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Please Note:

This CD-ROM includes the following materials from the print version of Classroom Connections to TerraNova, The Second Edition, Grades 6–7.

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Part 2 Items Illustrating Content—Item Writing Tips

Part 4 Student Practice Materials—Grade 6

Part 5 Student Practice Materials—Grade 7

Part 6 Scoring Guide

Part 7 Teaching Activities


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 6” 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.

For more information about CTB products, visit the CTB Web site at www.ctb.com
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Item Writing Tips

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

The item writers at CTB/McGraw-Hill 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:

A dictionary gives the following definitions of “star.”

star (stär), noun. 1. A heavenly body that looks like a bright point of light in the night sky. 2. A figure that has five or more points. (A sea star has the shape of a five-pointed star.) 3. One who is very good or outstanding in some field. (My brother is the basketball star in our school.) 4. An actor who plays the lead role in a play, movie, or television show.

Which definition best fits the word star in the sentence “When it comes to surviving in the bird world, starlings are stars”?

F  Definition 1
G  Definition 2
H  Definition 3
J  Definition 4
Item Writing Template

Item Objective: 

Stimulus (if any):

Stem:

Answer Choices:
(Correct Response and Distractors)

A
B
C
D
Student Practice Materials

The purpose of Part 4 is to provide sixth-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, CTB/McGraw-Hill 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.
Directions

Here is a magazine article about starlings, birds that are excellent at adapting and surviving. Read the article. Then do Numbers 1 through 5.

There’s No Stopping Those Starlings!
by Claire Miller

Cross-Country Movers

About 100 years ago, a man in New York City liked to read plays by an English writer named Shakespeare. The man thought it would be wonderful if all the birds mentioned by Shakespeare were living wild in America. But there were no European starlings around. So he sent for 100 of them and set them free in New York City’s Central Park.

The man thought everyone would thank him. Instead, many people became worried because the starlings were such bullies. The birds began to breed and spread across North America. And wherever they went, there were fewer native birds such as bluebirds, chickadees, and wrens. That’s because the starlings grabbed the best nesting holes. They even killed the other birds to steal their holes.

Now starlings live almost everywhere in North America. So wherever you go—cold lands, hot lands, rainy or dry—you’re likely to see some starlings nearby.

Something New? That’s OK with Us!

Starlings are adaptable (uh-DAP-tuh-bul). That means they’re good at changing their habits in order to survive. For example, they’ve learned to live almost anywhere. When people chop down forests to make room for cities, starlings don’t seem to mind. They find cozy places to nest on the buildings.

Starlings aren’t fussy eaters, either. Almost any kind of food will do. They especially like insects. But they’ll eat other small animals, garbage, seeds, and fruit.

Wherever they go, they learn to find plants that help keep away blood-sucking lice and mites. They weave these plants into their nests. And that means the baby birds have a good chance of growing up healthy.

Flocks by the Thousands

Except when they’re nesting, starlings gather by the thousands every evening. The sky fills with twittering flocks as they head for the trees where they sleep. Sometimes so many birds roost in one tree that the branches break. And in some places, entire woods are made white with their droppings.
Starlings are amazing acrobats in the sky. At daybreak the birds head off in huge flocks to look for food. Together they form a black cloud—rising, dipping, and swirling. They fly one way and suddenly turn in another direction. *Whoosh . . . whoosh . . . wow!*

Even though the flocks are fun to watch, farmers aren’t always happy to see them coming. True, the birds eat a lot of insects. They especially like to dig for insects in soft, damp soil. But they’ve become pests in wheat fields by eating the young plants. And when a flock of starlings lands in an orchard, it can wipe out an entire fruit crop in a short time.

---

**Starling Sounds**

Have you ever listened to a flock of starlings? The birds call to each other: “Zeer, zeer.” They sing long songs that include chirps, squeaks, and whistles, and they clack their bills. What a racket they make!

Starlings also copy other sounds. People have heard them imitating more than 200 kinds of birds. And they can even learn to talk like humans and whistle songs they’ve heard people sing or play.

**Tough Little Stars**

When it comes to surviving in the bird world, starlings are stars. They’re clever, they’re strong, and wherever they go, they can learn to get along.

---

1. Which of these best describes the article?

   A. a description of the habits of native North American birds
   B. a discussion of what happened when starlings came to North America
   C. a story of a man who read about starlings in Shakespeare’s plays
   D. a study of which birds are mentioned in Shakespeare’s plays

2. In the article, “native birds” probably means birds that

   F. were also mentioned in Shakespeare’s plays
   G. were in North America before starlings arrived
   H. steal other birds’ nesting holes
   J. imitate humans and other animals
According to the article, which of these would a starling probably prefer to eat?

A. a lizard
B. a rotten apple
C. a grasshopper
D. a sunflower seed

A dictionary gives the following definitions of “star.”

star (stär), noun. 1. A heavenly body that looks like a bright point of light in the night sky.  2. A figure that has five or more points. (A sea star has the shape of a five-pointed star.)  3. One who is very good or outstanding in some field. (My brother is the basketball star in our school.)  4. An actor who plays the lead role in a play, movie, or television show.

Which definition best fits the word star in the sentence “When it comes to surviving in the bird world, starlings are stars”?

F. Definition 1
G. Definition 2
H. Definition 3
J. Definition 4

Which of these sentences from the article states an opinion?

A. There were no European starlings around.
B. Now starlings live almost everywhere in North America.
C. Starlings also copy other sounds.
D. Starlings are amazing acrobats in the sky.
Directions  Josiah wrote a paragraph about some research he did on starlings. There are some mistakes that need correcting. Read the paragraph. Then do Numbers 6 through 8.

1. Are starlings good or bad?  2. Most bird lovers in the United States seem to not like them.  3. They claim that starlings compete with other kinds of birds.  4. Some of these birds are on the endangered species list.  5. There are many Web sites that give advice on how to get rid of starlings.  6. However, there are also Web sites for people who love starlings.  7. In Europe, they have been popular pets for centuries.  8. According to some experts, starlings are good because they eat possibly harmfully insects.

   F They claim that some other kinds of birds compete with starlings to be on the endangered species list.
   G They claim that starlings, some of them being on the endangered species list, compete with other kinds of birds.
   H They claim that starlings compete with other kinds of birds, some of which are on the endangered species list.
   J They claim that starlings compete with other kinds of birds, some of these birds are on the endangered species list.

7. Choose the best way to write Sentence 6.
   A Finally, there are also Web sites for people who love starlings.
   B Besides, there are also Web sites for people who love starlings.
   C Therefore, there are also Web sites for people who love starlings.
   D Best as it is

8. Choose the best way to write Sentence 8.
   F According to some experts, starlings are good because they eat possibly harmful insects.
   G According to some experts, starlings are good because they eat possible harmfully insects.
   H According to some experts, starlings are good because they eat possible harmful insects.
   J Best as it is
Use details from what you have read about starlings to fill in the “pros and cons” chart. List three good things and three bad things about starlings.

<table>
<thead>
<tr>
<th>Pros: Good Things About Starlings</th>
<th>Cons: Bad Things About Starlings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>1.</td>
</tr>
<tr>
<td>2.</td>
<td>2.</td>
</tr>
<tr>
<td>3.</td>
<td>3.</td>
</tr>
</tbody>
</table>
Directions

Here is a chapter from *Among the Dolls*. Vicky finds that she has become tiny and is stuck inside her dollhouse. Read the chapter. Then do Numbers 10 through 15.

Vicky blinked and stood up. She knew immediately that she was in the third-floor playroom. There was the tin rocking horse she always made the brother doll ride for hours. Its back looked very sharp and uncomfortable now that she could see it better. There were the “books” she made for them, from little folded pieces of paper; but now they were like cardboard, covered with large grainy crayon blots.

And there was the music box, barely the size of her thumb the last time she had opened it, but now like a massive chest. It was made of ivory, and the carving, which had seemed so delicate, was actually rather crude and uneven. The little tinkling melody it played over and over again was her favorite song, and suddenly she wanted to hear it. She was frightened, of course, and the familiarity of the unchanging tune might comfort her. She pushed open the box, and the music began.

But it was different now, clanging and blurred and painfully loud, like being on the inside of a ringing bell. And the tune was hardly recognizable, a raucous mockery of its former sweetness. She had to stop it! But the top was caught somehow; she couldn’t move it at all. Her hands on her ears, she backed away, then turned to run from the terrible sounds.
But she froze before taking even one step. Now she was facing the edge of the house, where the room simply ended and there was nothing but empty space plunging all the way down to the floor of her room. It was like being in a house that had been neatly sliced down the middle by a gigantic cleaver. She didn’t dare get any closer to the edge, but stood and stared off into her room, the horrible music banging and bonging behind her.

Everything was the same, but gigantic. The rug was a thick forest spread out far below her, her bed a steep plateau, and the doorway on the other side of the room was fuzzy with distance, rising up to a ceiling she could not even see.

This can’t be happening, she said to herself. It’s impossible! I must be dreaming. But it wasn’t vague like a dream. Everything was horribly clear, and all the details were perfect. She tried to fight a growing panic, which was only made worse by the deep void just ahead of her. This can’t be happening, she thought again, uselessly. I’ve got to make it go away! How can I make it go away?

Behind her, the music stopped with a sudden crash and she spun around. Beside the music box stood the aunt doll, taller than Vicky now. In the abrupt silence, Vicky simply stared at her without speaking. The doll’s black hair, pulled back tightly in a knot at the back of her head, was now like thick rope. The stitches on her floor-length black dress were wide and uneven. Her painted features were chipped in places, giving her smile a strange twisted look. Her lashless eyes were amazingly large, almost circles, opened wide, a black pupil isolated in the center of each.

“Aha,” said the aunt doll softly, her smiling mouth not moving at all. “You are small and helpless now, I see.”

10 Which of these best tells what happens in the chapter?

F  A girl is amazed to discover that one of the dolls in her dollhouse has come to life.
G  A girl becomes homesick for her own world after living among her dolls for a time.
H  A girl is afraid when she finds herself a part of the world of her dolls.
J  A girl accustomed to playing with her dolls finds she has lost interest in them.
Directions  A student made a chart based on the chapter. Use the chart to do Numbers 11 through 13.

<table>
<thead>
<tr>
<th>Before Vicky Becomes Tiny</th>
<th>After Vicky Becomes Tiny</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong></td>
<td>The books are like cardboard.</td>
</tr>
<tr>
<td>The music box was tiny and delicate and played a sweet melody.</td>
<td>The music box is a massive, crude chest, making a horrible, loud clanging noise.</td>
</tr>
<tr>
<td>The rug in the bedroom was ordinary.</td>
<td><strong>2</strong></td>
</tr>
</tbody>
</table>

11 Which of these belongs in Box 1?

A  The books were ones that Vicky hadn’t read.
B  The books were rather large and rough.
C  The books were old and torn.
D  The books were made of folded paper.

12 Which of these belongs in Box 2?

F  The rug looks like a distant, blurry sea.
G  The rug looks like a shaggy dog.
H  The rug is like a thick forest.
J  The rug has mysteriously disappeared.

13 Which generalization about the chapter is best supported by the information in the chart?

A  What Vicky had once thought familiar and pleasant now seems bizarre and frightening.
B  Someone or something has tampered with the contents of Vicky’s dollhouse when she was not there.
C  Although the dollhouse is cozy and comfortable, Vicky is surprised to learn that the dolls find it unpleasant.
D  The aunt doll wants to scare Vicky because she is angry at her for intruding into her home.
14 Because of what the aunt doll says, it is likely that she

F hopes that Vicky will want to become part of the doll family
G sympathizes with Vicky and wants to help her
H is looking forward to having power over Vicky
J is eager to ask Vicky questions about the world outside the dollhouse

15 From what you have read in the story, how would the brother doll most likely greet Vicky?

A Finally I have a playmate my own age! I have been so lonesome in this house with no one to play with but the aunt doll.
B Well, well. Now we’ll see how much you like riding that abominable tin horse for hours and hours.
C Hey Vicky, do you want to play a game of checkers before Auntie calls us for dinner?
D Who are you? I’ve never seen you before. Where did you come from?
Directions

Here is a paragraph a student wrote about an afternoon spent with her grandmother. There are some mistakes that need correcting. Read the paragraph. Then do Numbers 16 through 18.

1. My grandmother took me to a miniatures fair to find some dollhouse furniture.
2. We had been surprised at how big the fair was.
3. There were hundreds of exhibits.
4. My grandmother came to see my school’s art exhibit last week.
5. The fair had more than just dollhouses and furniture.
6. There were other kinds of miniatures as well.
7. We saw miniature models of cars, ships, and airplanes.
8. There were also several kinds of model soldiers.

16. Which sentence does not belong in the paragraph?
   F. Sentence 3  
   G. Sentence 4  
   H. Sentence 7  
   J. Sentence 8

17. Choose the best way to write Sentence 2.
   A. We are surprised at how big the fair was.
   B. We have been surprised at how big the fair was.
   C. We were surprised at how big the fair was.
   D. Best as it is

18. Choose the best way to combine Sentences 5 and 6.
   F. Just dollhouses and furniture, the fair had other kinds of miniatures as well.
   G. Although more than just dollhouses and miniatures, the fair had other kinds of miniatures as well.
   H. In spite of having more than just dollhouses and furniture, the fair had other kinds of miniatures as well.
   J. Besides having dollhouses and furniture, the fair had other kinds of miniatures as well.
Directions  Choose the sentences that best support the topic sentence.

19  

Miniature soldiers are a popular collector’s item.

A  Some people collect miniature figures based on characters from popular movies. Star Wars figures, for example, make a colorful collection.

B  There are model soldiers available from many periods in history. You can buy anything from a Roman centurion to a World War II paratrooper.

C  Soldiers wore plumes on their helmets and carried shields. Later on, they wore heavy suits of armor.

D  In fact, a collection of miniatures can be worth a lot of money. A dollhouse built in the last century, for example, might be sold for thousands of dollars.

20  

Think about the chapter from Among the Dolls. Give a prediction of how the aunt doll will most likely behave toward Vicky as the story continues. Base your prediction on what you have read, and support it with at least one specific detail from the chapter.

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Among the Dolls is a fantasy about a girl who shrinks and can fit into a dollhouse. Think of another situation in which a person shrinks to a very small size and plays with a toy. Write a paragraph explaining why this would be a good idea for a story. Give specific details.

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 a story about the Greek sun god Apollo and his mortal son Phaethon. Read the story. Then do Numbers 22 through 30.

**Apollo and Phaethon**

Phaethon wanted to prove to his mortal friends that he really was Apollo’s son, so he journeyed east in search of Apollo’s golden palace. Apollo welcomed his son and promised to do whatever he could to help him convince his friends. “Tomorrow, let me drive the chariot that draws the sun across the sky,” Phaethon pleaded. “That will show them!”

Apollo protested. “That is no ordinary chariot or team of horses. It is too dangerous, my son!”

But Phaethon could not be persuaded. He grasped the reins eagerly, failing to notice how powerful and impatient the horses were. He was thinking only of the looks on his friends’ faces. Laughing, he imagined how he would say, “I told you so!” His father’s last words were drowned out as thundering hooves propelled the chariot into the sky. “Keep on the middle course, my son, exactly between heaven and Earth!”

The horses took control immediately. Phaethon clung helplessly to the reins, with no hope of steering the chariot as it carried the sun across the sky. The horses galloped wildly off course. Leaping too high, they scorched a long streak in the sky, which became known as the Milky Way. Meanwhile, far below, the two ends of the Earth froze, becoming the North and South Poles. Then, suddenly, the chariot bolted downward. Deserts were burned into the Earth as the chariot dipped dangerously close.

Finally, Phaethon fell to Earth from the chariot. His body sank to the bottom of a great river. His best friend swam the river, searching hopelessly until Apollo took pity on him and made him a constellation of stars in the sky. That constellation is known as Cygnus, the Swan.
Which of these best describes the story “Apollo and Phaethon”?

- news report
- ancient myth
- science article
- historical novel

The answer you chose for Number 22 is correct because the story includes

- a fictional portrait of a famous person
- a fanciful explanation of a natural occurrence
- an exact measurement of the solar system
- an entertaining record of a bitter family quarrel

Phaethon could not be persuaded to change his mind. Find the word that means the same as persuaded.

- promised
- convinced
- prevented
- allowed

According to the story, what was one of the results of Phaethon’s ride?

- It caused the creation of swans.
- It destroyed most of the Earth.
- It convinced his friends of his power.
- It caused extreme conditions in some places.

The Greeks told the story of Phaethon to explain all of these except

- the source of the great rivers on Earth
- the presence of one of the constellations
- why the sun seems to travel across the sky
- why the Milky Way galaxy exists
Choose the sentence that best fits the blank in the paragraph.

Long ago, people measured the passage of time by noting the apparent movement of the sun and moon around the Earth. Sunrise and sunset obviously marked the passage of a day. Another important cycle was the number of days between new moons. ________________.

F  Each of the four seasons included three of these cycles.
G  Human beings eventually traveled to the moon.
H  In reality, the moon gave off no light of its own.
J  The Earth was one of nine planets that orbited the sun.

Choose the sentence that is complete and written correctly.

A  At one time, our calendar being based on the phases of the moon.
B  A lunar month is the number of days the moon taken to go through all of its phases.
C  In about twenty-nine and a half days, the moon has went from full to new to full again.
D  There are approximately twelve and a half lunar months in a solar year.
Choose the best way to combine the two sentences.

*Our calendar is based on the number of days Earth takes to orbit the sun.*

*Other calendars are based on the phases of the moon.*

F Other calendars are based on the phases of the moon our calendar is based on the number of days Earth takes to orbit the sun.

G Based on the phases of the moon, other calendars are not based on the number of days Earth takes to orbit the sun as our calendar is.

H Our calendar, based on the number of days Earth takes to orbit the sun, and others are based on the phases of the moon.

J Although our calendar is based on the number of days Earth takes to orbit the sun, others are based on the phases of the moon.
A student rewrote a Greek story about the sun in his own words. 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.

**DAEDALUS AND ICARUS**

Daedalus and his son Icarus were prisoners on an island. Their only escape was to fly away over the sea. They made wings of feathers and wax. Daedalus told Icarus not to fly too close to the sun because the wax would melt. Icarus was so excited about flying. That he ignored his father’s warning. As he soared higher and higher, the wax holding the feathers melted, and Icarus fell into the sea.
Directions: Read the sentences. Then choose the word that best completes both sentences.

32 In her first piano lesson, she learned the notes of the ________.

The first climber to ________ the cliff will win the competition.

F ascend  
G scale  
H conquer  
J instrument

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

33 One of my favorite plays is the musical comedy ________.

A Guys and Dolls.  
B guys and dolls.  
C guys and Dolls.  
D Correct as it is

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

34 The dog had a ________ bark.

F feroshus  
G ferocious  
H ferosious  
J feroshious
1 A magician held out three different cards. He asked a volunteer to select each of the three cards in any order. How many ways can the cards be selected?
   A 1 way
   B 3 ways
   C 6 ways
   D 12 ways

2 Which number on the sign below is most likely an estimated number?

3 Mr. Wills and his Dalmatian, Fireball, won first place at the annual dog show and received a $75.00 gift certificate to a pet store. Mr. Wills spent $58.72 at the store. How much money did Mr. Wills receive in change from the gift certificate?
   A $16.28
   B $17.38
   C $23.72
   D $27.38

4 At the end of the day, part of a lake is in the shade. Look at the diagram below. The shaded part represents 2.65 square miles. What is the best estimate of the total area of the lake?
   F 2 square miles
   G 4 square miles
   H 6 square miles
   J 8 square miles
Directions The Iditarod Sled Dog Race in Alaska begins in Anchorage and ends in Nome. Do Numbers 5 and 6 about the race.

5 The Iditarod trail is 1,151 miles long, and there are 26 checkpoints along the way. Estimate the average distance between each of the checkpoints on the trail.

A 10 miles  
B 40 miles  
C 100 miles  
D 400 miles

6 The chart below shows the distances between the first 6 checkpoints.

<table>
<thead>
<tr>
<th>Checkpoint Distances</th>
<th>Miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchorage to Eagle River</td>
<td>20</td>
</tr>
<tr>
<td>Eagle River to Wasilla</td>
<td>29</td>
</tr>
<tr>
<td>Wasilla to Knik</td>
<td>14</td>
</tr>
<tr>
<td>Knik to Yentna</td>
<td>52</td>
</tr>
<tr>
<td>Yentna to Skwentna</td>
<td>34</td>
</tr>
<tr>
<td>Skwentna to Finger Lake</td>
<td>45</td>
</tr>
</tbody>
</table>

The total length of the Iditarod trail is 1,151 miles. What is the distance from Knik to the finish line at Nome?

F 1,056 miles  
G 1,088 miles  
H 1,102 miles  
J 1,137 miles
7 A bag of 80 quarters weighs 1 pound. Which of these could be used to find the number of quarters in 6 pounds?

A 0.25 × 6
B 0.25 × 80
C 80 + 80 + 80 + 80 + 80 + 80
D 6 + 6 + 6 + 6 + 6 + 6

8 Mark and Sue traveled across a lake on a raft from A to B, and Jan and Pat traveled from C to D, as shown below.

How many acute angles are formed by AB and CD?

F 1
G 2
H 3
J 4

9 Tessa is driving from Chesterton to Oak Hill. After driving for 25 miles, she saw the sign below at the junction of two freeways.

Which of these statements must be true?

A Sternville and Oak Hill are 14 miles apart.
B Sternville is between Chesterton and Oak Hill.
C Tessa cannot drive to Sternville before going to Oak Hill.
D The driving distance from Chesterton to Oak Hill is 42 miles.
10. Sara, Amy, Juan, and Tom played one round of golf together. Then Sara and Juan went to eat lunch while Amy and Tom played another round. What was the total cost for the four of them to play golf?

**GOLF WORLD**

<table>
<thead>
<tr>
<th>Per person, per round</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>First round</td>
<td>$3.00</td>
</tr>
<tr>
<td>Each additional round</td>
<td>$1.50</td>
</tr>
</tbody>
</table>

- F $9.00
- G $12.00
- H $15.00
- J $18.00

12. At the end of an awards ceremony, a ticket will be randomly selected and the winner will receive a dinner at the Gazebo Restaurant. The host announced that the winning number is a multiple of both 2 and 5. Which of these people could have the winning ticket?

- F Anna
- G Ben
- H Cathy
- J Daniel

11. Troy made a pattern with arrows on the number line shown below.

If Troy continues the pattern, what number would the sixth arrow point to?

- A 6
- B 13
- C 16
- D 18

13. Which of these operation signs could go in the box to make the number sentence true?

\[ 4 \boxed{} \ 2 + 8 = 10 \]

- A $\times$ and $\div$
- B $-$ and $\div$
- C $+$ and $-$
- D $\times$ and $-$
14 Which of these shapes is a quadrilateral with only one right angle?

F  G  H  J

15 There are 55 different collectible cards in a series. So far, Harold has 45 of the cards in the series and 25 duplicate cards. Harold bought 1 more collectible card that was wrapped, so he couldn’t see which card it was. What is the probability that the card is different from the cards Harold already has?

A  $\frac{1}{55}$  
B  $\frac{10}{55}$  
C  $\frac{25}{55}$  
D  $\frac{25}{45}$  

16 There will be a circular fountain in the center of the mall, with a diameter of 40 feet. Which of these would be the diameter of the fountain?

F  the distance around the fountain  
G  half the distance around the fountain  
H  the distance across the center of the fountain  
J  half the distance across the center of the fountain
17 Judy ate 3 more grapes than Kris. Together they ate fewer than 12 grapes. What is the greatest possible number of grapes that Kris could have eaten?

A 3  
B 4  
C 6  
D 7

18 Brian and Steve are playing a hockey video game. After two of the three periods, the score is Brian 8, Steve 6. If both boys continue to score at the same rates, what will be the final score?

F Brian 12, Steve 9  
G Brian 12, Steve 10  
H Brian 10, Steve 8  
J Brian 16, Steve 12

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

Tom’s model train is 27.5 centimeters long. The train has an engine and 3 passenger cars. The engine is shown below.

What is the total length of the rest of Tom’s model train?

A 6 centimeters  
B 9.5 centimeters  
C 18 centimeters  
D 27.5 centimeters
The circle graph below shows how Shawn's hockey team has done this season.

![Shawn's Hockey Team]

What percent of their games did Shawn's team win? ____________%

If they won 7 more games than they lost, how many games did they play in all?

________
Mr. Barrett is designing a park. A diagram of the park is shown below.

Mr. Barrett plans to put a slide at Point S and a bench at Point B. In the chart below, write the ordered pair for each point.

<table>
<thead>
<tr>
<th>Point S</th>
<th>Point B</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mr. Barrett plans to put a picnic table at \((2, -4)\). On the diagram above, plot the point for the picnic table and label it P.
Christine bought some plants at a nursery.

She bought 1 carnation plant, 1 daisy plant, and 2 rose plants. The total cost of her plants was $7.96. What was the cost of the daisy plant? Show your work in the box below and write your answer on the line.
1. Which of these is most important for every car to have?
   A. a rearview mirror
   B. a CD player
   C. air conditioning
   D. power windows

2. Maxine wants to add 40 milliliters of liquid fertilizer to a liter of water. Which of these devices would be best for measuring the fertilizer?

   ![Diagram of measuring devices]
   - F: 100-milliliter flask
   - G: 10-milliliter test tube
   - H: 100-milliliter graduated cylinder
   - J: 10-milliliter beaker

3. Paul wants to conduct a study of surface water temperature in a pond. Which of these plans for measuring temperature would give him the best information about the pond? Each X shows a place where the temperature of the water would be taken.

   ![Diagram of water temperature plans]
   - A
   - B
   - C
   - D
Sheila tested a laundry soap to see how well it removed black ink stains on white T-shirts. The table below shows the color of the stain after washing one T-shirt in water, and the color of the stain on the other T-shirt after washing it in water with the laundry soap added.

<table>
<thead>
<tr>
<th></th>
<th>None</th>
<th>Light Gray</th>
<th>Medium Gray</th>
<th>Dark Gray</th>
<th>Black</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Only</td>
<td></td>
<td></td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water with Laundry Soap</td>
<td></td>
<td></td>
<td>✔</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Which of these conclusions can be drawn from the results shown above?

F  Water only did not affect the ink stain.
G  The soap completely removed the ink stain.
H  More stain was removed by the soap than by water.
J  Adding the soap to the water did not help remove the stain.

The diagram shows how basic units of life make up more complex units in an organism. Which of these belongs on the bottom line of the diagram?

A  chromosomes
B  molecules
C  atoms
D  cells
6. Elsa's mother finds that Elsa has a slight fever. Which of these shows the temperature Elsa might have?

A  88°F  
B  95°F  
C  100°F  
D  110°F

7. Why are many of the rocks found on a beach smooth?

F  Grains of sand cover them.  
G  Salt in the water makes them smooth.  
H  The ocean can move only smooth rocks onto beaches.  
J  The ocean rubs sand and other rocks against them.
8. Look at the picture. Which living thing shown in the picture is a producer?

F. the fish  
G. the clam  
H. the pelican  
J. the seaweed

9. In the picture, the oil is floating on top of the water because

A. there is less oil than water  
B. the water was poured first  
C. oil pours more slowly than water  
D. water is more dense than oil

10. Look at the picture of an electric wire. Which of these materials is the arrow pointing to?

F. steel  
G. plastic  
H. copper  
J. rubber
11 Which of these is shown by the diagram above?

A  a solar eclipse  
B  a lunar eclipse  
C  a full moon  
D  a half-moon

12 Which of these systems work together to bring nutrients to cells?

F  skeletal and respiratory  
G  circulatory and digestive  
H  digestive and respiratory  
J  circulatory and respiratory
Look at the four biomes shown below.

In which biome are plants best adapted to conserve water?

Explain why plants living in this biome need to conserve water.
Describe how the water temperature changes from February to August and from August to December.

February to August:

August to December:
Many people use wells to get water from deep in the ground. Use the concept of the water cycle to explain how a molecule of water from a well could once have been a molecule of water in the ocean.
The ancient city of Machu Picchu is located high in the mountains of Peru. The remote site contains the ruins of many stone structures, including houses, temples, and ceremonial areas. Although there is evidence that the people of Machu Picchu grew crops on the terraced mountain slopes, little else is known about their lives.

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

1. According to the information above, which of these statements about Machu Picchu is most likely true?
   - A. Its location provided protection from invaders.
   - B. It used large areas of flat land for growing food.
   - C. Its buildings were made of wood.
   - D. It was easy for travelers to reach the city.

2. The information suggests that the people of Machu Picchu
   - F. had no knowledge of farming
   - G. relied on trade for all of their food
   - H. left detailed written records of their activities
   - J. practiced some form of religion

3. Which of these civilizations built Machu Picchu?
   - A. Incan
   - B. Egyptian
   - C. Greek
   - D. Roman
Directions

The terms in each box are related to a period of United States history. Use the information below and your own knowledge to do Numbers 4 and 5.

1. Pioneers
   Oregon Trail
   Covered Wagons

2. Patriots
   Boston Tea Party
   Paul Revere’s Ride

3. Pilgrims
   The Mayflower
   Plymouth

4. Abolitionists
   Underground Railroad
   Emancipation Proclamation

4. Which of these people is most associated with the terms listed in Box 4?
   - John Smith
   - Harriet Tubman
   - Thomas Jefferson
   - Abigail Adams

5. Which box lists terms that are related to the earliest period of United States history?
   - A. Box 1
   - B. Box 2
   - C. Box 3
   - D. Box 4
Directions
The information below is about an important person in United States history. Read the information. Then do Numbers 6 and 7.

Robert Smalls
- Elected to the South Carolina legislature in 1868
- Became a member of the United States House of Representatives in 1875
- Introduced legislation defining the rights of former slaves

6 Which of these was a responsibility of Robert Smalls when he was a member of the House of Representatives?

F vetoing bills
G introducing bills
H approving treaties
J appointing ambassadors

7 While a member of Congress, Robert Smalls worked to

A improve civil rights
B increase religious freedom
C lower income taxes
D protect the environment
Do You Know?

8. Which of these is an example of bartering?
   - F getting a bank loan for a house
   - G trading a book for a computer game
   - H buying movie tickets with cash
   - J using a credit card to buy a bicycle

9. Which of these are nonrenewable resources?
   - A fish
   - B minerals
   - C forests
   - D animals

10. A bill can become a federal law if it is
    - F approved by state legislatures
    - G approved by the Supreme Court
    - H passed by Congress and signed by the President
    - J signed by the President and approved by governors

11. Egyptian pyramids were used mainly as
    - A tombs for rulers
    - B buildings for storing grain
    - C temples for religious practices
    - D palaces for the royal family
The railroad first came to Mason City in 1869. In which of these ways did the railroad most likely affect Mason City?

F Fewer goods were available in stores.
G New jobs and businesses were created.
H Fewer community services were needed.
J Other types of transportation became unnecessary.
Agriculture in Ancient Civilizations

The chart below shows some agricultural products and where they were grown. On the map below, write the number shown for each agricultural product in the circle nearest the location where it was grown.

