective 16: Patterns, Functions, Algebra **Thinking Skills:** Analyze Information; Evaluate Outcomes

Description Students create a design that produces a pattern. They identify and describe the number patterns, and make predictions about how the patterns will continue.

Materials 13 toothpicks for each student

Directions

1. **Getting Started** Tell students that they will be making a pattern of triangles. Distribute 13 toothpicks to each student. Have each student make a triangle from 3 toothpicks and then construct a second triangle by adding 2 toothpicks as shown below.



2. **Individual Work** Draw the following table on the board and have students record it on paper. Have students complete the first two rows of the table with the data they have collected about the first two triangles in the pattern.

Number of Triangles	Number of Toothpicks
1	
2	
3	
4	
5	
6	

Have students continue constructing triangles and recording the number of toothpicks required.

3. **Sharing** After students have built 6 triangles and completed the table, invite them to share their observations. Have students describe the pattern they see, and make predictions about the number of toothpicks that would be needed to make 7, 8, and 9 triangles.

4. **Class Discussion** Ask students to think about the activity before answering the following question:
   - How do you know how many toothpicks are needed to make any given number of triangles? Explain your reasoning.

5. **Individual Work** Distribute a copy of the worksheet and a piece of paper to each student. Have students work independently and complete the worksheet.

6. Conclude Activity Ask students the following questions:

- How many chairs would be used for 10 square tables? Explain how you know you are correct.
- How many toothpicks would be used to make two octagons? Explain how you know you are correct.

Variation

Basic If necessary, review simple skip-counting patterns with students, starting from the first multiple. Continue with other numbers (for example, 10, 20, 30, 40, 50; 13, 23, 33, 43, 53).

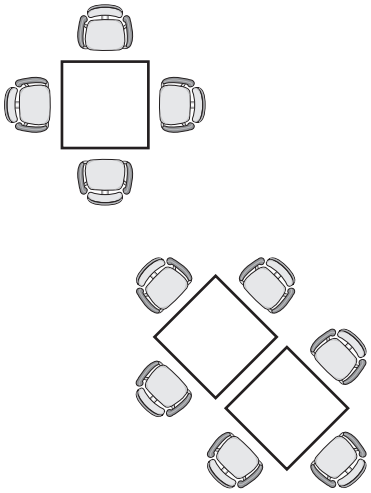
Advanced Have students use the toothpicks to construct squares. Challenge students to predict how many toothpicks would be needed to construct a particular number of squares and explain their reasoning.

Name _____

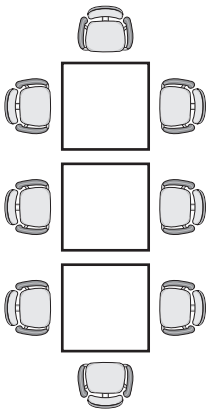
Name That Pattern!–Worksheet

Directions: Complete the charts by extending each pattern. You may draw pictures to help you understand the patterns.

1 Jane works at a restaurant. Whenever more than 4 people want to sit together, she puts tables together. Complete the chart to show how many chairs can be used with different numbers of tables.



Number of Square Tables Put Together	Number of Chairs
1	4
2	6
3	8
4	
5	
6	



On the lines below, describe how the pattern increases.

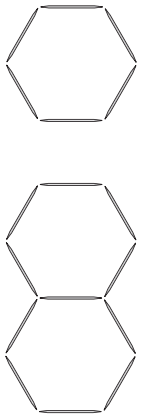
_____

_____

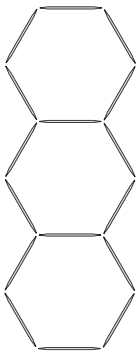
Name _____

Name That Pattern!–Worksheet (continued)

2 Eddie is using toothpicks to model different numbers of hexagons. Complete the chart to show the total number of toothpicks needed to make different numbers of hexagons.



Number of Hexagons	Number of Toothpicks
1	6
2	11
3	16
4	
5	
6	



On the lines below, describe how the pattern increases.

_____

_____

ACTIVITY
11

Sporty Solutions

Purpose This activity provides practice in solving problems with too much or too little information and with writing representative algebraic equations.
Objective 16: Patterns, Functions, Algebra **Objective 17:** Problem Solving and Reasoning
Thinking Skill: Analyze Information

Description Students practice writing algebraic equations representing problems that have too much or too little information.

Directions

1. Getting Started Write the following problem on the board and read it to the students.

> Mr. McKenna bought a football and a football helmet. Mr. McKenna also looked at a baseball cap for $12, but he did not buy it. He spent $28 in all. How much did the football cost?

2. Individual Work Ask students the following questions. Have them write their answers on a piece of paper.

- What do you know from the information given?
- Is there any information that is not needed to solve the problem?
- What do you need to find the correct answer to this problem?
- How can you solve this problem?

Then have students attempt to solve the problem. Students should quickly realize that in order to solve the problem, they need to know the cost of the football helmet.

3. Direct Instruction Tell students that the football helmet costs $15. On the board, write the following equation that includes a variable: $\$15 + x = \$28$. Tell students that a variable is a symbol that stands for an unknown number. In this equation, x is the variable. To find the value of x, subtract the value of the known item ($15) from the total ($28). By doing this, you find that the football costs $13. Illustrate on the board how this is done.

4. Discussion Ask students the following question:

- If the cost of the football helmet is $19, and the total is still the same, what is the cost of the football?

Ask a volunteer to write the new equation on the board ($\$19 + x = \$28$) and provide the solution ($9).

5. Individual Work Distribute a copy of the worksheet to each student. Have each student complete the worksheet. When all of the students have finished, have them share their answers with the class.

6. Conclude Activity Ask students the following questions:

- Can you solve a problem with too little information? too much? Explain.

Variation

Basic Have students use play money and other classroom objects to model and solve the problems.

Advanced Have students write problems that have too much or too little information. Then have students work in pairs to answer each other's questions.

Name _____

Sporty Solutions–Worksheet

Directions: The problems below have too much information, too little information, or just the right amount of information. If a problem has too much information cross out the information that is unnecessary. If a problem does not have enough information write "not enough information" on the line. Whenever possible, solve the problems.

1 Maria spent $22 on shin guards and a soccer shirt. Shin guards cost $12 and socks cost $8. What was the cost of the soccer shirt?

_____

2 Jared bought one soccer ball for $30, a hockey shirt for $12, and a mouth guard. What was the total cost?

_____

3 Sandy bought a baseball for $7 and ice skates for $30. She had $50 left. A ticket to the ice-dance concert costs $10. How much will Sandy have after buying one ticket?

_____

4 Mr. Duncan bought a ticket to a basketball game, a water bottle, and a T-shirt for a total of $53. His ticket cost $35. How much did the water bottle cost?

_____

5 Ms. Washington bought a softball for $5, a softball bat for $22, and a set of bases. How much did the set of bases cost if Ms. Washington spent $41 in all?

_____

6 Find the cost of a pennant if the total cost of a pennant, a T-shirt, and a sweatshirt is $25. The T-shirt costs $10, the sweatshirt costs $12, and a water bottle costs $3.

_____

ACTIVITY
12

Mystery Password Numbers

Purpose This activity provides practice in expanded notation as students solve a story problem.
Objective 10: Number and Number Relations **Objective 17:** Problem Solving and Reasoning
Thinking Skills: Analyze Information; Synthesize Elements

Description Students use base ten blocks to determine four students' password numbers.

Materials base ten blocks

Directions

1. Getting Started Read the following story problem to the students:

> Bob, Karyn, Theodore, and Alison have each forgotten the 4-digit password numbers they need to log on to the school's computers. They know that their passwords are similar and if they can figure out one password, they can follow specific clues to figure all four out. It's up to you to help them recall their passwords. Good luck!

2. Group Work Arrange students in groups of four. Hand out copies of the worksheet and base ten blocks to each student. Tell students that they will work through all the clues together. They should start with Bob's code and proceed to the other clues accordingly.

Have students model each number using base ten blocks. Students should write each number in expanded notation.

For example: 4127 = 4000 + 100 + 20 + 7

You may suggest that students add or remove blocks from the model of one number to create the model of the next number.

3. Conclude Activity Ask students the following questions:

- Which password was the most difficult to find? Why?

Variation

Basic Create a similar problem for students to solve, using two-digit numbers. Guide them step-by-step through the solution process.

Advanced Have students create their own password number problems. If students wish, they may exchange their problems with other students and solve them.

Name _____

Mystery Password Numbers–Worksheet

Directions: Use base ten blocks to help you work with the clues to find each person's 4-digit password number. When you have found each person's number, write the number in expanded notation on the line given.

1 Bob's 4-digit password code:

- has the same number of hundreds and tens
- has 7 ones, which is one less than the number of hundreds
- has one less than 2 thousands

Bob's 4-digit password code is

_____

2 Karyn's 4-digit password code:

- has the same number of tens and ones as Bob's
- has 3 thousands more than Bob's
- has 1 more hundred than Bob's

Karyn's 4-digit password code is

_____

3 Theodore's 4-digit password code:

- has 2 thousands more than Karyn's
- has the same number of hundreds and tens as Karyn's
- has 1 more one than Karyn's

Theodore's 4-digit password code is

_____

4 Alison's 4-digit password code:

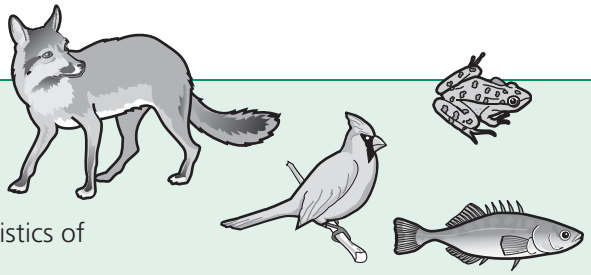
- has the same number of thousands and hundreds as Theodore's
- has 2 tens less than Theodore's
- has 1 less one than Theodore's

Alison's 4-digit password code is

_____

Science Teaching Activities

Activity Number and Title		*TerraNova, The Second Edition* Objective Number and Title	Activity Worksheet	Activity Page Number
1	Boning Up on Vertebrates	21 Life Science	X	7.68
2	The Pulse of Life	19 Science Inquiry 21 Life Science	X	7.72
3	Food Web	21 Life Science 24 Personal and Social Perspectives in Science	X	7.74
4	Who's at the Door?	20 Physical Science 23 Science and Technology	X	7.76
5	Creating Friction	19 Science Inquiry 20 Physical Science	X	7.78
6	Completing the Circuit	19 Science Inquiry 20 Physical Science	X	7.81
7	The Red Planet	22 Earth and Space Science 23 Science and Technology	X	7.84
8	Cleaning Up the Water	22 Earth and Space Science 24 Personal and Social Perspectives in Science	X	7.87
Answers to Student Worksheets				7.116



ACTIVITY **1**

Boning Up on Vertebrates

Purpose In this activity, students will learn the characteristics of the seven vertebrate classes.
Objective 21: Life Science
Thinking Skills: Gather Information; Organize Information; Synthesize Elements

Description Students classify vertebrates by their characteristics using an index card with the name of a vertebrate on it. (At a "roll call" of vertebrate classes, each student walks to an area designated for the class to which his or her animal belongs.)

Materials index cards, pictures of animals

Preparation

Ahead of time, prepare index cards with the names of vertebrates. Be sure to include several examples from each vertebrate class. (You may have students make suggestions of animals and write the animals' names on the cards.) Find pictures of all the vertebrates.

Directions

1. **Getting Started** Tell students they are going to create a "class room" of the vertebrate classes.
2. **Explain** Review the fact that the entire animal kingdom can be divided into two groups: invertebrates (animals without backbones), and vertebrates (animals with backbones). Have students give examples of invertebrates.
3. **Worksheet** Hand out copies of Worksheet 1. Place the pictures of the vertebrates in a central location in the classroom. Give one index card to each student. (To extend the time of the activity, students can be given additional cards.)
4. **Look and Ask** Give students a few minutes to study the characteristics of each class of vertebrates on Worksheet 1, then have them go and find pictures of the animal whose name is written on their cards. Allow students to help each other find the correct pictures.
5. **Small Group Activity** Designate a separate area of the classroom for each of the seven vertebrate classes. You may want to make a sign for each classification area. Then "call roll," naming each vertebrate class in turn. Students should gather in whatever area has been designated for the class of the vertebrate listed on their cards.
6. **Discuss** Discuss the following with students:
   - Do all the animals in your group belong in your classification area? (Students can use their charts to judge if they have correctly grouped all their animals.)
   - Are they correctly classified? Why or why not? (Answers will vary, but guide the students' answers toward the following three areas of classifications: physical traits, environmental traits, and life cycle).

   For any animal that was misclassified, have students use the information on Worksheet 1 to explain why they think it was misclassified.

7. Conclude Activity Hand out copies of Worksheet 2. Have students review the lists of animals. Have them check off animals that they have correctly classified and write in names of animals that are not on the lists. Ask the students the following questions:

- Which animals were the most difficult to classify? Why were they difficult? (Students will probably talk about the three classes of fish.)
- Which animals were the easiest to classify? Why were they easy? (Students will probably talk about birds.)
- What is something that *all* the animals on these lists have in common? (They all have backbones.)

