15 A Deadly Game of Hide and Seek

For six years Mexico had been locked in a bloody revolution, with each state co trolled by a different warlord. Americans had more than a billion dollars investe Mexican property and industry. So, to protect American interests, the United S stepped in, and President Woodrow Wilson supported Venustiano Carranza as head of Mexico in hopes of stabilizing the Mexican government.

Francisco "Pancho" Villa, warlord of Northern Mexico, was outraged. The Villa saw it, Wilson could not possibly have made a worse choice than Villa's ri Carranza. In retaliation, Villa led his rebel army northward in 1916. His target were his own Mexican government and the United States with its meddling pr dent. Villa and his *Villistas* attacked the little border town of Columbus, New Mexico, to show Wilson and Carranza that they'd double-crossed the wrong m

President Wilson ordered General John Pershing to cross the border into M with some 6,600 cavalrymen. Their orders were to capture the bandit Villa de alive. All through the summer and fall of 1916, Pershing's forces wandered ai through the Mexican state of Chihuahua, while Villa's army grew. Rumors rep that Villa's forces were as strong as 18,000 men.

When Pershing failed even to sight the elusive Villa, a joint Mexican-Ame Commission negotiated an agreement allowing both sides to back away peace On February 5, 1917, the last members of the Pershing Expedition left Mexi good. The cost to the United States: about 100 casualties and some $130 mil spent in the pursuit of an outlaw whom U.S. troops could not bring to justi Villa did stop his raids on the U.S. side of the border.

Main Idea 1

	Answer
Mark the *main idea*	M
Mark the statement that is *too broad*	B
Mark the statement that is *too narrow*	N

a. American presidents have attempted to influence Mexican politics. ☐

b. Pancho Villa led troops into the United States. ☐

c. Pancho Villa attacked the United States in revenge for U.S. meddling. ☐

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Score 15 points for each correct answer. Score

Subject Matter 2 Another good title for this passage would be
- ☐ a. A New President for Mexico.
- ☐ b. General Pershing Wins a Battle.
- ☐ c. Pancho Villa and the U.S. President.
- ☐ d. Famous Mexican Leaders. ____

Supporting Details 3 As Pershing's troops wandered in Mexico,
- ☐ a. Pancho Villa was brought to justice.
- ☐ b. Pancho Villa's army decreased in number.
- ☐ c. Villa was killed by his own men.
- ☐ d. Pancho Villa's army increased in number. ____

Conclusion 4 In dealing with Pancho Villa, the United States
- ☐ a. got nothing for all its efforts.
- ☐ b. was the clearcut winner.
- ☐ c. apparently did frighten Villa somewhat.
- ☐ d. agreed to name Villa leader of Mexico. ____

Clarifying Devices 5 Information in this passage is generally presented
- ☐ a. from earliest to latest.
- ☐ b. in order of importance.
- ☐ c. in spatial order.
- ☐ d. from latest to earliest. ____

Vocabulary in Context 6 The word warlord means a
- ☐ a. guardian.
- ☐ b. military ruler.
- ☐ c. follower.
- ☐ d. wizard. ____

Add your scores for questions 1–6. Enter the total here and on the graph on page 214. **Total Score** ____

16 Double or Nothing

Begin with a sheet of newspaper and cut it in half to get two pieces; then the pieces and cut in half again to get four pieces. Continue this process can't cut the stack of paper anymore. How many times do you think you repeat the process of doubling the number of pieces of paper? The doubl that results from an activity of this type may surprise you in how quickly bers increase. In this example—where the initial number is a single piece the resulting pattern is 1, 2, 4, 8, 16, 32, 64, and so on, with each numb twice that of the preceding number and the total quantity doubling at ea

Doubling patterns are also called exponential patterns because they can sented by mathematical expressions such as 2^x. (The x, an exponent, indica many times a number should be used as a multiplying factor.) For example, each number in the sequence 1, 2, 3, and so forth. Substituting each numbe expression 2^x (2^1, 2^2 . . .) results in the same doubling pattern that develops paper cutting experiment: 2, 4, 8, 16, etc. Doubling patterns are among the the exponential relationships, so they are often used to introduce the concep nents in math classes and textbooks. Exponential relationships have numero uses; in particular, the growth of populations is predicted using equations of

The simple doubling pattern is the basis for many folktales and math One folktale has a clever hero asking for a single grain of wheat on the fi of a chess board, then continually doubling the number until the 64-squ full. A clever negotiator might agree to do a job for one penny on day on double the money each day until the job is done. A little experimentatio calculator will show that such an agreement would result in more than 1 dollars for a 30-day job!