<table>
<thead>
<tr>
<th>Agricultural Products</th>
<th>Where Grown</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Olives</td>
<td>Greece</td>
</tr>
<tr>
<td>2 Barley</td>
<td>Egypt</td>
</tr>
<tr>
<td>3 Rice</td>
<td>China</td>
</tr>
</tbody>
</table>
The chart below lists some developments that helped agriculture. Complete the chart below. An example has been done for you.

### Developments in Agriculture

<table>
<thead>
<tr>
<th>Development</th>
<th>How it helped agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>terracing</td>
<td>made more land available for planting</td>
</tr>
<tr>
<td>irrigation</td>
<td></td>
</tr>
<tr>
<td>plow</td>
<td></td>
</tr>
</tbody>
</table>
The Code of Hammurabi was one of the first sets of written laws in history and was established by Hammurabi, the king of Babylon, during his reign from 1792 B.C. to 1750 B.C. The laws were carved onto a stone slab and clearly stated what the violations and punishments were. An example from the Code is given below.

- If a man stole either an ox or a sheep or a pig or a goat, if it belonged to a temple or to the state, he shall pay thirtyfold.
- If it belonged to another man, he shall make good tenfold.

15 Before Hammurabi’s time, many laws were not written down. Why did Hammurabi most likely think it was important to have written laws? Give one reason.
Student Practice Materials

The purpose of Part 5 is to provide seventh-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, CTB/McGraw-Hill 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.
**Directions**

Read this story about one student’s experience making a mask in an art class. Then do Numbers 1 through 9.

**Paul’s Mask**

Paul Henderson was dreading going to school. Today, Tuesday, was the day Ms. Williams’ art class was to begin making masks. The class had been divided into groups. One person from each group was chosen to be the model, which left the others to prepare the plaster and get the mold ready to cast. Paul had been designated a model.

He studied his face in the mirror. Maybe he could say he was sick so he wouldn’t have to go to school. He didn’t particularly like his face and wasn’t anxious to see it molded for posterity.

As soon as he entered the classroom, Polly Mercer told him to lie down on a table. He lay down and closed his eyes, and Polly wrapped a towel around his head so that only his face was visible. To keep the plaster from sticking, she applied a layer of petroleum jelly to his eyebrows, eyelashes, and all over his face.

Before long, Paul’s face was covered with plaster, with two straws stuck in his nose for breathing. He knew he looked funny, because he could hear his classmates laughing. Paul wished he could disappear, but no chance. He was trapped. The school would have his face on view forever.

After ten minutes, Polly and Henry carefully removed the hardened plaster from his face. Paul was freed from his plaster prison. He cleaned his face and waited with the rest of the class to see how the mold would turn out, although he would rather have been anywhere else.

The mold was laid out on newspaper, with its concave side facing up. Paul didn’t want to look at it, but he was curious. The deep crevices made by his eyes, nose, and mouth filled him with dread. Then Ms. Williams said the mold had to dry overnight, and they would continue the process in the morning. “Oh no,” Paul muttered, “another day of torture!”

The next morning, Ms. Williams carefully poured a thick liquid clay into the mold. Another twenty-four hours had to pass to allow the clay to dry. Paul sighed. He’d lasted this long, so he could surely put up with one more day.
Thursday morning, Paul stayed in the back of the room while Ms. Williams carefully lifted the mask from the mold. He closed his eyes. He could hear the class taking a collective breath.

Polly came back and gave him a gentle push, so he walked slowly up to the table. Paul was stunned. The mask was beautiful! He couldn’t believe it was his face. His nose wasn’t as long as he thought, and his mouth wasn’t at all too big. Ms. Williams smiled as she stood next to him. She told the class she had chosen Paul as a model for his group because of his strong features.

As the class ended, Paul felt pretty good. He was excited to think that his mask would be around for a long time, for other students to study and appreciate.

1. Paul had been “designated a model.” The closest meaning for the word designated is
   A. designed
   B. volunteered
   C. voted on
   D. specifically chosen

2. An example of figurative language from the passage is
   F. lie down on a table
   G. his plaster prison
   H. a layer of petroleum jelly
   J. prepare the plaster
3 What part of the project was most uncomfortable for Paul?
A the cold plaster applied to his face
B the drinking straws placed in his nose
C the idea of having his face on display
D the feeling of having the plaster removed

4 Paul wasn’t anxious to see his face “molded for posterity.”
In the sentence, *posterity* means
F a sense of wealth
G an artistic background
H future generations
J attention of ancestors

5 From what you know about Paul, which of these activities would probably cause him the most worry?
A performing for a class video
B joining the chess club
C attending a rock concert
D learning to scuba dive

6 Which of these sentences is complete and written correctly?
F More plaster pouring into the mold to make the mask.
G The petroleum jelly help keep it from sticking.
H Pulling off the mask and cleaning it.
J The eyes can be painted after the plaster dries.
7. Which of these sentences is complete and written correctly?

A. Paul was pleasantly surprised when the mold was removed.
B. Paul watched as the mask came out of the mold he was very pleased.
C. As Paul’s face emerged from the mold and was cleaned.
D. The class was impressed, Paul was relieved it was all over.

8. If someone wanted to find out how masks are used in different cultures, which of these books would be most helpful?

F. Working with Clay
G. Masks Around the World
H. Making Plaster Casts for Fun
J. Dressing the Part: Theatrical Masks

9. Using what you have read, complete this list of step-by-step directions for creating a plaster mask.

1. Mix up some plaster.

2. 

3. 

4. 

5. 

6. 

7. 

8. After 24 hours, pour liquid clay into mold.

9. After another 24 hours, lift mask from mold.
Kids call Melanie Bishop the Lizard Lady. But her skin isn’t scaly, her blood isn’t cold, and she definitely doesn’t have a tail that snaps off. However, when she’s at work, these same descriptions fit more than a few of her business associates.

Work for Bishop is a party. For a fee, she educates, engrosses, and entertains at children’s parties—with more than a dozen live reptiles.

Bishop had never kept a reptile until a friend asked her to baby-sit some snakes in 1987. The Los Angeles teacher accepted and, on a whim, took the snakes to her preschool class for show-and-tell. Her students responded enthusiastically. Bishop, who was looking for new ways to earn money, saw an opportunity and went into business.

First, she went to the library to research reptiles. Then, she borrowed some animals from an exotic pet store and tested her routine at a friend’s party. Once again, Bishop enthralled the young audience with her presentation. Confident in her plan, she invested $4,000 in animals and cages, created a press kit, and bought advertising space in a local magazine.

In her first month, Bishop booked four parties. All were hits. Since then, continued advertising, television exposure, and word-of-mouth have kept her consistently busy. Now she averages 14 parties a month. (In one particularly busy month in 1990, she booked 40!) She also talks at summer camps, schools, and community events.

One major reason for Bishop’s success is her background as a preschool teacher. While competitors may mimic her reptile routine, Bishop finds that her experience with children sets her apart. So does her content. Bishop includes far more factual information in her presentations than her competitors.

Ever conscious of her joint role as teacher and entertainer, Bishop is careful to stress environmental concerns in her presentations. She also practices what she preaches. A portion of every fee she receives goes to save the rain forests.

Directions
Some people discover a career by combining their past experiences with their new interests. Read the following article to learn how Melanie Bishop began her career as the Lizard Lady. Then do Numbers 10 through 20.
The article you have just read is mostly about

F  how an original idea became a successful business
G  how to care for lizards and other reptiles
H  why the Lizard Lady teaches school
J  where lizards and other reptiles live

Melanie Bishop first became interested in reptiles

A  as a little girl in Los Angeles
B  after she attended a birthday party
C  when a friend asked her to baby-sit some snakes
D  after touring a reptile exhibit at a local museum

Which of these best explains why Bishop has been more successful than others?

F  She is energetic and willing to work long hours.
G  She uses her teaching experience to enrich her program.
H  She incorporates an extensive amount of information about rain forests.
J  She makes use of aggressive advertising to promote her program.

Which of these questions could be answered by the information in the article?

A  Why is Melanie Bishop considered a risk taker and profit maker?
B  What is the best way to care for reptiles in an urban environment?
C  When should advertising campaigns be used in business promotions?
D  How did Melanie Bishop become a preschool teacher?
14 Which of these approaches would be most useful for answering Number 13?

F use prior knowledge about children's parties
G look for information in the Readers’ Guide
H skim the article to confirm main ideas
J reread the introduction

15 Using information from the article, choose the word that best completes the web.

- creative
- educational
- entertaining

common political controversial imaginative
A B C D

16 Here are two sentences related to the passage:

Melanie Bishop’s parties are educational and entertaining.
She relates interesting facts about reptiles.

Which of these best combines the two sentences into one?

F Relating interesting facts about reptiles, given by Melanie Bishop, parties are educational and entertaining.
G Melanie Bishop’s parties are educational and entertaining, she relates interesting facts about reptiles.
H Melanie Bishop’s parties are educational and entertaining, and interesting facts about reptiles are related.
J Because Melanie Bishop relates interesting facts about reptiles, her parties are educational and entertaining.
Directions  Celia was thinking about getting a pet lizard. Before deciding to buy one, she did some research on the Internet and wrote a paragraph about what she learned. Read the paragraph. Then do Numbers 17 through 19.

Taking care of a pet reptile is not as easy as I thought. For example, grocery stores do not sell canned iguana food. You can only get them at a pet store. Some reptiles will only eat food that is alive. Sunlight coming through glass may not provide enough vitamin D. A pet’s cage might need expensive heating and lighting equipment.

17 Choose the best way to write Sentence 3.
A  You can only get him at a pet store.
B  You can only get it at a pet store.
C  You can only get these at a pet store.
D  Best as it is

18 Choose the best way to write Sentence 5.
F  Sunlight came through glass may not provide enough vitamin D.
G  Sunlight coming through glass did not provide enough vitamin D.
H  Sunlight came through glass had not provide enough vitamin D.
J  Best as it is

19 Where would this sentence best fit in the paragraph?

Another concern is that pet reptiles need warm temperatures and the right kind of light.

A  After Sentence 1
B  After Sentence 2
C  After Sentence 4
D  After Sentence 6
Look at the chart below. It shows the number of parties given month-by-month in the Lizard Lady’s first four years of business.

<table>
<thead>
<tr>
<th></th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan</td>
<td>Feb</td>
<td>Mar</td>
<td>Apr</td>
</tr>
<tr>
<td>1st year</td>
<td>---</td>
<td>---</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>2nd year</td>
<td>12</td>
<td>14</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>3rd year</td>
<td>21</td>
<td>22</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>4th year</td>
<td>40</td>
<td>29</td>
<td>25</td>
<td>23</td>
</tr>
</tbody>
</table>

According to the chart, which season of the year appears to be best for the Lizard Lady’s business? Which season is worst? Give a possible reason that might explain this difference in the Lizard Lady’s business.
Before the 2000 Summer Olympics, Dave Barry wrote this column about synchronized swimming. Read the column. Then do Numbers 21 through 26.

**I Am Now a Trained Eggbeater**

*by Dave Barry*

There’s an old saying in journalism: “Be careful of what you make fun of, because you could find yourself upside-down attempting a Vertical Split while your lungs rapidly fill with water.”

There’s a lot of truth in this saying, as I found out when I took the Synchronized Swimming Media Challenge. Here’s what happened: Ever since Synchronized Swimming became an official Olympic sport, we journalists have ridiculed it. The thrust of our gist is: “Exactly what is so athletically impressive about people swimming around in circles smiling like recently escaped lunatics? ANYBODY could do that!”

Eventually the Synchronized Swimming community got tired of hearing this, and responded as follows: “Oh YEAH? Well how about if YOU try it?”

**TRAINING TIPS**

And thus I found myself at Emory University, wearing nose clips and goggles, in a pool about the size of Lake Huron, only deeper, with a dozen young and extremely fit members of the U.S. Synchronized Swimming National Team One, who will basically be the U.S. Olympic Team for the 2000 Games in Sydney, Australia.

Also in the pool was my synchronized media partner and Herald colleague, sports columnist Dan Le Batard. Dan and I, knowing that the full masculine studliness of our bodies would be on display, had prepared for the challenge via a grueling fitness regimen of not having eaten a single Snickers bar for the entire previous hour. I estimate that our body fat content had plummeted to somewhere around 87 percent.

The spokesperson for U.S. Synchronized Swimming, Laura LaMarca, had told me earlier that we fit the basic profile of journalists who had taken the Challenge. “Floating is definitely not a problem,” she said.

Eventually the Synchronized Swimming community got tired of hearing this, and responded as follows: “Oh YEAH? Well how about if YOU try it?”

That may be true, but I was pleased to see that there were two lifeguards on hand. “That’s standard procedure,” LaMarca said. “A one-to-one ratio of lifeguards to journalists.”
THE KITCHEN UTENSIL STROKE

With our safety assured, Dan and I started learning our synchronized maneuvers. The first one was called Eggbeatering, which is when you move your legs around like an eggbeater, so you can keep your head and shoulders above the pool surface while you raise your arms gracefully into the air.

At least that’s how it worked for the members of National Team One. When Dan and I gracefully raised OUR arms, our entire bodies, arms and all, immediately sank like anvils. So when we all tried the maneuver together, there was a circle of a dozen young women, smiling and raising their arms, and in the middle of the circle there was this bubbling, violently turbulent patch of water, underneath which were Dan and me, trying desperately to eggbeater our way back to the surface before our lungs exploded.

After we gave up on eggbeatering, we tried the Ballet Leg, which is when you lie on your back and raise your leg gracefully into the air. When the synchronized swimmers did this, their bodies remained absolutely steady and horizontal; they appeared to be lying on floats.

When Dan and I attempted it, we hit the pool bottom so hard we left dents.

At this point I noticed that the lifeguards were standing much closer.

My favorite maneuver was the Vertical Split, which is when you get yourself upside-down in the water, then do some kind of arm thing that causes you to shoot up, Polaris-like, so that your legs and hips come all the way out of the water, at which point you execute a graceful split. We attempted this as a group, with Dan and me again in the middle, and I will never forget the sight from the bottom of the pool, where I, of course, immediately found myself. All around me were the national team members, their bodies upside-down and perfectly vertical, submerged only from head to waist, their legs high in the air; next to me, also on the bottom, was Dan.

That’s the only maneuver you’d see, if the media ever did get a team together: Synchronized Toes.

Anyway, after about 45 straight minutes of alternately eggbeatering and sinking, I came to the surface, and using what little air I had left in my lungs shouted: “THIS IS THE HARDEST SPORT IN THE WORLD!”

Then, and only then, did they let us out of the pool.

21 What does Dave Barry mean by the phrase “Synchronized Swimming Media Challenge”?

A   Journalists are making synchronized swimmers prove their strength and abilities.
B   Synchronized swimming is being introduced as a new sport in the Olympics.
C   Newspapers are setting new goals for sports coverage in the media.
D   Synchronized swimmers are educating journalists about the difficulty of the sport.

22 Where does the event described in the article take place?

F   Lake Huron
G   Sydney, Australia
H   Emory University
J   Team Headquarters
23. Why does Dave Barry refer to the *eggbeater* as a “kitchen utensil stroke”? 

A. He wants to confuse people about the topic of the article.  
B. He wants to create humor by giving a funny twist to a sports term.  
C. He wants to make the maneuver seem ordinary.  
D. He wants to compare swimming and cooking.  

24. In which of these phrases does Dave Barry use a simile to describe an action?  

F. shoot up, Polaris-like  
G. smiling and raising their arms  
H. upside-down in the water  
J. wearing nose clips and goggles  

25. Dave Barry’s writing is made entertaining by his ability to  

A. be an objective sports reporter  
B. exaggerate the importance of sports events  
C. make fun of himself and his lack of skills  
D. quote people making humorous observations  

26. Which of these statements from the article best supports your choice for Number 25?  

F. Exactly what is so athletically impressive about people swimming around in circles smiling like recently escaped lunatics?  
G. Also in the pool was my synchronized media partner and Herald colleague, sports columnist Dan Le Batard.  
H. The first one was called Eggbeatering, which is when you move your legs around like an eggbeater, so you can keep your head and shoulders above the pool surface while you raise your arms gracefully into the air.  
J. That’s the only maneuver you’d see, if the media ever did get a team together: Synchronized Toes.
Directions
A student wrote a report about Michelle Kwan. There are some mistakes that need correcting. Read the report. Then do Numbers 27 through 29.

Michelle Kwan is a shining light in the world of figure skating. People first heard about her when they won the silver medal at the U.S. National Championships in 1994. She was thirteen years old at the time. She took the silver again the following year. Her Chinese name is Kwan Wing Shan. In 1996, Michelle placed first. That same year, spectators at the World Championships see her win the gold medal.
27. Which of these is the best way to write Sentence 2?

A. People first heard about it when they won the silver medal at the U.S. National Championships in 1994.
B. People first heard about her when she won the silver medal at the U.S. National Championships in 1994.
C. People first heard about them when she won the silver medal at the U.S. National Championships in 1994.
D. Best as it is

28. Which of these does not belong in this paragraph?

F. Sentence 3
G. Sentence 4
H. Sentence 5
J. Sentence 6

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

A. That same year, spectators at the World Championships saw her win the gold medal.
B. That same year, spectators at the World Championships see her won the gold medal.
C. That same year, spectators at the World Championships saw her won the gold medal.
D. Best as it is
I am a junior at Cherry Tree High School in Milwaukee. This will be my third year on the varsity baseball team. Last year, my teammates and me won our division. We finish second in the regional championship. My batting average was .412, and I hit 11 home runs. During the course of the season, I played every infield position, my favorite is shortstop. My most greatest honor was winning the Athlete of the Year award.
Have you ever tried to do something that you thought would be easy but that turned out to be difficult? Write a short paragraph about the experience. Be sure to give details about what you tried and how it was difficult.

For this answer, make sure you write at least three complete sentences and check your work for correct spelling, capitalization, and punctuation.
Directions Choose the word that means the same, or about the same, as the underlined word.

32 almost intolerable

F constant
G sympathetic
H unreliable
J unbearable

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

33 A Our class enjoyed reading the stories from roman mythology.
B My grandmother gave me a book of african Folktales for my birthday.
C In English class we studied the History of American literature.
D I traced my family tree back to my British and Welsh ancestors.

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

34 The lamb’s _______ was soft and thick.

F fleace
G fleece
H fleice
J fliece
1. Which of these statements is most likely an estimate?
   A. I have 7 pets.
   B. This bottle of juice costs $1.25.
   C. I just turned 12 years old.
   D. The produce truck weighs 2 tons.

2. The game Mongo has a deck of 48 cards. The rules of Mongo require that all the cards be divided equally among the players. Which of these numbers of players could not play Mongo?
   F. 3
   G. 4
   H. 5
   J. 6

3. Marcia copied a flag she found in a book. She made her flag the same shape, but she doubled the width and height. Which of these best describes the relationship between the two flags?
   A. congruent and similar
   B. congruent but not similar
   C. similar but not congruent
   D. neither similar nor congruent
Directions
The chart below gives information about the production of coins in the United States. Study the chart. Then do Numbers 4 and 5.

PRODUCTION OF COINS IN THE UNITED STATES

<table>
<thead>
<tr>
<th>Coin</th>
<th>Diameter (in inches)</th>
<th>Weight (in grams)</th>
<th>Composition</th>
<th>Number Produced in 1995 (in ten millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Penny</td>
<td>0.750</td>
<td>2.50</td>
<td>2.5% Copper 97.5% Zinc</td>
<td>1341.9</td>
</tr>
<tr>
<td>Nickel</td>
<td>0.835</td>
<td>5.00</td>
<td>25% Nickel 75% Zinc</td>
<td>162.3</td>
</tr>
<tr>
<td>Dime</td>
<td>0.705</td>
<td>2.268</td>
<td>8.33% Nickel 91.67% Copper</td>
<td>236.5</td>
</tr>
<tr>
<td>Quarter</td>
<td>0.955</td>
<td>5.67</td>
<td>8.33% Nickel 91.67% Copper</td>
<td>207</td>
</tr>
</tbody>
</table>

4. According to the information in the chart, how many grams of zinc are there in a nickel?
   F 1.00 grams  
   G 1.25 grams  
   H 2.50 grams  
   J 3.75 grams

5. When dimes or quarters are packaged for shipment from the mint, $1,000 worth of coins are placed in a sack. How many more coins are in a $1,000 sack of dimes than in a $1,000 sack of quarters?
   A 4,000  
   B 6,000  
   C 8,000  
   D 10,000
Directions The Holmes Middle School girls’ basketball team is playing against Emerson Middle School. Do Numbers 6 through 9 about basketball.

6. The team from Holmes wants to arrive at Emerson at least 1 hour and 10 minutes before the start of the game. It takes 45 minutes to drive to Emerson. If the game starts at 6:30, what is the latest time they should start driving to Emerson?

F. 4:35
G. 4:55
H. 5:05
J. 5:35

7. The gym at Emerson has 500 seats, 50 of which are reserved for the band. By the time Colin arrived, $\frac{2}{3}$ of the non-reserved seats were occupied. Which of these expressions could you use to determine how many seats were left for Colin to choose from?

A. $500 - 50 \times \frac{1}{3}$
B. $\frac{1}{3} \times (500 - 50)$
C. $\frac{1}{3} \times 500 - 50$
D. $\frac{1}{3} \times 500$

8. In a special half-time basketball contest for spectators, Byron is chosen to try to make 12 shots in 30 seconds. If it takes Byron 9 seconds to make his first 5 shots, how many seconds does he have for each remaining shot?

F. 2.5
G. 3.0
H. 4.3
J. 8.3

9. The length of the basketball court at Emerson is 23 meters. How many centimeters long is the court?

A. 23
B. 230
C. 2,300
D. 23,000
10. Niki helped her uncle sell vegetables at the market. If she sold 50 pounds of tomatoes for $64.00, at what price per pound did she sell the tomatoes?

F $0.64  
G $0.78  
H $1.14  
J $1.28

11. The human sleep cycle has 90 to 120 minutes of “quiet” sleep followed by 10 to 60 minutes of REM sleep. The cycle then starts over. What is the maximum number of complete cycles a person could go through in 5 hours of sleep?

A 1  
B 2  
C 3  
D 4

12. The television show “Winner’s Circle” has a special “Champions Show” in which past winners compete. In each round, half of the players who started that round go on to the next round, as shown in the chart below. After which round will there be only 1 player left?

F Round 5  
G Round 6  
H Round 8  
J Round 16

<table>
<thead>
<tr>
<th>Round</th>
<th>Players Remaining</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>32</td>
</tr>
<tr>
<td>2</td>
<td>16</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

PLAYERS REMAINING AFTER EACH ROUND
Andy bought 3 pounds of plums and 3 pounds of apples. The plums cost $2.08 per pound and the apples cost $1.89 per pound. Which of these expressions shows the total cost of all the fruit?

A. $2.08 \times $1.89 \times 3$
B. ($2.08 + $1.89) \times 3$
C. $2.08 \times 3 - $1.89 \times 3$
D. ($2.08 + $1.89) \times (3 + 3)$

Ms. Thompson climbed $3\frac{1}{2}$ miles to the top of Mount Kilimanjaro in 5 days. If she climbed the same number of miles each day, how far did she climb each day?

F. 0.7 miles
G. 1.5 miles
H. 3.7 miles
J. 8.5 miles

Which of these is best classified as an obtuse isosceles triangle?
Directions: A middle school took a survey of what students want to be when they grow up. Each student voted once. The results of the survey are shown below. Study the graph. Then do Numbers 16 and 17.

**STUDENT SURVEY**

![Bar graph with professions and number of students]

The column labeled “Other” on the bar graph shows the professions that only 1 to 5 students are interested in. What is the minimum number of professions that could be included in “Other”?

- **F** 5
- **G** 7
- **H** 11
- **J** 31
17 The 34 students who want to be professional athletes were also asked which sport they would choose to play. Their information is shown in the circle graph.

About how many students want to be professional basketball players?

A 6  
B 10  
C 17  
D 25

18 Ms. Nathanson gave the formula below for determining the value in dollars of a collection of nickels, dimes, and quarters.

\[ 0.05b + 0.10c + 0.25d \]

In the formula, what does the letter \( b \) stand for?

F the dollar value of a dime  
G the number of dimes there are  
H the dollar value of a nickel  
J the number of nickels there are
19 Look at the figure below.

Which of these pairs of lines appear to be perpendicular?

A Lines \(j\) and \(k\)
B Lines \(j\) and \(\ell\)
C Lines \(\ell\) and \(m\)
D Lines \(k\) and \(m\)
Teresa and Marla are playing a game in which they throw darts at the target shown below. Hitting the inner circle is worth 5 points, and hitting the outer circle is worth 2 points.

Teresa scored 22 points. In the box below, show all the possible ways of scoring 22 points and write the number of ways on the line.

Answer

Answer
The Top-o-the-World Pizza restaurant has rectangular tables that seat up to 6 people at a time. When more than 6 people want to sit together, the restaurant staff pushes 2 or more tables together, as shown below.

If 22 people want to sit together, how many tables does the restaurant staff need to put together? Show your work in the box below and write your answer on the line.

Answer __________ tables

Write a rule for how many people can sit at \( t \) number of tables if the tables are pushed together.

Rule: ________________________________
22 Use the centimeter side of your ruler to help you solve this problem.

Cindy spent the summer at Camp Big Bear. The box below represents the main square at the camp. If the pool measures 9 meters by 12 meters, what is the scale of the map?

Answer 1 cm = ___ m

The bunkhouse is a rectangle that measures 15 meters by 27 meters. Using the scale you determined, draw the bunkhouse in the main square.
1. Where can most of Earth’s water be found?
   A. in the oceans
   B. in lakes and rivers
   C. in the atmosphere
   D. in the polar ice caps

2. Which of these traits is passed from parent to child only by the transfer of genes?
   F. language
   G. blood type
   H. athletic skill
   J. intelligence

3. About how much time passes between one full moon and the next full moon?
   A. a day
   B. a week
   C. a month
   D. a year
4. Sonar is used to
   F. map the ocean floor
   G. map the coastline of a country
   H. measure the speed at which a car moves
   J. measure the distance from Earth to the moon

5. Which of these organ systems contains cells that deliver oxygen to all the cells of the body?
   A. the nervous system
   B. the digestive system
   C. the respiratory system
   D. the circulatory system

6. A well-known scientist claims to have discovered a new type of protein that can reproduce itself in the human brain, even though it has no DNA or RNA of its own. Which of these must happen before the scientist’s claim can be considered valid?
   F. Other types of proteins must also be found to reproduce in the same way.
   G. The claim must be reported in a scientific journal or book.
   H. All of the scientist’s experimental work on other projects must be proven valid.
   J. The claim must be confirmed by the work of other scientists.
The table shows the mass of rock particles in 1-liter samples of water taken from a river at different times of the year.

<table>
<thead>
<tr>
<th>Season</th>
<th>Mass of rock particles in the water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Winter</td>
<td>35 mg</td>
</tr>
<tr>
<td>Spring</td>
<td>175 mg</td>
</tr>
<tr>
<td>Summer</td>
<td>55 mg</td>
</tr>
<tr>
<td>Fall</td>
<td>55 mg</td>
</tr>
</tbody>
</table>

Which of these is a theory about the data given in the table?

A. The greatest mass of rock particles was collected during the spring.
B. The mass of rock particles collected in the summer was the same as in the fall.
C. In the spring, rain washed a greater mass of rock particles into the river than in other seasons.
D. The smallest mass of rock particles was collected in the river during the winter.

Joseph Henry and Michael Faraday discovered that moving a wire in a magnetic field produces a current. The discovery of this principle

F. led to the invention of ways to convert chemical energy to mechanical energy
G. led to the invention of ways to convert mechanical energy to electrical energy
H. resulted in the invention of the windmill
J. resulted in the invention of the solar cell
9. By studying earthquakes, scientists have been able to
   A. prevent earthquakes from occurring
   B. accurately predict the occurrence of earthquakes
   C. design buildings that are able to withstand earthquakes
   D. reduce the impact of earthquakes on the natural environment

10. Which of these is not evidence that supports the theory of plate tectonics?
   F. sea floor spreading in the mid-Atlantic
   G. the ring of volcanoes around the Pacific
   H. glacial advances and retreats on the Great Plains
   J. earthquakes along the coasts of North and South America

11. Diatoms are one-celled aquatic organisms that make their own food and provide oxygen for other organisms. Diatoms seldom live more than a few inches below the ocean surface because in deeper water there is
   A. little heat
   B. not enough sunlight
   C. too much pressure
   D. no carbon dioxide
12. The moon has no atmosphere and a force of gravity that is about one-sixth that of Earth. What would happen if a hammer and a feather were released together from the same height on the moon?

- F  The hammer would land first.
- G  The feather would land first.
- H  Both would land at the same time.
- J  Both would float in space.

13. Figure A shows a ball suspended by a thread. Figure B shows what happens when a charged rod is brought near the same ball.

Is the charge on the end of the rod near the ball positive or negative? ________________

Explain how you decided whether the charge on that end of the rod was positive or negative.
Jeremy set up the experiment shown below.

He followed these steps:

1. Fill a test tube with glycerine.
2. Seal the test tube with a stopper that has a thin, hollow glass tube extending into the glycerine and above the stopper.
3. Record the original level of the liquid in the glass tube.
4. Place the test tube in each of the four glasses of water; record the level of the liquid in the glass tube after five minutes in each glass of water.

State the hypothesis that Jeremy was probably testing with his experiment.
Look at the picture of the tree stump and the magnified view of several tree rings.

Between which years do you think the tree experienced the least annual rainfall?

Between _____________ and _____________.

How do you know that the least annual rainfall occurred between these years?

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Some Ancient Egyptian Monuments

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

1. According to the information, which of these was built first?
   - A. the pyramids of Giza
   - B. the temple of Abu Simbel
   - C. the temple of Deir El-Bahri
   - D. the tombs of the Valley of the Kings

2. The monuments were built on the continent of
   - F. Asia
   - G. Africa
   - H. Europe
   - J. South America

3. Which of these statements is true about all the monuments?
   - A. They are located in a desert climate.
   - B. They are located on a rocky peninsula.
   - C. They were built to honor democratic leaders.
   - D. They were built to represent victories in war.

Note: dates are approximate
**Some Important Inventions**

**Directions** Use the information below and your own knowledge to do Numbers 4 through 6.

1. **1764** Spinning jenny
2. **1769** Spinning frame
3. **1785** Power loom
4. **1793** Cotton gin
5. **1846** Sewing machine

**4** Which of these industries benefited the most from the inventions shown?
- F oil
- G lumber
- H mining
- J textile

**5** The inventions shown above were invented during the
- A Middle Ages
- B Renaissance
- C Reformation
- D Industrial Revolution

**6** Which of these was a result of all the inventions shown?
- F Production of goods increased.
- G Factory workers were no longer needed.
- H The prices of manufactured goods increased.
- J The manufacturing process became slower.
Directions

Read this excerpt from the Declaration of Independence. Then use the excerpt and your own knowledge to do Numbers 7 and 8.