Variation

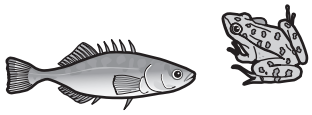
Basic Discuss with students the fact that some invertebrates have a source of external support called an exoskeleton, but that this is very different from the internal skeleton of vertebrates.

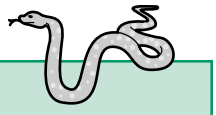
Advanced Discuss with students some of the oddities or apparent exceptions to the classification scheme for vertebrates:

- Birds that cannot fly
- Mammals that do fly
- Mammals that lay eggs
- Snakes that do not lay eggs
- Fish that have lungs
- Salamanders that do not have lungs
- Extinct reptiles that could fly

Name _____

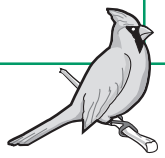
Boning Up on Vertebrates–Worksheet 1

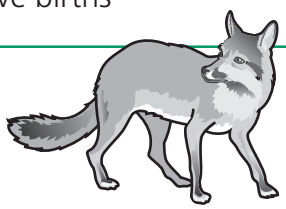




Characteristics of Vertebrate Classes

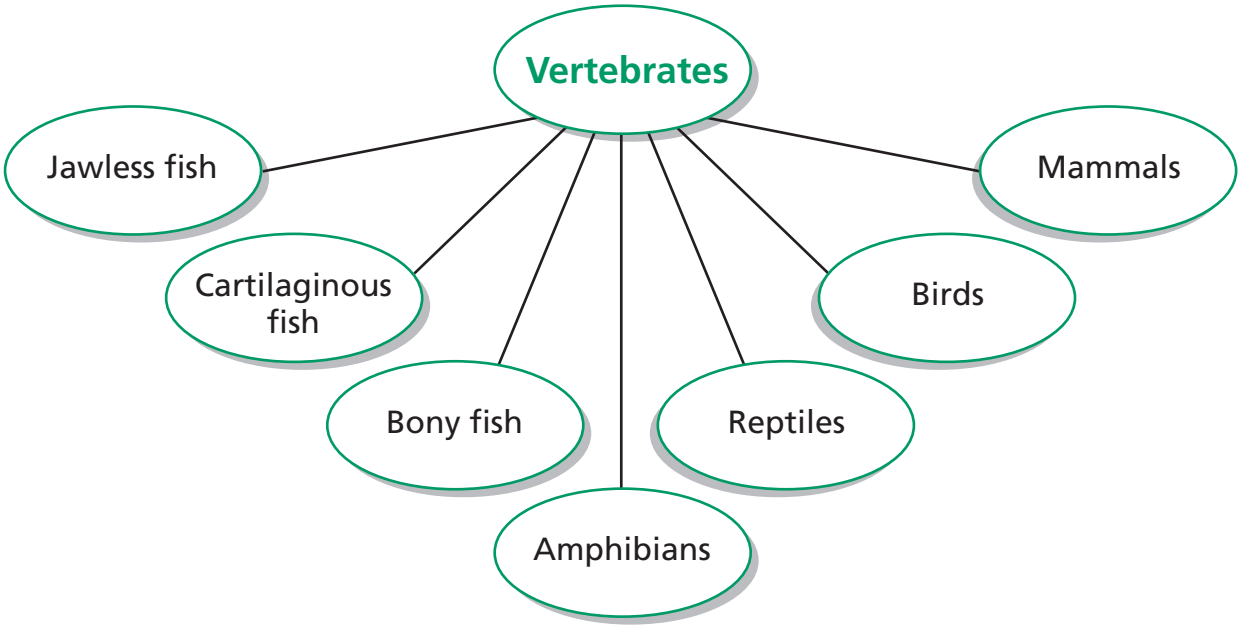
Class	Characteristics
Jawless Fish	cold-blooded, skeleton made of cartilage, sucker-like mouth, soft and slimy body, no scales, live in water
Cartilaginous Fish	cold-blooded, skeleton made of cartilage, movable jaws, fins, skin like sandpaper, no scales, live in water
Bony Fish	cold-blooded, skeleton made of bone, overlapping scales, fins, gills with flaps, live in water
Amphibians	cold-blooded, skeleton made of bone, young live in water and have gills and fins, adults breathe through lungs and sometimes skin, lay eggs
Reptiles	cold-blooded, skeleton made of bone, scales or plates, most live on land, breathe through lungs, most lay eggs
Birds	warm-blooded, skeleton made of bone, feathers, beak without teeth, two legs with clawed feet, wings, most can fly, lay eggs
Mammals	warm-blooded, skeleton made of bone, mothers feed babies milk, most have hair or fur, all but a few have live births





Name _____

Boning Up on Vertebrates–Worksheet 2



Examples of Vertebrates

Jawless Fish
lamprey
hagfish

Cartilaginous Fish
ray
shark
skate

Bony Fish
bass
minnow
salmon
swordfish
trout
tuna

Amphibians
frog
salamander
toad

Reptiles
sea turtle
copperhead
garter snake
gecko
gila monster
Komodo dragon
rattlesnake

Birds
hummingbird
crow
eagle
penguin
ostrich
sparrow
vulture
kiwi

Mammals
armadillo
bear
cat
dog
giraffe
bat
llama
panda
sea lion
platypus
skunk
orca
sloth

ACTIVITY **2**

The Pulse of Life

Purpose In this activity, students will learn about their pulse rate at rest and after physical activity.
Objective 19: Science Inquiry **Objective 21:** Life Science
Thinking Skills: Organize Information; Evaluate Outcomes; Generate Ideas

Description Students learn that their heart rate can be measured by taking their pulse, which they are shown how to do. They compare their pulse before and after physical activity.

Materials stop watch or watch with second hand

Directions

1. **Getting Started** Hand out copies of the worksheet.
2. **Look and Measure** Tell students that their pulse rate is the number of times their heart beats in one minute. Explain to students that they will be recording their heart rates before and after exercising. Help them locate their pulse in their wrist or along a carotid artery. Have them count the number of times their heart beats in a minute. Using a watch with a second hand, give students a signal for starting to count and another one for stopping. Have them record the number of beats in the data table on the worksheet.
3. **Look and Measure** Have students run in place vigorously for three minutes. Then have them record their pulse rate again. (Adapt this activity for students with disabilities.)
4. **Look and Ask** Have each student complete the bar graph on the worksheet using their results from the chart.
5. **Conclude Activity** Ask students the following questions:
   - What happens to the pulse as a result of exercise? (The pulse rate increases.)
   - Why? (When you exercise, your body speeds up, and so does your heart as it works to meet your increased energy needs.)

Variation

Basic Have students use the data from the class to calculate the average pulse rate before exercising and the average pulse rate after exercising.

Ask students to find out why the pulse can be felt in certain areas of the body. (Because the radial artery in the arm and the carotid artery in the neck are fairly close to the heart and to the surface of the body, the pulse can be felt as the surge of blood moves through these two arteries.)

Advanced Ask students to predict how long after exercising it takes for your heartbeat to return to its normal rate. Repeat the activity, but this time have students record their pulse rates after exercising at the end of every minute for five minutes.

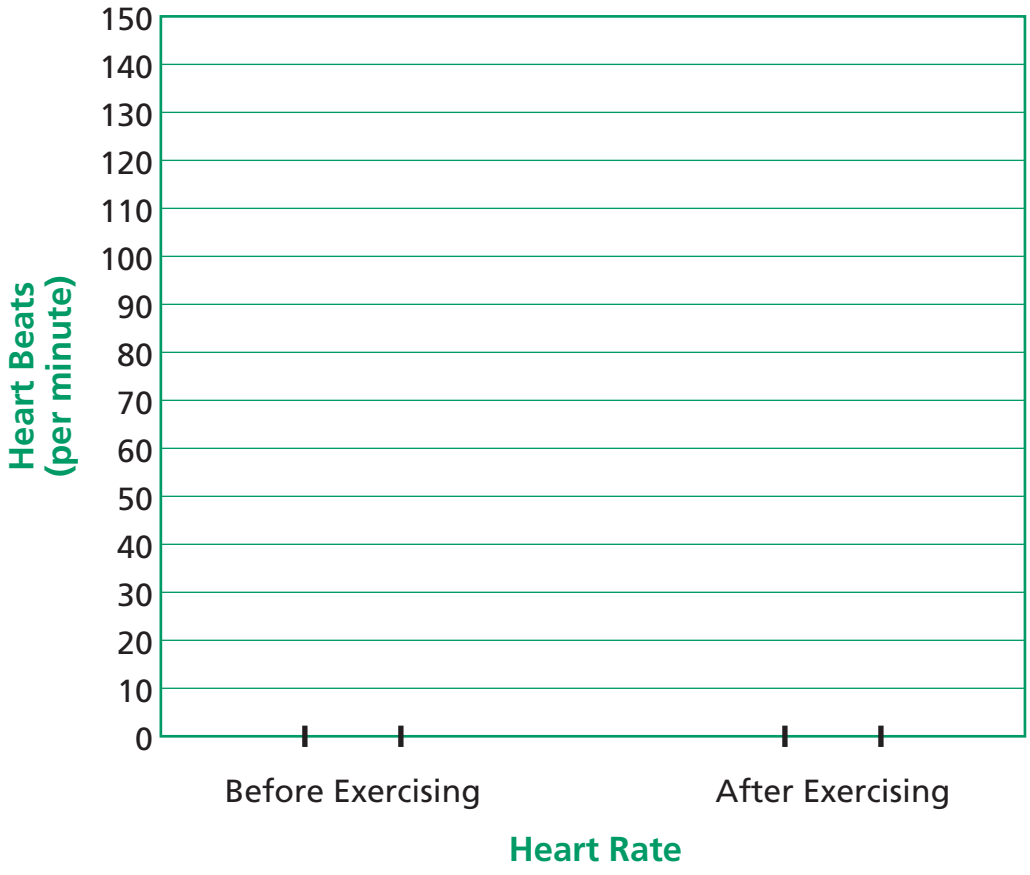
Name _____

The Pulse of Life–Worksheet

Heart Rate

Heart Rate Before Exercising	Heart Rate After Exercising

Heart Rate Bar Graph

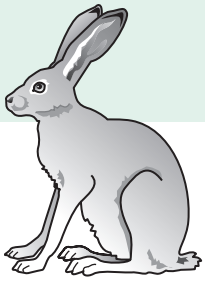


ACTIVITY 3

Food Web

Purpose In this activity, students will learn about the difference between a food chain and a food web, and what happens when a new animal is introduced into a food web.
Objective 21: Life Science **Objective 24:** Personal and Social Perspectives in Science
Thinking Skills: Gather Information; Evaluate Outcomes

Description Groups of students study a food web and use it to show what happens when an animal is removed from the web.



Directions

1. **Getting Started** Review with students the concept of a food chain in an ecosystem. Tell students that a food chain is a series of organisms that depend on one another for food. Food chains begin with *producers*, organisms, such as plants, that make their own food. *Consumers* eat producers or other consumers. Food chains vary from one *ecosystem* to another.

2. **Worksheet** Hand out copies of the worksheet. Explain to students that in food chains, the arrows point from what is eaten to what is doing the eating.

3. **Explain** Tell students that a *food web* is made up of several connected food chains within an ecosystem. Point out to students that the desert food web contains the following food chains: creosote bush ➡ grasshopper ➡ mouse ➡ hawk; creosote bush ➡ grasshopper ➡ mouse ➡ rattlesnake ➡ hawk; creosote bush ➡ grasshopper ➡ scorpion ➡ rattlesnake ➡ hawk; cactus ➡ jackrabbit ➡ hawk; cactus ➡ scorpion ➡ rattlesnake ➡ hawk.

4. **Predict and Discuss** Ask students what happens to the jackrabbit population if all the hawks are removed from the desert food web. (The jackrabbit population would increase and the plants eaten by jackrabbits would decrease; eventually, the jackrabbit population would decrease due to a decrease in its food supply.) Discuss how each of the remaining populations would be affected.

5. **Small Group Activity** Divide the class into groups of 6 to 8 students. Assign each group an ecosystem and have them research another food web on the Internet or in books. Have students in each group draw a diagram of the food web they have researched.

6. **Conclude Activity** Review with students the roles of producers and consumers and the flow of energy in ecosystems.

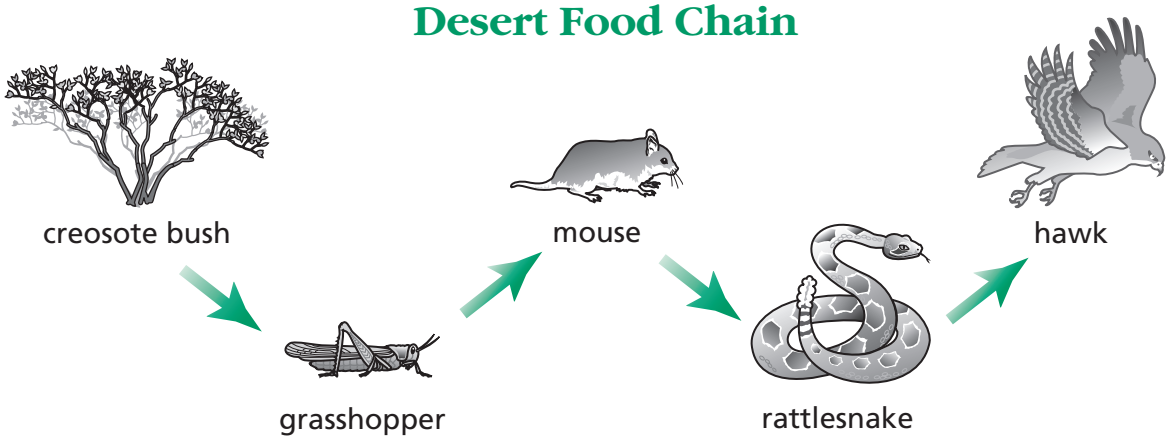
Variation

Have students research the role of *decomposers* in a food web. (Decomposers are any of the various organisms—such as bacteria and fungi—that return organic substances to the environment by feeding on and breaking down organic material. Their role in the food web is to return nutrients to the soil, which helps plants grow.)