Main Idea 1

	Answer
Mark the *main idea*	M
Mark the statement that is *too broad*	B
Mark the statement that is *too narrow*	N

a. Number patterns have many uses. ☐

b. One doubling pattern is 1, 2, 4, 8, etc. ☐

c. In a doubling pattern, each number is twice that of the previous one. ☐

JAMES
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Score 15 points for each correct answer. **Score**

Subject Matter 2 This passage is mostly concerned with
- ☐ a. describing population growth.
- ☐ b. multiplying numbers.
- ☐ c. explaining and showing uses for doubling patterns.
- ☐ d. showing how many folktales use math. ____

Supporting Details 3 The mathematical expression 2^x represents
- ☐ a. a doubling pattern.
- ☐ b. a halving pattern.
- ☐ c. cutting a newspaper in pieces.
- ☐ d. $2 \times 2 \times 2 \times 2 \times 2$. ____

Conclusion 4 In the doubling pattern 3, 6, 12, 24, etc., the next number would be
- ☐ a. 28.
- ☐ b. 36.
- ☐ c. 48.
- ☐ d. 64. ____

Clarifying Devices 5 The first paragraph describes cutting a newspaper sheet in pieces in order to
- ☐ a. show how useful doubling patterns can be.
- ☐ b. show how to follow simple directions.
- ☐ c. make the reader laugh.
- ☐ d. demonstrate how a doubling pattern actually works. ____

Vocabulary in Context 6 In this passage initial means
- ☐ a. a letter representing a person's name.
- ☐ b. from the beginning of time.
- ☐ c. short and to the point.
- ☐ d. first. ____

Add your scores for questions 1–6. Enter the total here and on the graph on page 214. **Total Score** ____

17 To Focus or Not to Focus

The late years of the 19th century saw a new, very artistic style of photog become dominant. This style, now known as Pictorialism, had its origins but quickly became popular in the United States. A primary intention of photographers was to make their work look like paintings. To do this they processes—either chemically induced or caused by natural elements such a snow—to give their photos a soft focus. Retouching to achieve a desired e also common. Many of these photos are difficult to distinguish from paint

As with many other artistic styles or movements, there soon was a reac against this type of photography. Two leaders of the new movement were A Edward Weston and Ansel Adams. They believed that photographs should things as they are, in the light that is naturally available. In 1932, along wi of their contemporaries, they formed Group f/64. This name refers to the opening on the lens of a large-format camera and the one that gives the gr clearness and definition to images. According to their group manifesto, the of Group f/64 members would emphasize "simple and direct presentation purely photographic methods." They rejected techniques used in any other

The beliefs of this group did not mean, however, that they did not rega tography as art. Quite the contrary. Weston took hundreds of photos of mu objects such as peppers and shells, but he found in them a new and someti tling sensuality. Adams photographed Western landscapes, particularly in Y National Park, that are masterpieces of light, shadow, and contrast. Art in p phy didn't disappear, but it did evolve into something that uniquely fit the

Main Idea 1

	Answer
Mark the *main idea*	M
Mark the statement that is *too broad*	B
Mark the statement that is *too narrow*	N

a. Photographic style changed from blurry to sharply focused. ☐

b. Styles in the arts are known to periodically change. ☐

c. Weston and Adams took artistic photographs. ☐

Score 15 points for each correct answer. Score

Subject Matter 2 Another good title for this passage would be
- ☐ a. Weston and Adams.
- ☐ b. How Soft-Focus Photos Are Made.
- ☐ c. Photographing the American West.
- ☐ d. Changing Styles in Photography. ____