Declaration of Independence

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. That to secure these rights, Governments are instituted among Men, deriving their just Powers from the consent of the governed.

7 Which of these ideas does the Declaration of Independence include?

A Government should have unlimited power.
B People should be guaranteed some basic rights.
C The colonies should protect the property of the king of Great Britain.
D America should not have a centralized government.

8 Which of these systems of government is described in the passage?

F communism
G a dictatorship
H a monarchy
J democracy

Do You Know?

Directions

Read this excerpt from the Declaration of Independence. Then use the excerpt and your own knowledge to do Numbers 7 and 8.

Declaration of Independence

We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness. That to secure these rights, Governments are instituted among Men, deriving their just Powers from the consent of the governed.

Which of these best completes the diagram above?

A France
B Mexico
C China
D United States

9

Tenochtitlán pyramid temples
the Aztecs floating gardens

Which of these best completes the diagram above?

A France
B Mexico
C China
D United States
River Civilizations

Directions

The map below shows parts of Africa, Europe, and Asia. Use the map and your own knowledge to do Numbers 10 through 12.

10

Mohenjo-Daro
Harappa
Himalayas

Which of these rivers is most associated with the words listed in the box?

F Nile
G Tigris
H Indus
J Huang He

11

Near which of these rivers did the ancient Sumerian civilization develop?

A Nile
B Tigris
C Indus
D Huang He

12

Which of these contributed most to the development of early civilizations in the river areas shown on the map?

F the rise of city-states
G a written code of law
H an organized system of agriculture
J the invention of cuneiform writing
Directions Use the information below and your own knowledge to do Number 13.

Work at a construction site in the city of Westlake has not resumed since pieces of pottery and other artifacts from the 1700s were uncovered. The city council members are reviewing several proposals regarding the artifacts. The proposals are listed below.

Proposals:

• Sell the artifacts and use the money for community services
• Build a museum to house the artifacts
• Place the artifacts in public buildings throughout the community, such as the library and City Hall

13 Choose one of the proposals. Place a check mark in the box next to the proposal you choose.

☐ Sell the artifacts and use the money for community services
☐ Build a museum to house the artifacts
☐ Place the artifacts in public buildings throughout the community, such as the library and City Hall

Name one advantage of the proposal you selected.

________________________________________________________________________

________________________________________________________________________

Name one disadvantage of the proposal you selected.

________________________________________________________________________
14  Study the drawing of the ruins of an ancient city. Describe two conclusions that can be made about the ancient city and its people. An example has been done for you.

• They probably practiced some form of religion, because they had a temple.

• 

• 

• 

• 

•
Economic Issues

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

15  Complete the chart below. Describe one economic effect each event would have on a community.

<table>
<thead>
<tr>
<th>Event</th>
<th>Effect on a Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers’ wages have increased 5% over last year.</td>
<td></td>
</tr>
<tr>
<td>Attendance at the city zoo continues to decline.</td>
<td></td>
</tr>
<tr>
<td>A new shopping mall opens for business.</td>
<td></td>
</tr>
</tbody>
</table>
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 6 Reading and Language Arts answer key. The letters in circles describe how each part of the answer key is used.

### Student Practice Materials Answer Key

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

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>1</td>
<td>B</td>
<td>03 Analyze Text</td>
<td>13</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>G</td>
<td>03 Analyze Text</td>
<td>14</td>
<td>H</td>
</tr>
<tr>
<td>3</td>
<td>C</td>
<td>02 Basic Understanding</td>
<td>15</td>
<td>B</td>
</tr>
<tr>
<td>4</td>
<td>H</td>
<td>02 Basic Understanding</td>
<td>16</td>
<td>G</td>
</tr>
<tr>
<td>5</td>
<td>D</td>
<td>04 Evaluate and Extend Meaning</td>
<td>17</td>
<td>C</td>
</tr>
<tr>
<td>6</td>
<td>H</td>
<td>07 Sentence Structure</td>
<td>18</td>
<td>J</td>
</tr>
<tr>
<td>7</td>
<td>D</td>
<td>08 Writing Strategies</td>
<td>19</td>
<td>B</td>
</tr>
<tr>
<td>8</td>
<td>F</td>
<td>09 Editing Skills</td>
<td>20</td>
<td>* Constructed Response</td>
</tr>
<tr>
<td>9</td>
<td>* Constructed Response</td>
<td>21</td>
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- **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 6. 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. (This item is scored twice—once for Objective 08 and once for Objective 09. The objective is always listed above the corresponding rubric.)

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

E Example of acceptable response. (A sample student response is printed in color.)
How to Use the Scoring Guide for Mathematics

There are several constructed-response (CR) items in the Student Practice Materials. Each CR item has its own rubric (rules for scoring) used to evaluate a student’s performance. The following graphic shows a sample rubric from a Mathematics CR item at Grade 6. 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. (This item measures Objective 15 and Objective 17. The objectives are always listed above the corresponding rubric.)

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

E Example of acceptable response. (A sample student response is printed in color.)
## Student Practice Materials Answer Key

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

### Reading and Language Arts

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Reading and Language Arts

Item 9  Student Practice Materials page 4.7

Objective 03: Analyze Text

Rubric 2 points
2 points for listing 5 or 6 valid pros and cons about starlings (2 or 3 in each category)
1 point for listing 3 or 4 valid pros and/or cons about starlings in either category
0 points for listing 2 or fewer valid pros and/or cons about starlings

Example of acceptable response:

Use details from what you have read about starlings to fill in the “pros and cons” chart.
List three good things and three bad things about starlings.

<table>
<thead>
<tr>
<th>Pros: Good Things About Starlings</th>
<th>Cons: Bad Things About Starlings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. They’re clever.</td>
<td>1. They compete with other birds.</td>
</tr>
<tr>
<td>2. They’re adaptable.</td>
<td>2. They’re messy.</td>
</tr>
<tr>
<td>3. They’re good mimics.</td>
<td>3. They ruin crops.</td>
</tr>
</tbody>
</table>

Other acceptable responses:
Pros:
• They’re good pets.
• They eat insects.
• They’re flying acrobats.
• They’re not fussy eaters.
• They’re fun to watch.

Cons:
• They’re ugly.
• They’re hard to get rid of.
• They break tree branches.
Reading and Language Arts

Item 20  Student Practice Materials page 4.13

Objective 04: Evaluate and Extend Meaning

<table>
<thead>
<tr>
<th>Rubric 2 points</th>
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<tbody>
<tr>
<td>• 1 point for a reasonable, text-based prediction of the aunt doll’s future behavior</td>
</tr>
<tr>
<td>• 1 point for supporting the prediction with at least one specific detail from the chapter</td>
</tr>
</tbody>
</table>

Example of acceptable response:

Think about the chapter from Among the Dolls. Give a prediction of how the aunt doll will most likely behave toward Vicky as the story continues. Base your prediction on what you have read, and support it with at least one specific detail from the chapter.

The aunt doll will not treat Vicky kindly. The way she is described makes her sound like a character in a horror movie. For example, her smile has "a strange and twisted look."

Other acceptable responses:

• The aunt doll will probably get even with Vicky for the way she treated the dolls when she was big, like making the brother doll ride the rocking horse.

• I think the aunt doll will treat Vicky cruelly. She sees that Vicky is now “small and helpless.” That sounds as if she’s glad to have Vicky in her power.

• The aunt doll might turn out to be nice. Vicky is freaked out, but the aunt doll can’t help it if her face seems weird. She speaks softly, so maybe she will be sympathetic.
Reading and Language Arts

Objective 08: Writing Strategies

Rubric 2 points

- 1 point for a response that is focused on the assigned task of writing about a toy or situation that would make a good subject for a story
- 1 point for a response providing at least one specific detail or example to support the student’s story idea

Objective 09: Editing Skills

Rubric 3 points

3 points if there are no errors in usage, conventions (spelling, capitalization, punctuation), and sentence formation (fragments, run-ons)
2 points if there are only minor errors in usage, conventions, and/or sentence formation that do not affect the reader’s ability to understand what is meant
1 point if there are major errors in usage, conventions, and/or sentence formation that affect the reader’s ability to understand what is meant

Note

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

Example of acceptable response:

Among the Dolls is a fantasy about a girl who shrinks and can fit into a dollhouse. Think of another situation in which a person shrinks to a very small size and plays with a toy. Write a paragraph explaining why this would be a good idea for a story. Give specific details.

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

My friend’s dad has a model train set in the attic. A good story would be about someone who shrinks and gets to be an engineer on one of the trains. Maybe all the plastic cows and stuff in the boxcars would come to life. The hero of the story would keep a wreck from happening.
Rubric  3 points

• 1 point for changing They’re to Their
• 1 point for eliminating the period after flying
• 1 point for lowercasing the T in That

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:

A student rewrote a Greek story about the sun in his own words. 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.

DAEDALUS AND ICARUS

Daedalus and his son Icarus were prisoners on an island. Their only escape was to fly away over the sea. They made wings of feathers and wax. Daedalus told Icarus not to fly too close to the sun because the wax would melt. Icarus was so excited about flying, That he ignored his father’s warning. As he soared higher and higher, the wax holding the feathers melted, and Icarus fell into the sea.
Mathematics

Item 20  Student Practice Materials page 4.27

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

Rubric 2 points

• 1 point for writing 50%
• 1 point for writing 28

Example of acceptable response:

20 The circle graph below shows how Shawn’s hockey team has done this season.

Shawn’s Hockey Team

What percent of their games did Shawn’s team win? 50

If they won 7 more games than they lost, how many games did they play in all? 28
Mathematics

Item 21  Student Practice Materials page 4.28

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

Rubric  2 points

• 1 point for correctly identifying coordinates of Point S and Point B
• 1 point for correctly plotting and labeling picnic table

Example of acceptable response:

21 Mr. Barrett is designing a park. A diagram of the park is shown below.

Mr. Barrett plans to put a slide at Point S and a bench at Point B. In the chart below, write the ordered pair for each point.

<table>
<thead>
<tr>
<th>Point S</th>
<th>Point B</th>
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</thead>
<tbody>
<tr>
<td>(2, 3)</td>
<td>(-3, 1)</td>
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</table>

Mr. Barrett plans to put a picnic table at (2, -4). On the diagram above, plot the point for the picnic table and label it P.
Mathematics

Item 22  Student Practice Materials page 4.29

Objective 11: Computation and Numerical Estimation
Objective 17: Problem Solving and Reasoning

Rubric 2 points

- 1 point for writing $1.49
- 1 point for showing a correct strategy

Example of acceptable response:

Christine bought some plants at a nursery.

She bought 1 carnation plant, 1 daisy plant, and 2 rose plants. The total cost of her plants was $7.96. What was the cost of the daisy plant? Show your work in the box below and write your answer on the line.

\[
\begin{array}{c}
1.89 \\
2.29 \\
+ 2.29 \\
\hline
6.47 \\
\end{array}
\]

\[
\begin{array}{c}
7.96 \\
- 6.47 \\
\hline
1.49 \\
\end{array}
\]

\[
\begin{array}{c}
\text{\$} \\
1.49 \\
\end{array}
\]

Other acceptable responses:

Strategies:

- \(2 \times 2.29 = 4.58\)
- \(4.58 + 1.89 = 6.47\)
- \(7.96 - 6.47 = 1.49\)
- \(7.96 - 1.89 = 6.07\)
- \(6.07 - 2.29 = 3.78\)
- \(3.78 - 2.29 = 1.49\)
Science

Item 13  Student Practice Materials page 4.36

Objective 21:  Life Science

Rubric  1 point

• 1 point for stating biome 3 and indicating that there is little rainfall

Example of acceptable response:

13  Look at the four biomes shown below.

Biome 1

Biome 3

Biome 2

Biome 4

A  In which biome are plants best adapted to conserve water?

3

B  Explain why plants living in this biome need to conserve water.

In this biome it doesn’t rain often.

Other acceptable responses:

A  • desert

B  • There is little rainfall.
   • The soil is usually dry.
   • There are few water resources.
Science

Item 14  Student Practice Materials page 4.37

Objective 19:  Science Inquiry

**Rubric 2 points**

- 1 point for indicating that the temperature goes up from February to August
- 1 point for indicating that the temperature goes down from August to December

*Example of acceptable response:*

Describe how the water temperature changes from February to August and from August to December.

February to August:

*It increases.*

August to December:

*It decreases.*

*Other acceptable responses:*

February to August:

- The temperature goes up.
- It gets hotter.

August to December:

- The temperature goes down.
- It gets colder.
Science
Item 15  Student Practice Materials page 4.38
Objective 22:  Earth and Space Science

Rubric  1 point

• 1 point for indicating that ocean water can evaporate and travel as vapor or clouds far inland and precipitate to become ground water

Note
• No credit for a two- or three-word answer, such as evaporate, precipitate.

Example of acceptable response:

Many people use wells to get water from deep in the ground. Use the concept of the water cycle to explain how a molecule of water from a well could once have been a molecule of water in the ocean.

The molecule from the ocean could have evaporated into the air, become part of a cloud, fallen to Earth as rain, soaked into the ground, and seeped into the well.

Other acceptable responses:
• The water in the well came from ground water. The ground water came from a cloud that blew in from the ocean. The water in the cloud came from evaporation from water in the ocean.
• A water molecule in the well was once part of the ground water that formed as a result of rain. This molecule got into the atmosphere by evaporating from the ocean and was carried inland by winds.
• A water molecule left the ocean to be water vapor in the air which blew inland. It got cold and fell as rain which seeped into the ground and into the well.
Social Studies

Item 13  Student Practice Materials page 4.44

Objective 26:  Geographic Perspectives

Rubric  2 points

- 2 points for 3 countries correctly numbered
- 1 point for 1 or 2 countries correctly numbered

Example of acceptable response:

Agriculture in Ancient Civilizations

The chart below shows some agricultural products and where they were grown. On the map below, write the number shown for each agricultural product in the circle nearest the location where it was grown.

<table>
<thead>
<tr>
<th>Agricultural Products</th>
<th>Where Grown</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Olives</td>
<td>Greece</td>
</tr>
<tr>
<td>2 Barley</td>
<td>Egypt</td>
</tr>
<tr>
<td>3 Rice</td>
<td>China</td>
</tr>
</tbody>
</table>
Social Studies

Item 14  Student Practice Materials page 4.45

Objective 26: Geographic Perspectives

Rubric  2 points

- 1 point for a description of how the development of irrigation helped agriculture
- 1 point for a description of how the development of the plow helped agriculture

Example of acceptable response:

Other acceptable responses:

Irrigation
- could grow more crops
- could regulate the watering of crops
- could water crops faster

Plow
- could dig up soil faster
- could prepare more land for farming
- could dig up hard soil
Social Studies

Item 15  Student Practice Materials page 4.46

Objective 28:  Civics and Government Perspectives

Rubric  1 point

• 1 point for stating why Hammurabi wanted written laws

Note

• Responses must address the importance of written laws, not just laws in general.

Example of acceptable response:

He wanted to make sure everyone knew what the laws were.

Other acceptable responses:

• If everyone knew what the laws and punishments were, there might be less crime.
• to make sure justice would be applied as stated
• to ensure people would not be punished randomly
• to unify the laws throughout the lands
## 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

<table>
<thead>
<tr>
<th>Part</th>
<th>Reading Strategy</th>
<th>Content Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>D 02 Basic Understanding</td>
<td>Computation and Numerical Estimation</td>
</tr>
<tr>
<td>2</td>
<td>G 03 Analyze Text</td>
<td>Patterns, Functions, Algebra</td>
</tr>
<tr>
<td>3</td>
<td>C 03 Analyze Text</td>
<td>Measurement</td>
</tr>
<tr>
<td>4</td>
<td>H 05 Identify Reading Strategies</td>
<td>Number and Number Relations</td>
</tr>
<tr>
<td>5</td>
<td>A 04 Evaluate and Extend Meaning</td>
<td>Geometry and Spatial Sense</td>
</tr>
<tr>
<td>6</td>
<td>J 07 Sentence Structure</td>
<td>Data Analysis, Statistics, and Probability</td>
</tr>
<tr>
<td>7</td>
<td>A 07 Sentence Structure</td>
<td>Reading and Language Arts</td>
</tr>
<tr>
<td>8</td>
<td>G 08 Writing Strategies</td>
<td>Science</td>
</tr>
<tr>
<td>9</td>
<td>Constructed Response</td>
<td>Social Studies</td>
</tr>
<tr>
<td>10</td>
<td>F 03 Analyze Text</td>
<td>Science and Technology</td>
</tr>
<tr>
<td>11</td>
<td>C 02 Basic Understanding</td>
<td>Economic Perspectives</td>
</tr>
<tr>
<td>12</td>
<td>G 04 Evaluate and Extend Meaning</td>
<td>History and Cultural Perspectives</td>
</tr>
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</table>

### Mathematics

<table>
<thead>
<tr>
<th>Part</th>
<th>Mathematical Concept</th>
<th>Content Area</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>D 11 Computation and Numerical Estimation</td>
<td>Number and Number Relations</td>
</tr>
<tr>
<td>2</td>
<td>H 10 Number and Number Relations</td>
<td>Number and Number Relations</td>
</tr>
<tr>
<td>3</td>
<td>C 14 Geometry and Spatial Sense</td>
<td>Geometry and Spatial Sense</td>
</tr>
<tr>
<td>4</td>
<td>J 15 Data Analysis, Statistics, and Probability</td>
<td>Data Analysis, Statistics, and Probability</td>
</tr>
<tr>
<td>5</td>
<td>B 17 Problem Solving and Reasoning</td>
<td>Data Analysis, Statistics, and Probability</td>
</tr>
<tr>
<td>6</td>
<td>F 13 Measurement</td>
<td>Life Science</td>
</tr>
<tr>
<td>7</td>
<td>B 12 Operation Concepts</td>
<td>Life Science</td>
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</table>

### Science

<table>
<thead>
<tr>
<th>Part</th>
<th>Scientific Concept</th>
<th>Content Area</th>
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<tbody>
<tr>
<td>1</td>
<td>A 22 Earth and Space Science</td>
<td>Earth and Space Science</td>
</tr>
<tr>
<td>2</td>
<td>G 21 Life Science</td>
<td>Life Science</td>
</tr>
<tr>
<td>3</td>
<td>C 22 Earth and Space Science</td>
<td>Life Science</td>
</tr>
<tr>
<td>4</td>
<td>F 23 Science and Technology</td>
<td>Life Science</td>
</tr>
<tr>
<td>5</td>
<td>D 21 Life Science</td>
<td>Life Science</td>
</tr>
</tbody>
</table>

### Social Studies

<table>
<thead>
<tr>
<th>Part</th>
<th>Historical and Cultural Perspectives</th>
<th>Content Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A 27 Historical and Cultural Perspectives</td>
<td>Geographic Perspectives</td>
</tr>
<tr>
<td>2</td>
<td>G 26 Geographic Perspectives</td>
<td>Geographic Perspectives</td>
</tr>
<tr>
<td>3</td>
<td>A 27 Historical and Cultural Perspectives</td>
<td>Geographic Perspectives</td>
</tr>
<tr>
<td>4</td>
<td>J 29 Economic Perspectives</td>
<td>Geographic Perspectives</td>
</tr>
<tr>
<td>5</td>
<td>D 27 Historical and Cultural Perspectives</td>
<td>Geographic Perspectives</td>
</tr>
</tbody>
</table>
Reading and Language Arts

Item 9  Student Practice Materials page 5.6

Objective 02: Basic Understanding

Rubric 2 points

2 points if at least five exemplary steps are included in correct order
1 point if three or four exemplary steps are included in correct order
0 points if two or fewer exemplary steps are included in correct order

Note
• If one step is not in correct sequence and eliminating it would leave 3–5 steps in correct order, award the appropriate score on that basis. If more than one step is out of order, or the steps are clearly in no order at all, award a score of zero.

Example of acceptable response:

Using what you have read, complete this list of step-by-step directions for creating a plaster mask.

1. Mix up some plaster.
2. Wrap towel around model’s head.
3. Cover model’s face with petroleum jelly.
4. Put straws in model’s nostrils.
5. Cover model’s face with plaster.
6. Wait [ten minutes] for plaster mold to harden.
7. Remove plaster mold from model’s face.
8. After 24 hours, pour liquid clay into mold.
9. After another 24 hours, lift mask from mold.

Other acceptable responses (must appear in correct order):
• Have model lie on a table [Step 2].
• Wash model’s face [Step 6 or 7].
• Allow plaster mold to dry overnight [Step 7].
Reading and Language Arts

Item 20  Student Practice Materials page 5.11

Objective 05: Identify Reading Strategies

Rubric 2 points

• 1 point for giving winter as best, summer as worst seasons for business
• 1 point for giving a correct explanation for the difference (based on the weather, inside/outside play, etc.)

Example of acceptable response:

20 Look at the chart below. It shows the number of parties given month-by-month in the Lizard Lady’s first four years of business.

<table>
<thead>
<tr>
<th></th>
<th>Winter</th>
<th>Spring</th>
<th>Summer</th>
<th>Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan</td>
<td>Feb</td>
<td>Mar</td>
<td>Apr</td>
</tr>
<tr>
<td>1st year</td>
<td>---</td>
<td>4</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>2nd year</td>
<td>12</td>
<td>10</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>3rd year</td>
<td>21</td>
<td>19</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>4th year</td>
<td>40</td>
<td>25</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Jun</td>
<td>Jul</td>
<td>Aug</td>
<td>Sep</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>5</td>
<td>5</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>6</td>
<td>9</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>8</td>
<td>8</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>10</td>
<td>10</td>
<td>17</td>
<td>30</td>
</tr>
</tbody>
</table>

According to the chart, which season of the year appears to be best for the Lizard Lady’s business? Which season is worst? Give a possible reason that might explain this difference in the Lizard Lady’s business.

Winter is best, summer is worst. The weather is probably the reason. In winter the weather is cold, so kids have to stay indoors. The Lizard Lady’s parties would be a good way to entertain them. In summer, kids can go outside to run around and play.
Rubric 5 points

• 1 point for changing me to I
• 1 point for changing finish to finished
• 1 point for changing the comma after position to a period
• 1 point for capitalizing the M in my [favorite]
• 1 point for changing most greatest to greatest

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 sentences that do not have mistakes.
• Misspellings of corrections are acceptable.

Example of acceptable response:

30 Here is a draft of a letter a student wrote when applying for a sports scholarship. There are five mistakes in grammar, capitalization, and punctuation. Draw a line through each part that has a mistake, and write the correction above it.

I am a junior at Cherry Tree High School in Milwaukee. This will be my third year on the varsity baseball team. Last year, my teammates and me won our division. We finished second in the regional championship. My batting average was .412, and I hit 11 home runs. During the course of the season, I played every infield position, my favorite is shortstop. My most greatest honor was winning the Athlete of the Year award.
Reading and Language Arts

Item 31  Student Practice Materials page 5.18

Objective 08:  Writing Strategies

Rubric 2 points

• 1 point for a response that focuses on the assigned task of describing an experience that turned out to present unexpected difficulties
• 1 point for providing sufficient details or examples in describing the experience

Objective 09:  Editing Skills

Rubric 3 points

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

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

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

Note

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

Example of acceptable response:

31  Have you ever tried to do something that you thought would be easy but that turned out to be difficult? Write a short paragraph about the experience. Be sure to give details about what you tried and how it was difficult.

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

I had a tough time when I first tried in-line skating. I had seen a lot of kids doing it, and it looked really easy. I thought all I’d have to do would be to put on the skates and then take off. Then I got some in-lines for my birthday. Was I ever wrong! I couldn’t even stand up for more than a couple of seconds. I sure couldn’t just glide off the way I’d seen my friends do. Well, little by little, with a lot of practice and several bruises, I was finally able to do it. Now it does seem easy to do; but it wasn’t easy to learn.
Mathematics

Item 20  Student Practice Materials page 5.29

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

**Rubric 2 points**

- 1 point for showing at least 2 of the combinations
- 1 point for showing all 3 combinations

*Example of acceptable response:*

Teresa and Marla are playing a game in which they throw darts at the target shown below. Hitting the inner circle is worth 5 points, and hitting the outer circle is worth 2 points.

Teresa scored 22 points. In the box below, show all the possible ways of scoring 22 points and write the number of ways on the line.

| 2 x 11 = 22 |
| 2 x 6 + 5 x 2 = 22 |
| (12 + 10 = 22) |
| 2 x 1 + 5 x 4 = 22 |
| (2 + 20 = 22) |

**Answer 3**

*Other acceptable response:*

<table>
<thead>
<tr>
<th>2 points</th>
<th>5 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>4</td>
</tr>
</tbody>
</table>
Mathematics

Item 21  Student Practice Materials page 5.30

Objective 16: Patterns, Functions, Algebra
Objective 17: Problem Solving and Reasoning

Rubric  2 points
• 1 point for writing 5 (tables)
• 1 point for writing correct rule

Example of acceptable response:

21 The Top-o-the-World Pizza restaurant has rectangular tables that seat up to 6 people at a time. When more than 6 people want to sit together, the restaurant staff pushes 2 or more tables together, as shown below.

If 22 people want to sit together, how many tables does the restaurant staff need to put together? Show your work in the box below and write your answer on the line.

$$5 + 4 + 4 + 4 + 5 = 22$$

Answer 5 tables

Write a rule for how many people can sit at $t$ number of tables if the tables are pushed together.

Rule: 4 times the number of tables plus 2

Other acceptable response:
• $4t + 2$
• Add 4 more for each table.
Mathematics

Item 22  Student Practice Materials page 5.31

Objective 13:  Measurement
Objective 17:  Problem Solving and Reasoning

**Rubric 2 points**

- 1 point for writing 3
- 1 point for drawing and labeling a rectangle that is 5 cm \times 9 cm

**Note**

- If the scale is incorrect, the student may still receive a point for the rectangle, as long as it is drawn to the scale that the student identified.
- The student may use any letter for the variable and still receive credit.
- The rectangle may be oriented so that the 9 cm length is horizontal.

**Example of acceptable response:**

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

Cindy spent the summer at Camp Big Bear. The box below represents the main square at the camp. If the pool measures 9 meters by 12 meters, what is the scale of the map?

Answer 1 cm = \frac{3}{m}

The bunkhouse is a rectangle that measures 15 meters by 27 meters. Using the scale you determined, draw the bunkhouse in the main square.
Science

Item 13  Student Practice Materials page 5.37

Objective 20:  Physical Science

Rubric  1 point

• 1 point for indicating that the charge on the end of the rod must be negative because it attracts positive charges on the ball

Example of acceptable response:

Figure A shows a ball suspended by a thread. Figure B shows what happens when a charged rod is brought near the same ball.

Is the charge on the end of the rod near the ball positive or negative?  **negative**

Explain how you decided whether the charge on that end of the rod was positive or negative.

*The end of the rod attracted positive charges on the ball.*

Other acceptable responses:

• Negative/Opposites attract.
• Negative/The rod repelled negative charges to the far side of the ball.
• Negative/The rod pulled positive charges and/or pushed negative charges on the ball.
Science

Item 14  Student Practice Materials page 5.38

Objective 19:  Science Inquiry

Rubric  1 point

• 1 point for stating that Jeremy’s hypothesis was that temperature would influence how high the liquid rose in the tube

Example of acceptable response:

Jeremy set up the experiment shown below.

He followed these steps:

1. Fill a test tube with glycerine.
2. Seal the test tube with a stopper that has a thin, hollow glass tube extending into the glycerine and above the stopper.
3. Record the original level of the liquid in the glass tube.
4. Place the test tube in each of the four glasses of water; record the level of the liquid in the glass tube after five minutes in each glass of water.

State the hypothesis that Jeremy was probably testing with his experiment.

**The liquid in the tube will rise as the temperature increases.**

*Other acceptable responses:*

• Heat (or a rise in temperature) will cause the glycerine to expand.
• As the temperature increases, the level of the liquid in the tube will rise.
Science

Item 15  Student Practice Materials page 5.39

Objective 22: Earth and Space Science

Rubric  2 points

• 1 point for 1811 and 1828
• 1 point for indicating that a period of drought produces thinner rings or less growth

Example of acceptable response:

15  Look at the picture of the tree stump and the magnified view of several tree rings.

Between which years do you think the tree experienced the least annual rainfall?

Between _____1811_____ and _____1828_____.

How do you know that the least annual rainfall occurred between these years?

The tree rings are closer together.

Other acceptable responses:
• Drought slows tree growth.
• There was less growth of the tree.
• Growth rings are thinner.
Social Studies

Item 13  Student Practice Materials page 5.45

Objective 28:  Civics and Government Perspectives

Rubric 2 points
• 1 point for naming an advantage of the proposal selected
• 1 point for naming a disadvantage of the proposal selected

Note
• Do not penalize students if check mark is missing as long as choice is indicated by response.

Example of acceptable response:

Work at a construction site in the city of Westlake has not resumed since pieces of pottery and other artifacts from the 1700s were uncovered. The city council members are reviewing several proposals regarding the artifacts. The proposals are listed below.

Proposals:
• Sell the artifacts and use the money for community services
• Build a museum to house the artifacts
• Place the artifacts in public buildings throughout the community, such as the library and City Hall

13 Choose one of the proposals. Place a check mark in the box next to the proposal you choose.

☐ Sell the artifacts and use the money for community services
☐ Build a museum to house the artifacts
☐ Place the artifacts in public buildings throughout the community, such as the library and City Hall

Name one advantage of the proposal you selected.

The city could use the money to improve city services.

Name one disadvantage of the proposal you selected.

The city would lose part of its history.

See next page for other acceptable responses.
Other acceptable responses:

Sell artifacts: advantage
- would save money by not spending it on analysis/storing of artifacts
- would get money from the sale

Sell artifacts: disadvantage
- cultural/historical/educational loss to the residents

Build museum: advantage
- place to protect/preserve/display artifacts
- attraction for tourists
- could generate income for the city

Build museum: disadvantage
- added expense for building and general upkeep
- loss of revenue from sale of the artifacts
- would take money away from other services

Place artifacts in public buildings: advantage
- would require no major spending
- available for public viewing in multiple locations

Place artifacts in public buildings: disadvantage
- no overall system for caring for the artifacts
- no revenue from sale of artifacts
Social Studies

Item 14  Student Practice Materials page 5.46

Objective 27:  Historical and Cultural Perspectives

Rubric  2 points
• 1 point for each conclusion about the ancient city

Example of acceptable response:

Study the drawing of the ruins of an ancient city. Describe two conclusions that can be made about the ancient city and its people. An example has been done for you.

• They probably practiced some form of religion, because they had a temple.
• The irrigation canals show that the people farmed the land.
• It was a settled community.