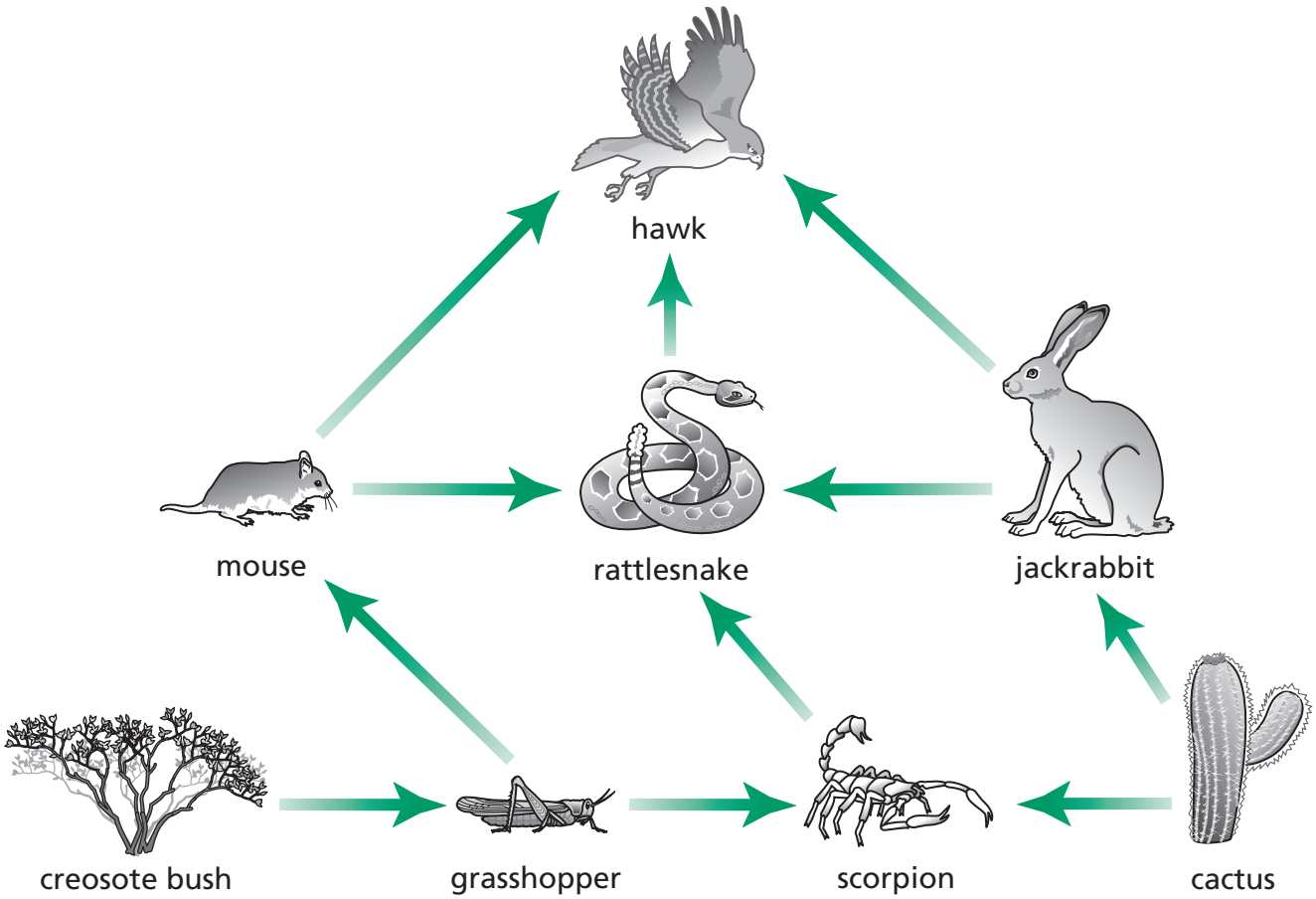
Name _____

Food Web–Worksheet

Desert Food Chain

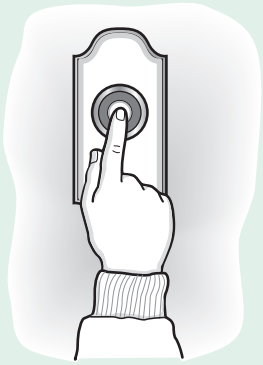


Desert Food Web



ACTIVITY 4

Who's at the Door?



Purpose In this activity, students will learn how an electric doorbell works.
Objective 20: Physical Science **Objective 23:** Science and Technology
Thinking Skills: Generate Ideas; Evaluate Outcomes

Description The teacher demonstrates the operation of a switch that activates a buzzer and teaches the difference between a *closed circuit* and an *open circuit.*

Materials size D (flashlight) battery; 2 feet of insulated copper wire; a buzzer with inputs for fastening wires (can be bought in electronic component stores), two blocks of wood (each about 3 x 1 x 1 inches), two paper clips, four unpainted metal thumbtacks

Directions

1. Getting Started Construct a simple switch as shown in Diagram 1 on the worksheet. Press two thumbtacks, not quite all the way down, into opposite ends of one of the blocks of wood. Cut two pieces of insulated copper wire (3 inches and 5 inches in length). Strip 1 inch of the insulation from both ends of the wires. Wrap the non-insulated end of each piece of wire around the shank of each of the thumbtacks. Open up a paper clip and wrap one end around the shank of one thumbtack so that the other end can be pressed down on the top of the other thumbtack. Push the thumbtacks down hard on the surface of the block.

2. Finish Set-Up Use Diagram 2 to complete the construction of a simple doorbell circuit. Cut a 3-inch piece of wire and strip the insulation from each end. Tape one end of the wire to the top of the battery and fasten the other end to one side of the buzzer. Then fasten the loose end of the longer wire coming from the switch to the other side of the buzzer. Finally, tape the loose end of the short wire coming from the switch to the bottom of the battery.

3. Worksheet Show students the simple doorbell circuit you have constructed. Hand out copies of the worksheet. Explain that the switch operates by pushing the loose end of the paper clip down onto the head of the metal thumbtack.

4. Look and Ask Explain to the students that the battery, wires, buzzer, and switch form an *electric circuit.* Ask students the following questions:

- What will occur when the loose end of the paper clip is pressed down on the thumbtack? (The buzzer will ring.)
- Why does the buzzer ring? (The paper clip completes the circuit, which allows electricity to flow through the wires and activate the buzzing mechanism.)

5. Conclude Activity Demonstrate the operation of the doorbell by pressing down on the loose end of the paper clip until the buzzer rings. Tell students that when the switch is closed and electricity is flowing through the wires, the circuit is called a *closed circuit.* When the switch is open and electricity is unable to flow through the wires, the circuit is called an *open circuit.* Have students trace in crayon on Diagram 2 how electricity can flow all the way around the circuit when the switch is in the closed position.

Variation

Basic Explain that the doorbell circuit works the same way as any other simple electric circuit. For example, instead of a buzzer there could be a flashlight bulb in the circuit that will light up when the switch is closed.

Advanced Ask each student to make, on the back of the worksheet, a list of 10 household devices (other than lights and doorbells) that are turned on or off by switches (e.g., fans, heaters, electric mixers, coffee makers).

Name _____

Who's at the Door?–Worksheet

Diagram 1

Switch

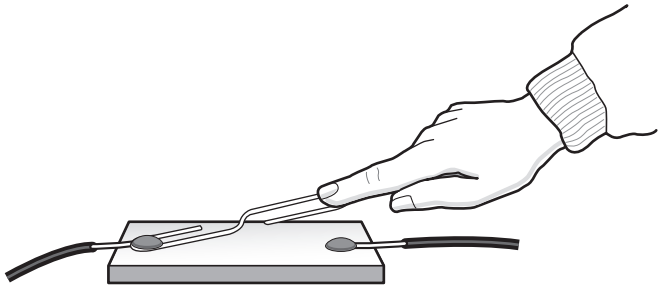
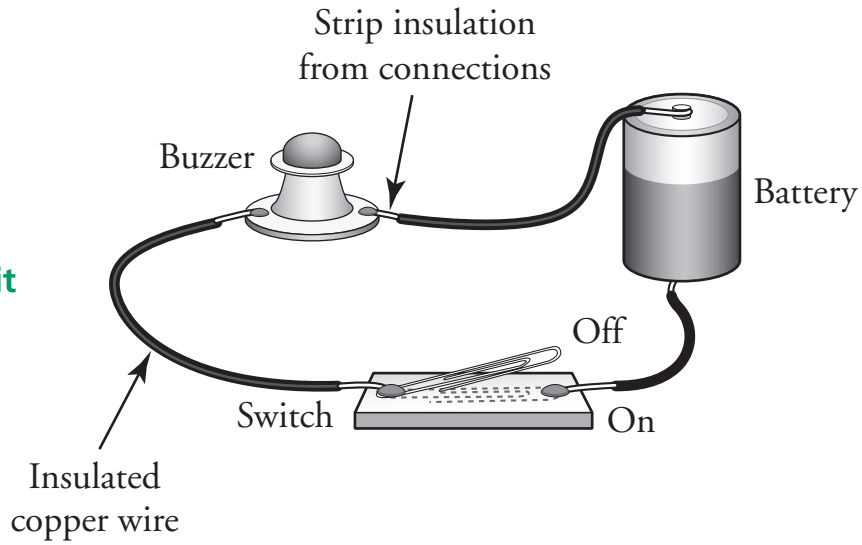


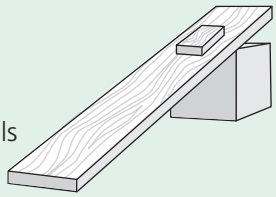
Diagram 2

Electric Circuit



ACTIVITY 5

Creating Friction



Purpose In this activity, students will learn how different combinations of materials rubbing against each other produce varying amounts of friction.
Objective 19: Science Inquiry **Objective 20:** Physical Science
Thinking Skills: Gather Information; Organize Information; Generate Ideas; Evaluate Outcomes

Description While observing a demonstration done with an inclined plane and blocks of wood covered with different materials, students observe the friction resulting from contact between materials and record the results.

Materials one smooth board (ramp), at least 3 feet long and about 1 foot wide; four blocks of wood, each measuring about 4 x 2 x 1 inches; aluminum foil, wax paper, and sandpaper (enough of each to cover the board and one block); transparent tape

Preparation

Cover three blocks of wood: covering B = aluminum foil; covering C = wax paper; covering D = sandpaper. Use transparent tape on the top of each block to secure the coverings. Leave one wood block bare—this bare surface is covering A. Prop one end of the smooth board on a block or box about 2 feet high. As needed during the demonstration, manually raise the upper end of the ramp to create whatever angle will cause both blocks to slide. Have aluminum foil, wax paper, and sandpaper ready for covering the board.

Directions

1. **Getting Started** Tell students that they will be investigating friction, the force that occurs when one object rubs against another. Explain that different combinations of materials in contact with each other produce different amounts of friction.

2. **Worksheet** Hand out copies of the worksheet and show students the ramp and blocks of wood you have prepared for the demonstration. Explain the organization of the Data Chart—the first row is for recording the "winners" of all races between pairs of blocks on the bare ramp, the second row for the ramp covered with aluminum foil, the third row for the ramp covered with wax paper, and the fourth row for the ramp covered with sandpaper.

3. **Observe and Record** Slide two blocks at a time down the bare board until all combinations of the four blocks have been tested. Have students record the "winner" of each round in the first row of the chart.

4. **Organize Data** Use the information in the first row of the Data Chart to rank-order the coverings from 1 to 4 in the first row of the Ranking Chart, with 1 indicating the least friction (the fastest to reach the bottom) with the bare board and 4 indicating the most friction (the slowest to reach the bottom) with the bare board.

   Model this ordering process on the board for students:

   For example, in the first trial, if block B "beat" block A, and in the second trial, block A "beat" block C, it can be inferred that B should rank higher than C. Continue ranking the same way until all four blocks are rank-ordered from 1 to 4, and record these numbers in the first row of the Ranking Chart.

5. **Continue Activity** Repeat steps 3 and 4—with the ramp covered first with aluminum foil, then with wax paper, and finally with sandpaper—until the Data Chart and the Ranking Chart have been completed by all students.

6. Conclude Activity Ask students which materials they think create the most or the least friction. Have them theorize what properties make these materials create more or less friction.