Supporting Details 3 The group founded by Adams and Weston was called
- ☐ a. Pictorialists.
- ☐ b. Hard Edgists.
- ☐ c. Group f/64.
- ☐ d. Photographers for Change. ____

Conclusion 4 The change called for by Adams's and Weston's group addressed mainly
- ☐ a. style and technique.
- ☐ b. subject matter.
- ☐ c. color.
- ☐ d. type of camera used. ____

Clarifying Devices 5 The word *however* in the first sentence of the final paragraph signals
- ☐ a. an example.
- ☐ b. a contrast.
- ☐ c. a description.
- ☐ d. an argument. ____

Vocabulary in Context 6 In this passage contemporaries means
- ☐ a. modern and up-to-date items.
- ☐ b. styles of furniture.
- ☐ c. persons of similar age and interest.
- ☐ d. items not expected to last long. ____

Add your scores for questions 1–6. Enter the total here and on the graph on page 214. **Total Score** ____

18 Peering into the Sky

Astronomy is the study of the planets, stars, and other objects in space. About years ago, the Dutch lensmaker Hans Lippershey held a glass lens at arm's leng and looked at it through another lens held in front of his eye. He discovered t the two lenses made distant objects become brighter and magnified. This disc led to the first optical telescope. An optical telescope uses visible light rays to duce images of distant objects. Optical telescopes with lenses are called refract telescopes. As light passes through air and then through the lenses of a refract telescope, the light refracts, or bends. These bent light rays create a problem i they cause tiny "rainbows" to appear around the produced images. Another p is that over time heavy lenses sag, which further distorts images created by th

In 1668 Isaac Newton developed an optical telescope with mirrors, called reflecting telescope. In a reflecting telescope, light rays coming from a distant reflect off mirrors and create a focused image of the object. Because the imag focused, the reflecting telescope is the main optical telescope used by astrono Visible light, however, is only one way in which astronomers learn about spa Objects in space also send invisible rays toward Earth. Different types of tele detect such invisible rays as radio, infrared, ultraviolet, gamma, and x-rays.

A drawback of optical and other types of telescopes based on Earth is tha from space pass through Earth's atmosphere before they reach the telescopes. clouds, winds, and precipitation in Earth's atmosphere filter out and refract s these rays. The images and signals that reach telescopes on Earth often appea ing and blurry. To obtain more accurate images, scientists employ rockets, sa and other spacecraft to carry telescopes high above Earth's atmosphere.

Main Idea 1

Answer

Mark the *main idea* [M]
Mark the statement that is *too broad* [B]
Mark the statement that is *too narrow* [N]

a. There are several types of telescopes. [ ]
b. Light bends in a refracting telescope. [ ]
c. Optical and other types of telescopes have both advantages and disadvantages. [ ]

Score 15 points for each correct answer. Score

Subject Matter 2 This passage is mainly about
- ☐ a. rays sent by objects in space toward Earth.
- ☐ b. different types of telescopes.
- ☐ c. "rainbows" produced by refracted light rays.
- ☐ d. differences between visible light rays and invisible rays. ____

Supporting Details 3 Reflecting telescopes use
- ☐ a. satellites.
- ☐ b. radio waves.
- ☐ c. x-rays.
- ☐ d. mirrors. ____

Conclusion 4 Earth-orbiting telescopes provide more accurate information than earthbound telescopes because
- ☐ a. rays from space are not distorted in Earth's atmosphere.
- ☐ b. earth-orbiting telescopes are more powerful.
- ☐ c. invisible rays are stronger than visible rays.
- ☐ d. earth-orbiting telescopes contain better mirrors. ____

Clarifying Devices 5 In the first paragraph, "rainbows" is put in quotation marks to show that
- ☐ a. these are the exact words of a speaker.
- ☐ b. this is an unusual spelling of a word.
- ☐ c. the items being described aren't really rainbows.
- ☐ d. the images show up only after a storm. ____

Vocabulary in Context 6 In this passage distorts means to make
- ☐ a. unclear.
- ☐ b. clear.
- ☐ c. larger.
- ☐ d. smaller. ____

Add your scores for questions 1–6. Enter the total here and on the graph on page 214. **Total Score** ____