Other acceptable responses:
• The river supplied water for farming and personal use.
• The people probably fished for a living.
• They probably used the river for transportation/transporting goods.
• They probably needed protection since they built walls around the city.
• They had a large enough population to be able to build a temple and the walls around the city.
Social Studies

Item 15  Student Practice Materials page 5.47

Objective 29: Economic Perspectives

Rubric  3 points
• 1 point for each explanation of how each event affects the community

Example of acceptable response:

15 Complete the chart below. Describe one economic effect each event would have on a community.

<table>
<thead>
<tr>
<th>Event</th>
<th>Effect on a Community</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers’ wages have increased 5% over last year.</td>
<td>The community’s economy may improve because people will have more money to spend.</td>
</tr>
<tr>
<td>Attendance at the city zoo continues to decline.</td>
<td>The community may lose income that tourists bring in.</td>
</tr>
<tr>
<td>A new shopping mall opens for business.</td>
<td>More shoppers will be attracted to the community.</td>
</tr>
</tbody>
</table>

Other acceptable responses:

Increased Wages
• may attract workers and help community grow
• increased tax money will be available to increase community services
• healthier economy will lead to community improvements

Declining Attendance at City Zoo
• possible loss of jobs related to zoo business
• negative effect on other businesses, such as stores, hotels
• may have to close zoo

New Shopping Mall
• will increase business in the community
• will provide more jobs for people in the community
• may take away business from other parts of the community
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 Grade 6–7 Reading and Language Arts teaching activity. Each part of the activity is labeled and further described below:

**A** Activity number and title.

**B** The purpose of the activity.

**C** The objective and thinking skill covered by the activity.

**D** A brief description of the activity.

**E** Complete directions for each step of the activity.

**F** Answers (in parentheses) are provided in some cases as a convenience to teachers.

**G** Alternate ways to approach the activity. Some activities provide basic and more advanced activities for those students who need additional practice or enrichment.
# Reading and Language Arts

## Teaching Activities

<table>
<thead>
<tr>
<th>Activity Number and Title</th>
<th>TerraNova, The Second Edition Objective Number and Title</th>
<th>Activity Worksheet</th>
<th>Activity Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Running Faster and Faster</td>
<td>02 Basic Understanding</td>
<td>X</td>
<td>7.5</td>
</tr>
<tr>
<td>2 Canoe Day</td>
<td>02 Basic Understanding</td>
<td>X</td>
<td>7.8</td>
</tr>
<tr>
<td>3 Characters in Competition</td>
<td>03 Analyze Text</td>
<td>X</td>
<td>7.10</td>
</tr>
<tr>
<td>4 Figuratively Speaking</td>
<td>03 Analyze Text</td>
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ACTIVITY

1. Running Faster and Faster

Purpose
Students practice reading for information.

Objective 02: Basic Understanding  Thinking Skill: Gather Information

Description
Students read a passage and answer questions about it. Then they fill out a time line with information from the passage.

Directions

1. Getting Started  Introduce the topic of the passage by having students tell what they know about running. Some students may relate personal anecdotes. Explain to students that they will read a passage about running and then put information from the passage into the correct sequence.

2. Worksheet  Distribute copies of the worksheets. Have a volunteer read aloud the passage on Worksheet 1.

3. Discuss  Reinforce students’ understanding by asking the following questions:
   - How long have people been racing?  (since at least 776 B.C.)
   - What types of races did athletes run in the original Olympic games?  (from a few hundred yards up to 2 miles)
   - Where were races often held in the Middle Ages?  (at fairs)
   - What was another name for competitive runners in Great Britain during the 1700s?  (peds)
   - What international competition originated in 1896?  (modern Olympics)
   - What seemed like an impossible goal to mile runners?  (finishing in less than 4 minutes)
   - What is the Olympic record for the mile run?  (No mile is run in Olympic events.)
   - Has anyone ever beaten Roger Bannister’s record for the mile?  (yes, many times)
   - What changes in training made it possible for athletes to run faster?  (interval training, running more miles per week)
   - Describe interval training.  (The athlete alternates between running at top speed and jogging.)
   - How many miles per week do top runners today commonly run while training?  (50–100 miles per week)

4. Small Group Activity  Divide students into small groups. Have them complete the time line and answer the open-ended question at the bottom of the page. When students have finished, have the groups discuss what they wrote on the time line.

5. Conclude Activity  Ask for volunteers to share their responses to the open-ended question at the bottom of the worksheet.

Variation

Basic  Before having students fill out the time line, ask them to find and name important details about running. List the details on the board.

Advanced  Ask students to make a time line of other important events in the history of running or for a topic of their choice.
Running Faster and Faster–Worksheet 1

Directions: Read the passage below. Then put at least four events in the history of running into proper sequence on the time line.

Running Faster and Faster

When we discuss the progress that the human race has made since ancient times, we usually mention advances in technology. But what about the “human race”—that is, the speed at which people run?

Runners no doubt began competing in races long before the dawn of recorded history. We know that organized races took place at least as far back as the Greek Olympics, which originated in 776 B.C. Athletes in those first Olympics ran races of varying length, from a few hundred yards up to about two miles. During the Middle Ages, athletes competed in foot races at fairs. In England during the 1700s, professional runners took part in a sport called “pedestrianism.” Runners called “peds” ran long-distance races for big money prizes. When the modern Olympics were started in 1896, races of varying lengths were naturally included among the competitive events.

Although runners had competed for centuries, until the 1950s no one thought it was possible to run a mile in less than four minutes. People assumed that human beings were not capable of it, that physical limitations made it impossible. It was never put to the test at the Olympics, however, because the mile run is not an Olympic event. The 1,500-meter race falls short of a mile by about 360 feet. However, in a race in Great Britain in 1954, medical student Roger Bannister achieved the supposedly impossible when he ran a mile in 3 minutes and 59.4 seconds. Since then, many others have followed in his footsteps and even bettered his time—all remarkable runners.

What finally made it possible for athletes to run a mile in less than four minutes? Certainly the way runners trained has changed through the years. In the 1940s, coaches began to encourage runners to use “interval training.” With this system, racers would alternate between running a certain distance as fast as they could and jogging or even walking. This method helped train athletes to run at their top speed comfortably. Another change was the number of miles that top athletes ran regularly. Before the 1940s, rarely would an athlete run more than 20 miles in a week. Now top milers commonly run 50 to 100 miles a week. Who knows what other training method may come along that could make it possible for runners to do a mile in 3 minutes and 30 seconds?
Running Faster and Faster—Worksheet 2

Directions: The passage gives information about the history of running. Use the time line to organize the information from the passage.

1. Do you think you could ever train for and run a four-minute mile? Why or why not?
Canoe Day

Purpose
Students construct meaning within a passage by providing words to complete sentences.

Objective 02: Basic Understanding  Thinking Skills: Analyze Information; Generate Ideas

Description
Students read a passage and fill in blank spaces using words that fit the story.

Directions
1. **Getting Started**  Explain that students will read a letter and fill in the blank spaces using words they feel are consistent with the meaning of the story.

2. **Worksheet**  Distribute copies of the worksheet. Have students work independently to complete the story.

3. **Conclude Activity**  When students have finished, conduct a class discussion. Have one or two students read their versions of the completed story. Then look at each paragraph, using one or more of the following ideas:
   - Take the first paragraph as an example and ask students how many different words they came up with for each of the 9 blanks (e.g., “This” or “It” for the first blank). Discuss the reasons why one word may be better than another and see if students come to a group decision about the best word to use.
   - Ask how many students changed their minds about the best word to use after reading on, or after seeing the words other students used. Look at the second paragraph. Example 1: “At the end of the day/lesson, we put our lunches into the canoes and headed toward a small island in the middle of the lake.” Example 2: “Two of the canoes fell/tipped over on the way and some of the paddles/lunches were lost! That may explain why the fish weren’t biting later.” (The first choice makes sense before all the text is read. The second choice is derived from subsequent information.)
   - Finally, ask students if there are any fill-ins that most of the class agreed on. (For example, from Paragraph 2: “We pulled the canoes up onto the shore and sat down to eat the sandwiches we had left.”) Then ask if any of the blanks were confusing. (Example from Paragraph 1: “There was a lot of motion/slime/imbalance/rocking, and I got soaked!”) The class could insert a sentence with more clues that would help students fill in the blanks.

Variation

**Basic**  Choose a passage from a familiar book or text the students have at their desks. Ask volunteers to replace various words in the passage with new words, but to keep the same meaning.

**Advanced**  Ask students to write their own stories, leaving spaces for words to be filled in by other students. The stories can then be exchanged with a partner and completed. Have the class discuss whether the meaning was consistent with or different from the author’s intended meaning.
Canoe Day–Worksheet

Directions: Read the letter below. Then fill in the blanks with words that are consistent with the meaning of the passage.

Dear Morgan,

_____________ was the ___________ day at Camp Lakeside yet. All the kids in my __________ went out on the __________ in canoes. First, the __________ taught us how to use the __________, and let me tell you, it’s __________ than it looks! There was a lot of __________, and I got soaked! One of the counselors fell in while __________ us how to get in and out of the canoe!

At the end of the __________, we put our lunches into the canoes and __________ toward a small __________ in the middle of the lake. Two of the canoes __________ over on the way and some of the __________ were lost! That may explain why the __________ weren’t biting later. They ate our __________!

Anyway, when we finally reached the island, everyone was so __________! We pulled the __________ up onto the shore and sat down to __________ the sandwiches we had left.

Unfortunately, while we were __________, one of the canoes drifted away! By the time we __________ what had happened, it had floated far out onto the lake, and not in the direction we needed to __________ to get back to camp. We all __________ into the remaining canoes and went after it. With the extra weight in each canoe we had to keep __________ out water as we rowed. __________ is hard to do when you can’t stop laughing!

We were all __________ and __________ when we finally got back to __________. Still, I have to say, it was the __________ day I’ve had at camp so far!

Love,

Jamie
ACTIVITY

Characters in Competition

Purpose
Students practice identifying story elements, e.g., plot, setting, and character.

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

Description
Students read a story and fill out character maps for three characters.

Directions

1. Getting Started  Start by discussing the traits of a familiar character from a book the class has recently read. Ask what the character looks like, what he or she wants, and how his or her personality is revealed. Draw a character map on the board (see Worksheet 2, page 7.13) and have volunteers fill it in with each character’s traits.

   Explain that motivation has to do with what a character wants or needs—why he or she acts in a certain way.

2. Worksheet  Distribute copies of the worksheets. Ask a volunteer to read the story aloud.

3. Discuss  Ask students to fill in the character map. You may want to work along with them to fill in the first answer. For example, for “Janey,” encourage them to read the first paragraph. Have volunteers state what they learned about Janey—that she is cute, smart, and self-confident.

   Review the character maps as a class. Discuss similarities and differences.

4. Conclude Activity  Have students answer and then discuss the open-ended question on the worksheet.

Variation

Basic  Have students work as a class to complete the character maps.

Advanced  Discuss characters in terms of how they change within a story. For example, how is Janey different at the end of “A Competition”? What has she learned?
Characters in Competition—Worksheet 1

Directions: Read the story below. Then fill out the character maps on your worksheet.

A Competition

Janey Green, cute, smart, and self-confident, was used to doing well. She almost always got an A in every subject at school, and everyone told her how beautifully she played the piano. Yet Janey herself sometimes had doubts. She always tried to act upbeat, but inside she got nervous whenever she had to perform, whether at school or in a piano recital. Now, she would be playing in a countywide piano competition. Janey wanted to win. Nothing less would satisfy her. More than anything, she wanted to please her parents and her teacher, old Mr. Okamura.

Janey was small, but when she sat down to play she made the rafters ring with music. Mr. Okamura gave her plenty of encouragement. Janey played with feeling, she practiced every day, and she paid attention at her weekly lessons. Mr. Okamura was a wonderful teacher, and all his students played well, but Janey was his star.

At least, she always had been. Then, suddenly, Janey discovered she had a rival.

When she arrived at Mr. Okamura’s studio for her lesson one afternoon, she heard the rippling notes of a waltz in a minor key. It was beautiful—probably a piece by Chopin, Janey guessed, that Mr. Okamura was playing for his own pleasure. She listened a moment to the graceful melody, then decided to slip in quietly so she could hear better.

What she saw startled her. Mr. Okamura was standing beside the piano, looking at the ceiling while he tugged at his gray beard with one hand and waved the other in time to the music, the way he always did when he listened to a student. At the piano, playing the waltz, was Juan Morellos, a new boy in Janey’s class at school.

Juan finished the piece and looked up at Mr. Okamura.

“Better,” the teacher said, still tugging at his beard. “Work on the left hand.” He sang a few notes to demonstrate. Then he noticed Janey standing in the doorway. “Oh,” he said, glancing at his watch. “Janey’s turn. Janey, this is Juan, my new student. He recently moved here from Los Angeles.”

Janey swallowed hard. “Yeah, I know. Hi, Juan.”

Juan stood up from the piano bench. “Hi, Janey.” He gave her a big smile.

Juan had joined Janey’s homeroom at school a month before. He was a good student and a nice boy. Everybody liked him, including Janey. What she could not understand was how Juan could have been in her class all this time without ever letting her know that he played the piano.
Janey stood in shock as Juan gathered up his music and left after promising Mr. Okamura he would practice the Chopin.

At the piano, Janey realized that she could not remember a single note of the Mendelssohn piece she had memorized.

“Memory not working so good today, eh?” Mr. Okamura murmured in his soft voice. “Well, that’s okay. Use the music.” He placed it open before her.

Janey began again, but faltered and came to a halt almost at once. She squinted at the music but the notes did not make sense. She realized she was holding her breath.

“Janey, what is it?” asked Mr. Okamura. “What’s wrong?”

“Is Juan playing in the competition?” she blurted out.

There was a momentary silence. Then Mr. Okamura sighed. He pulled a chair over and sat down, leaning an elbow on the piano. “Well, I hope so. He isn’t sure yet. Juan says he just plays for fun. That’s good, of course, but I’d still like him to enter the competition.”

Janey said nothing.

“You heard him playing the B minor waltz. Good, didn’t you think?”

Again, Janey had to swallow hard. “Yes,” she managed to get out.

“You play well too, Janey.” Mr. Okamura seemed to ponder a moment. Then he said, “You remember the piece you played at your first recital?”

Janey did: a short piece all on the white keys, ridiculously easy.

“You were scared, eh?” Mr. Okamura asked softly. He did not wait for her to admit it. Janey could well remember that she had been so nervous she could scarcely breathe.

“But when you began to play,” Mr. Okamura reminded her, “you started listening to the music. And you played so beautifully.” He let that sink in for a moment. “That is why I have always liked your playing, Janey. You listen. You love the music.”

Janey turned her head and saw Mr. Okamura’s smile. She felt her confidence returning in a flood of gratitude.

“So don’t worry about Juan,” he said. “Just listen to the music. Competitions are fine. But winning isn’t what’s important.” He paused. “All right?”

Janey took a deep breath. “Yes. All right. Thanks, Mr. Okamura.”

“And now,” he said, tugging at his beard, “Mendelssohn, please.”
Characters in Competition—Worksheet 2

Directions: Fill in the character maps below, based on what you read in “A Competition.”

1. Janey
   - Appearance
   - Behavior
   - Feelings
   - Motivation

2. Mr. Okamura
   - Appearance
   - Behavior
   - Feelings
   - Motivation

3. Juan
   - Appearance
   - Behavior
   - Feelings
   - Motivation

2. Which character did you learn the most about?

3. What more would you like to know about the other two characters?
Figuratively Speaking

Purpose
Students practice identifying and using figurative language.

Objectives:
03: Analyze Text

Thinking Skills:
Analyze Information; Generate Ideas

Description
Students read excerpts from Rebecca of Sunnybrook Farm and Kidnapped and identify examples of descriptive images or figurative language. They also create their own figures of speech to replace the original descriptions.

Directions

1. Getting Started
Explain that students will read excerpts from two classic children’s novels, Rebecca of Sunnybrook Farm and Kidnapped. The excerpt from Rebecca of Sunnybrook Farm tells about Mr. Cobb’s first meeting with Rebecca, and the excerpt from Kidnapped tells about young David Balfour waking up to find that he has been kidnapped and trapped aboard a ship.

2. Worksheet 1
Distribute copies of Worksheet 1. Explain that students are to look for examples of sensory images or figurative language. Point out examples from the text, such as “Under her delicately etched brows they glowed like two stars,” and “the thrashing of heavy sprays.” Ask students to identify what the authors are describing in each example.

3. Worksheet 2
Distribute copies of Worksheet 2. Write the headings from the worksheet on the board. Read aloud the first sentence from Rebecca of Sunnybrook Farm and pause to give students time to identify the figurative phrase, “starched within an inch of its life.” Ask students to tell what the author is describing (Rebecca's calico dress), then to describe in their own words what the figurative phrase means (stiff and uncomfortable-looking from too much starch). Finally, have a volunteer provide another phrase that describes the calico dress. Point out that the expression “stiff as a board” might be a good example. Have students continue working independently to complete their worksheets.

4. Conclude Activity
When students have finished, have volunteers share their responses with the rest of the class. Write these responses on the board, to make a class list of examples of descriptive images or figurative language.

Variation

Basic
Instead of having students look for examples of figurative language, write the following examples on the board. Have students copy them onto their chart and fill in the rest of the information.

- starched within an inch of its life
- Under her delicately etched brows they glowed like two stars
- their dancing lights half hidden in lustrous darkness
- I came to myself in darkness
- the thrashing of heavy sprays
- The whole world now heaved giddily up, and now rushed giddily downward
- it took me a long while, chasing my thoughts up and down
- I must be lying somewhere bound in the belly of that unlucky ship

Advanced
Encourage students to write poems based on their own examples of figurative language. In addition, have students search for examples of figurative language in other reading. They can put their favorites up on a wall in the classroom to share with others.
Figuratively Speaking–Worksheet 1

Directions: Read the paragraphs below, and look for examples of descriptive images or figurative language. Copy these examples onto Worksheet 2.

From *Rebecca of Sunnybrook Farm*
by Kate Douglas Wiggin

The buff calico was faded, but scrupulously clean, and starched within an inch of its life. . . . Her face was without color and sharp in outline. As to features, she must have had the usual number, though Mr. Cobb’s attention never proceeded so far as nose, forehead, or chin, being caught on the way and held fast by the eyes. Rebecca’s eyes were like faith—“the substance of things hoped for, the evidence of things not seen.” Under her delicately etched brows they glowed like two stars, their dancing lights half hidden in lustrous darkness. Their glance was eager and full of interest, yet never satisfied; their steadfast gaze was brilliant and mysterious, and had the effect of looking directly through the obvious to something beyond, in the object, in the landscape, in you. They had never been accounted for, Rebecca’s eyes. The school teacher and the minister at Temperance had tried and failed; the young artist who came for the summer to sketch the red barn, the ruined mill, and the bridge ended by giving up all these local beauties and devoting herself to the face of a child—a small, plain face illuminated by a pair of eyes carrying such messages, such suggestions, such hints of sleeping power and insight, that one never tired of looking into their shining depths, nor of fancying that what one saw there was the reflection of one’s own thought.

From *Kidnapped*
by Robert Louis Stevenson

I came to myself in darkness, in great pain, bound hand and foot, and deafened by many unfamiliar noises. There sounded in my ears a roaring of water as of a huge mill-dam, the thrashing of heavy sprays, the thundering of the sails, and the shrill cries of seamen. The whole world now heaved giddily up, and now rushed giddily downward; and so sick and hurt was I in body, and my mind so much confounded, that it took me a long while, chasing my thoughts up and down, and ever stunned again by a fresh stab of pain, to realize that I must be lying somewhere bound in the belly of that unlucky ship, and that the wind must have strengthened to a gale.
Figuratively Speaking—Worksheet 2

**Directions:** Use the excerpts from *Rebecca of Sunnybrook Farm* and *Kidnapped* to fill in the chart below. Explain the author’s description in your own words. Then create your own figurative expression to be used in place of the author’s words or images.

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<tr>
<th>Figurative Language</th>
<th>What Is Being Described?</th>
<th>Write Your Own Figurative Description</th>
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1. Choose one of the passages. Write your own descriptive sentence using one of the five senses—sight, hearing, smell, taste, touch—to describe the character or the character’s experience. For example, David Balfour might say, “The crusty salt air washed over me.”
**Living the Good Life**

**Purpose**
Students practice distinguishing between valid and invalid generalizations.

**Objective 04:** Evaluate and Extend Meaning  **Thinking Skill:** Analyze Information

**Description**
Students read a passage and then a series of generalizations based on the passage. They indicate whether or not each generalization is valid.

**Materials**
overhead projector (optional)

**Directions**

1. **Getting Started**  
   Remind students that a generalization is made after thinking about several facts or examples and determining what they have in common. When generalizations are made, a special kind of conclusion is reached. A rule that applies to many examples is stated.

2. **Discuss**  
   Write the following passage on the board or use an overhead projector:

   Last November, neither Felix nor Jim was very good at skating. Felix’s friends went skating a lot, so he went with them three times a week. By March, Felix skated much better. Jim only went skating three times all winter. He still wasn’t very good by March.

   Have students decide whether the following generalizations can be made from the information in the passage:
   - Felix is a better athlete than Jim.  (no)
   - If you practice skating regularly, you’ll improve faster than if you don’t practice.  (yes)

   Tell students that although both statements are generalizations, the second one is probably valid, or true, while the first one is not. There is not enough information in the passage to support the first generalization.

3. **Worksheets**  
   Distribute copies of the worksheets. Explain to students that they will first read a passage, then read a series of statements. If the statement contains a valid generalization, based on the information in the passage, students write “Valid.” If the statement is not valid based on the information in the passage, they will rewrite it to make it valid. Ask a volunteer to read the passage aloud. Have students complete the worksheet individually or in pairs.

4. **Conclude Activity**  
   Discuss the answers as a class. Take time to let students explain their thinking about each statement and why it was or was not a valid generalization. Have students read how they changed the faulty statements in order to make them into valid generalizations.

**Variation**

**Basic**  
Help students learn about generalizations by working on the assignment as a class. Model choosing the correct answer for the first two statements.

**Advanced**  
Have students write a paragraph about where they live—city, town, suburb, or rural community. Then have students exchange paragraphs with a partner, who will write one valid and one faulty generalization based on the paragraph. Students should then discuss the generalizations and correct the faulty ones.
Living the Good Life—Worksheet 1

City, town, suburb, or rural community—which is the best place to live? Ask four people and you may get four different answers, and their answers may not even reflect the type of place in which they live at the present time. Every community has something to offer its residents, but it may not be what everybody is looking for.

If you like to go to museums, restaurants, and shows, then a city might be to your liking. You don’t have to travel great distances for fun in the evening or on a weekend. Some people complain that cities don’t have enough “moving-around room.” That may be true when it comes to rush-hour traffic, but what cities lack in backyards and empty streets they often make up for in large parks, playgrounds, pools, and community centers.

Other people find that the suburbs are perfect for raising a family. The streets are often quieter and safer than in cities. The air is often cleaner. But many suburbanites—along with people who would never become suburbanites—complain about the lack of culture, the lack of public transportation, and the lack of diversity. One suburb dweller complains that she spends her life in the car, going to or coming from somewhere else.

For some people, a small to middle-sized town is the perfect place in which to live. Often older towns that are better established than many suburbs are likely to have their own museums, restaurants, and theaters. Most of these will be smaller than their big-city versions, but their smaller size is the very thing that appeals to some town dwellers. A drawback for some people is that a town may not be near a large city. Again, this may be what appeals to some of its citizens.

Of course, for other people there’s nothing like the wide-open spaces. They may live somewhere near a town, but it could be fifty miles away, which they consider a “short drive.” Farmers, ranchers, and forest rangers often prize their distance from what other people consider to be civilization. For them, the delights of field, range, or forest more than make up for anything they’re missing.

If you can afford it, you may solve the problem of where to live by having more than one place to stay. Some city apartment dwellers escape on weekends and vacations to a beach house or a mountain cabin. Others leave their apartment in one city, only to put the key in the door of an apartment in another city.

Finally, some people live where they do because they were born there. They like it, and would never think about living anywhere else.
Living the Good Life–Worksheet 2

Directions: For each valid generalization based on the passage, write “Valid.” For each faulty generalization, rewrite it to make it valid.

1. Ideas about the best type of community for comfortable living differ.

2. No one likes the kind of place he or she lives in.

3. Cities have more cultural activities than small towns.

4. People who live in suburbs drive too much.

5. A small to middle-sized town is the perfect place in which to live.

6. Museums in small towns are generally smaller than those in large cities.

7. Towns are never located near large cities.

8. Some people who live in the country think fifty miles is a short drive.

9. Apartment dwellers escape from the city for weekends and vacations.

Living the Good Life—Worksheet 2 (continued)

Directions: Write one valid generalization about living in a city, suburb, small town, middle-sized town, and rural community. Use complete sentences.

________________________________________________________________________

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**Mime Time**

**Purpose**
Students demonstrate critical understanding by examining an author’s purpose and effectiveness.

**Objective 04:** Evaluate and Extend Meaning  
**Thinking Skill:** Analyze Information

**Description**
Students read three short passages about mimes: one that informs, one that persuades, and one that entertains. Then they fill out a chart stating the author’s purpose for each passage.

**Directions**

1. **Getting Started**
   Explain to students that they will read three short passages and then fill out a chart identifying the author’s purpose in each passage. Finally, they will identify the techniques the author used to achieve the purpose.

2. **Discuss**
   Review the idea that authors may have different purposes for writing, including informing, persuading, and entertaining their readers. Read the three short passages below that show three different ways authors have spoken about the moon. Ask students how they can identify the purpose of each passage.

   **Inform**
   
   Here men from the planet Earth first set foot on the moon, July A.D. 1969. We came in peace for all mankind.  
   **[Plaque on the moon, marking the U.S. landing]**

   **Persuade**
   
   I therefore ask the Congress, above and beyond the increases I have earlier requested for space activities, to provide the funds which are needed to meet the following national goals:
   
   First, I believe that this nation should commit itself to achieving the goal, before this decade is out, of landing a man on the moon and returning him safely to the earth. No single space project in this period will be more impressive to mankind, or more important for the long-range exploration of space; and none will be so difficult or expensive to accomplish.  
   **[President John F. Kennedy, Message to the Congress on Urgent National Needs, 1961]**

   **Entertain**
   
   Hey, diddle, diddle,  
The cat and the fiddle,  
The cow jumped over the moon.  
The little dog laughed to see such sport,  
And the dish ran away with the spoon.  
**[Mother Goose]**
3. **Worksheets** Distribute copies of the worksheets. Ask a volunteer to read each passage. Have students work individually to complete the chart.

4. **Conclude Activity** When students have finished, have a class discussion. For example, students may notice that there are elements of persuasion in the first example and some informative aspects in the second one. Have volunteers read their responses regarding their favorite passage and the reasons for their selection. Arrive at a consensus of authors’ purposes and the techniques they used to achieve them.

**Variation**

**Basic** Have students focus only on finding the author’s purpose. Then discuss as a group the purpose of each passage and work together to list the techniques the author used to achieve that purpose.

**Advanced** Have students write their own pieces to inform, to persuade, or to entertain. Ask students to exchange their pieces with a partner, and have them identify each other’s purpose.
Mime Time—Worksheet 1

Directions: Read the three passages. Then fill in the chart and answer the question on Worksheet 2.

One Mime’s Lament

There once was a mime named Vegas,
Who wondered, Why do people egg us?
We work hard to please,
We mock just to tease,
Yet “Stop It!” is what people beg us.

Performers for Everyone

If there is one group of performers that can be said to make something out of nothing, it is mimes. Mimes do not merely imitate the actions and reactions of people in the world around them. They turn these actions into an art so refined that it is impossible to ignore them. Have you ever seen a mime performing outdoors in the city? While passersby are simply trying to go about their business, the mime chooses one person to imitate, making all others laugh with delight and recognition.

Mimes do not have to be good-looking to win fans. Mimes perform movements that leave their audiences gasping. During a show, they move people to laughter and tears. They carry on an ancient tradition and use it to make their audience look at the world anew. If I had any talent, I would train as a mime. If you are planning to enter the world of entertainment, you ought to think seriously about learning to be a mime.
Mimes in History

The word *mime* is Greek for “imitation of life.” But mime itself is older than the ancient Greeks. It is, in fact, a language older than the language of words, for gesture can explain an idea without using words. Imitating birds and beasts became a way of entertaining audiences. The ancient Greeks used the term “mime” to mean a professional actor who would do anything necessary to make a theater performance complete. That included wordless acting—what we think of as pantomime.

In ancient Rome, silent mimes became popular. By the sixth century B.C., performers in India used mime, dance, and music to retell myths. In China and Japan, mimes also told dramatic stories. In Europe during the Middle Ages, actors put on wordless plays. And in Renaissance Italy, the *Commedia dell’Arte*, a new type of mime play, became a hit.

In 19th-century France, mime began to evolve into the art form we know today. Using mostly stock characters and simple plots, mime showed images, actions, and feelings. In England, however, mime grew into both the clown tradition and the pantomimes, or wordless skits.

Perhaps the best-known mime of recent years is the Frenchman Marcel Marceau. He has performed on the stage and television in the United States many times. He carries on an old tradition in new ways.
Mime Time—Worksheet 2

<table>
<thead>
<tr>
<th>Title</th>
<th>Author's Purpose</th>
<th>Techniques Author Used to Achieve This</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>

Which of the three passages did you like best? Write at least three complete sentences explaining your answer.

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________
**Sawyer’s Summary**

**Purpose**
Students practice summarizing stories.

**Objective 05: Identify Reading Strategies**

**Thinking Skill:** Organize Information

**Description**
Students look at a sample story map and read a story summary. Then they make their own story map based on a book they have recently read.

**Materials**
strips of paper with titles of familiar children’s literature or fairy tales (optional)

**Directions**

1. **Getting Started**

2. **Worksheets**
   Distribute Worksheets 2 and 3. Review the elements of the story map. Explain that students can use a story map to organize important information about a book, and that they can then use this information to write a summary of the book. Discuss the information from the story map that is included in the summary. Have the class create a story map on the board for a book that the entire class has read recently or is familiar with.

3. **Complete the Story Map**
   Divide students into small groups and have them work together to fill out the story map for a book of their choice. Have each group suggest its own book or select a paper strip that has the title of a familiar fairy tale or children’s story.

4. **Conclude Activity**
   Invite students from each group to write their story maps on the board. Discuss whether enough information is included in the story map. Would students be able to write a good story summary based on the information from the story map?

**Variation**

**Basic**
Model a story map for a television show or a movie that students know well. Have students work together to identify the characters, setting, plot, and conflict for the television show or movie.

**Advanced**
Have students write a summary based on their story maps. Then have them summarize the story in four sentences.
Sawyer's Summary—Worksheet 1

A Summary of *The Adventures of Tom Sawyer*

In *The Adventures of Tom Sawyer*, Mark Twain tells the funny and sometimes frightening adventures of a young boy, Tom Sawyer, who lives with his Aunt Polly in a Mississippi River town in the 1830s. Tom does not always behave well. One day, when he skips school, Aunt Polly punishes him by making him whitewash a fence. However, Tom tricks neighbor boys into doing his work by making them jealous of the “fun” he is having.

One night, Tom and his friend Huck Finn visit a graveyard and there they witness a murder. In fear for their own lives, Tom and Huck take an oath never to tell what they have seen. Later in the story, though, courageous Tom saves an innocent man’s life by revealing the identity of the real murderer.