Variation

Ask students for examples of ways people try to reduce friction between objects. (Answers will vary.)

Ask students how they think friction both helps and hinders in sports such as bike riding, mountain climbing, golf, baseball, and swimming.

- In these various sports, how does an increase or decrease in friction improve performance? (In certain situations, friction is desired, while in others it is not. For example: in cycling, without friction the wheels of the bicycle would not be able to pull against the ground and move the bicycle forward. On the other hand, friction in the axle ball-bearings increases the effort required of the biker.)

Name _____

Creating Friction–Worksheet

Coverings:

A = bare board or block; B = aluminum foil; C = wax paper; D = sandpaper

Data Chart

Fill in the letter of the block (A, B ,C, or D) that is faster in each "race" between pairs of blocks.

	BLOCK					
RAMP	Block Pair A+B	Block Pair A+C	Block Pair A+D	Block Pair B+C	Block Pair B+D	Block Pair C+D
A–Bare Board						
B–Aluminum Foil						
C–Wax Paper						
D–Sandpaper						

Ranking Chart

Based on the results of the "races" between pairs of blocks (recorded in the Data Chart above), fill in a number from 1 to 4 for each row in the chart below. The fastest block in each row will be ranked #1, and the slowest block in each row will be ranked #4.

	BLOCK			
RAMP	Bare Block (no covering)	Aluminum Foil Covering	Wax Paper Covering	Sandpaper Covering
A–Bare Board				
B–Aluminum Foil				
C–Wax Paper				
D–Sandpaper				

ACTIVITY 6

Completing the Circuit

Purpose In this activity, students will learn about the electrical conductivity of various materials.
Objective 19: Science Inquiry **Objective 20:** Physical Science
Thinking Skill: Analyze Information; Generate Ideas; Evaluate Outcomes

Description The teacher uses a simple circuit for demonstration and students predict which materials will and will not conduct electricity.

Materials 1 D-cell battery, 2 alligator clips, 1 foot of copper wire, 1 small flashlight light bulb, 4 small screws, light bulb holder, screwdriver; materials to test conductivity: 1 rubber eraser, piece of glass, marking pen, copper penny, 2 inches of copper wire, paper, paper clip, aluminum foil, plastic wrap

Preparation

Create a circuit similar to the one called Setup A on worksheet 1. Setup B shows the circuit setup with an object (such as a small pencil) attached to the alligator clips.

Directions

1. **Getting Started** Hand out copies of Worksheet 1 and Worksheet 2 to the students.
2. **Explain** Tell students that only the materials that conduct electricity will allow electricity to flow all the way around the circuit and light up the bulb.
3. **Worksheet 2** Have students record their prediction for each of the materials listed in the chart on Worksheet 2.
4. **Collect Data** Attach the alligator clips to each side of the material being tested. Does the light bulb light up? Have the students record the result on the chart on Worksheet 2. Repeat this step with all the materials to be tested.
5. **Ask** After performing all the tests, ask students the following question:
   - What do the materials that conducted electricity have in common? (The materials that conducted electricity all contain some kind of metal.)
6. **Conclude Activity** Remind students that in order for electricity to flow, it has to have a complete path, or closed circuit, formed by a conducting material. Anything that blocks or interrupts the path of electricity stops its flow. Present a list of other materials. For each material, ask if it will conduct electricity. Explain that most metals conduct electricity.

Variation

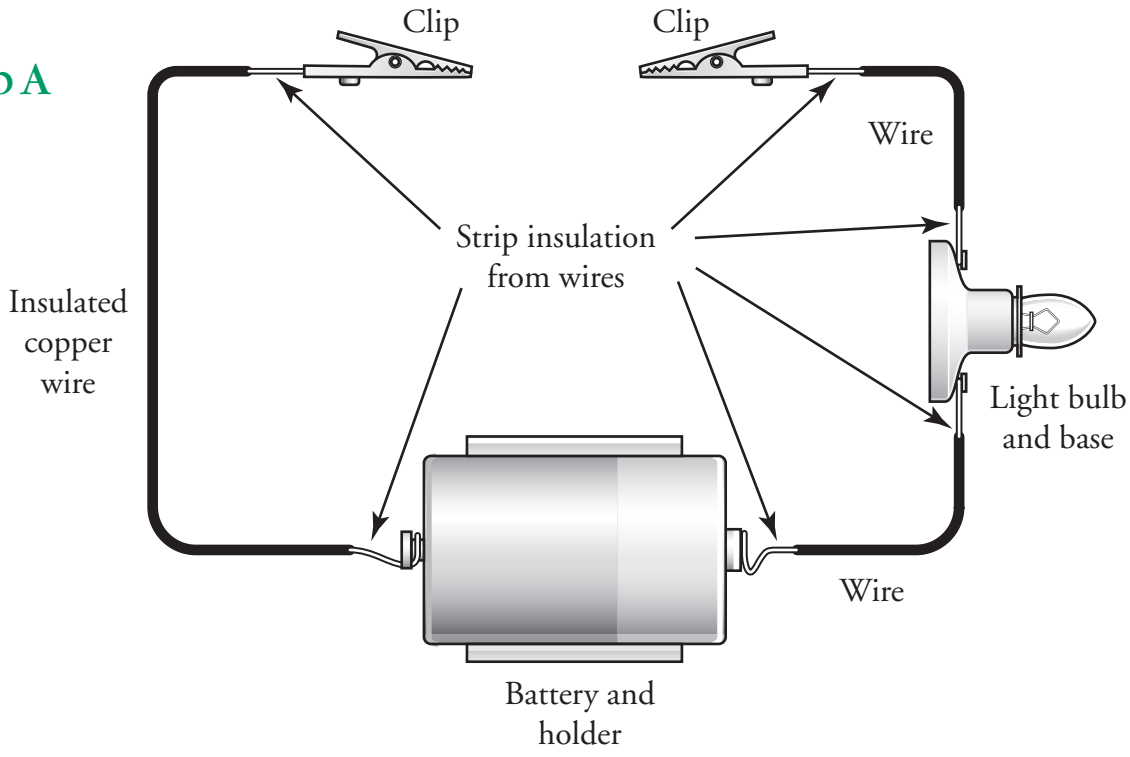
Introduce the terms *conductor* and *insulator* to describe materials that do or do not conduct electricity. Ask students to give examples of insulators that are used in conjunction with electric circuits.

Have students think of other possible conductors and insulators to test. Tell students to list up to five of these materials in the remaining spaces in the chart on Worksheet 2 and, as a class, test as many of the materials as time allows.

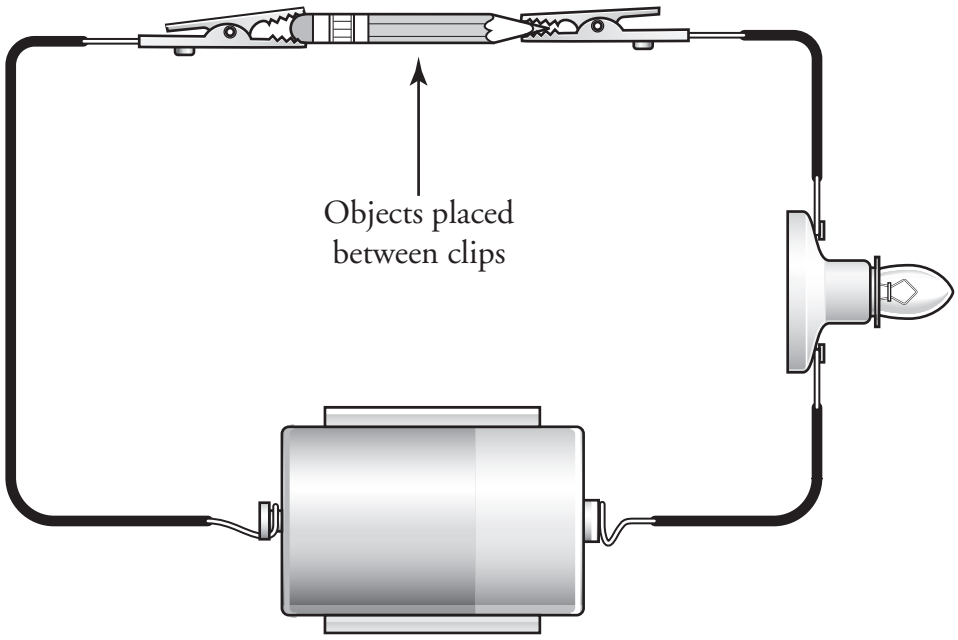
Name _____

Completing the Circuit–Worksheet 1

Setup A



Setup B



Name _____

Completing the Circuit–Worksheet 2

Directions: For each of the materials listed on the chart, record your prediction of whether or not it will conduct electricity. After each material has been tested, write *yes* or *no* in the "Result" column.

Materials That Conduct Electricity

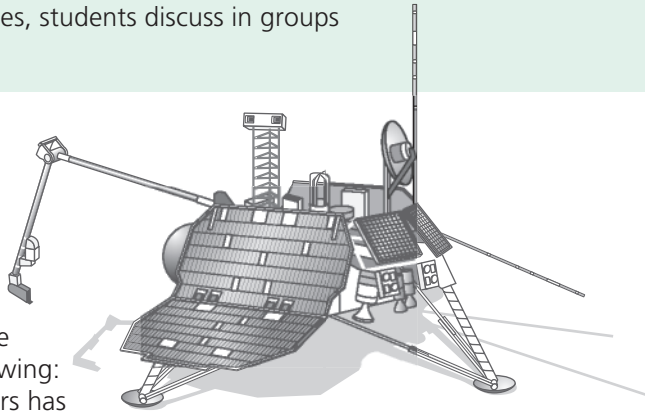
Material	Prediction	Result
eraser		
glass		
marking pen		
copper wire		
aluminum foil		
penny		
paper clip		
plastic wrap		

ACTIVITY 7

The Red Planet

Purpose In this activity, students will learn what Mars is like and how it has affected the designs of the U.S. space program's missions to Mars.
Objective 22: Earth and Space Science **Objective 23:** Science and Technology
Thinking Skills: Analyze Information; Synthesize Elements; Generate Ideas

Description Students study a chart comparing Earth and Mars. Then they read an article about the exploration of Mars. Based on these preparatory activities, students discuss in groups the likelihood that people will ever live on Mars.



Directions

1. Getting Started Hand out copies of Worksheet 1. Read through it with the students, and ask if they have any questions.

2. Discuss Ask students the following questions:

- In what ways are Earth and Mars very similar and in what ways are they very different? (Answers will vary, but may include the following: The diameter of Mars is about one-half the diameter of Earth. Mars has two small moons. Mars has little or no surface water. Earth is covered mostly with water.)
- What other planet is similar to Earth? (Venus is sometimes regarded as Earth's sister planet because it is only slightly smaller than Earth. Both planets have few craters, indicating relatively young surfaces. Their densities and chemical compositions are also similar.)

3. Worksheet Hand out copies of Worksheet 2 for students to read.

4. Small Group Activity Organize the class into groups of 4 or 5 students and have each group prepare a chart. The chart should contain two lists, one giving reasons why they think people could live on Mars, the other giving reasons people could not live on Mars.

- Answers will vary. (The ultimate step would include reshaping the environment of Mars to make it more hospitable to humans. Mars has some water and so could possibly support life. However, Mars has an extreme environment that includes higher radiation levels from space and more extreme temperatures that can reach from boiling levels to below freezing. There is less gravity and no oxygen.)

5. Predict Have each group summarize its work by predicting whether people will ever live on Mars and if so, predicting in which decade or century they believe Mars will first be populated.

6. Conclude Activity Ask students the following questions:

- Do you think exploration of Mars is important?
- Why or why not?

Name _____

The Red Planet–Worksheet 1

Mars–Earth Comparison Chart

	Mars	Earth
Surface	rocks and soil	rocks, soil, water, plants
Icecaps	icecaps of frozen carbon dioxide	icecaps of frozen water
Atmosphere	mostly carbon dioxide, some water vapor	nitrogen, oxygen, argon, others
Average Distance from Sun	142 million miles	93 million miles
Average Speed Orbiting the Sun	14.5 miles per second	18.5 miles per second
Diameter	4,220 miles	7,926 miles
Tilt of Axis	25 degrees	23.5 degrees
Length of Year	687 Earth days	365.25 Earth days
Length of Day	24 hours 37 minutes	23 hours 56 minutes
Gravity	equal to 0.375 that of Earth	equal to 1 Earth
Average Temperature	-81°F	57°F
Number of Moons	2	1

Name _____

The Red Planet–Worksheet 2

Visiting a Neighbor

In November 1964, *Mariner 3* made the first successful flight past Mars. During the summer of 1997, *Mars Global Surveyor* and *Mars Pathfinder* reached the Red Planet. In the more than 30 years between these missions, technology had made a lot of progress. *Global Surveyor* did more than fly by the planet. It was an orbiter. It took pictures and studied the planet from a distance. *Pathfinder* was not only a lander but a rover. It touched down on the rough Martian surface and moved around, studying rocks and soil.

Although our space program has come a long way in exploring Mars, there is still a lot to be learned. Newer rovers will carry more scientific instruments. They will be able to travel farther. Airplanes and balloons that can be used for exploring outer space are also being developed. Scientists are trying to find out how to collect pieces of rock and soil and bring them back to Earth.

