

## Chapter 12

# Sample Reading Test Questions

In Chapters 8 to 11, you learned about the basic elements of the Reading Test on the redesigned SAT, including the types of passages you will encounter and the types of questions the test will include. In this chapter, you will find five sample passages and associated test questions. Following each question is an explanation for the best answer and some comments about the incorrect answer choices.

These instructions will precede the SAT Reading Test.

## Reading Test

**65 MINUTES, 52 QUESTIONS**

**Turn to Section 1 of your answer sheet to answer the questions in this section.**

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### **DIRECTIONS**

Each passage or pair of passages below is followed by a number of questions. After reading each passage or pair, choose the best answer to each question based on what is stated or implied in the passage or passages and in any accompanying graphics (such as a table or graph).

### **SAMPLE 1:**

#### **History/Social Studies Passage, Lower Text Complexity**

The following passage on commuting is of lower complexity, although some aspects of the passage are more challenging than others (as is generally true of the published materials you read). This passage is accompanied by a graphic.

### **REMEMBER**

There will be four single passages and one set of paired passages on the Reading Test. Passages are drawn from U.S. and world literature, history/social studies, and science.

### **REMEMBER**

The text complexity of the passages will range from lower (grades 9–10) to higher (postsecondary entry).

**Questions 1-3 are based on the following passage and supplementary material.**

This passage is adapted from Richard Florida, *The Great Reset*. ©2010 by Richard Florida.

In today's idea-driven economy, the cost of time is what really matters. With the constant pressure to innovate, it makes little sense to waste countless collective hours commuting. So, the most efficient and productive regions are those in which people are thinking and working—not sitting in traffic.

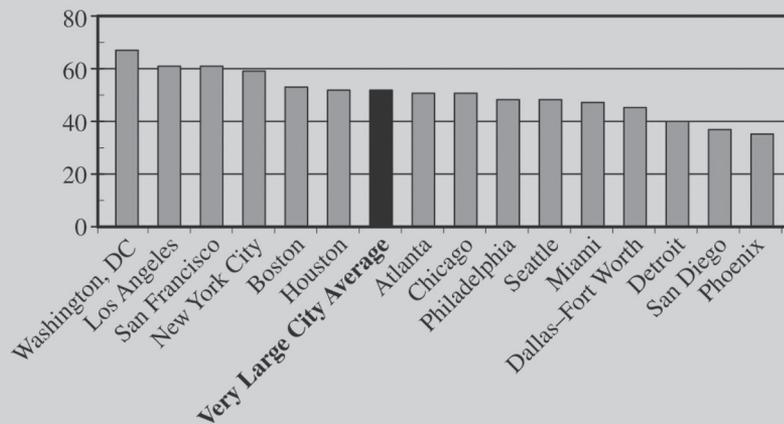
The auto-dependent transportation system has reached its limit in most major cities and megaregions. Commuting by car is among the least efficient of all our activities—not to mention among the least enjoyable, according to detailed research by the Nobel Prize-winning economist Daniel Kahneman and his colleagues. Though one might think that the economic crisis beginning in 2007 would have reduced traffic (high unemployment means fewer workers traveling to and from work), the opposite has been true. Average commutes have lengthened, and congestion has gotten worse, if anything. The average commute rose in 2008 to 25.5 minutes, “erasing years of decreases to stand at the level of 2000, as people had to leave home earlier in the morning to pick up friends for their ride to work or to catch a bus or subway train,” according to the U.S. Census Bureau, which collects the figures. And those are average figures. Commutes are far longer in the big West Coast cities of Los Angeles and San Francisco and the East Coast cities of New York, Philadelphia, Baltimore, and Washington, D.C. In many of these cities, gridlock has become the norm, not just at rush hour but all day, every day.

The costs are astounding. In Los Angeles, congestion eats up more than 485 million working hours a year; that's seventy hours, or nearly two weeks, of full-time work per commuter. In D.C., the time cost of congestion is sixty-two hours per worker per year. In New York it's forty-four hours. Average it out, and the time cost across America's thirteen biggest city regions is fifty-one hours per worker per year. Across the country, commuting wastes 4.2 billion hours of work time annually—nearly a full workweek for every commuter. The overall cost to the U.S. economy is nearly \$90 billion when lost productivity and wasted fuel are taken into account. At the Martin Prosperity Institute, we calculate that every minute shaved off America's commuting time is worth \$19.5 billion in value added to the economy. The numbers add up fast: five minutes is worth \$97.7 billion; ten minutes, \$195 billion; fifteen minutes, \$292 billion.