Throughout the book, Tom is desperate to win the heart of Becky Thatcher, a girl who is the daughter of the town judge. When Becky refuses to be Tom’s girlfriend, he runs away with Huck and another friend. The whole town believes that they are dead, and the boys return just in time to witness their own funerals.

When school is over for the summer, they have a town picnic. Tom and Becky venture into a large cave near the picnic ground. They lose their way in the many narrow passageways of the cave, and are trapped in the dark without any food for three days. While looking for a way out, Tom comes face to face with the murderer he has exposed. Eventually, Tom finds a safe way out of the cave, and Becky is very grateful.

Judge Thatcher orders the cave sealed, but when Tom explains that the murderer is inside, the cave is reopened, and they find the murderer, who has starved to death. Tom and Huck go back to the cave on their own, and find the murderer’s treasure—a fortune in gold. Now Tom and Huck are rich, and the whole town loves them.
### Sawyer’s Summary–Worksheet 2

**Directions:** Read the story map below. Use this example to help you fill out the blank story map about the book you have read.

**A Story Map for *The Adventures of Tom Sawyer***

<table>
<thead>
<tr>
<th>Characters</th>
<th>Setting</th>
<th>Important Events</th>
<th>Main Conflicts or Problems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tom Sawyer (orphaned, lives with Aunt Polly)</td>
<td>St. Petersburg, a town on the shore of the Mississippi River; early 1830s</td>
<td>Huck and Tom go to a graveyard and witness a murder.</td>
<td>Tom and Huck have to decide what to do about witnessing a murder and escaping the murderer.</td>
</tr>
<tr>
<td>Aunt Polly (Tom’s aunt)</td>
<td>St. Petersburg, a town on the shore of the Mississippi River; early 1830s</td>
<td>Aunt Polly punishes Tom for missing school by making him whitewash a fence; he convinces neighbor boys that it’s so much fun, that they do it for him.</td>
<td>Tom is frequently in trouble with Aunt Polly for misbehaving.</td>
</tr>
<tr>
<td>Huck Finn (Tom’s friend)</td>
<td>Jackson’s Island</td>
<td>Tom runs away with Huck and another friend. They hide on an island, returning to see their own funerals. Tom and Huck find a treasure and get to keep it.</td>
<td>Becky refuses to be Tom’s girlfriend, so he runs away with Huck.</td>
</tr>
<tr>
<td>Becky Thatcher (Judge Thatcher’s daughter)</td>
<td>McDougal’s Cave</td>
<td>Tom and Becky get lost in a cave for three days—he saves them and wins her affections.</td>
<td>Tom and Becky need to find a way out of the cave.</td>
</tr>
</tbody>
</table>
**Sawyer’s Summary–Worksheet 3**

**Directions:** Choose a book that you have read recently. Then fill out the story map below, based on information from that book.

**A Story Map for**

<table>
<thead>
<tr>
<th>Characters</th>
<th>Setting</th>
<th>Important Events</th>
<th>Main Conflicts or Problems</th>
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</table>
Use the information in your story map to write a summary. Write at least three or four sentences in your answer.
Junior Red Cross

Purpose
Students interpret graphics to enhance comprehension.

Objective 05: Identify Reading Strategies
Thinking Skill: Analyze Information

Description
Students answer a series of questions about a bar graph that illustrates trends in Junior Red Cross participation.

Directions

1. **Getting Started** Explain that students will look at a bar graph showing information about the American Junior Red Cross. Tell students that the Red Cross was originally set up to help sick and wounded soldiers, but was later expanded to help victims of various disasters. The Junior Red Cross used to be made up of students across the United States, and many of them participated during periods of war and economic hardship. Explain that now the Red Cross has a Youth Division in which many students still volunteer.

2. **Worksheet** Distribute copies of the worksheet. Review details of the bar graph showing the number of Junior Red Cross members from 1918 to 1945. For example, in 1919, 11.4 million students participated in the Junior Red Cross. Ask students to read what volunteers did during each of the three periods (World War I, the Great Depression, World War II). Discuss why these Red Cross activities were probably helpful during each of the periods.

3. **Conclude Activity** Have pairs of students work together to answer the questions on the second page of the worksheet. When everyone has finished, invite volunteers to read their answers. As a class, review the correct answer to each question.

Variation

**Basic** Instead of having students do Numbers 1 through 7, focus on the questions in Numbers 1, 2, and 6. Review each answer with students.

**Advanced** Ask students to write an essay on student volunteering opportunities today. Students might research the number of elementary, high school, and college students participating in volunteer activities.
Junior Red Cross–Worksheet

Directions: Look at the bar graph below. Then write answers to Numbers 1 through 7.

Annual Membership in the American Junior Red Cross

(estimates, in millions)

World War I
During this period, volunteers:
– made and collected clothes for war victims
– made hospital supplies
– built furniture for hospitals
– made Friendship Boxes for overseas youth
– helped in Victory Gardens (vegetable gardens cultivated to enlarge the food supply at home)

The Great Depression
During this period, volunteers:
– distributed surplus wheat and cotton
– collected clothes and food (canned fruits and vegetables)
– produced and distributed toys, clothes, and educational supplies
– gave money

World War II
During this period, volunteers:
– produced clothes, toys, and furniture
– created art works
– worked on recreational programs at military camps and hospitals
– worked in Victory Gardens
Junior Red Cross–Worksheet (continued)

1. During which year did the greatest number of students join the Junior Red Cross? How many students joined during that year?

2. During which year did the fewest number of students join the Junior Red Cross? How many students joined during that year?

3. During which two of the three periods shown on the bar graph did members work in Victory Gardens?

4. During which period did members work on recreational programs at military camps and hospitals?

5. During which period did members distribute surplus wheat and canned foods? Why do you think that such work was important in this period?

6. During which two years did approximately the same number of students join the Junior Red Cross?

7. What trend in the membership is shown for all three periods? Why do you think this is so? Explain, using at least three complete sentences.
A Star Is Born

Purpose
Students practice combining sentences to create effective compound and complex sentences.

Objective 07: Sentence Structure  Thinking Skill: Synthesize Elements

Description
Students read a passage. Then they rewrite it by combining sentences, where appropriate, to make the passage more effective.

Directions

1. Getting Started
Introduce the activity by reviewing compound and complex sentences. To show the differences between the two, you may want to write the following sentences on the board (or use your own sentences): Mario went to school. Mario went to basketball practice.

   Ask students how they could combine these two sentences into a compound sentence. A student might volunteer, Mario went to school, and then he went to basketball practice. Write appropriate responses on the board.

   Then ask students how they could combine the following sentences to make a complex sentence. George put the book in his backpack. George’s sister had given him the book.

   A student might volunteer, George put the book his sister had given him into his backpack. Remind students of the rules for using commas in compound and complex sentences.

2. Worksheet
Distribute copies of the worksheet. Explain that students will read a “press release” about a new Hollywood star, and then rewrite it on another piece of paper by combining sentences to make the passage more effective.

3. Discuss
Have a volunteer read the passage aloud. Then use the second, third, and fourth sentences to model sentence combinations. Point out the use of correct punctuation and conjunction. Ask students to rewrite the passage by combining sentences where appropriate. Encourage them to use all four kinds of sentences, if possible—statements, questions, exclamations, and commands.

4. Conclude Activity
Have a volunteer read his or her version of the first paragraph of the “press release” to the rest of the class. Then continue by having volunteers read versions of the second and third paragraphs. Ask students to compare the different versions of each paragraph, and decide which new sentence combinations are most effective.

Variation

Basic
On the board, write pairs of short sentences from the passage. Have student volunteers combine the two sentences to make a longer, more effective sentence.

Advanced
Ask students to create their own paragraphs of very short sentences. Have students exchange paragraphs and combine the sentences to make more effective paragraphs.
A Star Is Born–Worksheet

Directions: Read the “press release” below. Decide which sentences to combine to create compound and/or complex sentences. Then rewrite the press release on a separate sheet of paper.

A Star Is Born

The biggest movie star of the year is named Jo. You probably haven’t heard of her. By the end of the year you will hear of her. You will probably hear of her more than you care to. What is Jo’s claim to fame you might ask. How can I be sure she will be the “biggest movie star”?

Jo is a 400-pound Galápagos tortoise, *Geochelone elephantopus*. She is the main character of the film *Landlubber*. It is soon to be released. Its human stars are teen favorite Ashley Kate Nielson, former child star Wendy Wendie, and character actor John Longtooth. Jo steals the show. Jo doesn’t know she’s acting. She’s just doing what comes naturally. That is, moving very slowly.

The story is not a new one. It is basically a girl-saves-critter weepie. Why does Jo need saving? What lies ahead for her if she is saved? Ashley Kate’s movie father wants to take Jo back to his wildlife farm. He also wants to take other local fauna. Ashley Kate knows it’s not illegal. She knows he has the blessing of the government. She realizes that everyone thinks it’s for the best. She knows that her father is running a special breeding program. Still, she cannot help but feel sorry for Jo. Jo will never see her native land again.

I won’t spoil the ending for you. Maybe you have seen other movies by director Paul Murchison. If so, you will know what happens before you even take your seat.

I asked Ashley Kate’s mother how her daughter liked working with Jo. “Nothing interferes with Ashley Kate’s professionalism,” she said. “That goes for turtles, lizards, and birds.” It doesn’t look as if Ashley Kate interferes with Jo either. Jo just goes on. Jo just does what comes naturally.

1 How did you decide which sentences to combine? Write at least two or three complete sentences to explain.
Lewis and Clark

Purpose: Students identify sentences irrelevant to a paragraph’s theme.

Objective 08: Writing Strategies
Thinking Skill: Analyze Information

Description: Students read a passage and cross out the irrelevant information in each paragraph.

Materials: overhead projector (optional)

Directions

1. Getting Started: Explain that students will read a passage about Lewis and Clark. After reading the passage, they will look at each paragraph to find sentences that are not relevant. Explain that an irrelevant sentence does not support the topic of the paragraph.

2. Discuss: To help students review the concept, write the following paragraph on the board or display it on an overhead projector:

   President Jefferson made the Louisiana Purchase in 1803. Baseball was not a popular sport in 1803. The United States bought the land from France for fifteen million dollars. The land made up about a third of the area of the continental United States. Today, New Orleans is the capital of Louisiana.

   Ask students to identify the sentences that are not relevant. (Students should identify the second and last sentences in the paragraph.)

3. Worksheet: Distribute copies of the worksheet. Have volunteers read each paragraph. Then ask students to find the sentences that are not relevant and cross them out.

   Ask a volunteer to identify the sentences that he or she crossed out in the first paragraph. Then ask other students to identify the irrelevant sentences in the second and third paragraphs.

4. Conclude Activity: Have a volunteer read the revised passage aloud.

Variation

Basic: Have students work as a group to find the irrelevant sentences in one paragraph. Discuss with students why each sentence in the first paragraph does or does not support the topic.

Advanced: Ask students to write their own paragraphs that contain irrelevant information on a topic of their choice. Invite students to exchange paragraphs and cross out the irrelevant sentences.
Lewis and Clark—Worksheet

Directions: Read each paragraph in the passage below. Identify and cross out the sentences in each paragraph that are not relevant—that do not support the topic.

Lewis and Clark

In 1803, President Thomas Jefferson asked Meriwether Lewis to lead an expedition across the West. The trip would start in St. Louis, in the vast, newly acquired Louisiana Territory. Jefferson had bought Louisiana from Napoleon, who would soon be crowned Emperor of France. One purpose of the expedition was to find a water route from the Missouri River all the way to the Pacific Ocean. With this water route, traders would not have to sail around the continent of South America to get from east to west. At that time, South America was not yet independent from Spain. Also, the president wanted Lewis to make maps of the region and make friendly contact with Native American tribes. In addition, he wanted Lewis to document the wildlife found in the region. Lewis recruited his friend William Clark to help him lead the expedition. Both Lewis and Clark were very poor spellers.

President Jefferson believed that there might be mammoths, giants, and llamas living in the unexplored West. He also believed that there was a large mountain made of salt. Jefferson had been inaugurated president in 1801.

Lewis and Clark helped scientists gain a more realistic picture of the West. Unfortunately, they couldn’t take pictures with a camera, because it hadn’t been invented yet. Lewis and Clark did find many animals and plants that were new to scientists. These included the sage grouse, the bighorn sheep, prairie dogs, and bitterroot.

Lewis and Clark made contact with Native Americans of many different tribes, who helped them to find their way to the Pacific Ocean. One day, the United States would stretch all the way to the Pacific Ocean. A young Shoshoni woman named Sacajawea was particularly helpful. When her husband was hired as an interpreter, she joined the expedition along with her infant son. Sacajawea helped Lewis and Clark communicate with the Shoshoni. Lewis and Clark needed the help of Sacajawea and her husband to get horses for their trip west. During the expedition, they sometimes ate dried meat. There was another way in which Sacajawea contributed to the success of the expedition. When other Native Americans saw her with her small son, they were less likely to fear that the expedition was a war party. Only men, they believed, made war. So Lewis and Clark were able to accomplish their mission without creating ill will among the people they met.
Topics for Me

Purpose
Students practice writing supporting sentences that develop a topic sentence.

Objective 08: Writing Strategies  Thinking Skill: Generate Ideas

Description
Students write sentences to support three different topic sentences. Then they analyze each other’s work and determine whether or not their sentences support the given topic.

Directions

1. **Getting Started**  Explain that a topic sentence tells the main idea in a paragraph. The rest of the sentences in the paragraph, the supporting sentences, tell more about the main idea. (To review paragraphs containing sentences that do not support the main idea in the paragraph, use the passage from Activity 10, “Lewis and Clark.”) Tell students that they will create three paragraphs by writing sentences to support three different topic sentences. Each paragraph should express one main idea.

2. **Discuss**  Before students begin individual work, introduce and review ways of developing supporting sentences for a given topic. Write the following topic sentence on the board: *Our class is good at many things.* Have students offer sentences that support the topic. Possibilities might include the following: *We are good at working together. We are good at following instructions. We are good at raising money.* Discuss whether or not the suggested sentences actually support the topic.

   For further modeling, write the following sentence on the board: *Our class does one thing best of all.* Suggest that for this topic sentence, supporting sentences might first name an activity at which the class excels, and then give appropriate details. Also, give examples that are not supporting sentences, such as: *The other day, we had an interesting social studies lesson that we all enjoyed.*

3. **Worksheet**  Distribute copies of the worksheet. Ask students to work individually, writing at least three supporting sentences for each topic sentence.

4. **Conclude Activity**  Have students work in pairs. Ask them to exchange worksheets with their partners and critique each other’s work to determine whether or not the sentences support the main idea. Have students review their comments together.

Variation

**Basic**  Have each student write only one supporting sentence for each topic. Then work as a group to review each student’s work.

**Advanced**  Have students each write a topic sentence of their own choosing. Then have them exchange sentences with a partner. Each student should write three sentences that support the partner’s topic sentence. Have partners discuss their sentences.
Topics for Me–Worksheet

Directions: Write three complete supporting sentences for each of the topic sentences below.

1. Winter offers many outdoor pleasures, no matter where you live.
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

2. If you find washing a car to be a boring task, here’s how to make it more interesting.
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

3. If you’ve ever been stuck waiting somewhere for a long time with nothing to do, you know how important it is to plan ahead.
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

4. Which of the three topics did you most enjoy writing about? Write at least two or three complete sentences in your answer.
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
**Amazing A-Ville**

**Purpose**
Students practice identifying and correcting errors in existing text.

**Objective 09:** Editing Skills  
**Thinking Skill:** Analyze Information

**Description**
Students read a passage and correct mistakes in the use of adverbs, adjectives, and verb tense.

**Directions**

1. **Getting Started**
   Remind students that adjectives are words that give more information about nouns. Write the following examples on the board: a *kind* girl, a *loyal* dog, a *happy* family. Adverbs, on the other hand, are words that give more information about verbs. Write the following examples on the board: She spoke *kindly*, he behaved *loyally*, the family traveled *happily*. Review the fact that adverbs often end in *ly*. Point out some adverbs that do not (e.g., *well*, *often*, *fast*).

2. **Discuss**
   Briefly discuss verb tenses with students. Write the following sentence on the board: *We went to the store and get apples*. Ask students to identify the problem with this sentence. Explain that in good writing, verb tenses usually convey the sense of a time framework. If actions occur simultaneously, they need the same tenses. If an action occurs before or after another, the verbs need to indicate the proper use of the past tense.

3. **Worksheet**
   Distribute copies of the worksheet. Explain to students that they will read a passage and correct any errors they find. These errors will involve adverbs, adjectives, and verb tense. (There may be several ways to correct some of the errors.)

4. **Conclude Activity**
   When all the students have finished the assignment, ask for volunteers to read, or write on the board, each corrected sentence. Review the corrections with the class.

**Variation**

- **Basic**
  Ask students to work as a group, reading aloud each sentence in the passage and discussing possible errors and corrections. Have students write corrected sentences on the board.

- **Advanced**
  Have each student write a paragraph about his or her favorite band and then exchange the paragraph with a partner. Have students proofread each other’s work.
Amazing A-Ville–Worksheet

Directions: Read the passage below. Cross out each error that you find, and write the correct word or words above it. Look for errors in the use of adverbs, adjectives, and verb tense.

Amazing A-Ville

Do you know which amazing band came to your hometown tomorrow night?

It’s A-Ville, the best band in the entirely country! A-Ville is not just any band. They won a TV contest of today’s most popular bands. Why did they won? They have great looks, tons of talent, and a lot of catchy tunes. Lead singer Brad says his greatly band will have stayed on top for a good reason—they work more hard than any other band.

Drummer Bingo Moon says he’s never have a better time doing anything else. Bingo says that he loves the young fans who screamed at concerts. He is happy to have them cheered him at any time.

1 Write four or five sentences about your own favorite band. Reread the sentences to find any errors in the use of adverbs, adjectives, and verb tense. Rewrite the sentences if necessary.

_________________________________________________________________________

_________________________________________________________________________

_________________________________________________________________________

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### Mathematics

<table>
<thead>
<tr>
<th>Activity Number and Title</th>
<th>TerraNova, The Second Edition Objective Number and Title</th>
<th>Activity Worksheet</th>
<th>Activity Page Number</th>
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<tbody>
<tr>
<td>1 The Great Jump-Off</td>
<td>10 Number and Number Relations</td>
<td>X</td>
<td>7.44</td>
</tr>
<tr>
<td>2 Flavorful Proportions</td>
<td>10 Number and Number Relations</td>
<td>X</td>
<td>7.46</td>
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<tr>
<td>3 Appearing Tonight</td>
<td>11 Computation and Numerical Estimation</td>
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<td>12 Operation Concepts</td>
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<td>5 Spring Planting</td>
<td>13 Measurement</td>
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<td>6 Bird Watching</td>
<td>14 Geometry and Spatial Sense</td>
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<td>7 Shaping Up</td>
<td>14 Geometry and Spatial Sense</td>
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<td>8 Rolling, Rolling, Rolling</td>
<td>15 Data Analysis, Statistics, and Probability</td>
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<td>9 Poll Position</td>
<td>15 Data Analysis, Statistics, and Probability</td>
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<td>7.64</td>
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<td>10 All Aboard!</td>
<td>16 Patterns, Functions, Algebra</td>
<td>X</td>
<td>7.66</td>
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<tr>
<td>11 Lost Treasure</td>
<td>17 Problem Solving and Reasoning</td>
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<tr>
<td>12 Big Dog Drive-In</td>
<td>17 Problem Solving and Reasoning</td>
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</table>

**Answers to Student Worksheets**

7.124
The Great Jump-Off

Purpose
In this activity, students review how to compare and rank numbers in decimal and fractional forms.

Objective 10: Number and Number Relations  Thinking Skill: Analyze Information

Description
Students use data in fractional and decimal forms to compare and rank the jumping abilities of a group of frogs.

Materials
scratch paper (optional)

Directions

1. **Getting Started**  Hand out copies of the worksheet. Then read the following aloud to the students:

   The best jumping frogs in Caldwell County are competing in The Great Jump-Off. Unfortunately, the jumping measurements have arrived in a variety of forms—fractional, decimal, and feet and inches. Your job is to make sense of this data.

2. **Direct Instruction**  Read the first question on the worksheet to the class. Ask students what they need to do in order to compare the other frogs’ distances with Lucky Lefty’s distance. If necessary, point out that they need to work in the same number form—decimal, fractional, or feet and inches—in order to make comparisons.

3. **Whole Class Activity**  Have each student decide on one number form into which he or she will convert all the distances shown in the worksheet table. Then have the students compute the distances in that form. Have students check their work by filling in all the missing boxes in the table. Then have students answer the questions.

4. **Conclude Activity**  Ask students the following question:

   * Can you think of any other situations in which you might need to convert decimals to fractions or fractions to decimals? Explain.

Variation

**Basic**  Review the process by which we convert fractions to decimals and decimals to fractions. Help students convert the measurements shown in the table by pointing out that 12 inches will always be the denominator.

**Advanced**  Have students measure a broad jump area in feet and inches. Then have pairs of students take turns jumping and recording each other’s distances in three trials of both standing and running broad jumps. Have students record their partner’s distances and convert the distances to decimal and fractional forms.
The Great Jump-Off—Worksheet

Directions: The best jumping frogs in Caldwell County are competing in The Great Jump-Off. Unfortunately, the jumping measurements have arrived in a variety of forms—fractional, decimal, and feet and inches. Your job is to make sense of this data.

### Jump-Off Distances

<table>
<thead>
<tr>
<th>Rank</th>
<th>Frog’s Name</th>
<th>Distance Jumped (feet and inches)</th>
<th>Distance Jumped (decimal)</th>
<th>Distance Jumped (fractional)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lucky Lefty</td>
<td>19 feet 9 inches</td>
<td></td>
<td>19 3/8 feet</td>
</tr>
<tr>
<td></td>
<td>Doris the Magnificent</td>
<td>19 feet 9 inches</td>
<td></td>
<td>19 3/8 feet</td>
</tr>
<tr>
<td></td>
<td>Mean Green Machine</td>
<td></td>
<td></td>
<td>19 2/3 feet</td>
</tr>
<tr>
<td></td>
<td>Ribbet Z</td>
<td></td>
<td></td>
<td>19 1/8 feet</td>
</tr>
<tr>
<td></td>
<td>Big Boy</td>
<td></td>
<td>19.375 feet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Hop-along Cassidy</td>
<td></td>
<td>19 1/3 feet</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Mighty Toad</td>
<td></td>
<td>19.4 feet</td>
<td></td>
</tr>
</tbody>
</table>

1. Which frog(s) jumped the same distance as Lucky Lefty?

2. Which frog(s) jumped farther than Lucky Lefty?

3. Which frog(s) jumped farther than Hop-along Cassidy? Name the frog(s).

4. Which frog jumped farther—Ribbet Z or Hop-along Cassidy? how much farther?

5. Which frogs jumped less than 19 3/8 feet? Rank these frogs in order from greatest to least.

6. In the first column of the table, rank the frogs in order of the distance they jumped, from greatest to least.
ACTIVITY 2

Flavorful Proportions

Purpose
In this activity, students use ratios and proportions to solve problems involving the ingredients in chocolate chip cookie recipes.

Objective 10: Number and Number Relations Thinking Skill: Evaluate Outcomes

Description
Students use the data for two different chocolate chip cookie recipes to solve problems involving how many cookies they can make from each one.

Materials
scratch paper (optional)

Directions

1. Getting Started
   Hand out copies of the worksheet.

2. Direct Instruction
   Point out that different recipes for the same kind of food sometimes call for ingredients in different proportions. The different proportions of ingredients in a chocolate chip cookie recipe, for example, will result in a drier cookie or one that is more moist. Proportions are also important in recipes when a cook has to make more of a recipe than is called for (for instance, double or triple amounts), or when a cook has to decide how much can be made from ingredients on hand.

3. Whole Class Activity
   Have students work together to answer the questions on the worksheet. Then review the answers in class, having students show how they set up their proportions to find the answers.

4. Conclude Activity
   Ask students the following questions:
   • Which recipe has more chocolate chips in each cookie? How do you know?

Variation

Basic
Define a proportion as two equal ratios. Have students work in pairs. Have each student set up several proportions in which his or her partner solves for an unknown, such as: \( \frac{5}{3} = \frac{x}{6} \). Have students check each other’s answers.

Advanced
For each recipe, have students figure out how much of each ingredient they would need to make enough cookies so that every student in the school would be able to eat one cookie.
Flavorful Proportions—Worksheet

Directions: Study the recipes and then answer the questions.

**Recipe A**

Makes about 60 cookies

- \(\frac{1}{2}\) cup shortening
- \(\frac{1}{2}\) cup butter
- \(\frac{1}{2}\) cup white sugar
- 1 cup brown sugar
- \(\frac{1}{2}\) teaspoon baking soda
- 1 teaspoon cinnamon
- \(\frac{1}{2}\) teaspoon salt
- 2 eggs
- 1 teaspoon vanilla
- 2 cups flour
- 2 cups chocolate chips
- 1 cup walnuts

**Recipe B**

Makes about 45 cookies

- \(\frac{1}{2}\) cup butter
- \(\frac{1}{2}\) cup white sugar
- \(\frac{1}{2}\) cup brown sugar
- 1 egg
- \(\frac{1}{4}\) cup milk
- 1 teaspoon vanilla
- 1 \(\frac{1}{4}\) cups flour
- \(\frac{1}{2}\) teaspoon baking soda
- \(\frac{1}{2}\) cup walnuts
- \(\frac{1}{2}\) cup chocolate chips

1. If you have 10 cups of flour and use Recipe A, how many batches of cookies can you make? If you have 10 cups of flour, how many batches of Recipe B can you make?

2. If you have 9 eggs and use Recipe A, how many batches of cookies can you make? If you have 9 eggs, how many batches of Recipe B can you make?

3. If you have \(7\frac{1}{2}\) cups of flour and use Recipe A, how many cups of chocolate chips will you need?
If you have $3\frac{1}{2}$ cups of brown sugar and use Recipe A, how many cups of flour will you need?

If you have 7 cups of flour and use Recipe B, how many cups of milk will you need?

If you have 4 cups of white sugar and use Recipe B, how many cups of flour will you need?
Appearing Tonight

Purpose
In this activity, students use computation in a real-life context to solve problems that require making strategic decisions.

Objective 11: Computation and Numerical Estimation

Thinking Skills: Evaluate Outcomes; Analyze Information

Description
Students make calculations that compare and contrast the terms of three options to determine how to make the best possible business decisions.

Materials
scratch paper (optional)

Directions
1. Getting Started
Hand out copies of the worksheet. Then read aloud the following information:

Stephanie’s band is putting on a concert at the Old Town Theater. Ms. Lowell, the owner of the theater, has offered the band three different options for payment. The theater can seat 300. Tickets will cost $5.00.

Option 1: The band keeps $2.00 from the sale of each ticket.

Option 2: The band gets nothing from the first 100 tickets sold. After that, they earn $4.00 from the sale of each ticket.

Option 3: The band receives a payment of $300.

2. Direct Instruction
Have students distinguish between the terms of the options. Stress that in Option 1, the band gets $2.00 from every ticket sold. In Option 2, they begin to earn money only after 100 tickets are sold.

3. Whole Class Activity
Have students work the answers to the problems. Then have students share their answers and explain how they arrived at their solutions.

4. Conclude Activity
Ask students the following questions:
• Why do you think Ms. Lowell offered more than one option?
• What were the advantages and disadvantages of each one?

Variation

Basic
Review operations with decimals. Remind students to pay special attention to the placement of the decimal point in the product when multiplying.

Advanced
Have students devise their own options and determine the circumstances in which each option would be advantageous. For example, you might ask students the following questions:
• What other arrangements could be made if the concert ran two nights?
• Which of those arrangements would be most likely to make money for the theater owner? for the band?
Appearing Tonight–Worksheet

Directions: Read the information below and answer the questions.

Stephanie’s band is putting on a concert at the Old Town Theater. Ms. Lowell, the owner of the theater, has offered the band three different options for payment. The theater can seat 300. Tickets will cost $5.00.

Option 1: The band keeps $2.00 from the sale of each ticket.
Option 2: The band gets nothing from the first 100 tickets sold. After that, they earn $4.00 from the sale of each ticket.
Option 3: The band receives a payment of $300.

1. For how many tickets would the band receive the same amount of money from Option 1 and Option 3?

2. For how many tickets would the band receive the same amount of money from Option 2 and Option 3?

3. For how many tickets would the band receive the same amount of money from Option 1 and Option 2?

4. Which option is best for the band if 180 tickets are sold? How much more money will the band earn with that option than with the other options?

5. Which option is best for the band if 200 tickets are sold? How much more money will the band earn with that option than with the other options?

6. Which option is best if 300 tickets are sold? How much more money will the band earn with that option than with the other options?
If 125 tickets are sold, how much money will the band gain or lose by choosing Option 2 instead of Option 1? by choosing Option 3 instead of Option 1?

How many tickets need to be sold so that the band makes more money by choosing Option 1 instead of Option 3?

How many tickets need to be sold so that the band makes more money by choosing Option 2 instead of Option 3?
By the Numbers

**Purpose**
In this activity, students play an integer game that uses the four basic operations—addition, subtraction, multiplication, and division.

**Objective 12:** Operation Concepts

**Thinking Skills:** Generate Ideas; Synthesize Elements

**Description**
Students cut apart integer playing cards from an activity sheet and then play a game in groups of four.

**Materials**
scissors

**Directions**

1. **Getting Started**
   Have students form groups of four. Give each group a copy of the worksheet.

2. **Whole Class Activity**
   Have each group cut out the cards on the worksheet and turn them face down on the table. (For longer-lasting cards, students can paste them to pieces of cardboard cut the same size.) Each student should receive 9 cards dealt at random. Each student places a card face up. The group will then make the largest number possible by performing the operations indicated on the cards: For example, a group draws +4, −1, +1, and ×3; the largest number possible is +4 × 3 + 1 − 1 = 12. Multiplication and division signs on cards that are used first should be ignored (e.g., in the following combination, ×9 ÷ 3 − 4 + 2, the multiplication sign is ignored). Students must follow the order of operations.

3. **Conclude Activity**
   Ask students the following questions:
   - What is the highest number you can have in a round?
   - What is the lowest?
   - What are the highest and lowest possible numbers, if you have one card with each operation?
   - What is the lowest possible positive number?

**Variation**

- **Basic**
  Review basic operations and order of operations.

- **Advanced**
  Have groups play a version in which they find the lowest possible number.
## By the Numbers–Worksheet

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</tbody>
</table>
Spring Planting

Purpose
In this activity, students explore the relationship between length and area.

Objective 13: Measurement  Thinking Skills: Organize Information; Synthesize Elements

Description
Students use both visual and mathematical reasoning to solve problems and discover relationships.

Materials
colored pencils, pens, or crayons (optional)

Directions
1. Getting Started
   Hand out copies of the worksheet. Read aloud the following to the students:

   Ms. Wilson has a garden that is 6 feet long and 8 feet wide. She uses 1 bag of fertilizer on the garden every year. This year, Ms. Wilson plans to double the length and width of her garden. Ms. Gilmour, the nursery owner, tells Ms. Wilson that she will need 4 bags of fertilizer. Ms. Wilson says that she will need only 2 bags. Who is correct?