There are signs that water once flowed on the Martian surface. Scientists want to find ways to explore below the surface. They want to look for water there. They also want to look for signs of life. Because any life on Mars would be quite different from that on Earth, new instruments are needed for exploration.

Finally, there has to be a way for all the data to reach computers on Earth. Scientists hope that communications satellites will orbit Mars some day. There has even been talk of an Earth-to-Mars Internet!

ACTIVITY
8

Cleaning Up the Water

Purpose In this activity, students will learn how pollution enters our water supply and how water can be purified.
Objective 22: Earth and Space Science
Objective 24: Personal and Social Perspectives in Science
Thinking Skills: Analyze Information; Evaluate Outcomes

Description Students study a diagram of the water cycle in which they see how pollutants enter our water supply. They will learn that filtration removes many pollutants from water, and they construct a simple filtration system.

Materials for each group: pebbles, sand, cotton, dirt, crushed leaves, water, a large, clear funnel, a measuring cup, and seven identical clear containers

Preparation

Prepare a source of "polluted" water by adding dirt, tiny bits of dead leaves, dust, dog hair, etc., to a large container of water.

Directions

1. **Getting Started** Hand out copies of Worksheet 1. Review with students the water cycle: sunshine, evaporation, condensation, precipitation. Have students point out ways in which pollutants enter the water supply. Ask the following questions:
   - What are some sources of water pollution? (the city, the lumber mill, and farming)
   - What are some ways pollution travels through the environment? (atmosphere, precipitation, rivers, groundwater)
2. **Explain** Tell students that many places have their own water-treatment plants. At these plants chemicals are used to remove some of the pollutants from the water. A filtration system is also used to remove more pollutants. Finally, other chemicals are used to kill bacteria and other harmful organisms that may be present in the water. Explain that many different materials can be used to clean water.
3. **Demonstrate** Hand out copies of Worksheet 2. Divide the class into groups and have them follow this procedure (or do this as a demonstration for the whole class): Fill the funnel with a filtering material. Shake or stir the dirty water and pour some into a measuring cup. Very slowly pour this through the funnel, making sure not to wash the filtering material through the funnel into the jar. Repeat for all the materials and their combinations.
4. **Record Data** Have students compare each jar of filtered water with the original dirty water and record their observations on their charts.
5. **Analyze Results** Ask students the following questions:
   - Which materials filtered the best?
   - Why do you think they filtered the best?
   - Is any of the water we have cleaned good enough to drink? (No. The filters used don't filter out bacteria or other germs. They also don't filter out chemicals or harmful substances.)

   Discuss with students the different qualities of the filtering materials.

6. Conclude Activity Ask students the following question:

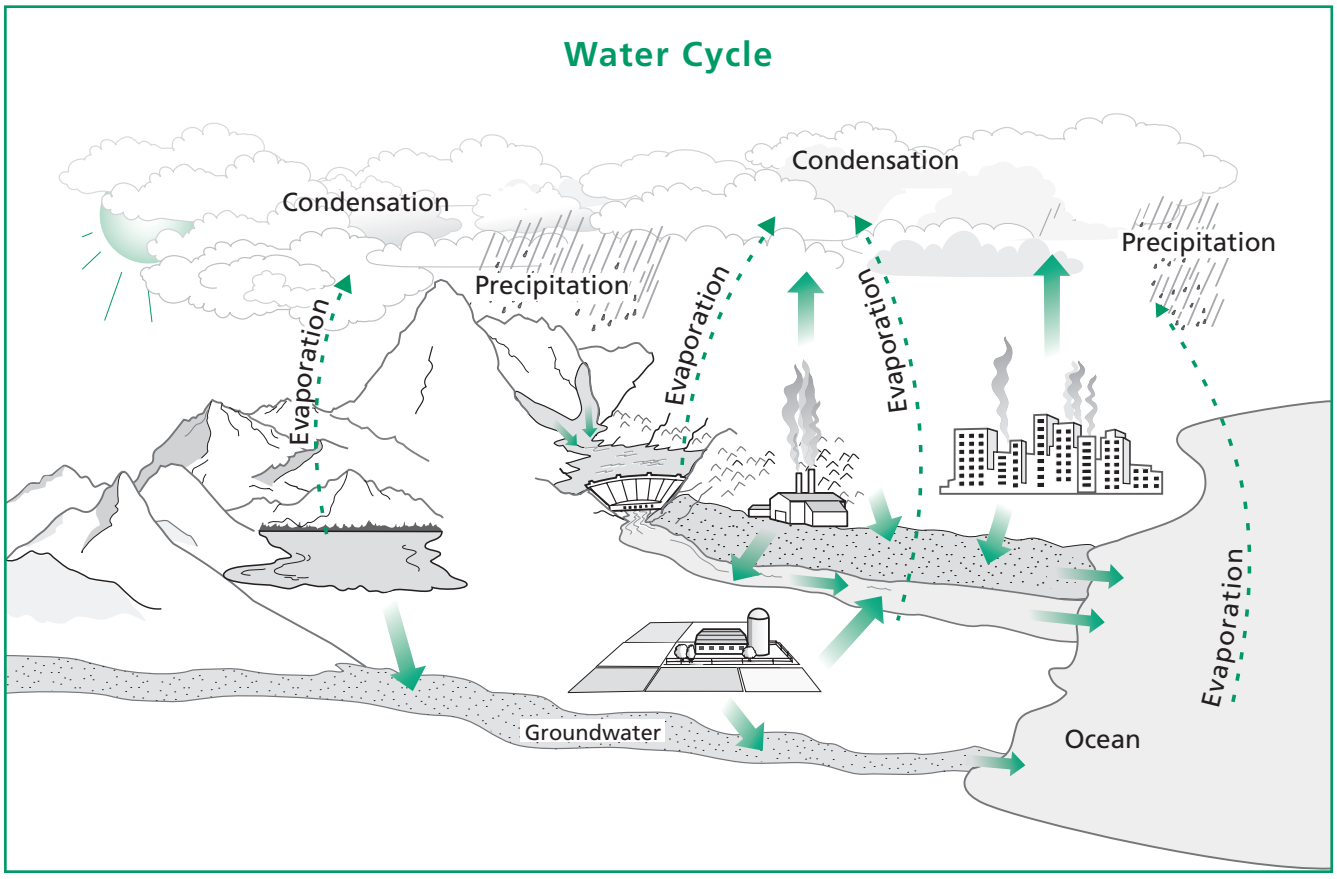
- How can we help keep pollutants from getting into our water supply? (Through community awareness, and making sure that wastewater from sinks, toilets, drains, businesses, and schools goes to a water-treatment plant before the waste can enter into the ground, rivers, lakes, or oceans.)

Variation

Have students research what materials are used by sewage or water-treatment plants. Have them research the use of charcoal as a filtering and purifying material.

Name _____

Cleaning Up the Water–Worksheet 1



Name _____

Cleaning Up the Water–Worksheet 2

Abilities of Filtering Materials

	Materials	Description of Filtered Water
One Material	pebbles	
	cotton	
	sand	
Combinations	pebbles + cotton	
	cotton + sand	
	pebbles + sand	
	pebbles + cotton + sand	

Social Studies Teaching Activities

ACTIVITY 1

Building a Home

Purpose Students learn how early settlers in various regions of the United States depended on local resources for building their houses.
Objective 26: Geographic Perspectives **Thinking Skill:** Organize Information

Description Students read about houses built by early settlers in different regions of the country. Then they match the houses to locations indicated on a map of the United States.

Directions

1. **Getting Started** Ask students to think about the different types of houses and buildings in their community, and the kinds of building materials used to construct them. Ask students for examples of different types of buildings and the materials used to build them (e.g., brick for an apartment house, wood for a two-story single home, chrome and glass for a car showroom, stucco for a restaurant).
2. **Explain** Tell students that today, in most regions of the United States, several different kinds of materials are used. Early European settlers, however, built houses out of materials that were readily available.
3. **Worksheet 1** Hand out copies of Worksheet 1. Read the descriptions with the class. Discuss any unfamiliar terms or ideas.
4. **Worksheet 2** Hand out copies of Worksheet 2. Review the directions with the students. Make sure they understand what they are to do.
5. **Conclude Activity** Ask students the following questions:
   - What building materials and styles were used the most when the region we are living in was first settled by Europeans? Why? (Answers will vary.)

Variation

Basic Discuss how to recognize different building materials (stone, brick, clapboard, shingles, logs, etc.). Show pictures from books, newspapers, magazines, or Web sites. Have students make a list of different building materials they see as they travel between home and school.

Advanced Have students research the types of houses built by Native Americans in a particular region. Have students describe the houses by writing paragraphs or drawing pictures. Ask students to describe which building materials may have been used and the reasons for using them.

Name _____

Building a Home–Worksheet 1

Houses of the Early Settlers

Salt Box

Early settlers in New England who built this kind of house used wood from the forests in the area. The house had a flat front and a steep roof line. Fireplaces in the house were connected to a large, central chimney.

Brick Row House

Early houses in the Mid-Atlantic area were also built of wood. But people in the fast-growing Mid-Atlantic cities began to prefer bricks. Houses were built in rows, close to the street, with a small backyard. These houses took up less land and were easier to heat.

Log Cabin

Frontier settlers in the woodland areas east of the Mississippi River built log cabins. Wood was plentiful and the cabins could be built quickly.

Sod House

When settlers reached the prairies of the upper Midwest, they found few trees with which to build houses. So they built houses from bricks of sod—grass with soil held together by the roots. Prairie sod was thick. It was cut into bricks of equal size. A mixture of sand, clay, and plants was used to seal cracks between the bricks.

Adobe House

Around the year 750, the Anasazi, a southwestern Native American group, began to build houses from adobe, a mixture of mud and clay. They made bricks from adobe and dried them in the sun. Spanish settlers in the region used adobe as well.

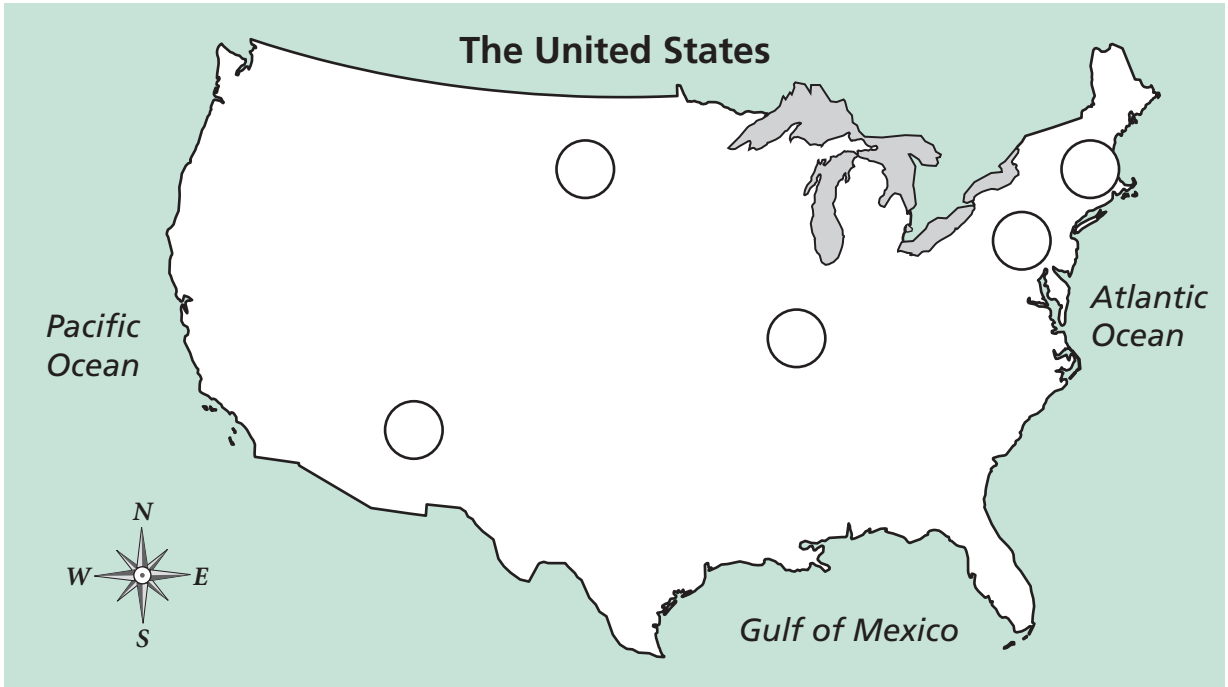
Name _____

Building a Home–Worksheet 2

Directions: Use the "Houses of the Early Settlers" descriptions as a guide. Write in the name of each house under the numbered picture. Then, in each circle shown on the map, write the number of each picture in the geographical area where early settlers usually built that style of house.

1. _____ 2. _____ 3. _____

4. _____ 5. _____



ACTIVITY 2

The Oregon Trail

Purpose Students are asked to think about what it was like to travel the Oregon Trail, and they write journal entries describing the experience.
Objective 26: Geographic Perspectives **Thinking Skills:** Analyze Information; Generate Ideas

Description Students discuss how pioneers on the Oregon Trail traveled into unfamiliar territory. Using a map and information from the classroom discussion, students write three journal entries that describe the journey.

