

English Language Arts

LANGUAGE AND LITERATURE: SESSION 1

DIRECTIONS

This session contains three reading selections with seventeen multiple-choice questions and two open-response questions. Mark your answers to these questions in the spaces provided in your Student Answer Booklet.

Imagine always seeing the letters of the alphabet in color or seeing shapes whenever you listen to music. This is the world some people experience. Find out more about this phenomenon by reading the Smithsonian magazine article "For Some, Pain Is Orange." Then answer the questions that follow.

For Some, Pain Is Orange

PERSONS WITH SYNESTHESIA EXPERIENCE "EXTRA" SENSATIONS.
THE LETTER T MAY BE NAVY BLUE; A SOUND CAN TASTE LIKE PICKLES

BY SUSAN HORNIK

1 WHEN NEW YORK ARTIST Carol Steen was 7 and learning to read, she exclaimed to a classmate as they walked home from school, "Isn't *A* the prettiest pink you've ever seen?" Her little chum responded with a withering look. "You're weird," she said.

2 Shabana Tajwar was a bit older when she discovered that her world was more colorful than most. In 1991, as a 20-year-old intern, she and a group of friends were trying to remember someone's name over lunch. "I knew the name was green. It started with *F* and *F* is green," says Tajwar, now an environmental engineer. "But when I mentioned that, everyone said, 'What are you talking about?'" She shrugs. "I was sort of in shock. I didn't know everyone didn't see things the same way."

3 While most of us experience the world through orderly, segregated senses, for some people two or more sensations are commingled.¹ For Steen and Tajwar, hearing a name or seeing a letter or word in black and white causes an involuntary sensation of color. To Tajwar the letter *T* is always navy blue. "I don't see the actual letter as colored," she says. "I see the color flash, sort of in my mind's eye." Steen not only delights in pink *A*'s and gold *Y*'s, she experiences colored taste as well. "I

see the most brilliant blue after I eat a salty pretzel," she says.

4 Others with synesthesia—from the Greek *syn*, meaning together, and *aisthesis*, perception—may feel or taste sounds, or hear or taste shapes. The chords of a strumming guitar may be a soft brushing sensation at the back of an ankle, a musical note may taste like pickles, a trumpet may sound "pointed," the taste of chicken may feel "round." A teenager once confessed that her boyfriend's kiss made her see "orange-sherbet foam."

5 Even more baffling to outsiders: while synesthetes' perceptions are consistent over time, they are not shared. Letters, for instance, don't evoke the same color for everyone. Steen jokes that her good friend and fellow synesthete Patricia Duffy is "great" but misguided. "She thinks *L* is pale yellow, not black with blue highlights," says Steen with a grin, as she pours a mug full of coffee in her downtown New York loft. Separately, over lunch in a sunny bistro, Duffy, a language instructor at the United Nations, confides, "Some of Carol's colors are so wrong!"

6 Even relatives who have synesthesia—it seems to run in families—see things differently. The Russian novelist Vladimir Nabokov tells in

¹ *commingled* — mixed together

his memoirs about playing with a set of wooden blocks when he was 7 years old. He complained to his mother that the letters on the blocks weren't the right colors. She was sympathetic. She, too, objected to the shades—though she also disagreed with some of her son's color choices. According to one study, only one letter elicits consensus among a majority of synesthetes; apparently some 56 percent see *O* as a shade of white. For Nabokov, it radiated the hue of an "ivory-backed hand-mirror."

7 People with synesthesia have described their unusual perceptions to intrigued but baffled researchers for more than 200 years. At times they were viewed as mentally defective, at other times idealized as artistically gifted. Often, they weren't believed at all. Only in the past decade or so, using controlled studies, in-depth interviews and computer-aided visual tests, have scientists begun to identify and catalog the staggering variety of these automatically induced sensations. "We've gone to great lengths to identify the range of forms," says Peter Grossenbacher, a cognitive neuroscientist² and one of the foremost U.S. researchers on synesthesia. "We understand it's a real experience. But we don't know yet how it comes to pass."