2. Direct Instruction
   Have students vote on their choice and tally the results on the board. Ask for volunteers to explain their reasoning. Write the reasons on the board.

3. Whole Class Activity
   Have students answer the questions on the worksheet. When students have finished, go over the answers, making sure students understand why doubling the length and width quadruples the area.

4. Conclude Activity
   Ask students the following questions:
   • What would happen to the area of the garden if Ms. Wilson decided to triple the length and width?
   • What would happen if she quadrupled the area?

Variation

Basic
   Review the definition of area. Show how a single square unit is used to measure area. Show students how the area of a rectangle can be computed by multiplying length by width. Make sure that students understand that area must be expressed in square units.

Advanced
   Extend the situation to three-dimensional volume, comparing the volumes of a 1-foot cube and a 2-foot cube. Show students that the second cube has 8 times as much volume as the first cube.
Ms. Wilson has a garden that is 6 feet long and 8 feet wide. She uses 1 bag of fertilizer on the garden every year. This year, Ms. Wilson plans to double the length and width of her garden. Ms. Gilmour, the nursery owner, tells Ms. Wilson that she will need 4 bags of fertilizer. Ms. Wilson says that she will need only 2 bags. Who is correct?

1. Starting at the upper left corner of the grid below, shade a 6- by 8-foot rectangle to represent Ms. Wilson’s current garden. What is the area of the garden? (Each square is 1 foot per side.)

2. Starting at the upper left corner of the grid below, shade a 12- by 16-foot rectangle to represent Ms. Wilson’s planned garden. What is the area of the garden?
Spring Planting–Worksheet (continued)

3. Is the area of the 12- by 16-foot garden twice the area of the 6- by 8-foot garden? On the lines below, explain why or why not.

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

4. How many bags of fertilizer will Ms. Wilson need? Explain your answer on the lines below.

__________________________________________________________________________
__________________________________________________________________________
__________________________________________________________________________

5. What could be the length and width of a garden with an area two times larger than a 6- by 8-foot garden?

__________________________________________________________________________

6. Compare the areas of a 4- by 2-foot rectangle, and a “double” rectangle that measures 8 feet by 4 feet. What is the ratio of the larger rectangle to the smaller rectangle?

__________________________________________________________________________
**Activity 6**

**Bird Watching**

**Purpose**
In this activity, students review measuring angles.

**Objective 14**: Geometry and Spatial Sense  
**Thinking Skill**: Gather Information

**Description**
Students use a protractor to measure angles and locate objects on a grid.

**Materials**
protractors, overhead transparency of worksheet (optional), transparency of protractor (optional), rulers (optional)

**Directions**

1. **Getting Started**
   Hand out protractors and copies of the worksheet.

2. **Direct Instruction**
   Demonstrate how to measure angles by aligning the bottom edge of the protractor with the vertical (north-south) lines on the grid. Show that 0 should always point north.

3. **Whole Class Activity**
   Go over question 1 with students. Have students complete the worksheet. Review students’ measurements and solutions.

4. **Conclude Activity**
   Ask students the following question:  
   - If you don’t have a protractor, how can you approximate the measures of angles?

**Variation**

**Basic**
Review how to measure angles with a protractor. If necessary, review the concepts of directions on a map.

**Advanced**
Have students work in pairs. Students draw their own diagrams on graph paper and measure each other’s diagrams.
Bird Watching–Worksheet

Directions: Corey is visiting a bald eagle sanctuary. He is tracking the daily movements of 3 eagles—Alice, Chloe, and Franklin. Use a protractor and the map to answer the questions below.

1. Corey is standing at point 1, facing north. How many degrees east should he look to find Alice?

2. At what angle and in what direction can Corey find Chloe?

3. At what angle and in what direction can Corey find Franklin?
At 10 A.M., Chloe flew to point A, out of Corey's view. Corey moved to point 2. At what angle and in what direction can Corey now find Chloe?

At what angle and in what direction should Corey look to find Alice?

At what angle and in what direction should Corey look to find Franklin?

At 1 P.M., Alice flew to point B. Corey moved east in order to be able to see all three eagles. On the grid, mark the grid corner to which Corey moved. Label it point 3.

At what angle and in what direction should Corey now look to find Alice?

At what angle and in what direction should Corey look to find Chloe?

At what angle and in what direction should Corey look to find Franklin?
Shaping Up

Purpose
In this activity, students explore how a polygon may contain many different shapes.

Objective 14: Geometry and Spatial Sense  Thinking Skill: Organize Information

Description
Students find a variety of polygons embedded in a single figure.

Materials
colored pencils or crayons

Directions

1. **Getting Started**  Have students work in groups of 2 to 4. Hand out a copy of the worksheet to each student.

2. **Direct Instruction**  Display the figure from the worksheet on an overhead projector, or draw it on the board. Ask students for definitions of the following: *square*, *triangle*, *rectangle*, *quadrilateral*, *pentagon*, and *hexagon*. Show students why FBGCE is not a polygon. Remind students that shapes are typically named by listing their vertices in order.

3. **Whole Class Activity**  Have the students work together to answer all the questions on the worksheet. When they have finished answering the questions, have students share their answers.

4. **Conclude Activity**  Ask students the following questions:
   - What strategies did you use to find shapes?
   - Were all the quadrilaterals congruent?
   - Should rectangles and squares be the same color? Why?

Variation

**Basic**  If necessary, review the names and properties of various polygons, including *triangles*, *rectangles and other quadrilaterals*, *pentagons*, and *hexagons*. Explain how to identify each figure, using the letters that correspond to its vertices.

**Advanced**  Have students draw figures of their own that are similar to the one on the worksheet. Then have students exchange drawings and try to find how many of each polygon the figure contains.
Shaping Up–Worksheet

Directions: Use the figure below to answer the questions.

1. Trace each of the following polygons that appear in the figure. Use a different color for each polygon.
   - triangle
   - pentagon
   - rectangle
   - hexagon
   - other quadrilaterals

2. How many different triangles can you find in this figure? Use letters to name each triangle.
   ____________________________________________
   ____________________________________________
   ____________________________________________

3. Which triangles are congruent to triangle ABF?
   ____________________________________________
   ____________________________________________

4. How many different rectangles and squares can you find? Name them.
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________

5. How many quadrilaterals can you find that are not rectangles or squares? Name them.
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________

6. How many pentagons can you find? Name them.
   ____________________________________________
Rolling, Rolling, Rolling

**Purpose**
In this activity, students use number cubes to develop graphic displays of the probability of number combinations.

**Objective 15:** Data Analysis, Statistics, and Probability

**Thinking Skills:** Organize Information; Evaluate Outcomes

**Description**
Pairs of students roll two number cubes and record the results over a number of throws. They choose a graphic form with which to display their findings and present them to the class.

**Materials**
number cubes, overhead transparency of worksheet (optional)

**Directions**

1. **Getting Started**
   Have students work in pairs. Hand out two number cubes and a copy of the worksheet to each pair of students.

2. **Direct Instruction**
   Discuss with the class the different combinations possible when rolling a pair of number cubes. Make sure students record the sum of the number cubes, not the numbers on each cube.

3. **Whole Class Activity**
   Have students roll the cubes 10 times and record the results in the first column on their tally sheet. The students in each pair can take turns being the *roller* and the *recorder*. Have students record the results of the next 15 rolls in the second column on their tally sheet. Have students record the results of the next 25 rolls in the third column on their tally sheet. Students then construct a bar graph based on their display. Have students compare their results for 10 rolls as a class. Repeat for 25 and 50 rolls. What are the similarities? the differences?

4. **Conclude Activity**
   Ask students the following questions:
   - Are 10 rolls enough to use as a sample to show probability?
   - What about 25? 50?
   - How many rolls do you think would result in a good sample?

**Variation**

**Basic**
Review the combinations that are possible when rolling two number cubes. Help students make a list of the combinations they will use in this activity.

**Advanced**
Have pairs of students work with just one number cube. Aside from the obvious—no combinations or higher numbers—ask students if there are any differences between the spread of results for one cube and two cubes. Have students explain any differences.
Rolling, Rolling, Rolling – Worksheet

**Directions:** Use this page as a tally sheet to record the results of your rolls.

<table>
<thead>
<tr>
<th>Result</th>
<th>Rolls 1–10</th>
<th>Rolls 11–25</th>
<th>Rolls 26–50</th>
<th>Total</th>
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</tbody>
</table>

On the grid below, construct a bar graph using the information from the “Total” column above.
Poll Position

Purpose
In this activity, students make predictions and draw conclusions from data they collect from polling.

Objective 15: Data Analysis, Statistics, and Probability

Thinking Skills: Gather Information; Synthesize Elements

Description
Students answer questions about things they like. They make predictions based on the combined answers of the class. Then they examine the actual data and draw conclusions.

Materials
graph paper, overhead transparency of worksheet (optional)

Directions
1. Getting Started
   Hand out graph paper and copies of the worksheet. Have students answer the questions for Survey 1 only.

2. Direct Instruction
   Have students raise their hands to indicate how they voted on each question. Tally the votes on the board or on an overhead transparency. Ask students how else each question could have been written and how it would have affected students' responses. Ask students how including “None of the above” as an answer choice would affect the outcome.

3. Whole Class Activity
   Have students answer the questions for Survey 2. Emphasize that they may write any answers to the questions. Tally votes as in Survey 1. Have students graph the results for one pair of corresponding questions from Survey 1 and Survey 2. Discuss the differences between the two responses to the two questions.

4. Conclude Activity
   Ask students the following question:
   * In what situations do the results of surveys influence decisions?

Variation

Basic
   Review the conventions for making bar graphs. Help students understand how to choose units and how to label graphs so that information is immediately readable.

Advanced
   Have students explain how to use other methods of presenting data, such as tables, circle graphs, etc.
Name

Poll Position–Worksheet

Survey 1

Directions: For each question, mark your choice with an X.

1. Which of these colors do you prefer?
   - blue
   - green
   - red
   - yellow

Survey 2

Directions: For each question, write your answer on the line.

1. What is your favorite color?

2. Which of these pizza toppings do you prefer?
   - cheese only
   - mushrooms
   - pepperoni
   - sausage

2. What is your favorite pizza topping?

3. Which of these types of music do you prefer?
   - country
   - pop
   - rap
   - rock

3. What is your favorite type of music?

4. Which of these sports do you prefer to play?
   - baseball
   - basketball
   - football
   - soccer

4. What is your favorite sport to play?
All Aboard!

Purpose
In this activity, students solve problems using inequalities.

Objective 16: Patterns, Functions, Algebra  Thinking Skill: Organize Information

Description
Students use algebraic number lines to solve inequality problems involving train connections at a busy junction.

Directions
1. Getting Started  Hand out copies of the worksheet.
2. Direct Instruction  Draw an unmarked number line on the board. Have a volunteer show how to use it to graph time in minutes. Have the student select and mark an “on-time” or “target” time on the far-left side of the graph, and then add times in one-minute intervals to the right.
3. Whole Class Activity  Have students work in pairs to complete the worksheets.
4. Conclude Activity  Ask students the following questions:
   - Do you see any problem with announcing that a train is on time if it is nearly 6 minutes late?
   - Why do you think the railroad chose 5 minutes as a cutoff time?

Variation

Basic  Review the concept of a number line and how it is used. Remind students that the points that are between two whole numbers represent mixed numbers or mixed decimals. Remind students that an inequality consists of terms that are not equal.

Advanced  Have students solve inequalities in which the symbols and numbers are reversed, such as $6 > x$. Have students graph compound inequalities (such as $x < 5$ and $x > 3$) on a number line.
All Aboard!–Worksheet

Directions: The following timetable for the Tri-County Railroad shows the times when each of five trains is due to leave Jacksonville. A train is considered to be on time if it arrives or leaves within 5 minutes after its scheduled time. On each of the number lines below, graph the possible times that each train can arrive at Jacksonville and still be on time. When you have finished, answer the questions on the next page.

### Tri-County Railroad

<table>
<thead>
<tr>
<th>Train</th>
<th>Arrival Time</th>
<th>Departure Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port Buchanan</td>
<td>7:55 A.M.</td>
<td>7:58 A.M.</td>
</tr>
<tr>
<td>Oak Hills</td>
<td>7:57 A.M.</td>
<td>8:00 A.M.</td>
</tr>
<tr>
<td>Mid-Valley</td>
<td>8:00 A.M.</td>
<td>8:03 A.M.</td>
</tr>
<tr>
<td>Lewiston</td>
<td>8:01 A.M.</td>
<td>8:04 A.M.</td>
</tr>
<tr>
<td>Jamesburg</td>
<td>8:04 A.M.</td>
<td>8:07 A.M.</td>
</tr>
</tbody>
</table>

![Number Line Diagrams](attachment:image.png)
All Aboard! Worksheet (continued)

1. Write an inequality that shows the time \( t \) that the Oak Hills train can arrive at Jacksonville and still be on time.

2. Write an inequality that shows the time \( t \) that the Oak Hills train can arrive so that passengers can change to a Port Buchanan train that leaves at its scheduled time. Allow one minute for passengers to change trains.

3. Write an inequality that shows why passengers cannot change between a Jamesburg train that arrives at exactly 8:04 and an on-time Port Buchanan train \( (P) \). Allow one minute for passengers to change trains.

4. Which two trains have the largest overlapping on-time period?

5. If all the trains are running on time, which trains have scheduled arrival times that allow passengers to transfer to any other train?
Lost Treasure

Purpose  In this activity, students use proportional reasoning to solve spatial problems on a map.

Objective 17: Problem Solving and Reasoning  Thinking Skill: Analyze Information

Description  Students are given a treasure map. They must use the scale drawing to find the true measurements in order to locate the treasure.

Materials  rulers

Directions

1. **Getting Started**  Hand out copies of the worksheets. Then read the following paragraph aloud to the students.

   Professor Witherspoon has discovered a map showing the location of lost pirate treasure. Before the professor hunts for the treasure, he first plans to locate the spot on the map where the treasure is buried. Use the directions and the key to locate the treasure on the map below.

2. **Direct Instruction**  Demonstrate the first clue on the board for the class. Students should place their pencils at the tip of Lookout Point and measure 1 inch straight down on the map and mark that point.

3. **Whole Class Activity**  Have the students follow the rest of the clues. Tell students that they can check their steps as they go, by seeing whether they land in the ocean or off the map.

4. **Conclude Activity**  Ask students the following questions:
   - If you make a mistake on the first clue, would it be possible to locate the treasure?
   - What if you make a mistake on the fourth clue? on any clue?

Variation

**Basic**  Review map directions, scale, and solving proportions.

**Advanced**  Have students make their own treasure maps, using a scale and a set of clues that they’ve devised. Ask students to trade maps with a partner and find the path to the treasure.
Lost Treasure—Worksheet

Directions: Professor Witherspoon has discovered a map showing the location of lost pirate treasure. Before the professor hunts for the treasure, he first plans to locate the spot on the map where the treasure is buried. Use the directions and the key to locate the treasure on the map below.

Start at Lookout Point.
Walk south 200 feet.
Walk east 125 feet.
Walk south 275 feet.
Walk west 550 feet.
Walk north 200 feet.
Walk east 800 feet.
Walk south 150 feet.

KEY
1 inch = 200 feet
1. Where is the treasure located on the map?

2. Following the directions above the treasure map, what is the total distance to the treasure on the map, in inches?

3. On the lines below, write a different set of directions to find the treasure. Start at the tip of Goat Rock. You should include at least 5 directions.
Purpose
In this activity, students use a variety of strategies to solve problems that involve inequalities.

Objective 17: Problem Solving and Reasoning
Thinking Skill: Analyze Information

Description
Students solve inequalities using a menu.

Directions
1. Getting Started Hand out copies of the worksheet.

2. Direct Instruction Have a volunteer solve the first problem from the worksheet on the board. Help students recognize that this problem presents a situation in which both of the following inequalities are true: \( x > 4 \) and \( x < 7 \). The whole numbers that satisfy both inequalities are 5 and 6. Students can identify the solution as 6 because it is the only number that would return more than one dollar in change from the least expensive menu option.

3. Whole Class Activity Have the students solve the rest of the problems on the worksheet. Encourage students to explain to the class how they solved each problem.

4. Conclude Activity Ask students the following question:
   - How are solutions to inequalities different from solutions to equations?

Variation

Basic Review the problem-solving strategy of “guess and check.” This strategy can be employed for several of the problems on the worksheet. Point out that trying to solve problems in more than one way can help students make sure they have the right solution.

Advanced If your class went to Big Dog and had $150 to spend, how many Double Dog Meals could you order? How many Puppy Dog Meals? If you ordered Puppy Dogs for half of the class, how many Double Dogs could you order?
Big Dog Drive-In–Worksheet

Directions: Tina and Rick went to Big Dog Drive-In for dinner. Part of the menu is shown below. Read the menu and answer the questions.

Welcome to
Big Dog
Drive-In

Puppy Dog Meal $4.39
Double Dog Meal $5.29

1. Tina and Rick both started out with the same number of dollar bills in their pockets. Tina had more than 4 dollars. Rick had fewer than 7 dollars. After making a purchase, they both had more than a dollar left. How much money did each of them have to start with? What did they each buy? How did you figure it out?

2. A Big Dog Meal costs at least 20¢ more than a Puppy Dog Meal and at least 25¢ less than a Double Dog Meal. How many dollar bills does Rick need to be sure that he can buy a Big Dog Meal? Explain your reasoning.

3. Lewis went to Big Dog with 13 dollar bills. How many more dollar bills does he need to be sure he can buy 3 Big Dog Meals? Explain your reasoning.
Maria went to Big Dog with $20 to buy food for four people. How many Double Dog Meals could she buy and still have enough left over to get Puppy Dog Meals for the rest of the people? Explain your reasoning.

Mr. Peña’s class has 30 students. They have raised $150 in funds and want to use it for a treat at Big Dog Drive-In. If everybody wants a Double Dog Meal, how much more money will they need? How many students would have to buy Puppy Dog Meals for the class to afford the treat now? Explain your reasoning.
## Teaching Activities

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<th>TerraNova, The Second Edition Objective Number and Title</th>
<th>Activity Worksheet</th>
<th>Activity Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1  What’s Inside a Cell?</td>
<td>21 Life Science</td>
<td>X</td>
<td>7.76</td>
</tr>
<tr>
<td>2  Antarctic Food Web</td>
<td>19 Science Inquiry 21 Life Science</td>
<td>X</td>
<td>7.78</td>
</tr>
<tr>
<td>3  At Home in the Wetlands</td>
<td>21 Life Science 24 Personal and Social Perspectives in Science</td>
<td>X</td>
<td>7.80</td>
</tr>
<tr>
<td>4  Ice, Water, Steam</td>
<td>20 Physical Science</td>
<td>X</td>
<td>7.82</td>
</tr>
<tr>
<td>5  Falling, Falling</td>
<td>19 Science Inquiry 20 Physical Science</td>
<td>X</td>
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<tr>
<td>6  Up In a Swing</td>
<td>20 Physical Science 23 Science and Technology</td>
<td>X</td>
<td>7.86</td>
</tr>
<tr>
<td>7  The Ground Beneath Your Feet</td>
<td>22 Earth and Space Science 23 Science and Technology</td>
<td>X</td>
<td>7.89</td>
</tr>
<tr>
<td>8  Warm and Warmer</td>
<td>22 Earth and Space Science 24 Personal and Social Perspectives in Science</td>
<td>X</td>
<td>7.92</td>
</tr>
</tbody>
</table>

**Answers to Student Worksheets**

7.126
**ACTIVITY 1**

**What’s Inside a Cell?**

**Purpose**
In this activity, students will compare a typical plant cell and a typical animal cell and relate their structures to the roles of plants and animals in the food chain.

**Objective 21: Life Science**

**Thinking Skills:** Organize Information; Analyze Information; Synthesize Elements

**Description**
Students look at diagrams of a typical plant cell and a typical animal cell and compare the cell parts (organelles). They refer to the diagrams as they read a descriptive text and answer questions about the roles of the organelles.

**Directions**

1. **Getting Started**
   Tell students they are going to compare the organelles—the special parts—of plant and animal cells. Hand out copies of the worksheet. Review the following facts about cells: All living things are made of one or more cells. All plant and animal cells contain a nucleus, which acts as the cell’s control center. The part of the cell outside the nucleus is the cytoplasm, which is jelly-like and made mostly of water. Also review the pronunciation of the words in the diagrams and text.

2. **Worksheet**
   Have students study the cell diagrams and the text describing cells and then complete the chart.

3. **Conclude Activity**
   Have students discuss the following question in small groups and then share their answers with the entire class.
   - What does the presence of chloroplasts in plant cells—and its absence in animal cells—tell you about the place of animals and plants in the food chain? (Chloroplasts are organelles that allow plants to make their own food; therefore, plants are classified as producers. In food chains, producers are in the first trophic level.)

**Variation**

Using words and chemical symbols, show students the chemical equation for photosynthesis.

\[6\text{CO}_2 + 6\text{H}_2\text{O} \rightarrow \text{C}_6\text{H}_{12}\text{O}_6 + 6\text{O}_2\]
A cell is the basic unit of life. Your body has billions of cells. They have different functions. They have different sizes and shapes, too. Almost all of them are too small to be seen without a microscope.

All living things are made up of cells. Plant and animal cells are similar in design. For example, they both have cell membranes, cytoplasm, and cell parts (organelles).

Organelles are structures that float in the cytoplasm of cells. Each kind of organelle has its own job to do.

The nucleus controls the activities of the cell. The cell depends on it for growth and reproduction. Mitochondria change food into forms of energy that a cell can use.

Plant cells produce their own food in chloroplasts. Vacuoles act as temporary storage sites of materials, and they are much larger in plant cells than in animal cells.

Plant cells have cell walls. Animal cells do not have cell walls.

Directions: Complete the chart by filling in the name of the cell part from the text or the cell diagrams shown above. Use check marks to indicate whether the cell part is present in a plant cell, animal cell, or in both types of cells.
ANTARCTIC FOOD WEB

Purpose: Students examine the effect of warm temperatures on the Antarctic food web.

Objective 19: Science Inquiry  
Objective 21: Life Science

Thinking Skills: Analyze Information; Evaluate Outcomes; Generate Ideas

Description: Students are given a chart of an Antarctic food web. They are asked to predict what happens to other organisms in the food web when a change in the krill population occurs.

Materials: colored pens

Directions:

1. Getting Started: Hand out copies of the worksheet. Explain to students that a food web is made up of a number of food chains in an ecosystem. On the board, construct two food chains using organisms shown in the Antarctic food web. (Two possible food chains are as follows: 1) bacteria → microzooplankton → krill → baleen whales; 2) phytoplankton → small fish and squid → large fish → toothed whales.) Explain that the arrows represent the feeding relationships in the food web. Have students use colored pens to trace along the arrows on their worksheets the food chains shown on the board.

2. Understanding Facts: Tell students that in waters around the Antarctic, algae (labeled phytoplankton on the chart) thrive just below the surface of the ice. Mention that in recent years, temperatures have been warmer, causing some of the ice to melt. This change in temperature has reduced the population of algae, which has interfered with the population growth of the krill.

3. Small Group Activity: Divide students into small groups and have them discuss the following question:
   ✦ How would a decrease in the number of krill in the ocean affect the different populations of the food web?

   Have students share their answers with the class. (Answers must be justified by tracing the relationships along food chains on the web. Students may note correctly that it is hard to predict what will happen to the emperor penguins and the consumers on the right side of the web since the decline in krill causes an increase in the microzooplankton.)

4. Conclude Activity: Have students identify producers and primary, secondary, and tertiary consumers in the Antarctic food web.

Variation:

Have students make a list of probable outcomes if the krill population were to increase dramatically. (An increase in krill could lead to an increase in Adélie penguins, crabeater seals, leopard seals, baleen whales, and possibly, toothed whales.)
Antarctic Food Web–Worksheet

Antarctic Food Web

- Baleen whales
  - Leopard seals
  - Crabeater seals
  - Adélie penguins
  - Emperor penguins
  - Krill
  - Macrozooplankton
  - Phytoplankton
  - Microzooplankton
  - Bacteria
  - Microphytoplankton

- Toothed whales
  - Large fish
  - Weddell and Ross seals
  - Small fish and squid
At Home in the Wetlands

Purpose
Students will examine the decline in the wetland areas in the United States over a period of 200 years and determine why the decline threatens the survival of several species of animals and plants.

Objective 21: Life Science
Objective 24: Personal and Social Perspectives in Science

Thinking Skills:
Analyze Information; Evaluate Outcomes; Generate Ideas

Description
Students study two maps of the United States to compare the percentage of wetlands in the 1780s and 1980s. They will discuss the reasons for wetland loss and investigate the characteristics of several species of animals and plants that make it difficult for these organisms to adapt to human destruction of wetlands.

Materials
Internet access

Directions
1. Getting Started
   Review with students the different kinds of wetlands: seashore, swamp, saltwater marsh, freshwater marsh, bog, pond and lake, and river and stream. Hand out copies of the worksheet. Tell students that the maps show the percentage of area by state that was made up of wetlands during two different time periods, the 1780s and the 1980s. (Explain that state boundaries are shown on the 1780s map even though most of the states shown did not exist then.)

2. Look and Ask
   With students, look at the 1780s map. Ask students the following question:
   * Which states had the highest percentage of wetlands? (The areas that are now Florida and Louisiana had the highest percentage of wetlands because they are near the coast and have a lot of low-lying land that gets flooded.)
   Explain that the West had less wetland area than the East because wetland areas are regions of high rainfall and flat land.

3. Look and Compare
   Divide the class into small groups. Have students look at the 1980s map and the 1780s map. Have students list the states with more than 5% wetlands in the 1780s and the 1980s.

4. Conclude Activity
   Have students brainstorm the reasons for the decline of wetland areas in the United States over 200 years. (Some reasons are agriculture, urbanization, river containment, road building, water diversion, dams, and hydroelectric projects.)

Variation
Have small groups of students choose a type of wetland habitat and make a food web of that region. Have each group do research on the Internet about which species in the food webs have become endangered by the loss of wetlands. Have the students share their findings with the rest of the class.
At Home in the Wetlands—Worksheet

Wetland Losses in the United States

WETLAND PERCENT KEY

- 1 to 5
- 5 to 12
- 12 to 25
- 25 to 50
- 50 to 55

Wetland Distribution 1780s

Wetland Distribution 1980s
Ice, Water, Steam

Purpose
Students will observe and/or participate in a demonstration of temperature effects on states of matter.

Objectives:
- Objective 20: Physical Science
- Thinking Skills: Analyze Information; Evaluate Outcomes

Description
The teacher and students observe and describe how heat changes the states of matter of water. (This activity can be done with or without direct student participation. If students don’t have individual workstations, they can do the activity in small groups.)

Materials
- ice cubes
- beaker
- a gas burner
- thermometer with clip
- safety glasses
- hot pad
- tripod or beaker clamps

Directions

1. **Getting Started**
   - Review the fact that on Earth there are three states of matter: solid, liquid, and gas. Explain that heat makes the molecules in a substance move faster and, sometimes, move farther apart. As the molecules move faster, they gain kinetic energy, which acts against their attraction for each other. If the molecules of a solid gain enough kinetic energy, they will break free from their fixed positions and the material will become a liquid. With still more kinetic energy, the molecules will move very far apart and the substance will become a gas.

2. **Worksheet**
   - Hand out copies of the worksheet. On the board, create a replica of the worksheet chart. Place some crushed ice in a clear glass container, such as a flask or beaker. Use a thermometer to measure the temperature of the ice, and record the temperature on the chart. (Be sure to use a kitchen-type thermometer that registers at least 212°F, the boiling point of water.)

3. **Look and Measure**
   - Heat the container of ice over the flame. Measure the temperature once every minute until the water is boiling and for three minutes thereafter. Record the values on the board. Have the students record the values for the time and temperature in the chart. At each measurement, students should also record the state of the water (ice, ice water, water, boiling water).

4. **Conclude Activity**
   - Ask students the following question:
     - Why does the water temperature stay the same even though the state of the water is changing states? (The heat energy is being used to increase the energy of the water molecules so they can move more freely and change state, from solid to liquid or liquid to gas.)

Variation

Point out that during the experiment, water vapor (steam) escaped from the water as bubbles, which burst at the surface, and then some of this water vapor condensed on the upper sides of the container. Ask students the following question:

- Why does the water vapor condense on the sides of the container? (Some of the steam condenses on the upper sides of the container because that part of the container is cooler. When the water temperature drops below the boiling point, the gas turns back into liquid water.)
**Ice, Water, Steam—Worksheet**

**Water Temperature Chart**

**Directions:** Use the chart to record the time of the temperature measurements, the temperature of the water, and a brief description of the state of the water.

<table>
<thead>
<tr>
<th>Time of Temperature Measurement</th>
<th>Temperature (°F)</th>
<th>Description of the State of the Water (ice, ice water, water, boiling water)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>
Falling, Falling

Purpose
Students will form hypotheses about falling objects.

Objective 19: Science Inquiry  Objective 20: Physical Science

Thinking Skills: Organize Information; Analyze Information;
Evaluate Outcomes; Generate Ideas

Description
Using a playground jungle gym (or another playground structure),
students observe objects that are dropped and make hypotheses about falling objects.

Materials
playground jungle gym, step ladder, or desk; scale, pencil, rock, small rubber ball,
quarter, eraser, paper

Directions

1. Getting Started
   Explain to students that they will be observing pairs of falling objects
   after making predictions about which object will hit the ground first. Hand out copies of the
   worksheet and divide students into small groups. Have students in each group determine the
   mass of each object in grams and record their measurements in the Prediction Chart on the
   worksheet.

2. Predict and Measure
   Have students predict which object in each of these pairs will hit the
   ground first when dropped: pencil/rock, ball/quarter, eraser/rock. Have students record their
   predictions in the Prediction Chart.

3. Group Activity
   Climb to the top of the playground structure and release one pair of objects
   simultaneously. Have several students act as spotters to observe which object hits the ground
   first. The results should be recorded in the Results Chart.

4. Explain Results
   Have each group analyze and try to explain the results they recorded
   in the Results Chart.

5. Conclude Activity
   Repeat the experiment, this time using any one of the objects and a
   sheet of paper. Have students choose an object and predict which will fall first, the object or
   the sheet of paper. Simultaneously drop the paper and the object they chose. Ask students to
   explain why the sheet of paper takes longer to fall. (Answers will vary, but should include the
   idea that the paper has more surface area than the other objects, so it encounters more air
   resistance and therefore takes longer to fall to the ground.)

Variation

Basic
Review the data from all the groups to clarify the fact that objects with greater
mass do not always fall faster.

Advanced
Ask students the following questions:
- What would happen if you repeated the experiment on the moon? Why? (The moon has
  a weaker gravitational force than Earth, so the objects would fall more slowly. Also, since there
  is no atmosphere—and no air resistance—on the moon, all objects would reach the surface at
  the same time.)
Falling, Falling–Worksheet

Directions: Record the mass of each object in both charts. Then use the first chart to predict which object will hit the ground first. Use the second chart to record which object actually hits the ground first.