Materials primary or secondary source materials that relate to the Oregon Trail (optional)

Directions

1. **Getting Started** Hand out copies of Worksheet 1. Have students study the poster and map and discuss why people traveled west in the 1800s. Have students study the map and look for geographical areas that may have caused hardships or been hazardous for the pioneers.
2. **Explain and Ask** Remind students that on a good day, the pioneers may have traveled only 15 miles, and an entire journey often took up to 6 months. Ask students to recall information and stories they have heard about pioneers who traveled the Oregon Trail. On the board, list the hardships and hazards the students mention.
3. **Journal Activity** Hand out copies of Worksheet 2. Tell students that they are going to pretend to be traveling on the Oregon Trail in the mid-1800s. They will choose part of the journey to write about in a journal. Ask students to look at the map on the worksheet. Ask them to select any segment of the journey (e.g., beginning, middle, or end) to write about and to draw a path on the map that shows their journey.
4. **Worksheet** Students may want to write about key land and water forms (e.g., mountain ranges, rivers, plains). If students are having trouble deciding what to write about, encourage them to think about what they might have seen, heard, smelled, tasted, and touched as they traveled the Oregon Trail.
5. **Conclude Activity** Ask students the following questions:
   - If you lived in the 1800s, would you have made the trip west? Why?
   - How would the trip be different today?

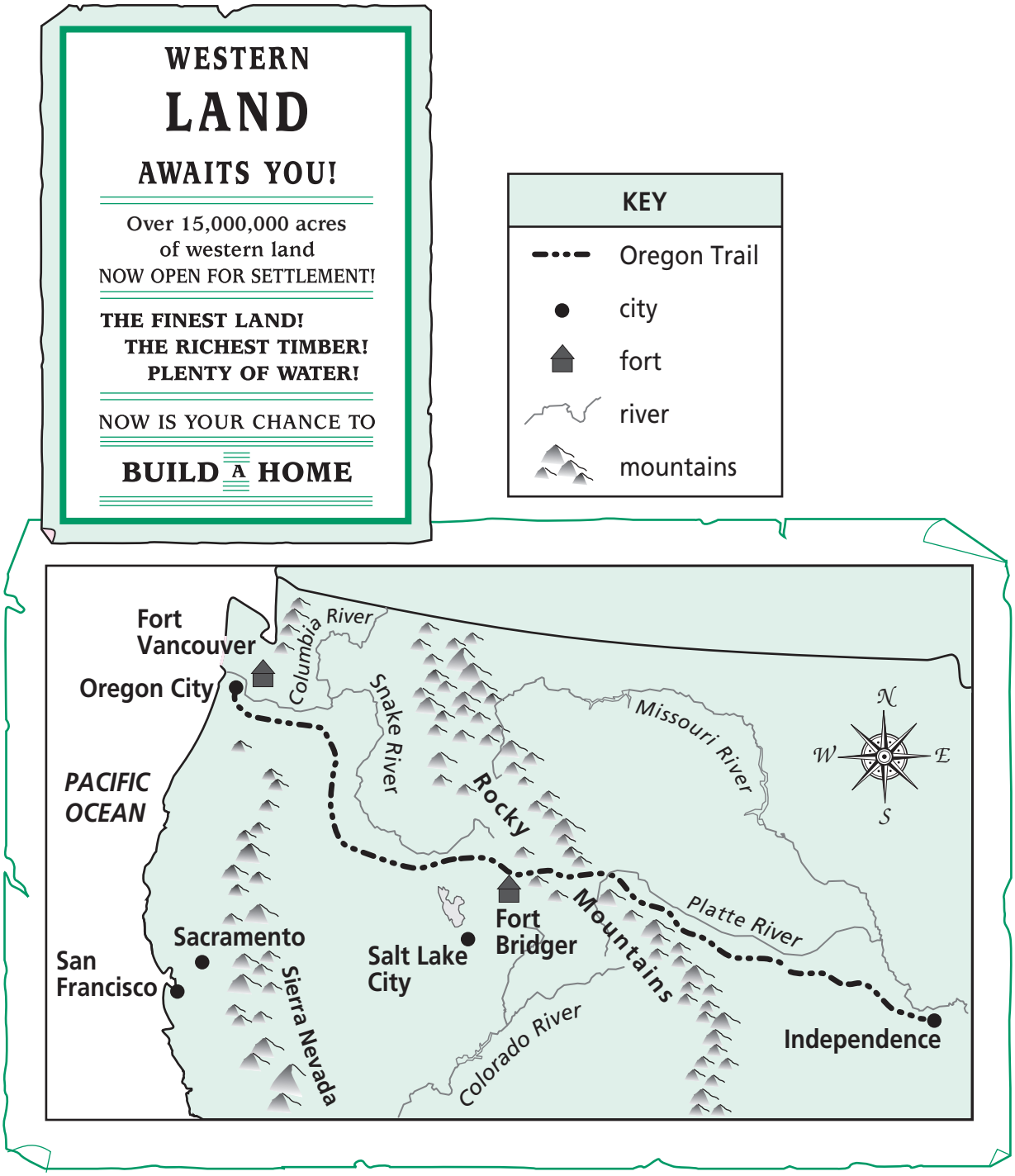
Variation

Have students research actual diary entries of pioneers who traveled the Oregon Trail. Have students write a comparison of these diary entries with information found in secondary sources such as textbooks or encyclopedias.

Name _____

The Oregon Trail–Worksheet 1

Directions: On the map, draw a line along the trail symbol to show which part of the journey on the Oregon Trail you will write about.



Name _____

The Oregon Trail–Worksheet 2

Directions: Based on the map and the class discussion, write three journal or diary entries that describe part of the trip along the Oregon Trail.

Travel Journal

Date _____

_____

_____

_____

Date _____

_____

_____

_____

Date _____

_____

_____

_____

ACTIVITY 3

Foods from Around the World

Purpose Students look at graphs showing information about immigration to the United States. Students also study descriptions of foods from around the world.
Objective 27: Historical and Cultural Perspectives
Thinking Skills: Gather Information; Generate Ideas

Description Students study circle graphs and answer questions about the immigrants who came to the United States in 1920 and in 1999. Then, students look at lists of foods from different countries and create a menu.

Directions

1. **Getting Started** Help students understand that the United States has always been a nation of immigrants. Since the arrival of the first settlers from Europe, people from many different countries have come to the United States. Each group of immigrants has added its customs, including foods, to the heritage of this nation.
2. **Worksheet** Hand out copies of Worksheet 1. Have students study the graphs and answer the questions. Review and discuss the answers to the questions on the worksheet.
3. **Worksheets 2 and 3** Have students work in pairs to create a menu. Hand out copies of Worksheets 2 and 3. Go over the directions on Worksheet 3 with students. When students have completed their menus, have them share the menus with the class.
4. **Conclude Activity** Ask students the following questions:
   - What foods do you think of as "American"?
   - Did these foods originate in the United States or were they brought here from another country?

Variation

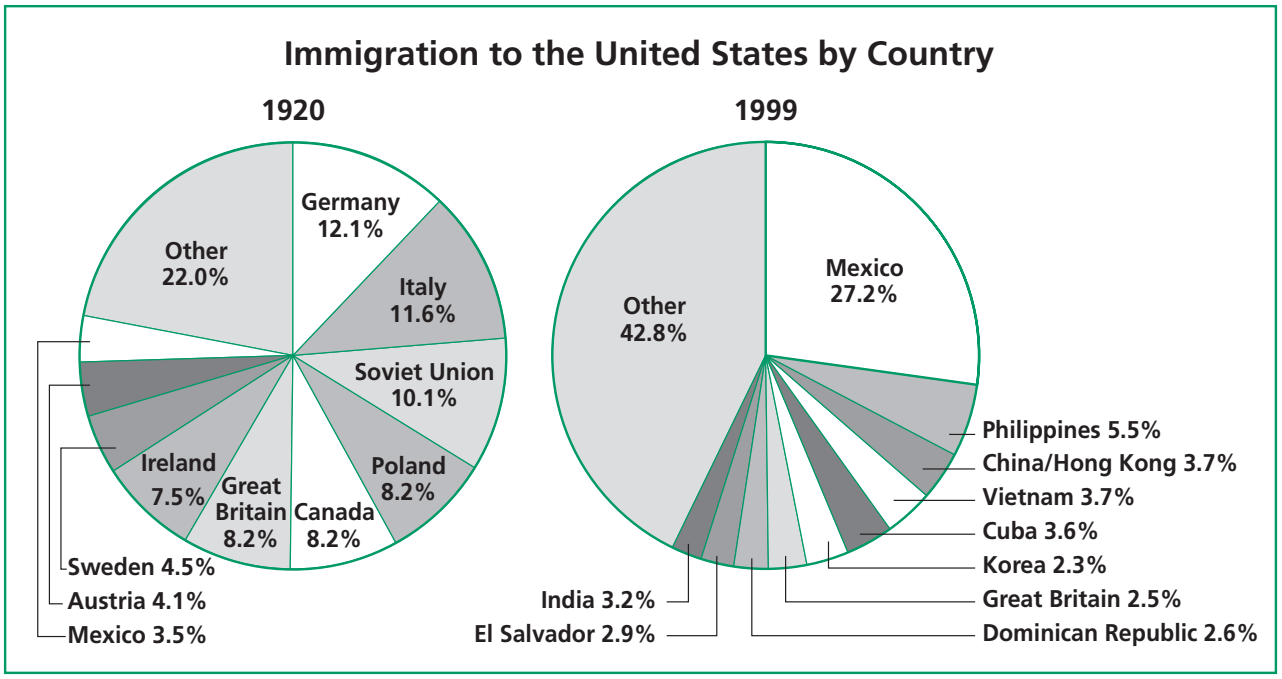
Basic Find a recipe for one or more of the foods listed on the worksheet. If possible, prepare the recipe with the students or suggest that they do so at home with their family.

Advanced Have students research other contributions of various immigrant groups.

Name _____

Foods from Around the World–Worksheet 1

Directions: Study the graphs below. Then answer the questions.



1 Which country had the greatest increase in the number of immigrants to the United States between 1920 and 1999?

_____

2 In 1999, what percentage of immigrants to the United States came from Vietnam?

_____

3 From which continent did most of the immigrants come to the United States in 1920?

_____

4 Name the countries on the 1999 graph that are located in Asia.

_____ _____

_____ _____

_____

Name _____

Foods from Around the World–Worksheet 2

Foods from Around the World

Appetizer	Main Course	Side Dish	Dessert	Beverage
Mexico				
Quesadilla—Melted cheese between two flour tortillas, in wedges **Guacamole con nachos**—avocado dip with corn chips	**Arroz con pollo**—yellow rice with chicken **Enchiladas mole poblano**—rolled corn tortillas filled with chicken in sauce of bitter chocolate, almonds, peppers	**Arroz amarillo**—yellow rice **Frijoles**—refried beans **Plátanos fritos**—fried pieces of plantain (fruit similar to bananas, but not as sweet)	**Flan de coco**—coconut pudding with sugar syrup	**Jugo de piña**—pineapple juice
India				
Samosas—chopped vegetables in dough, deep-fried	**Chicken tandoori**—pieces of chicken roasted in a clay pot **Lamb curry**—cubes of lamb in a spicy sauce **Sag paneer**—spinach with cubes of cheese	**Aloo gobi**—potatoes and cauliflower in creamy, spicy sauce **Dal**—lentils **Naan**—flat wheat bread **Vegetable biryani**—rice with diced vegetables	**Gulab jamun**—dumplings of dried milk and flour soaked in sugar syrup	**Mango lassi**—yogurt drink with mango
United Kingdom				
Cornish pasty—turnover filled with chopped meat, potatoes, vegetables **Toad-in-the-hole**—sausage wrapped in puff pastry	**Steak-and-kidney pie**—pieces of beefsteak and kidney in sauce, covered with pie crust **Roast beef and Yorkshire pudding**—roasted beef and puffy turnover with beef gravy **Fish and chips**—fried fish and French fries	**Bubble and squeak**—pancake of cabbage and mashed potatoes, cut into wedges **Broiled tomatoes** **Parsnips**—white carrot-like root vegetables	**Trifle**—sponge cake, fruit, custard, and jam, topped with whipped cream	Hot tea
China				
Steamed vegetable dumplings—vegetables wrapped in dough and steamed **Egg roll**—light dough wrapped around vegetables and meat and deep-fried **Steamed pork bun**—seasoned pork in a fluffy dough	**Chicken with cashews** **Sweet-and-sour pork** **Shrimp lo mein**—long, soft noodles sautéed with baby shrimp and vegetables **Beef and Broccoli**—strips of beef sautéed with broccoli	**Steamed white rice** **Egg flower soup**—chicken broth with cornstarch, egg, and seasonings	**Almond cookies**	Hot tea

Name _____

Foods from Around the World–Worksheet 3

Directions: Choose from Worksheet 2 one of the countries shown on the chart and use the foods listed for that country to create a menu. The meal should consist of an appetizer, a main course, at least one side dish, a dessert, and a beverage. You may decorate the menu with art or symbols that represent the country you choose.