8 Already, scientists have discovered that synesthetes frequently have more than one form of the trait. Carol Steen's tall-windowed loft—part living space, part art studio—is jammed with her synesthesia-inspired paintings and sculptural models. Pulling letters painted on business-card-size pieces of paper off a shelf, she struggles to make clear the unique sensations that color her life and work. "It's like viewing the world in multimedia," she says. "I want to show other people what I'm seeing."

9 What Steen is seeing is not only color triggered by certain sounds, smells and flavors; when listening to music, she also sees shapes, which are reflected in her sculpture.

10 Steen also feels pain in color. When on vacation in British Columbia two years ago, she jumped down from a rock and tore a ligament. "All I saw was orange," she says. "It was like wearing orange sunglasses." In her paintings she depicts similar color sensations that she experiences during acupuncture. One abstract oil shows a green slash arcing through a field of red; in another a tiny red triangle drifts off into the distance on a sea of bright blue.

11 Researcher Peter Grossenbacher and a small cadre of scientists in this country, the United Kingdom, Canada, Germany and elsewhere are currently doing research with volunteers to try to figure out why Steen sees orange when the rest of us just ache. So far, they agree that synesthesia is more common in women than in men and is an international phenomenon. Grossenbacher primarily employs sophisticated screening and interviewing methods. Others, bolstered by dramatic advances in imaging techniques, are observing the neural activity of synesthetes and measuring the unique ways their brains respond to stimuli. In the process, they are shedding light on how we all perceive the world around us.

12 "It's the only way I know of perceiving," Steen points out. "If someone said they were going to take it away, it would be like saying they were going to cut off my leg." Although Steen delights in exploring her sensations, others remain ambivalent. When she was 20 and eating dinner with her family, Steen mentioned that the number 5 was yellow. "No," her father said. "It's yellow ocher."

² *cognitive neuroscientist* — a scientist who studies processes of the brain

1 How does the author use the title of the article?

- A. to indicate that some people feel more pain than others do
- B. to explain why some people like the color orange
- C. to suggest new research about synesthesia
- D. to attract the attention of readers who are unaware of synesthesia

2 The experiences reported in paragraphs 1 and 2 of the article **most likely** indicate which of the following?

- A. Synesthetes tend to associate identical colors with the same letters.
- B. Most synesthetes do not want to mention their unusual experiences to other people.
- C. Synesthetes may not realize their experiences are unlike those of other people.
- D. Most synesthetes experience synesthesia for the first time when they begin to learn letters.

3 Based on the article, which of the following **best** describes the relationship between Carol Steen and Patricia Duffy?

- A. They are relatives who share an unusual characteristic.
- B. They are strangers who understand one another's problems.
- C. They are acquaintances who disagree about most things.
- D. They are friends who experience synesthesia in different ways.

4 According to paragraph 7, what do the findings of Peter Grossenbacher indicate about synesthetes?

- A. Synesthetes are actually experiencing the sensations they report.
- B. Synesthetes are usually artistically gifted people.
- C. Synesthetes experience very similar kinds of sensations.
- D. Synesthetes have little difficulty convincing others of their perceptions.

- 5 According to the article, why did Carol Steen become an artist?
- A. Her paintings helped her understand her synesthesia.
 - B. Her view of the world made her especially talented.
 - C. She wanted to share with others how she sees the world.
 - D. She wanted to contribute to research about synesthesia.
- 6 According to the article, which of the following is **not** being used to study synesthesia?
- A. interviewing synesthetes
 - B. studying the brains of synesthetes
 - C. performing computer-aided synesthetic tests
 - D. helping subjects to experience synesthesia

- 7 Based on the article, which of the following would be an example of synesthesia?
- A. feeling sick when being exposed to a bad odor
 - B. tasting salt when eating a pretzel
 - C. seeing color when hearing a bell ring
 - D. calling a circle a triangle when asked its shape
- 8 Read the sentence from paragraph 6 in the box below.

According to one study, only one letter elicits consensus among a majority of synesthetes; apparently some 56 percent see *O* as a shade of white.

Which of the following is the **best** definition of the word *consensus* as used in the sentence?

- A. recognition
- B. permission
- C. compliance
- D. agreement

Write your answer to open-response question 9 in the space provided in your Student Answer Booklet.

- 9 Based on the article, explain how synesthesia affects the lives of those who experience it. Use relevant and specific information from the article to support your answer.