It's ironic that so many people still believe the main  
 45 remedy for traffic congestion is to build more roads and  
 highways, which of course only makes the problem worse.  
 New roads generate higher levels of "induced traffic," that is,  
 new roads just invite drivers to drive more and lure people  
 who take mass transit back to their cars. Eventually, we end up  
 50 with more clogged roads rather than a long-term  
 improvement in traffic flow.

The coming decades will likely see more intense clustering  
 of jobs, innovation, and productivity in a smaller number of  
 bigger cities and city-regions. Some regions could end up  
 55 bloated beyond the capacity of their infrastructure, while  
 others struggle, their promise stymied by inadequate human  
 or other resources.

The Most Congested Cities in 2011  
 Yearly Hours of Delay per Automobile Commuter



Adapted from Adam Werbach, "The American Commuter Spends 38 Hours a Year Stuck in Traffic." ©2013 by The Atlantic.

## REMEMBER

One history/social studies passage and one science passage will be accompanied by an informational graphic such as a chart, table, or graph.

1

The passage most strongly suggests that researchers at the Martin Prosperity Institute share which assumption?

- A) Employees who work from home are more valuable to their employers than employees who commute.
- B) Employees whose commutes are shortened will use the time saved to do additional productive work for their employers.
- C) Employees can conduct business activities, such as composing memos or joining conference calls, while commuting.
- D) Employees who have longer commutes tend to make more money than employees who have shorter commutes.

**Content:** Rhetoric

**Key:** B

**Objective:** Students must reasonably infer an assumption that is implied in the passage.

**Explanation:** Choice B is the best answer because details in the third paragraph (lines 28-43) strongly suggest that researchers (“we”) at the Martin Prosperity Institute assume that shorter commutes will lead to more productive time for workers. The author notes that “across the country, commuting wastes 4.2 billion hours of work time annually” and that “the overall cost to the U.S. economy is nearly \$90 billion when lost productivity and wasted fuel are taken into account” (lines 34-38). Given also that those at the institute “calculate that every minute shaved off America’s commuting time is worth \$19.5 billion in value added to the economy” (lines 39-41), it can reasonably be concluded that some of that added value is from heightened worker productivity.

Choice A is not the best answer because there is no evidence in the passage that researchers at the Martin Prosperity Institute assume that employees who work from home are more valuable to their employers than employees who commute. Although the passage does criticize long commutes, it does not propose working from home as a solution.

Choice C is not the best answer because there is no evidence in the passage that researchers at the Martin Prosperity Institute assume that employees can conduct business activities, such as composing memos or joining conference calls, while commuting. The passage does discuss commuting in some detail, but it does not mention activities that commuters can or should be undertaking while commuting, and it generally portrays commuting time as lost or wasted time.

Choice D is not the best answer because there is no evidence in the passage that researchers at the Martin Prosperity Institute assume that employees who have lengthy commutes tend to make more money than employees who have shorter commutes. The passage does not draw any clear links between the amount of money employees make and the commutes they have.

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Choice A is tempting, as you might want to draw the inference that people who work from home don’t waste time commuting and thus are more valuable to employers. This inference, however, is not supported by the passage, which makes no mention of working from home.

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On questions that ask for the meaning of a word in context, consider the role the word plays in the context in which it appears. Wrong answer choices will often consist of alternate meanings of the word that do not fit the context.

2

As used in line 52, “intense” most nearly means

- A) emotional.
- B) concentrated.
- C) brilliant.
- D) determined.

**Content:** Information and Ideas

**Key:** B

**Objective:** Students must determine the meaning of a word in the context in which it appears.

**Explanation:** Choice B is the best answer because the context makes clear that the clustering of jobs, innovation, and productivity will be more concentrated in, or more densely packed into, “a smaller number of bigger cities and city-regions” (lines 53-54).

Choice A is not the best answer because although “intense” sometimes means “emotional,” it would make no sense in this context to say that the clustering of jobs, innovation, and productivity will be more emotional in “a smaller number of bigger cities and city-regions” (lines 53-54).

Choice C is not the best answer because although “intense” sometimes means “brilliant,” it would make no sense in this context to say that the clustering of jobs, innovation, and productivity will be more brilliant in “a smaller number of bigger cities and city-regions” (lines 53-54).

Choice D is not the best answer because although “intense” sometimes means “determined,” it would make no sense in this context to say that the clustering of jobs, innovation, and productivity will be more determined in “a smaller number of bigger cities and city-regions” (lines 53-54).

3

Which claim about traffic congestion is supported by the graph?