Today's Menu

Appetizer

_____

_____

Main Course

_____

_____

Side Dish

_____

_____

Dessert

_____

_____

Beverage

_____

ACTIVITY 4

The Life of George Washington

Purpose Students read a passage about George Washington and create a time line of significant events in his life.
Objective 27: Historical and Cultural Perspectives **Thinking Skill:** Organize Information

Description Students read a passage that tells about the life of George Washington. Then they create a time line.

Directions

1. **Getting Started** Discuss with students the important events that happened in the American colonies—and later in the United States—during George Washington's lifetime. Discuss why friction arose between the colonies and Great Britain, and why it was necessary to call a Constitutional Convention. Hand out copies of Worksheet 1, and ask volunteers to read aloud parts of the passage. Discuss any unfamiliar vocabulary.
2. **Explain** Explain to students that they will be creating a time line of some events in George Washington's life. Remind students that a time line shows events in the order in which they happened.
3. **Worksheet 2** Hand out copies of Worksheet 2. Have students select from the passage about George Washington six events they consider important (or interesting) and write the events on the time line.
4. **Discussion** Have a class discussion about the importance of the events students have placed on their time lines.
5. **Conclude Activity** Ask students to write a paragraph in response to the following questions:
   - What do you think was George Washington's greatest contribution to the United States? Why?

Variation

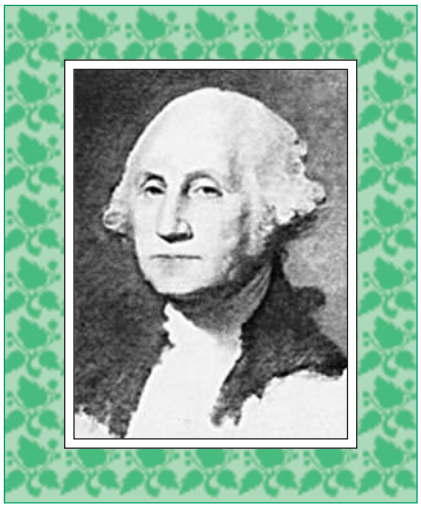
Basic Have each student create a time line of events in his or her own life.

Advanced Have students research another famous American and make a time line of his or her life.

Name _____

The Life of George Washington–Worksheet 1

Some Events in the Life of George Washington



George Washington was born in Virginia on February 22, 1732. His father died when he was 11 years old. As a boy, Washington studied surveying and learned how to map and measure the land. In 1749, he became the official surveyor for a county in Virginia.

In 1754, George Washington became a soldier and helped the British fight the French in the Ohio River Valley. After leaving the military, he married Martha Custis in 1759. He then served in the colonial legislature for many years.

Washington began to take a stand against the British as relations between Great Britain and the colonists became worse. In 1774, he represented the Virginia colony at the First Continental Congress. When the colonies went to war against Great Britain in 1775, he was elected Commander in Chief of the Continental Army. It was a long and hard war. Finally, in 1781, the British surrendered to Washington at Yorktown.

When Washington returned to his home at Mount Vernon, he continued his interest in farming. However, he was called again to serve his country. In 1787, he was elected president of the Constitutional Convention, where the delegates reached agreement on the Constitution of the United States.

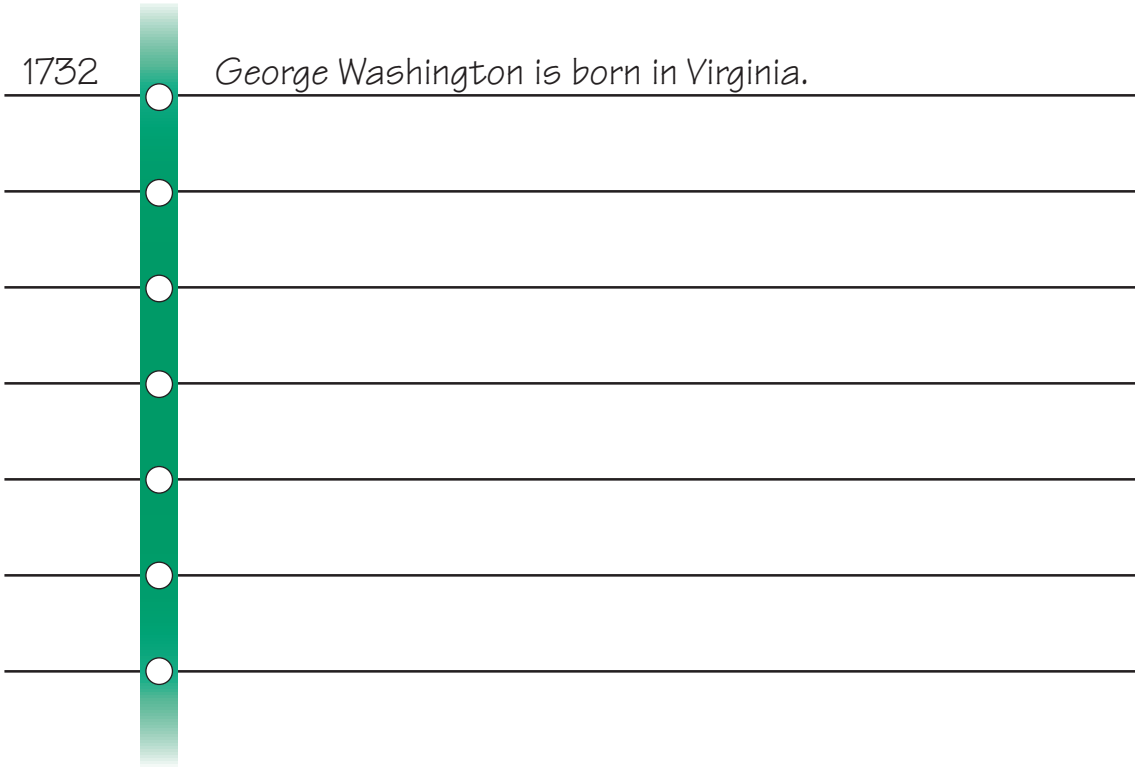
In 1789, he became the first President of the United States. He was re-elected in 1792. George Washington died at Mount Vernon on December 14, 1799.

Name _____

The Life of George Washington–Worksheet 2

Directions: On the time line below, write six events in George Washington's life. Be sure to write the year and a short description of each event.

Time Line of Some Events in George Washington's Life



ACTIVITY
5

Amending the Constitution

Purpose Students learn about some amendments to the Constitution of the United States and write about their importance.
Objective 28: Civics and Government Perspectives **Thinking Skill:** Analyze Information

Description Students review abbreviated versions of some amendments to the Constitution. They choose four to write about and tell why they think those amendments are important.

Directions

1. **Getting Started** Explain to students that the United States Constitution was written in 1787 and that it forms the basis of our government. The Constitution can be changed, or amended. Ask students why they think it is important that the Constitution can be amended.

2. **Worksheet 1** Hand out copies of Worksheet 1. Mention that certain individual rights, listed in Amendments 1 through 10, are known as the Bill of Rights. Tell students that these amendments are important because, prior to the Bill of Rights, the Constitution did not mention the rights of ordinary citizens. Have volunteers read Amendments 1, 4, 6, and 7.

   Tell students that as our nation grows and changes, it is important for us to be able to amend the Constitution. Have volunteers read the rest of the amendments.

3. **Worksheet 2** Hand out copies of Worksheet 2. Read through the directions on Worksheet 2 for completing the chart.

   When students have completed the worksheet, have volunteers share their answers. As a class, discuss the importance of different amendments.

4. **Conclude Activity** Tell students that only twenty-seven amendments have been added to the Constitution between 1787 and 2002. The process for amending the Constitution is a long and difficult one. The amendment must be proposed by Congress and approved by three-fourths of the states. Ask students the following question:
   - Why do you think the writers of the Constitution made the amendment process a difficult one?

Variation

Have students work in pairs to study one particular amendment. Ask students to research the history behind the development of the chosen amendment. Ask students to research reasons for passing the amendment, and to include key dates and people involved in its passage.

Name _____

Amending the Constitution–Worksheet 1

The chart below briefly outlines some amendments to the Constitution of the United States of America.

Amendments to the Constitution

Amendment Number	What It Says
1	People have the right to freedom of religion, freedom of speech, freedom of the press; right to assemble peacefully; right to petition the government.
4	People have the right to protection from unreasonable searches and seizures.
6	People have the right to a speedy public trial; right to a lawyer; right to be confronted with witnesses.
7	People have the right to a trial by jury.
15	African American men have the right to vote.
16	Congress has the power to collect taxes on income.
17	Senators are elected by voters, not by state legislators.
19	Women have the right to vote.
26	The voting age is lowered from 21 to 18.

Name _____

Amending the Constitution–Worksheet 2

Directions: Choose four of the amendments listed on the previous page. Complete the chart below by stating why you think each amendment is important.

Amendments to the Constitution

Amendment Number	Why It Is Important
_____	_____ _____
_____	_____ _____
_____	_____ _____
_____	_____ _____

ACTIVITY 6

From Farm to Store

Purpose Students learn how certain products are developed: from the farm, to the factory, to the consumer.
Objective 29: Economic Perspectives
Thinking Skills: Organize Information; Analyze Information

Description Students study a flow chart showing the production of bread and list the workers and costs involved in each step of the process. Then they list three of the steps involved in making a product and analyze the various factors that affect the prices of the products that consumers buy.

Directions

1. **Getting Started** Ask students what raw materials or natural resources are needed to make products such as wool sweaters, cotton sheets, paper, and wooden furniture. List their answers on the board. Explain and discuss the many steps involved in turning raw materials into products for consumers to buy.
2. **Worksheet 1** Hand out copies of Worksheet 1. Go over each step listed in the flow chart with the students.
3. **Group Work** Have students work in pairs and list some of the workers who help make and sell the products and some of the costs involved at each stage shown on the flow chart. (Examples of costs include growing and cultivating the raw materials; purchasing and maintaining equipment; paying for labor; etc.)
4. **Discussion** Discuss students' answers.
5. **Worksheet 2** Hand out copies of Worksheet 2. Go over the directions for the flow chart with the students. Then explain that on the next page they will write down one reason that would cause the price of the product to increase, and one reason that would cause the price to decrease. Discuss students' answers to the questions on the worksheet.
6. **Conclude Activity** Ask students the following questions:
   - What products are you familiar with that have gone up or down in price?
   - What do you think has caused the price increase or decrease?

Variation

Basic Have students write down why it might be less expensive or more expensive for people to make their own bread at home. Have them also consider other advantages and disadvantages of making bread at home.

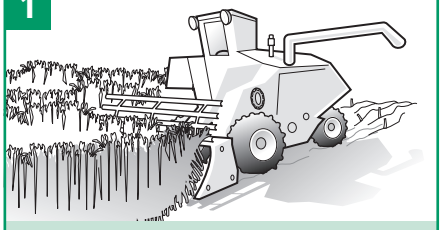
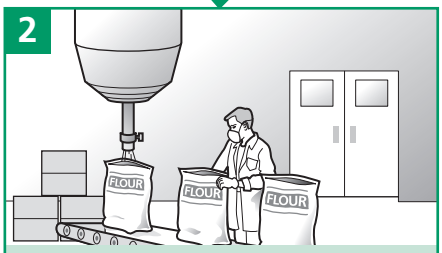
Advanced Have students investigate the prices of different kinds of bread at their local market and consider reasons for the differences in price. Have the students also compare prices of the same bread at several different markets and consider reasons the prices may differ.

Name _____

From Farm to Store–Worksheet 1

Directions: The flow chart below shows some of the steps involved in the production of bread. Read the steps listed in the flow chart. Use the information in the flow chart and your own knowledge to complete the worksheet.

From Wheat to Bread

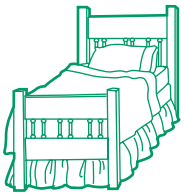
Production Steps	Some Workers in the Production-to-Consumer Process	Some Costs to the Producers
1  Wheat is planted and harvested.	_____ _____	_____ _____
2  Wheat is made into flour at the mill.	_____ _____	_____ _____
3  Flour is used to make bread.	_____ _____	_____ _____
4  Bread is sold at a store.	_____ _____	_____ _____

Name _____

From Farm to Store–Worksheet 2

Directions: Choose a product from the three choices below. Draw a circle around the product you choose. On the flow chart, write the main steps involved in making the product you have selected. Make sure the steps are in the correct order.

Steps in Production



cotton sheets

wool coat

wooden chair

Flow Chart

1 _____

2 _____

3 _____

Name_____

From Farm to Store–Worksheet 2 (continued)

Steps in Production

Next year, the price of this product may increase or decrease. Write one reason the price of this product may go up and one reason it may go down.

Why the price of the product may go up:

_____

_____

Why the price of the product may go down:

_____

_____

Answers to Student Worksheets

☐ Reading and Language Arts

Activity 1: What's Cooking?

Utensils You Will Need:

peeler

grater

2 large bowls

food processor

spoon, fork, or hand mixer (not directly stated)

skillet

tablespoon, teaspoon

pancake flipper (spatula)

rack

plate (not directly stated but illustrated)

Activity 2: What's the Big Idea?

- Answers will vary.

1. Never trust a flatterer!
2. Don't let go of something you already have to try to get something you might not get. (A bird in the hand is worth two in the bush!)

Activity 3: Erin's Lunch Box: A Mini-Mystery

- All answers are given in teacher's directions.