### Prediction Chart

<table>
<thead>
<tr>
<th>Object</th>
<th>Mass</th>
<th>Which object will hit the ground first?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>Pencil</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rock</td>
<td></td>
</tr>
<tr>
<td>Pair 2</td>
<td>Ball</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quarter</td>
<td></td>
</tr>
<tr>
<td>Pair 3</td>
<td>Eraser</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rock</td>
<td></td>
</tr>
</tbody>
</table>

### Results Chart

<table>
<thead>
<tr>
<th>Object</th>
<th>Mass</th>
<th>Which object actually hits the ground first?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pair 1</td>
<td>Pencil</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rock</td>
<td></td>
</tr>
<tr>
<td>Pair 2</td>
<td>Ball</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Quarter</td>
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</tr>
<tr>
<td>Pair 3</td>
<td>Eraser</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rock</td>
<td></td>
</tr>
</tbody>
</table>

Write your group’s explanation of the results on the lines below.

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________

__________________________________________________________________________
Up In a Swing

Purpose
Students will learn how changes in variables affect the movement of a playground swing. 

Objective 20: Physical Science  Objective 23: Science and Technology

Thinking Skills: Gather Information; Analyze Information; Evaluate Outcomes

Description
Students make hypotheses about what controls the movement of a playground swing.

Materials
playground with swings of different lengths of rope or chain, stopwatch

Directions
1. Getting Started
   Hand out copies of the worksheet. Draw a diagram of a pendulum similar to the one shown below, and use it to explain how a swing works. Tell students that a swing is a pendulum. It consists of a rope or chain connected to a fixed point (the crossbar), with an object (the seat) attached to its other end. Explain that the term period, with regard to a swing, refers to the time it takes for one complete cycle of movement.

2. Explain Facts
   Tell students that in the motion of a swing, as in any other pendulum, an energy conversion takes place. At the highest points in the movement, all the energy is potential. The movement momentarily stops. During the path of motion, the potential energy is converted into kinetic energy. When the swing is at its lowest position and moving fastest, all the energy is kinetic.

3. Look and Measure
   Take students to a playground with swings that have different lengths of rope or chain. (Students should bring their worksheets.) Have one student get on a swing and start swinging. On the third or fourth pass after starting the swinging motion, begin taking timing measurements. (This will allow enough time for the student to get the swing moving at an adequate pace.) Determine the period of the swing by timing a number of consecutive periods and then calculating the average for one period. Have students think about what determines the time it takes for a swing to go through a complete cycle (the period). Ask students to choose from these factors:
   ♦ the weight of the person on the swing
   ♦ the length of the chain or rope
   ♦ how high the person swings

   (Students may have different theories, but only the length of the rope or chain connecting the seat to the crossbar determines the swing’s period. As the length of the rope increases, the time of the period will increase.)

4. Small Group Activity
   Divide students into small groups. Have them test their predictions about what determines the period. Have each group do all three experiments on the worksheet. Tell them to record their results on their worksheets.
5. **Conclude Activity**  Review the predictions and results regarding the influence of the size (weight) of the person and the height of the path of motion. Only the length of the rope or chain influences the time of the period. Ask students the following questions:

- Why doesn’t a swing keep swinging by itself after you start its movement? (The swing will not continue to move indefinitely because both the mechanical friction between the parts of the swing and the air resistance slow the motion of the swing until it stops.)
- How can you increase the time a swing moves by itself? (Lubricating the area where the rope or chain meets the crossbar, and anything that would decrease air resistance, will help to increase the length of time the swing will move by itself.)

**Variation**

**Basic**  Discuss the concept of conservation of energy. (Total energy—kinetic plus potential—stays the same.)
Up In a Swing—Worksheet

**Experiment 1**

**Prediction:** The weight of the person on the swing affects the period.
**Measure**—periods of a swing for people of different weights
**Hold Constant**—length of chain or rope and height of swing at start of period

<table>
<thead>
<tr>
<th>Number of Periods</th>
<th>Total Time for Periods (seconds)</th>
<th>Average Time for One Period (seconds/period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavier Person</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lighter Person</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Experiment 2**

**Prediction:** The length of the rope or chain on the swing affects the period.
**Measure**—periods of swings with different lengths of chain or rope
**Hold Constant**—weight of person on swing and height of swing at start of period

<table>
<thead>
<tr>
<th>Number of Periods</th>
<th>Total Time for Periods (seconds)</th>
<th>Average Time for One Period (seconds/period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Longer Chain/Rope</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shorter Chain/Rope</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Experiment 3**

**Prediction:** How high a person swings affects the period.
**Measure**—periods of a swing for two different starting heights
**Hold Constant**—length of chain or rope and weight of person on swing

<table>
<thead>
<tr>
<th>Number of Periods</th>
<th>Total Time for Periods (seconds)</th>
<th>Average Time for One Period (seconds/period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Higher Starting Point</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lower Starting Point</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The Ground Beneath Your Feet

Purpose
Students will demonstrate their understanding of the connection between Earth’s tectonic plates, volcanoes, and earthquakes.

Objective 22: Earth and Space Science Objective 23: Science and Technology

Thinking Skills: Analyze Information; Generate Ideas

Description
Students are shown the distributions of Earth’s tectonic plates, earthquake sites, and volcanoes. They will use the information to see the correlation between seismic activity on Earth and the plate boundaries.

Directions

1. Getting Started Hand out copies of Worksheets 1 and 2.

2. Explain Introduce students to the Tectonic Plates map on Worksheet 1. Explain that Earth’s surface is broken into seven large plates and a number of smaller plates that are always moving at an average of a few inches per year. Some plates are moving toward each other and colliding. Point out the Nazca Plate and the South American Plate. Some plates are moving apart. Point out the line that runs down the middle of the North Atlantic Ocean through Iceland, dividing the North American Plate from the Eurasian Plate. Some plates are moving horizontally past each other. Point out the boundary of the North American Plate and the Pacific Plate in California. Give students a few minutes to familiarize themselves with the map.

3. Look and Compare Now direct the students’ attention to the map of earthquakes and volcanoes. Ask the students if they see any similarities between the Tectonic Plates map and the Earthquakes and Volcanoes map on Worksheet 2. (The locations with the most active volcanoes are often along or near plate boundaries.)

4. Explain Discuss with students the fact that the movements of tectonic plates are associated with earthquakes and volcanoes. (The locations where earthquakes occur most frequently are also along or near plate boundaries.)

5. Conclude Activity Ask students the following question:
   * Considering the locations of both volcanoes and earthquakes, which areas seem to be among the most dangerous on Earth? (The most dangerous areas on Earth are located in Chile, Colombia, Ecuador, Indonesia, Italy, Japan, Mexico, and the Philippines.)

Variation

Basic Review with students the fact that Earth is composed of several layers: crust, mantle, outer core, and inner core. Review the composition and relative thickness of each layer.

Advanced Have students research which tectonic plates—other than the examples given—fall into which category: moving toward, moving away, and moving past. Have students find the scientific names for each.
The Ground Beneath Your Feet—Worksheet 1

TECTONIC PLATES

- Pacific Plate
- Cocos Plate
- Nazca Plate
- Scotia Plate
- Caribbean Plate
- Antarctic Plate
- Indian Plate
- African Plate
- Arabian Plate
- Philippine Plate
- North American Plate
- South American Plate
- Australian Plate
- Antarctic Plate

Activity 7 • Science
EARTHQUAKES AND VOLCANOES

KEY

▲ Areas of volcanic activity (in last million years)
● Earthquake regions
Warm and Warmer

**Purpose**
Students will explore differences in average global temperatures.

**Objective 22:** Earth and Space Science  
**Objective 24:** Personal and Social Perspectives in Science

**Thinking Skills:** Analyze Information; Generate Ideas

**Description**
With global temperature data of the decades from 1880 to 2000, students construct a line graph showing average global temperatures and then discuss the predictions for global warming and the reasons air pollution is thought to be its primary cause.

**Materials**
rulers, pencils, access to the Internet, a printer

**Directions**

1. **Getting Started**
   Hand out copies of the worksheet. Have students use the graph template and the data on the worksheet to create a line graph. If necessary, help students graph the first two or three points.

2. **Discussion**
   Ask students the following question:
   - What trend do you see in average global temperatures from 1880 to 2000? (The temperatures show a pattern of increase and decrease with an overall slight upward trend.)

3. **Ask and Explain**
   Ask students the following question:
   - What may be causing the trend toward an increase in the global temperature?
   Write students’ responses on the board. Then explain that some scientists believe the trend is related to an increase in greenhouse gases in the atmosphere.

4. **Explain**
   Explain to students that some scientists think man-made sources of greenhouse gases are causing a global warming trend, but other scientists disagree. On the board, list the following greenhouse gases and their sources:
   - Carbon dioxide—fossil fuel combustion, deforestation
   - Methane—coal mining, natural gas systems, intestinal fermentation
   - Nitrous oxide—agricultural soil management practices
   Explain to students that Earth naturally absorbs radiation from the sun and then sends it back into space. When the atmosphere is dense with greenhouse gases, less radiation can escape into space. Therefore, Earth’s atmosphere gets warmer.

5. **Conclude Activity**
   Ask students to find articles on the Internet which argue for or against the involvement of greenhouse gases in global warming.
### Warm and Warmer–Worksheet

**Average Global Temperatures (°F)**

<table>
<thead>
<tr>
<th>10-Year Ranges</th>
<th>Temperature (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1880–89</td>
<td>56.65</td>
</tr>
<tr>
<td>1890–99</td>
<td>56.64</td>
</tr>
<tr>
<td>1900–09</td>
<td>56.52</td>
</tr>
<tr>
<td>1910–19</td>
<td>56.57</td>
</tr>
<tr>
<td>1920–29</td>
<td>56.74</td>
</tr>
<tr>
<td>1930–39</td>
<td>57.00</td>
</tr>
<tr>
<td>1940–49</td>
<td>57.13</td>
</tr>
<tr>
<td>1950–59</td>
<td>57.06</td>
</tr>
<tr>
<td>1960–69</td>
<td>57.05</td>
</tr>
<tr>
<td>1970–79</td>
<td>57.04</td>
</tr>
<tr>
<td>1980–89</td>
<td>57.36</td>
</tr>
<tr>
<td>1990–99</td>
<td>57.64</td>
</tr>
</tbody>
</table>

**AVERAGE GLOBAL TEMPERATURES (°F)**

- Y-axis: Temperature (°F) from 56.50 to 57.75
- X-axis: 10-Year Ranges from 1880–89 to 1990–99
<table>
<thead>
<tr>
<th>Activity Number and Title</th>
<th>TerraNova, The Second Edition Objective Number and Title</th>
<th>Activity Worksheet</th>
<th>Activity Page Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Tropical Rain Forest Regions</td>
<td>26 Geographic Perspectives</td>
<td>X</td>
<td>7.96</td>
</tr>
<tr>
<td>2 Traveling on Route 66</td>
<td>26 Geographic Perspectives</td>
<td>X</td>
<td>7.100</td>
</tr>
<tr>
<td>3 Some Ancient Chinese Inventions</td>
<td>27 Historical and Cultural Perspectives</td>
<td>X</td>
<td>7.103</td>
</tr>
<tr>
<td>4 Life in the Middle Ages</td>
<td>27 Historical and Cultural Perspectives</td>
<td>X</td>
<td>7.105</td>
</tr>
<tr>
<td>5 Shell Beach Budget</td>
<td>28 Civics and Government Perspectives</td>
<td>X</td>
<td>7.108</td>
</tr>
<tr>
<td>6 Working on World Problems</td>
<td>28 Civics and Government Perspectives</td>
<td>X</td>
<td>7.111</td>
</tr>
<tr>
<td>7 Consumer Protection</td>
<td>29 Economic Perspectives</td>
<td>X</td>
<td>7.115</td>
</tr>
<tr>
<td>8 The World Car</td>
<td>29 Economic Perspectives</td>
<td>X</td>
<td>7.118</td>
</tr>
<tr>
<td><strong>Answers to Student Worksheets</strong></td>
<td></td>
<td></td>
<td>7.127</td>
</tr>
</tbody>
</table>
ACTIVITY 1

Tropical Rain Forest Regions

Purpose
Students use map skills and a climate graph to interpret geographic information.

Objective 26: Geographic Perspectives
Thinking Skills: Organize Information; Analyze Information

Description
Students create a map key, use lines of latitude and longitude to determine the location of various rain forest animals, and use a climate graph to analyze the climate of rain forest regions.

Directions
1. Getting Started
Distribute copies of Worksheet 1. Explain to students that they will be using lines of latitude and longitude to determine the locations of some rain forest regions where various animals live.

2. Review and Practice
Review with students the location of the equator and the prime meridian, and how to use lines of latitude and longitude to locate various places. Ask students to look at the map on Worksheet 1 to determine where most tropical rain forest regions are located (between 23.5° north latitude and 23.5° south latitude). On the board, write the locations listed below. Have students practice finding these places on the worksheet map while volunteers locate the places on a classroom wall map. Practice with other locations as necessary.
   - 5° south latitude, 60° west longitude (South America)
   - 0° latitude, 15° east longitude (Africa)
   - 20° south latitude, 140° east longitude (Australia)
   - 40° north latitude, 105° west longitude (United States)

3. Map Work
Divide students into pairs or small groups. Give a copy of Worksheet 2 to each student. Students will work on their own maps, but they may wish to consult with other group members. Review the directions on the worksheet with students to make sure they understand what they are to do. When students have completed the activity, have them demonstrate where they placed the symbol for each animal on the map.

4. Conclude Activity
Give a copy of Worksheet 3 to each student. Help students analyze the climograph for Singapore on Worksheet 3. Point out that a climograph provides information about rainfall and temperature (e.g., the line graph represents temperature and the bar graph represents rainfall). Have students complete the worksheet. Then discuss students’ answers as a class.

Variation

Basic
Review the method of locating places using lines of latitude and longitude. Have students give the latitude and longitude of a place while others guess its location.

Advanced
Have students research the various types of information that can be gained by studying climographs. For example, information from climographs can be used to determine locations for various industries (science, agriculture, agribusiness, conservation methods, etc.)
Name ________________________________

Tropical Rain Forest Regions – Worksheet 1

KEY

<table>
<thead>
<tr>
<th>Animal</th>
<th>Okapi</th>
<th>Emerald Tree Boa</th>
<th>Binturong</th>
<th>Quetzal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symbol</td>
<td>O</td>
<td>E</td>
<td>B</td>
<td>Q</td>
</tr>
</tbody>
</table>
Tropical Rain Forest Regions—Worksheet 2

Directions: Use the directions and the information below to complete the rain forest regions map. (Worksheet 1)

- Find each animal’s location on the map by using the lines of latitude and longitude given in the chart below.
- Look at the letter symbol for each animal on Worksheet 1. Write the symbol for each animal in its correct location on the map. (Where space is limited, draw the symbol in the ocean and draw a line to its location.)
- When you have placed the symbol for each animal in its correct location, study the climograph on Worksheet 3.

<table>
<thead>
<tr>
<th>Rain Forest Animal</th>
<th>Location of Rain Forest Where Animal Lives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Okapi</td>
<td>0° latitude, 20° east longitude</td>
</tr>
<tr>
<td>Emerald Tree Boa</td>
<td>5° south latitude, 60° west longitude</td>
</tr>
<tr>
<td>Binturong</td>
<td>0° latitude, 100° east longitude</td>
</tr>
<tr>
<td>Quetzal</td>
<td>15° north latitude, 90° west longitude</td>
</tr>
</tbody>
</table>
Tropical Rain Forest Regions–Worksheet 3

Directions: The climograph below shows the average rainfall and temperature for the city of Singapore. Study the climograph below, then answer the questions.

Climograph for the City of Singapore

1. What information can be gained by studying the average temperature pattern over a year?

2. What information can be gained from analyzing the average rainfall pattern over a year?

3. What conclusions can be made about the climate of rain forest regions after studying the climograph of Singapore?
ACTIVITY 2

Traveling on Route 66

Purpose
Students use a map and a time line of events related to Route 66 to understand the changes in travel between the Midwest and the Pacific Ocean since the 1920s.

Objective 26: Geographic Perspectives
Thinking Skills: Organize Information; Analyze Information

Description
Students study a time line of Route 66 and draw the route on a map. They learn what travel changes took place in the western United States and discuss the effects of these changes.

Materials
detailed political map of the United States

Directions
1. Getting Started
Explain to students that before the 1920s, a limited number of tracks, trails, and paths were used to travel from the Midwest to the Pacific Ocean. Roads in all parts of the country were built gradually and according to need. Early car travelers had few good maps, few services along roads, many unpaved roads, rough terrain, and lack of shelter from bad weather. Route 66 changed all that.

2. Worksheet 1
Distribute copies of Worksheet 1. Have students take turns reading the time line. Discuss any unfamiliar vocabulary or ideas. Ask students the following questions based on the time line information:
- In your opinion, why did Cyrus Stevens Avery think that the development of Route 66 would help the local economies? (Travelers and workers would bring in more business.)
- Why did the towns along Route 66 become “ghost towns” in the 1960s, 1970s, and 1980s? (Interstate highways were built.)
- What businesses along Route 66 were especially affected when their towns were bypassed by the interstate highways? (gas stations, restaurants, etc.)

3. Worksheet 2
Distribute copies of Worksheet 2. Review the directions with the students and have them complete the map work. Students will need a detailed map of the United States in order to locate the cities. As an alternative, you may skip this part of the activity and simply point out to students the location of old Route 66. (The route is shown in the Answers to Student Worksheets section for this activity.)

4. Conclude Activity
Tell students that many people have worked to preserve Route 66 as a national historic route. Ask students the following questions:
- Why is it important for certain historic places to be preserved? (preserving part of our history, understanding the past)
- What are some of this country’s national monuments? (Washington Monument, Vietnam War Memorial)

Variation

Basic
Have students create a wall-sized map of Route 66. Have them find photographic images of towns along Route 66 as they appeared before 1985. (Sources might include books, articles, travel brochures, postcards, and Internet sites.) Students may also draw pictures symbolic of the states and cities that are intersected by Route 66. Display pictures on the map of Route 66.

Advanced
Have students find books or Internet sites about Route 66. Have students research towns along Route 66 as they are today.
Thousands of migrants head toward California along Route 66 from the “Dust Bowl,” an area in the Midwest struck by drought and crop failure.

Route 66 is completely paved from Chicago to Los Angeles.

After World War II ends in 1945 and gas restrictions are lifted, Americans are back on the road, in record numbers.

Advances in cars and the number of cars on the road make Route 66 seem narrow and dangerous. The Interstate Highway Act develops an interstate highway system with several lanes.

Route 66 is popular enough to become the subject of a television series.

All of Route 66 is replaced by Interstates I-55, I-44, I-40, I-15 and I-10. The new roads bypass all the towns along the old route.

Many Americans rally to the memory of Route 66, asking that it become a historic monument preserved by the National Parks Administration.
**Traveling on Route 66—Worksheet 2**

**Directions:** Listed below are some towns and cities that Route 66 passed through. To trace Route 66 on the map, first locate and label the cities using the numbers listed in the chart below. Then, draw a line connecting the route from Chicago to Los Angeles.

**Chicago, Illinois**

1. Bloomington, Illinois
2. St. Louis, Missouri
3. Springfield, Missouri
4. Joplin, Missouri
5. Galena, Kansas
6. Tulsa, Oklahoma
7. Clinton, Oklahoma
8. Amarillo, Texas
9. Albuquerque, New Mexico
10. Gallup, New Mexico
11. Flagstaff, Arizona
12. Kingman, Arizona
13. Barstow, California
14. San Bernardino, California
ACTIVITY

Some Ancient Chinese Inventions

Purpose
Students study a chart and evaluate the importance of some ancient Chinese inventions. 
Objective 27: Historical and Cultural Perspectives  Thinking Skill: Generate Ideas

Description
Students fill in a chart to describe the importance of some ancient Chinese inventions and their effects on people’s lives. They also explain how some inventions became known in other parts of the world.

Directions

1. **Getting Started**  Tell students that some inventions are the result of work done by one person, while other inventions are the result of work done simultaneously by people in different parts of the world at similar times in history. Often, inventions are perfected as more knowledge is gained. Explain to students that the focus of their work today is on some inventions from ancient China.

2. **Group Work**  Divide students into pairs or small groups. Give each group a copy of the worksheet. Review the directions with the students and have them complete the worksheet.

3. **Discuss**  Have students share the ideas they listed on their worksheets. List the students’ responses on the board.

4. **Conclude Activity**  Ask students the following questions:
   - How has the invention been changed or improved since it was first created?
   - How might life be different without this invention?

Variation

**Basic**  Have students work in pairs. Ask them to list six other inventions that have changed the world. Ask them to research the origin of these inventions. Have them create a chart such as the one on the worksheet and fill in the information.

**Advanced**  Have students select one invention each from any two of the following categories: transportation, communication, agriculture, science, or household appliances. Have students explain what effects these two inventions have had on society.
# Some Ancient Chinese Inventions—Worksheet

**Directions:** Discuss with your group the importance of each invention and how it has changed people’s lives. Write brief answers in the boxes on this chart.

<table>
<thead>
<tr>
<th>Invention</th>
<th>Year of Invention or Use</th>
<th>Importance/How It Changed People’s Lives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horse collar</td>
<td>400 B.C.</td>
<td></td>
</tr>
<tr>
<td>Allowed horses to haul heavier loads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wheelbarrow</td>
<td>220 B.C.—A.D. 265</td>
<td></td>
</tr>
<tr>
<td>Designed to transport heavy loads</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper</td>
<td>A.D. 105</td>
<td></td>
</tr>
<tr>
<td>Made from hemp, bark, or bamboo fibers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Earthquake Detector</td>
<td>A.D. 130</td>
<td></td>
</tr>
<tr>
<td>Could detect and indicate the direction of an earthquake</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gunpowder</td>
<td>A.D. 700</td>
<td></td>
</tr>
<tr>
<td>Used to make fireworks and weapons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magnetic Compass</td>
<td>A.D. 1000</td>
<td></td>
</tr>
<tr>
<td>An instrument used to show magnetic north</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Activity 4

Life in the Middle Ages

Purpose
Students compare daily life in the Middle Ages with daily life today.

Objective 27: Historical and Cultural Perspectives  Thinking Skill: Organize Information

Description
Students read excerpts from a journal written by a fictional character living in a medieval city. They use information in the journal to complete a chart comparing that era with modern times.

Directions

1. Getting Started  Tell students that they will read some excerpts from a journal written by a fictional character living in a French city in the year 1250.

2. Read Aloud  Distribute copies of Worksheet 1. Remind students that in thirteenth-century France, a person of this fictional character’s social standing would probably not have known how to read or write. Have students take turns reading the journal excerpts aloud. Tell students to keep in mind the differences between life in the 13th century and life today.

3. Group Work  Divide students into groups of two or three. Give each group one copy of Worksheet 2, and review the directions with the class. Have each group complete the chart.

4. Discuss and Role-Play  Discuss student answers. Students could give their answers in the first person by role-playing. For example, for the first category, one student would describe what home heating was like in the thirteenth century; the second student would then describe what types of home heating there are today.

5. Conclude Activity  Ask students the following questions:
   • What would you have liked about living in thirteenth-century France? Why?
   • What would you have disliked? Why?

Variation

Basic  Have students make a list of things that people use in everyday life today, such as electronic equipment, motor vehicles, medicine, prepared foods, ready-built furniture, and other items that were nonexistent in the thirteenth century.

Advanced  Have students research daily life in France (such as during the time of Louis XIV), and have them create a chart, similar to Worksheet 2, that describes certain aspects of this era.
Sunday 24 April
It was just after the new year that I came to work as a servant to the Lombard family. My life is my work, and work is tiring. But it is not so awful as it could be. The Lombard family is well off, so the fires are always lit in the hearths and the lower floors are warm. My attic bedroom, however, is cold and the scratchy straw mattress I sleep on does not keep me warm. But, food is plentiful. I wish I could send some home to my little sister, Jeanne.

Today is Sunday, so I have less work than usual. Everyone must go to church in the morning, even servants like me. I confess, I watch with envy as the family kneels on soft stools while we must kneel on the hard floor. The service is in Latin, of which I understand only a few words, and it goes on for hours. After church, I am not expected to do any household chores except help with the dinner. This evening, I was fortunate. I was able to stand in a corner near the stairway and listen to sweet music being played in one of the rooms.

Monday 25 April
Today, we went to the market, as Anne, the cook, and I do every day except Sunday. This morning we stopped at the butcher shop for meat, the pastry shop for sweet wafers, and the spice shop for vinegar and salt. We bought bread from the bakery, and onions and cheese from the street peddlers. I suppose it is the best part of my work. Everyone knows everyone else, and we hear all the gossip about our neighbors as we go from shop to shop.

We also stopped at the apothecary. Madame suffers from headache, backache, and dizziness. We purchased several kinds of powder that the apothecary has prescribed to help her feel better.

Tuesday 26 April
Anne has a new kitchen maid, so I no longer have to help with meal preparation. Anne does her best to keep the kitchen clean, but everything seems so dirty and dangerous.

We servants eat after the family and their guests. Today it was leek soup and grilled rabbit.

Today was laundry day. Madeleine and I had to wash everything by hand with a smelly soap that burns my hands. Because I am stronger than she is, I have to cart all the water myself, and heat it in the fireplace.

*apothecary – someone who prepares and sells medicines
Life in the Middle Ages–Worksheet 2

Directions: Use the journal excerpts and your own knowledge to complete the chart. Use details comparing life in thirteenth-century France and life in the United States today.

<table>
<thead>
<tr>
<th>Aspect of Life</th>
<th>13th-Century France</th>
<th>United States Today</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home Heating</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shopping for Food</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Laundry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Religion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and Medicine</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Shell Beach Budget**

**Purpose**
Students interpret a circle graph representing a city budget, take sides on certain issues, and explain how citizens can help influence city officials.

**Objective 28:** Civics and Government Perspectives

**Thinking Skills:** Organize Information; Evaluate Outcomes

**Description**
Students study a circle graph and decide what part of a city’s budget would be affected by various proposals. Then they list arguments for or against certain proposals and describe ways in which citizens can help influence voters and city officials.

**Directions**

1. **Getting Started**
   Tell students they will be acting as residents of the fictional city of Shell Beach, a popular tourist destination. Give each student a copy of Worksheet 1. Then divide students into groups of three to five.

2. **Worksheet 1**
   Explain that the circle graph shows this year’s city budget and the portions that were given to different departments and services. Point out that much of the budget money comes from taxes and the graph shows how those tax dollars are spent. Ask students to study the graph and the proposals, and to write down which part of the budget each proposal would affect. Discuss student answers with the class.

3. **Worksheet 2**
   Give each group a copy of Worksheet 2. Go over the upcoming proposals with the class. Assign Proposal 1 to two groups. One group will list arguments in favor of the proposal, and the other group will list arguments against that proposal. Repeat this process with Proposals 2 and 3. Remind students that they will be acting as residents of Shell Beach and that their proposals will affect the city’s budget.

4. **Group Presentations**
   Have groups present their arguments for or against each proposal. Hold a class discussion based on their arguments. Then take a class vote to see whether each proposal should be approved or rejected.

5. **Conclude Activity**
   Ask students the following question:
   - What are some examples of ways in which citizens can help influence voters and city officials to support or oppose proposals that will affect a city’s budget? (expressing views directly to individuals and groups, circulating petitions, organizing supporters)

**Variation**

**Basic**
Have students discuss the importance of city services in their community and which services they think are the most important.

**Advanced**
Have students research important issues confronting their city today. Then, have students act as city council members by proposing actions on these issues, and voting for or against their funding.
Shell Beach Budget—Worksheet 1

**Directions:** Study the graph and the proposals listed below. In the box next to each proposal, indicate the part of the budget that would be most affected if the proposal were approved.

**Shell Beach Budget – Departments and Services**

<table>
<thead>
<tr>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Government</td>
</tr>
<tr>
<td>(city officials, managers, legal services, etc.)</td>
</tr>
<tr>
<td>Health</td>
</tr>
<tr>
<td>Other</td>
</tr>
<tr>
<td>Community Development and Capital Improvements</td>
</tr>
<tr>
<td>(affordable housing, neighborhood improvement,</td>
</tr>
<tr>
<td>city building projects, etc.)</td>
</tr>
<tr>
<td>Transportation</td>
</tr>
<tr>
<td>Culture and Leisure Services</td>
</tr>
<tr>
<td>Public Safety</td>
</tr>
<tr>
<td>Public Works</td>
</tr>
<tr>
<td>(sewer, streets, building maintenance, etc.)</td>
</tr>
</tbody>
</table>

**Budget Proposals for Shell Beach**

<table>
<thead>
<tr>
<th>Proposals Before the City Council</th>
<th>Part of Budget Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Resurface city streets</td>
<td></td>
</tr>
<tr>
<td>2 Increase city bus service to</td>
<td></td>
</tr>
<tr>
<td>outlying areas</td>
<td></td>
</tr>
<tr>
<td>3 Hire an assistant city manager</td>
<td></td>
</tr>
<tr>
<td>4 Create a special task force to</td>
<td></td>
</tr>
<tr>
<td>prepare for potential disasters</td>
<td></td>
</tr>
<tr>
<td>5 Hire a children’s librarian and</td>
<td></td>
</tr>
<tr>
<td>extend library hours</td>
<td></td>
</tr>
<tr>
<td>6 Expand the city hall building</td>
<td></td>
</tr>
</tbody>
</table>
Shell Beach Budget–Worksheet 2

Directions: Groups will be assigned to write arguments for or against one of the following proposals. In your group, discuss the proposal you have been assigned. On the lines below, write arguments stating the reasons your group supports or opposes that proposal. Then, in your roles as residents of Shell Beach, be prepared to argue your case before the class.

Shell Beach City Council Agenda: Upcoming Proposals

Proposal #1
Turn the downtown area of Shell Beach into a pedestrian mall by closing the street to traffic and building a parking structure nearby.

Proposal #2
Develop a free trolley system that will take tourists from hotels to points of interest throughout the city.

Proposal #3
Allow a fifteen-story hotel to be built, replacing several older motels along the beachfront.

Proposal #_____ Position: ☐ For ☐ Against
Reasons for or against the proposal:

•  

•  

•

•  

•  

•  

•
**ACTIVITY**

6 Working on World Problems

**Purpose**

Students learn about the goals of the United Nations and about the branches that deal with various world problems.

**Objective 28:** Civics and Government Perspectives

**Thinking Skills:** Gather Information; Organize Information

**Description**

Students list the goals of the United Nations as stated in its charter. They study a diagram of the branches of the United Nations and determine which branch would handle certain issues.

**Materials**

dictionaries (optional)

**Directions**

1. **Getting Started**  
   Divide students into pairs or small groups. Give a copy of Worksheet 1 to each group. Review with students the fact that the United Nations was formed in 1945 after World War II.