- A) New York City commuters spend less time annually delayed by traffic congestion than the average for very large cities.
- B) Los Angeles commuters are delayed more hours annually by traffic congestion than are commuters in Washington, D.C.
- C) Commuters in Washington, D.C., face greater delays annually due to traffic congestion than do commuters in New York City.
- D) Commuters in Detroit spend more time delayed annually by traffic congestion than do commuters in Houston, Atlanta, and Chicago.

**Content:** Synthesis

**Key:** C

**Objective:** Students must interpret data presented graphically.

**Explanation:** Choice C is the best answer. Higher bars on the graph represent longer annual commuter delays than lower bars; moreover, the number of hours of annual commuter delay generally decreases as one moves from left to right on the graph. The bar for Washington, D.C., is higher than and to the left of that for New York City, meaning that D.C. automobile commuters experience greater amounts of delay each year.

Choice A is not the best answer because the graph’s bar for New York City is higher than and to the left of that for the average for very large cities, meaning that New York City automobile commuters experience greater, not lesser, amounts of delay each year.

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This question requires you to locate information from a graph and draw a reasonable conclusion from the data. Carefully analyze the data in the graph, including the title, axes labels, and unit increments, before selecting your answer.

Choice B is not the best answer because the graph's bar for Los Angeles is lower than and to the right of that for Washington, D.C., meaning that Los Angeles automobile commuters experience lesser, not greater, amounts of delay each year.

Choice D is not the best answer because the graph's bar for Detroit is lower than and to the right of those for Houston, Atlanta, and Chicago, meaning that Detroit automobile commuters experience lesser, not greater, amounts of delay each year.

## **SAMPLE 2:**

### **History/Social Studies Passage, Higher Text Complexity**

The following passage from a text in the Great Global Conversation is of higher complexity, although some aspects of the passage are less challenging than others (as is generally true of the published materials you read).

## **PRACTICE AT**



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Some passages, like this one, are preceded by a brief introduction. Be sure to read the introduction as it may provide context that will help you understand the passage.

### **Questions 4-8 are based on the following passage.**

The passage is adapted from a speech delivered by Congresswoman Barbara Jordan of Texas on July 25, 1974. She was a member of the Judiciary Committee of the United States House of Representatives. In the passage, Jordan discusses how and when a United States president may be impeached, or charged with serious offenses while in office. Jordan's speech was delivered in the context of impeachment hearings against then President Richard M. Nixon.

Today, I am an inquisitor. An hyperbole would not be fictional and would not overstate the solemnness that I feel right now. My faith in the Constitution is whole; it is complete; it is total. And I am not going to sit here and be an idle spectator to the diminution, the subversion, the destruction, of the Constitution.

“Who can so properly be the inquisitors for the nation as the representatives of the nation themselves?” “The subjects of its jurisdiction are those offenses which proceed from the misconduct of public men.”\* And that's what we're talking about. In other words, [the jurisdiction comes] from the abuse or violation of some public trust.

It is wrong, I suggest, it is a misreading of the Constitution for any member here to assert that for a member to vote for an article of impeachment means that that member must be convinced that the President should be removed from office. The Constitution doesn't say that. The powers relating to impeachment are an essential check in the hands of the body of the legislature against and upon the encroachments of the executive. The division between the two branches of the legislature, the House and the Senate, assigning to the one the right to accuse and to the other the right to judge—the framers of this Constitution were very astute. They did not make the accusers and the judges . . . the same person.

25 We know the nature of impeachment. We've been talking about it a while now. It is chiefly designed for the President and his high ministers to somehow be called into account. It is designed to "bridle" the executive if he engages in excesses. "It is designed as a method of national inquest into the conduct of public men."\* The framers confided in the Congress the power, if need be, to remove the President in order to strike a delicate balance between a President swollen with power and grown tyrannical, and preservation of the independence of the executive.

35 The nature of impeachment: a narrowly channeled exception to the separation of powers maxim. The Federal Convention of 1787 said that. It limited impeachment to high crimes and misdemeanors, and discounted and opposed the term "maladministration." "It is to be used only for great misdemeanors," so it was said in the North Carolina ratification convention. And in the Virginia ratification convention: "We do not trust our liberty to a particular branch. We need one branch to check the other."

. . . The North Carolina ratification convention: "No one need be afraid that officers who commit oppression will pass with immunity." "Prosecutions of impeachments will seldom fail to agitate the passions of the whole community," said Hamilton in the *Federalist Papers*, Number 65. "We divide into parties more or less friendly or inimical to the accused."\*  
 45 I do not mean political parties in that sense.

The drawing of political lines goes to the motivation behind impeachment; but impeachment must proceed within the confines of the constitutional term "high crime[s] and misdemeanors." Of the impeachment process, it was  
 55 Woodrow Wilson who said that "Nothing short of the grossest offenses against the plain law of the land will suffice to give them speed and effectiveness. Indignation so great as to overgrow party interest may secure a conviction; but nothing else can."