Activity 4: Beginnings

- Possible responses to "The Eggs":

Where is Matt working? (in a lab)

What is Matt doing? (trying to prove that dinosaurs cared for their young)

Why does he brush the eggs? (read on to find out)

Activity 5: What's Next?

- Answers will vary.

Activity 6: Just the Facts

- Possible two-sentence summary of game:

On Friday, the Boynton Bay Eagles basketball team beat the Lake Worth Gators with a score of 60–59. The Gators led during the first half, but the Eagles came back in the second half to win.

Activity 7: Overcoming Obstacles

1. Douglass wanted to learn how to read, despite the fact that he was a slave and slaves were forbidden to learn how to read. Ito felt the pressure from her home country to bring back the gold from the Olympic games.
2. Douglass devised a plan to get the children of free whites to teach him how to read. Ito was able to set aside her fears in order to work at peak performance.
3. Never give up! When you want to learn something, keep asking others for help. You will eventually find a way to learn something new.
4. Everyone makes mistakes, but things are never hopeless. Try to do your best, and you will be proud of what you can accomplish.

Activity 8: Silly Sentences

- Sentence combinations:

Subject	Predicate
An excited Red Sox fan	caught the fly ball with her glove.
The lonely frog	telephoned a princess.
The astronaut	slipped inside a space suit before going on a space walk.
The friendly tyrannosaurus rex	looked for someone to play with.
A fluffy brown teddy bear	sleeps on my pillow.
My little brother	hates to brush his teeth.

- Students' original sentences will vary.
- Combinations for silly sentences will also vary.

Activity 9: Is This a Sentence?

- Corrected version:

The Sun or the Moon?

Lioness and Hyena argued about which gave better light for hunting, the sun or the moon.

Hyena always hunted at night. She said, "The moon lights up even the darkest night."

Lioness hunted only during the day. She replied, "Instead of going to sleep, wait till the sun comes up. Then you will see how bright it is."

So Hyena stayed awake to see the sun.* That day, however, the sun remained hidden behind a cloud. Even so, Hyena could see perfectly well. She thought to herself, "In the daytime there is plenty of light! The sun has such an easy job that it doesn't even bother to try!"

For her part, Lioness stayed up late to see the moon. As it happened, however, there was no moon that night. Lioness thought, "How wrong Hyena is about the brightness of the moon! I can't see a thing!"

So neither animal changed her mind about when to go hunting.

---

* This run-on may also be corrected as: So Hyena stayed awake to see the sun that day. However, the sun remained hidden behind a cloud.

Activity 10: What's It About?

- Possible topic sentences:

1. I had a very busy day today.
2. Mom says I have too much to do.
3. Every so often, I have a free afternoon.

Activity 11: Rainy Days

- Possible completed paragraphs:

1. I was very happy when it rained last Saturday. I had a book I wanted to read. Then I made phone calls to my friends. Mom suggested that we make cookies, and we did. They were warm and chewy, and tasted great!
2. Last Saturday, the rain ruined Dave's plans. He was supposed to go over to Eric's and play baseball. Because it rained, Dave had to stay home and clean his room. That was not his idea of fun!

Activity 12: Get the Message?

- Corrected messages:

Ana,

I am coming home late today. Please feed the dog. The fish in the refrigerator is for you to eat. I am picking up your sister at the gym. Your friend Sam phoned. Call her. I must hurry! I will be in the car, so you won't be able to reach me. See you later. Dad will be at his office. If necessary, you can call him.

Mom

Dear Mom,

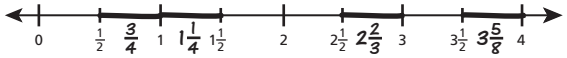
I fed the dog fish. Then I phoned Sam and called her "Must Hurry." She was confused about that. So was I! The dog loved the fish. There was nothing left in the refrigerator. Then Dad got an idea. We're going out to the pizza place at the mall. The pizza is great there! Maybe you could join us. We won't even have to clean the kitchen!

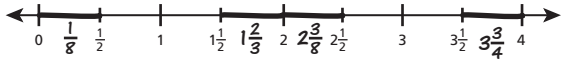
Ana

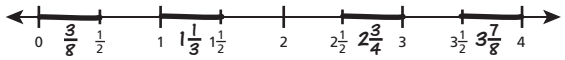
☐ Mathematics

Activity 1: Number Line Labels

For questions 1 through 3, accept answers in the $\frac{1}{2}$ unit increment on the number lines, as shown below.

1. 

2. 

3. 

4. Answers will vary. Accept answers that are within each specific range that are correctly graphed.

Activity 2: *no worksheet*

Activity 3: What's for Lunch?

- Any of the following menus:

Item	Number of Packages	Price per Package	Total Cost (for 8 people)
Hot Dogs	2	$3.58	$7.16
Carrot Sticks	1	$2.79	$2.79
Milk	2	$2.39	$4.78
Fruit	1	$3.00	$3.00

Total cost of lunches for 8 people: $17.73

Item	Number of Packages	Price per Package	Total Cost (for 8 people)
Hot Dogs	2	$3.58	$7.16
Corn Chips	1	$2.99	$2.99
Milk	2	$2.39	$4.78
Fruit	1	$3.00	$3.00

Total cost of lunches for 8 people: $17.93

Item	Number of Packages	Price per Package	Total Cost (for 8 people)
Hot Dogs	2	$3.58	$7.16
Carrot Sticks	1	$2.79	$2.79
Cola	2	$2.99	$5.98
Fruit	1	$3.00	$3.00

Total cost of lunches for 8 people: $18.93

Item	Number of Packages	Price per Package	Total Cost (for 8 people)
Hot Dogs	2	$3.58	$7.16
Carrot Sticks	1	$2.79	$2.79
Milk	2	$2.39	$4.78
Brownies	2	$2.29	$4.58

Total cost of lunches for 8 people: $19.31

Item	Number of Packages	Price per Package	Total Cost (for 8 people)
Hot Dogs	2	$3.58	$7.16
Corn Chips	1	$2.99	$2.99
Milk	2	$2.39	$4.78
Brownies	2	$2.29	$4.58

Total cost of lunches for 8 people: $19.51

Item	Number of Packages	Price per Package	Total Cost (for 8 people)
Hamburgers	2	$4.68	$9.36
Carrot Sticks	1	$2.79	$2.79
Milk	2	$2.39	$4.78
Fruit	1	$3.00	$3.00

Total cost of lunches for 8 people: $19.93

Activity 4: School Play

1. A greater number of people can be seated in 5 rows of Section B than in 7 rows of Section C. Each row in Section C has 8 seats, and $8 \times 7 = 56$ seats. Each row in Section B has 12 seats, and $12 \times 5 = 60$ seats. 60 is greater than 56, so there are more seats in 5 rows of Section B than in 7 rows of Section C.
2. There are a total of 280 seats in the all-purpose room. Methods will vary, but students should say that they (a) found the total in one row and multiplied by 10, or (b) found the total number of seats in each section and added them.
3. There are 65 people in Section A. $10 \times 8 = 80$, $80 - 15 = 65$.

Activity 5: "Handy" Estimates

- Answers will vary.

Activity 6: Building a Fence

1. **area:** 21 square units; **perimeter:** 20 units
2. **area:** 25 square units; **perimeter:** 20 units
3. **area:** 27 square units; **perimeter:** 24 units
4. **area:** 36 square units; **perimeter:** 24 units
5. **area:** 16 square units; **perimeter:** 20 units
6. **area:** 16 square units; **perimeter:** 16 units
7. **area:** 9 square units; **perimeter:** 20 units
8. **area:** 9 square units; **perimeter:** 12 units

Activity 7: A Plot of Secret Points

- Plotted points and triangles will vary.

Activity 8: Gather and Graph Information

1. 8 students did 5 pull-ups in one minute.
2. 5 students did 7 or more pull-ups in one minute.
3. 13 students did fewer than 5 pull-ups in one minute.
4. A total of 31 students are represented by the data in the bar graph.
5. Answers will vary.
6. Most students will predict that none of the students can do more than 10 pull-ups in one minute, since the graph implies 0 students can do 10 or more pull-ups in one minute.

Activity 9: Book Collections

1. Manuel has 5 more adventure books than friendship books.
2. Amanda has 6 fewer biographies than science fiction books.
3. Manuel has 11 more adventure books than Amanda.
4. Manuel has 10 more puzzle and game books than Amanda.
5. Amanda has more mystery, friendship, biography, and science fiction books than Manuel.
6. Manuel has 1 more book than Amanda.

Activity 10: Name That Pattern!

1.

Number of Square Tables Put Together	Number of Chairs
1	4
2	6
3	8
4	10
5	12
6	14

Starting with 4 chairs, the number of chairs increases by two every time another table is added.

2.

Number of Hexagons	Number of Toothpicks
1	6
2	11
3	16
4	21
5	26
6	31

After the first hexagon is made with 6 toothpicks, each additional hexagon requires 5 more toothpicks.

Activity 11: Sporty Solutions

1. $10; cross out "and socks cost $8"
2. Not enough information
3. $40; cross out first sentence
4. Not enough information
5. $14
6. $3; cross out "and a water bottle costs $3"

Activity 12: Mystery Password Numbers

1. $1000 + 800 + 80 + 7$
2. $4000 + 900 + 80 + 7$
3. $6000 + 900 + 80 + 8$
4. $6000 + 900 + 60 + 7$

☐ Science

Activity 1: Boning Up on Vertebrates

no written answers for these worksheets

Activity 2: The Pulse of Life

- Students' heart rates will vary.

Activity 3: Food Web

no written answers for this worksheet

Activity 4: Who's at the Door?

no written answers for this worksheet

Activity 5: Creating Friction

- Answers will vary.

Activity 6: Completing the Circuit

- "Prediction" column answers will vary.
- "Result" column:
  eraser—no
  glass—no
  marking pen—no
  copper wire—yes
  aluminum foil—yes
  penny—yes
  paper clip—yes
  plastic wrap—no

Activity 7: The Red Planet

no written answers for these worksheets

Activity 8: Cleaning Up the Water

- Answers will vary.

☐ Social Studies

Activity 1: Building a Home

1. adobe; place 1 in Southwest
2. salt box; place 2 in New England
3. sod house; place 3 in Midwest Plains states
4. brick row house; place 4 in eastern Mid-Atlantic states
5. log cabin; place 5 between Appalachians and Mississippi River

Activity 2: The Oregon Trail

- Journal entries will vary.

Activity 3: Foods from Around the World

1. Mexico
2. 3.7%
3. Europe
4. China/Hong Kong, India, Korea, Vietnam, Philippines

- Menus will vary.

Activity 4: The Life of George Washington

- Answers will vary.

Activity 5: Amending the Constitution

- Answers will vary.

Activity 6: From Farm to Store

- Answers for Worksheet 1

Step 1

Workers: farmer, machine operator, farm workers

Costs: seeds, fertilizers, pesticides, irrigation, equipment/equipment repair, labor

Step 2

Workers: mill workers (equipment operators, managers, office help, etc.), truck drivers

Costs: labor, equipment/equipment repair, building costs such as rent, factory utilities, taxes, maintenance, transportation, etc.

Step 3

Workers: bakery workers (see Step 2)

Costs: flour, other ingredients, labor, equipment/equipment repair, building costs, transportation (see Step 2)

Step 4

Workers: store workers (clerks, managers, office help, stockroom workers, etc.)

Costs: labor, costs of running the store, advertising the store, building costs (see Steps 1, 2, and 3)

- Answers for flow chart on Worksheet 2 will vary.
- Answers to questions on Worksheet 2 will vary, but may include:

Reasons for price increase:

- increased demand
- marketing/advertising
- fewer available resources

Increased costs of:

- raw materials (e.g., scarcity)
- labor
- equipment (replacement, repairs)
- utilities, rent, taxes
- transportation (labor, gasoline)
- other materials used to make product

Reasons for price decrease:

- less demand for the product
- an oversupply of the product
- competition from other stores that sell the same product
- popularity of newer variations of the product
- sales to get rid of stock/attract more customers
- people having less money to spend
- fewer trade restrictions

Decreased costs of:

- raw materials
- labor
- equipment (replacement, repairs)
- utilities, rent, taxes
- transportation (labor, gasoline)
- other materials used to make product

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.

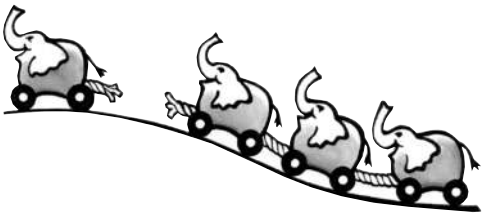
Your child may be asked to answer both selected-response (multiple-choice) and constructed-response items on the *TerraNova, The Second Edition* test. Selected-response questions ask your child to choose one answer from among those given as possible correct responses.

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
●	○	○	○

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.**

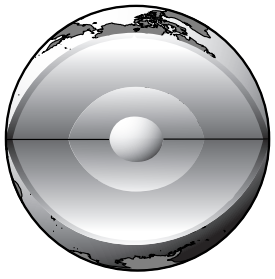
Suppose you were able to drill a hole to the center of the Earth and examine a sample from each layer. Describe one characteristic you would observe for each layer.

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.