2. **Worksheet 1**  
   Read the Preamble to the United Nations Charter with students. Make sure they understand the goals for each part and the means of attaining them. Make sure students understand the directions on the worksheet. Have each group describe three goals of the Preamble. (Students may wish to use dictionaries.) As a class, discuss each group’s answers.

3. **Worksheet 2**  
   Give a copy of Worksheet 2 (two pages) to each group. Review the diagram on the first page of Worksheet 2 with students and make sure they understand the types of situations each branch of the United Nations addresses. Review the worksheet directions and have each group complete the worksheet. When students have finished, discuss the answers in class. Mention that some branches of the United Nations may have primary responsibility as listed, but some matters may be brought up directly before the General Assembly. (Any of the situations listed on Worksheet 2 may be brought up before the General Assembly by a member nation.)

4. **Conclude Activity**  
   Ask students the following question:
   - What are some reasons the United Nations is unable to solve many of the problems that exist in various parts of the world? (lack of cooperation, support, funding)

**Variation**

**Basic**  
Have students discuss and list what might be different in the world today if there were no organization such as the United Nations.

**Advanced**  
Have small groups of students research the League of Nations. Have students compare its structure with that of the United Nations. Ask them to state why they think the League of Nations failed.
Working on World Problems—Worksheet 1

Directions: Read and discuss this portion of the Preamble to the United Nations Charter. Then follow the instructions below.

Preamble to the United Nations Charter

We the peoples of the United Nations determined to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind, and to reaffirm faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small, and to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained, and to promote social progress and better standards of life in larger freedom . . .

In your own words, describe three goals stated in the Preamble to the United Nations Charter.

1. Goal:

2. Goal:

3. Goal:
**Working on World Problems—Worksheet 2**

**Directions:** The diagram below outlines the responsibilities of each branch of the United Nations. Study the diagram. Then read Situations 1 through 6 on the following page. For each situation, indicate the branch of the United Nations that would most likely address the problem. Write your answer on the line under each situation.
Working on World Problems—Worksheet 2 (continued)

**Situation 1**
A country accuses another country of fishing in its waters.

---

**Situation 2**
Children in a country need to be vaccinated against measles; the country’s government cannot afford to provide the vaccinations.

---

**Situation 3**
A country has applied to become a member of the United Nations.

---

**Situation 4**
Two countries threaten each other with armed conflict.

---

**Situation 5**
A country’s ruling party is denying women their basic human rights.

---

**Situation 6**
Member countries want to hold a conference on the role of oil-producing nations in maintaining worldwide economic stability.
Consumer Protection

Purpose: Students study some consumer protection acts and assess their importance.

Objective 29: Economic Perspectives
Thinking Skills: Analyze Information; Generate Ideas

Description: Students study the requirements of the consumer protection acts, list examples of consumer products that fall under these acts, and explain the importance of the acts.

Directions

1. Getting Started: Divide students into groups of two or three. Ask students the following questions:
   - What products have you purchased that carry a label with information or a warning?
   - What kind of information is given on these labels? (nutritional information, warnings on flammable materials)

2. Worksheets 1 and 2: Distribute copies of the worksheets to each student. Tell students that the acts listed on Worksheet 1 are federal laws that were passed to provide safety and protection for the consumer. Have volunteers take turns reading each act. Then have students complete the chart on Worksheet 2. Make sure they understand the directions. An example of a response has been provided.

3. Discuss: Have students volunteer their answers until all laws have been discussed.

4. Conclude Activity: Ask students the following question:
   - What are some responsibilities the consumer has, with regard to consumer protection laws?
     (to read instructions and warnings, to use products as directed, and to report problems discovered after purchasing products)

Variation

Basic: Have students research other consumer protection laws and complete a chart similar to the one on the worksheet.

Advanced: Have students research the history of some of the acts shown in the chart to find out when and why they were passed, and what opposition they faced. Also have students study any new safety measures that consumer groups would like to see passed.
Consumer Protection—Worksheet 1

**Child Protection and Toy Safety Act**
Requires that warning labels and possible hazards be clearly displayed on the product and/or on product packaging.

**Food, Drug, and Cosmetic Act**
Requires that food, drug, and cosmetic products be labeled correctly and that the products be truthfully advertised. (The act also aims to ensure the effectiveness of certain drugs and cosmetics.)

**Federal Hazardous Substances Labeling Act**
Requires that clear labels be placed on hazardous products: first-aid procedures in case of accidents, precautions when using the product, etc.

**Fair Packaging and Labeling Act**
Requires that certain facts be printed clearly on packaged products: net weight of contents, size of one serving, the list of ingredients in order of decreasing weight, etc.

**Automobile Information Disclosures Act**
Requires that automobile manufacturers and retailers label each car with the following information: suggested retail price, the price of additional features, and the total price.
## Consumer Protection—Worksheet 2

**Directions:** Select three of the federal acts, except for the one shown below, listed on Worksheet 1. Then use the information and your own knowledge to complete the chart by giving an example of a consumer product that carries product information and telling why the act is important. An example is given.

<table>
<thead>
<tr>
<th>Act</th>
<th>Example of Consumer Product That Carries Product Information</th>
<th>Why the Act Is Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child Protection and Toy Safety Act</td>
<td>Some toys are labeled for ages 3 and up.</td>
<td>Younger children may swallow toys that have small parts. The act helps parents know which toys are not appropriate for children under the age of 3.</td>
</tr>
</tbody>
</table>
ACTIVITY

The World Car

Purpose
Students locate countries on a world map and create an advertisement for a car made with parts manufactured in these different countries.

Objective 29: Economic Perspectives
Thinking Skills: Gather Information; Synthesize Elements

Description
Students study a chart showing the countries in which some automobile parts are produced. They locate these countries on a world map and create an advertisement for a “world car.”

Materials
blank paper (for students’ advertisements), classroom world map or atlas

Directions

1. Getting Started
   Ask students the following questions:
   - Name some automobile parts. (List their responses on the board.)
   - Do you think all the parts for cars assembled in the United States are made in the United States?
   Distribute copies of the worksheet. Review the information in the chart. Explain that although a car may be assembled in a particular country, the materials that make up its parts, or the parts themselves, may come from other countries. Ask students the following question:
   - What are some reasons automobiles are made of parts manufactured in other countries? (lack of certain raw materials, lower cost of labor in other countries)

2. Map Work
   Review the directions for the map activity. When students have completed the map, have volunteers locate the countries on a classroom map.

3. Create an Advertisement
   Tell students that many automobile advertisements promote the idea that a car comes from a particular country. Have volunteers give examples. Tell students that they will be creating an advertisement for a “world car,” which is to appear in a magazine, a newspaper, or on television. They will attempt to “sell” the idea of a car made from parts manufactured in many countries—a car that is truly an example of economic interdependence.
   On the board, list some criteria for students’ advertisements: (1) include an illustration (2) use persuasive text (3) appeal to a certain age group and/or income bracket.

4. Conclude Activity
   Have students share their advertisements with the class. Students may vote for their favorite ad in each of several categories: best-looking car; most persuasive advertisement; advertisement that best conveys the concept of a “world car.”

Variation

Basic
Review with students the concept of international trade. Have students research some imports and exports of the United States and explain why certain goods are imported or exported.

Advanced
Have students study some of the imports and exports of the countries listed in the chart. Have students note whether any of the countries listed rely on the United States for certain products or materials.
The World Car—Worksheet

Directions: On the world map below, locate and label the countries listed in the chart to show in what parts of the world automobile parts are manufactured. You may use an atlas or world map/globe to help you.

The World Car

<table>
<thead>
<tr>
<th>Product</th>
<th>Country Where Product Is Manufactured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubber tires</td>
<td>Indonesia</td>
</tr>
<tr>
<td>Door handles, locks</td>
<td>India</td>
</tr>
<tr>
<td>Aluminum hubcaps</td>
<td>Portugal</td>
</tr>
<tr>
<td>Glass windshields and windows</td>
<td>Venezuela</td>
</tr>
<tr>
<td>Plastic steering wheels</td>
<td>France</td>
</tr>
<tr>
<td>Leather seat covers</td>
<td>Italy</td>
</tr>
<tr>
<td>Vinyl dashboards</td>
<td>United States</td>
</tr>
</tbody>
</table>

Social Studies • Activity 8
Answers to Student Worksheets

Reading and Language Arts

Activity 1: Running Faster and Faster

| Ancient Times | 776 B.C. | The History of Running Starts Here
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Olympics begin.</td>
</tr>
<tr>
<td>Middle Ages</td>
<td></td>
<td>Athletes compete in races at fairs.</td>
</tr>
<tr>
<td>Modern Era</td>
<td>A.D. 1700</td>
<td>Athletes called “peds” run in races.</td>
</tr>
<tr>
<td></td>
<td>1900</td>
<td>“Interval training” begins. Athletes train by running 50–100 miles per week.</td>
</tr>
<tr>
<td></td>
<td>1950</td>
<td>Bannister runs first four-minute mile.</td>
</tr>
</tbody>
</table>

• Answers will vary, but may include:
It is very difficult to run a four-minute mile. Only the top runners in the world can run a mile in four minutes or less. I am fast in short races. But I run out of breath easily when I try to run long distances. I don’t think I would like to go through the training.

Activity 2: Canoe Day

• Answers will vary, but may include:
Dear Morgan,

Today was the funniest day at Camp Lakeside yet. All the kids in my group went out on the lake in canoes. First, the counselors taught us how to use the paddles, and let me tell you, it’s harder than it looks! There was a lot of splashing, and I got soaked! One of the counselors fell in while showing us how to get in and out of the canoe!

At the end of the lesson, we put our lunches into the canoes and headed toward a small island in the middle of the lake. Two of the canoes tipped over on the way and some of the lunches were lost! That may explain why the trout weren’t biting later. They ate our lunches! Anyway, when we finally reached the island, everyone was so hungry! We pulled the canoes up onto the shore and sat down to share the sandwiches we had left.

Unfortunately, while we were relaxing, one of the canoes drifted away! By the time we realized what had happened, it had floated far out onto the lake, and not in the direction we needed to go to get back to camp. We all piled into the remaining canoes and went after it. With the extra weight in each canoe we had to keep bailing out water as we rowed. That is hard to do when you can’t stop laughing!

We were all wet and tired when we finally got back to camp. Still, I have to say, it was the best day I’ve had at camp so far!

Love,
Jamie

Activity 3: Characters in Competition

1.
Janey
Appearance cute, small
Behavior self-confident, gets straight As, plays piano well and with feeling
Feelings competitive, self-doubt, nervous, afraid of failing, loves music, grateful to Mr. Okamura
Motivation wants to please parents and Mr. Okamura

Mr. Okamura
Appearance old, grey beard
Behavior tugs beard, waves hand, speaks softly, kind to Janey
Feelings likes the way Juan and Janey play
Motivation wants to inspire his students to play well, feels confident

Juan
Appearance (none provided)
Behavior friendly, nice, good student, excellent piano player
Feelings doesn’t care about competition
Motivation plays for fun

• Answers will vary, but may include:
2. I learned the most about Janey.
3. I would like to know if Juan is really a better pianist than Janey. I would like to know who Mr. Okamura would really like to see win the piano contest.

Activity 4: Figuratively Speaking

• Answers will vary, but may include:

Figurative Language (a)

What Is Being Described? (b)

Write Your Own Figurative Description (c)

1. a starched within an inch of its life
   b cloth that has been starched heavily
   c starched until no wrinkles dared show their faces

2. a they glowed like two stars
   b Rebecca’s eyes
   c they lit up like fireworks

3. a their dancing lights half hidden in lustrous darkness
   b Rebecca’s eyes and eyelashes
   c their gleaming brightness half covered by long, dark lashes
4. a I came to myself in darkness
   b regaining consciousness
   c I was startled and found myself in the black of night

5. a the thrashing of heavy sprays
   b sea water
   c the water beating down

6. a the whole world now heaved giddily up, and now rushed giddily downward
   b the ship being tossed by waves
   c the boat seemed to rise up and fall back

7. a bound in the belly of that unlucky ship
   b tied up deep within the ship
   c tied in the deep dark cavern of the miserable boat

• Answers for open-ended question will vary.

Activity 5: Living the Good Life
• Answers for rewritten generalizations may vary.
  1. Valid
  2. Some people don’t like the kind of place they live in.
  3. Cities generally have more cultural activities than small towns.
  4. Some people who live in suburbs complain about having to drive too much.
  5. For some, a small to middle-sized town is the perfect place to live.
  6. Valid
  7. Towns are not always near large cities.
  8. Valid
  9. Some apartment dwellers escape the city on weekends and vacations.
  10. Some people who live in small towns never think about living somewhere else.

• Answers for open-ended question will vary, but may include:
  In the city, you don’t have to travel great distances to have fun.
  Some people find that the suburbs are perfect for raising a family.
  Museums in towns are mostly smaller than museums in cities.
  Farmers, ranchers, and forest rangers often like living in the country.

Activity 6: Mime Time
• The answers in the first two columns should not vary. The answers in the third column may vary.

<table>
<thead>
<tr>
<th>Title (a)</th>
<th>Author’s Purpose (b)</th>
<th>Techniques Author Used to Achieve This (c)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a One Mime’s Lament</td>
<td>b to entertain</td>
<td>c humor, rhyme</td>
</tr>
<tr>
<td>a Performers for Everyone</td>
<td>b to persuade</td>
<td>c personal opinion, backed up with examples</td>
</tr>
<tr>
<td>a Mimes in History</td>
<td>b to inform</td>
<td>c facts—places and dates</td>
</tr>
</tbody>
</table>

• Answers for open-ended question will vary, but may include:
  I liked the limerick best. I didn’t learn that much about mimes, except that they aim to please and they tease their audiences. However, the poetic phrasing says a lot in a few words. The rhyming is light-hearted and adds humor to the mime’s lament.

Activity 7: Sawyer’s Summary
• Answers will vary, depending upon the book.

Activity 8: Junior Red Cross
  1. The greatest number of students joined in 1945. Twenty million students joined.
  2. The fewest number of students joined in 1933. Six million students joined.
  3. Students worked in Victory Gardens during World War I and World War II.
  4. Students worked on recreational programs during World War II.
  5. Students helped distribute surplus wheat and canned food during the Great Depression. It was important because the Great Depression was a time of great need for many Americans.
  6. Approximately eight million students joined in 1918 and 1940.

• Answers for open-ended question will vary, but may include:
  Membership increased during each of the three periods. Membership increased because the need for volunteers grew over time. World War I, the Great Depression, and World War II were all periods when many people needed help.

Activity 9: A Star Is Born
• Answers will vary, but may include:
  The biggest movie star of the year is named Jo. You probably haven’t heard of her, but by the end of the year you will, probably more than you care to. What is Jo’s claim to fame you might ask, and how can I be sure she will be the “biggest movie star”? Jo is a 400-pound Galápagos tortoise, *Geochelone elephantopus*. She is the main character of the film *Landlubber*, soon to be released. The film’s human stars are teen favorite Ashley Kate Nielson, former child star Wendy Wendie, and character actor John Longtooth. Jo steals the show, although she doesn’t know she’s acting. She’s just doing what comes naturally, which is moving very slowly.
The story—not a new one—is basically a girl-saves-critter weepie. Why does Jo need saving, and what lies ahead for her if she is saved? Ashley Kate’s movie father wants to take Jo back to his wildlife farm, along with other local fauna. Ashley Kate knows it’s not illegal and that he has the blessing of the government. She realizes that everyone thinks it’s for the best because her father is running a special breeding program. Still, she cannot help feel sorry for Jo, who will never see her native land again.

I won’t spoil the ending for you. If you have ever seen another of director Paul Murchison’s movies, then you will know what happens before you even take your seat.

I asked Ashley Kate’s mother how her daughter liked working with Jo. “Nothing interferes with Ashley Kate’s professionalism,” she said. “That goes for turtles, lizards, and birds.” It doesn’t look as if Ashley Kate interferes with Jo either. Jo just goes on doing what comes naturally.

Activity 10: Lewis and Clark

The following sentences should be deleted from each paragraph:

- In 1803, President Thomas Jefferson asked Meriwether Lewis to lead an expedition across the West. The trip would start in St. Louis, in the vast, newly acquired Louisiana Territory. Jefferson had bought Louisiana from Napoleon, who would soon be crowned Emperor of France. One purpose of the expedition was to find a water route from the Missouri River all the way to the Pacific Ocean. With this water route, traders would not have to sail around the continent of South America to get from east to west. At that time, South America was not yet independent from Spain. Also, the president wanted Lewis to make maps of the region and make friendly contact with Native American tribes. In addition, he wanted Lewis to document the wildlife found in the region. Lewis recruited his friend William Clark to help him lead the expedition. Both Lewis and Clark were very poor spellers.

- President Jefferson believed that there might be mammoths, giants, and llamas living in the unexplored West. He also believed that there was a large mountain made of salt. Jefferson had been inaugurated president in 1801. Lewis and Clark helped scientists gain a more realistic picture of the west. Unfortunately, they couldn’t take pictures with a camera, because it hadn’t been invented yet. Lewis and Clark did find many animals and plants that were new to scientists. These included the sage grouse, the bighorn sheep, prairie dogs, and bitterroot.

- Lewis and Clark made contact with Native Americans of many different tribes, who helped them to find their way to the Pacific Ocean. One day, the United States would stretch all the way to the Pacific Ocean. A young Shoshoni woman named Sacajawea was particularly helpful. When her husband was hired as an interpreter, she joined the expedition along with her infant son. Sacajawea helped Lewis and Clark communicate with the Shoshoni. Lewis and Clark needed the help of Sacajawea and her husband to get horses for their trip west. During the expedition, they sometimes ate dried meat. There was another way in which Sacajawea contributed to the success of the expedition. When other Native Americans saw her with her small son, they were less likely to fear that the expedition was a war party. Only men, they believed, made war. So Lewis and Clark were able to accomplish their mission without creating ill will among the people they met.

Activity 11: Topics for Me

- Answers will vary, but may include:

1. Winter offers many outdoor pleasures, no matter where you live. Never travel empty-handed. Take along a book to read, a book of puzzles to do, or a journal to write in. Think of games you can play by yourself.

2. If you find washing a car to be a boring task, here’s how to make it more interesting. Pretend your car is a large animal that needs washing. Divide it into sections. Make a mental note of the “special handling” you need to use for each section.

3. If you’ve ever been stuck waiting somewhere for a long time with nothing to do, you know how important it is to plan ahead. Do you know which amazing band came to your hometown tomorrow night? It’s A-Ville, the best band in the entire country! A-Ville is not just any band. They won a TV contest of today’s most popular bands. Why did they win? They have great looks, tons of talent, and a lot of catchy tunes. Lead singer Brad says

Activity 12: Amazing A-Ville

- Corrections for the following paragraph may vary.

Do you know which amazing band came to your hometown tomorrow night? It’s A-Ville, the best band entire in the entire country! A-Ville is not just any band. They won a TV contest of today’s most popular bands. lead singer Brad says
Mathematics

Activity 1: The Great Jump-Off

Jump-Off Distances

<table>
<thead>
<tr>
<th>Rank</th>
<th>Frog’s Name</th>
<th>Distance Jumped (feet and inches)</th>
<th>Distance Jumped (decimal)</th>
<th>Distance Jumped (fractional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3(la)</td>
<td>Lucky Lefty</td>
<td>19 feet 4 inches</td>
<td>19.375 feet</td>
<td>19 $\frac{3}{4}$ feet</td>
</tr>
<tr>
<td>1</td>
<td>Doris the Magnificent</td>
<td>19 feet 9 inches</td>
<td>19.75 feet</td>
<td>19 $\frac{3}{4}$ feet</td>
</tr>
<tr>
<td>2(la)</td>
<td>Mean Green Machine</td>
<td>19 feet 4 $\frac{1}{2}$ inches</td>
<td>19.4 feet</td>
<td>19 $\frac{1}{2}$ feet</td>
</tr>
<tr>
<td>5</td>
<td>Ribbet Z</td>
<td>19 feet 1.5 inches</td>
<td>19.125 feet</td>
<td>19 $\frac{1}{4}$ feet</td>
</tr>
<tr>
<td>3(la)</td>
<td>Big Boy</td>
<td>19 feet 4.5 inches</td>
<td>19.375 feet</td>
<td>19 $\frac{3}{4}$ feet</td>
</tr>
<tr>
<td>4</td>
<td>Hop-along Cassidy</td>
<td>19 feet 4 inches</td>
<td>19.333 feet</td>
<td>19 $\frac{1}{3}$ feet</td>
</tr>
<tr>
<td>2(la)</td>
<td>The Mighty Toad</td>
<td>19 feet 4 $\frac{1}{2}$ inches</td>
<td>19.4 feet</td>
<td>19 $\frac{1}{2}$ feet</td>
</tr>
</tbody>
</table>

1. Big Boy
2. Doris the Magnificent, Mean Green Machine, The Mighty Toad
3. Doris the Magnificent, Mean Green Machine and The Mighty Toad, Lucky Lefty and Big Boy
4. Hop-along Cassidy—$2\frac{1}{2}$ inches, 0.208 feet, $\frac{5}{24}$ feet
5. Hop-along Cassidy, Ribbet Z
6. See ranking in chart above.

Activity 2: Flavorful Proportions

1. 4 batches, 8 batches
2. 4 batches, 9 batches
3. 6 cups
4. $\frac{3}{4}$ cups
5. $\frac{2}{5}$ cups
6. 10 cups

Activity 3: Appearing Tonight

1. 150 tickets
2. 175 tickets
3. 200 tickets
4. Option 1; $40 more than Option 2, $60 more than Option 3
5. Options 1 and 2 both bring in $400, $100 more than Option 3.
6. Option 2; $200 more than Option 1, $500 more than Option 3
7. The band will lose $150 by choosing Option 2 instead of Option 1, and will gain $50 with Option 3.
8. 151 tickets
9. 176 tickets

Activity 4: By the Numbers

no written answers for this worksheet
**Activity 5: Spring Planting**

1. ![](image)

2. ![](image)

3. No, it is 4 times the area.
4. She will need 4 bags because she has 4 times the area.
5. Answers will vary. Possible answers include $12 \times 8$, $6 \times 16$, and any other numbers whose product is 96.
6. 4 to 1, or other representation of ratio.

**Activity 6: Bird Watching**

- Allow a margin of error of $\pm 3^\circ$.

1. $21^\circ$
2. $76^\circ$ east
3. $45^\circ$ east
4. $24^\circ$ west
5. $8^\circ$ west
6. $27^\circ$ east
7. Point 3 should be located 2 spaces to the right of point 2.
8. $37^\circ$ east
9. $32^\circ$ west
10. $22^\circ$ east

**Activity 7: Shaping Up**

1. no written answer
2. 10. ABF, BGF, BCG, CGE, FGE, CDE, FBC, BCE, CEF, EFB
3. BGF, BCG, CGE, FGE, CDE
4. 3. ABGF, BCEF, CDEG
5. 4. ABCF, BCDE, CDEF, EFAB
6. 2. ABCF, BCDEF

**Activity 8: Rolling, Rolling, Rolling**

- Answers will vary.

**Activity 9: Poll Position**

- Answers will vary.

**Activity 10: All Aboard!**

Port Buchanan

7:40 7:45 7:50 7:55 8:00 8:05 8:10 8:15 8:20

Oak Hills

7:40 7:45 7:50 7:55 8:00 8:05 8:10 8:15 8:20

Mid-Valley

7:40 7:45 7:50 7:55 8:00 8:05 8:10 8:15 8:20

Lewiston

7:40 7:45 7:50 7:55 8:00 8:05 8:10 8:15 8:20

Jamesburg

7:40 7:45 7:50 7:55 8:00 8:05 8:10 8:15 8:20

1. $t \leq 8:02$
2. $t \leq 7:57$ or $t + 1 \leq 7:58$
3. $P + 5 < 8:04$ or $P < 8:03$
4. Mid-Valley and Lewiston
5. Port Buchanan, Oak Hills

**Activity 11: Lost Treasure**

1. Hidden cave
2. 11.5 inches
3. Answers will vary.
Activity 12: Big Dog Drive-In

1. 6 dollar bills each; since Tina has more than $4 and Rick has less than $7, they each have either $5 or $6. If they have $5, they can buy only a Puppy Dog and would get back less than $1 in change. So they each must have had $6 and bought a Puppy Dog Meal.

2. 6 dollar bills; a Big Dog Meal could cost as much as $5.04 ($5.29 - $0.25). If he had only 5 bills, he might not have enough.

3. 3 more dollar bills; 3 Big Dog Meals together could cost $15.12, so he would need $16.

4. She could buy only 2 Double Dog Meals and 2 Puppy Dog Meals. If she had bought 3 Double Dog Meals, she would have had only $4.13 left over, which is not enough for a Puppy Dog Meal.

5. The class needs $8.70 for everyone to have Double Dog Meals. If they went now, 10 students would have to have Puppy Dog Meals. There is a $0.90 difference between Puppy Dog Meals and Double Dog Meals. So if they need $8.70, $8.70 divided by $0.90 would give almost 10. You can check by multiplying 20 $5.29 = $105.80 and adding 10 $4.39 = $43.90, which gives $149.70, which is just enough money.

Science

Activity 1: What’s Inside a Cell?
- The order of the cell parts may vary.

<table>
<thead>
<tr>
<th>Cell Part</th>
<th>Plant Cell</th>
<th>Animal Cell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell membrane</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cytoplasm</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Mitochondrion</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Vacuole</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Cell wall</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Chloroplast</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Nucleus</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Endoplasmic reticulum</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Activity 2: Antarctic Food Web
There are many food chains in the Antarctic food web. Tracings of the food chains should begin with any of the producers, proceed to the next organism (by way of arrows) in the food chain, etc., stopping when one of the consumers at the top of a food chain is reached. Note: The consumers located at the top of the food chains in this food web are baleen whales, toothed whales, and leopard seals.

Activity 3: At Home in the Wetlands

no written answers for this worksheet

Activity 4: Ice, Water, Steam
- Answers will vary.

Activity 5: Falling, Falling
- Experimental data to be recorded.

Activity 6: Up In a Swing
- Experimental data to be recorded.

Activity 7: The Ground Beneath Your Feet

no written answers for these worksheets

Activity 8: Warm and Warmer
The students’ graphs should show an increase in global temperature and should be plotted correctly.
Social Studies

Activity 1: Tropical Rain Forest Regions
Worksheet 1—Map Work
• Symbols should be marked on the map as shown.

Worksheet 2—Climograph
1. temperature in the 80s all year
2. at least 5 inches of rain each month; rainy all year
3. hot and rainy all year

Activity 2: Traveling on Route 66
• Numbers in circles indicate approximate locations of cities/towns.

Activity 3: Some Ancient Chinese Inventions
• Answers will vary, but may include:
Invention (a) Year of Discovery or Use (b) Importance/How It Changed People’s Lives (c)
a Horse collar—Allowed horses to haul heavier loads b 400 B.C.
c • Made farming easier/faster (esp. plowing) • Easier for horses to haul heavier loads

Activity 4: Life in the Middle Ages
• Answers will vary, but may include:
Aspect of Life (a) 13th-Century France (b) United States Today (c)
a Home Heating b Some rooms are heated by fireplaces; other rooms stay cold.
c Many houses have central heating, usually by electricity or gas.

Shopping for Food
b People shop daily for different types of foods in a variety of stores: butcher, pastry shop, spice shop, bakery, street peddlers.
c People often buy food in large supermarkets for one-stop shopping; foods last longer because of preservatives and freezing methods.

Laundry
b Clothes are washed by hand; water is brought in and heated.
c Clothes are usually washed by machines at home or at Laundromats; indoor plumbing provides hot and cold running water.
Activity 5: Shell Beach Budget

Worksheet 1
1 Public Works
2 Transportation
3 General Government
4 Public Safety
5 Culture and Leisure Services
6 Community Development and Capital Improvements

Worksheet 2
• Answers will vary, but may include:

Proposal #1
For: will eliminate traffic problems; will increase parking spaces; will attract customers/tourists to downtown area(s); will make it safer for pedestrians
Against: businesses located away from the mall will not benefit; some buildings would have to be torn down to build the parking structure; the project is too expensive; will have a negative impact on the budget; may be less convenient for shoppers

Proposal #2
For: will reduce traffic problems; will attract more tourists to different parts of the city; will reduce the need for parking in the area
Against: will create construction hassles; will be too costly; will not be needed year round

Proposal #3
For: will attract more tourists to the area; will create jobs during and after construction; will add tax dollars to the city
Against: will ruin the view of existing structures; will take away the quaintness/charm of the area; will create traffic problems along the beachfront

Activity 6: Working on World Problems

Worksheet 1

Goals include:
prevent wars; unite strength to maintain peace; use armed force only for the common interest
promote human rights and equal rights; practice tolerance
respect and maintain treaty obligations; promote conditions that help maintain treaty obligations
promote a better standard of life; work together to promote economic and social advancement for everyone

Worksheet 2
1. International Court of Justice
2. Economic and Social Council
3. General Assembly
4. Security Council
5. Economic and Social Council
6. Secretariat

• Any of the above matters may be brought up in the General Assembly by a member nation.

Activity 7: Consumer Protection

• Students choose any three of the consumer protection acts, except for the one given on the worksheet. Answers will vary.

Act (a)
Example of Consumer Product Information (b)
Why the Act Is Important (c)

a Food, Drug, and Cosmetic Act
b Contents of foods, drugs, and cosmetics must be labeled accurately.
Products must be truthfully advertised.
c People who are allergic to certain ingredients must know exact contents of products.
Proper labeling helps ensure that people are getting what they are paying for.
Truth in advertising protects people from buying products that are harmful or worthless.

a Federal Hazardous Substances Labeling Act
b Warning labels must be put on hazardous substances.
Flammable materials and poisonous substances must be clearly labeled.
Warning labels must explain how to handle certain products.
Warning labels tell you to keep certain products out of the reach of children.
c Warnings help prevent possible injury or illness.
Labels help keep poisonous or dangerous products away from young children.
Labels give first aid advice if needed.
a Fair Packaging and Labeling Act  
b Labels must give accurate information about the contents of a package.  
c Information helps consumers know exactly what they are getting in a product.  
Information listing the weight of a product gives more accurate information than does the size of the package.  
Information helps consumers to compare value and food choices.  

a Automobile Information Disclosures Act  
b Cars for sale must show the retail price and the cost of additional features.  
c Consumers are protected against some hidden costs.  
Consumers will be better able to compare prices of different automobiles.  

Activity 8: The World Car

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.

**What Is the *TerraNova, The Second Edition* Test Like?**

*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.

![Image of four carts on top of a hill]

\[
\begin{align*}
4 - 3 &= 1 \\
3 + 1 &= 4 \\
4 + 1 &= 5 \\
3 - 1 &= 2
\end{align*}
\]

[Circle the correct answer: 1]

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

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. ______________________

![Diagram of Earth's layers: Mantle, Core, Crust]
What Should I Know About *TerraNova, The Second Edition* Test Scores?

*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.

How Can I Help My Child Prepare for the Test?

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.

How Can I Use the Test Information?

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.