60 Common sense would be revolted if we engaged upon this process for petty reasons. Congress has a lot to do: appropriations, tax reform, health insurance, campaign finance reform, housing, environmental protection, energy sufficiency, mass transportation. Pettiness cannot be allowed  
 65 to stand in the face of such overwhelming problems. So today we're not being petty. We're trying to be big, because the task we have before us is a big one.

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\*Jordan quotes from *Federalist No. 65*, an essay by Alexander Hamilton, published in 1788, on the powers of the United States Senate, including the power to decide cases of impeachment against a president of the United States.

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As you read a passage on the SAT, be sure to always ask yourself, “Why is the author writing this? What is his or her purpose?” Identifying the author’s purpose will help you answer many of the questions you’ll face.

The stance Jordan takes in the passage is best described as that of

- A) an idealist setting forth principles.
- B) an advocate seeking a compromise position.
- C) an observer striving for neutrality.
- D) a scholar researching a historical controversy.

**Content:** Rhetoric

**Key:** A

**Objective:** Students must use information and ideas in the passage to determine the speaker’s perspective.

**Explanation:** Choice A is the best answer. Jordan helps establish her idealism by declaring that she is an “inquisitor” (line 1) and that her “faith in the Constitution is whole; it is complete; it is total” (lines 3-4). At numerous points in the passage, Jordan sets forth principles (e.g., “The powers relating to impeachment are an essential check in the hands of the body of the legislature against and upon the encroachments of the executive,” in lines 17-20) and refers to important documents that do the same, including the U.S. Constitution and *Federalist* No. 65.

Choice B is not the best answer because although Jordan is advocating a position, there is no evidence in the passage that she is seeking a compromise position. Indeed, she notes that she is “not going to sit here and be an idle spectator to the diminution, the subversion, the destruction, of the Constitution” (lines 4-6), indicating that she is not seeking compromise.

Choice C is not the best answer because Jordan is a participant (“an inquisitor,” line 1) in the proceedings, not a mere observer. Indeed, she notes that she is “not going to sit here and be an idle spectator to the diminution, the subversion, the destruction, of the Constitution” (lines 4-6).

Choice D is not the best answer because Jordan is identified as a congresswoman and an “inquisitor” (line 1), not a scholar, and because she is primarily discussing events happening at the moment, not researching an unidentified historical controversy. Although she refers to historical documents and individuals, her main emphasis is on the (then) present impeachment hearings.

5

The main rhetorical effect of the series of three phrases in lines 5-6 (the diminution, the subversion, the destruction) is to

- A) convey with increasing intensity the seriousness of the threat Jordan sees to the Constitution.
- B) clarify that Jordan believes the Constitution was first weakened, then sabotaged, then broken.
- C) indicate that Jordan thinks the Constitution is prone to failure in three distinct ways.
- D) propose a three-part agenda for rescuing the Constitution from the current crisis.

**Content:** Rhetoric

**Key:** A

**Objective:** Students must determine the main rhetorical effect of the speaker's choice of words.

**Explanation:** Choice A is the best answer because the quoted phrases — building from “diminution” to “subversion” to “destruction” — suggest the increasing seriousness of the threat Jordan sees to the Constitution.

Choice B is not the best answer because the passage offers no evidence that the quoted phrases refer to three different events that happened in a strict sequence. It is more reasonable to infer from the passage that Jordan sees “diminution,” “subversion,” and “destruction” as differing degrees to which the Constitution could be undermined. Moreover, the passage suggests that Jordan sees these three things as products of the same action or series of actions, not as three distinct stages in a process.

Choice C is not the best answer because the passage offers no evidence that the quoted phrases refer to three distinct ways in which the Constitution is prone to failure. It is more reasonable to infer from the passage that Jordan sees “diminution,” “subversion,” and “destruction” as differing degrees in which the Constitution could be undermined. Moreover, the passage suggests that Jordan sees these three things as products of the same action or series of actions, not as three distinct “ways.”

Choice D is not the best answer because the passage offers no evidence that the quoted phrases refer to three unique elements of a proposal to resolve a crisis. It is more reasonable to infer from the passage that Jordan sees “diminution,” “subversion,” and “destruction” as differing degrees in which the Constitution could be undermined. Moreover, the passage suggests that Jordan sees these three things as products of the same action or series of actions, not as three distinct “parts.”

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What is meant by “rhetorical effect” is the influence or impact that a particular arrangement of words has on the intended meaning of a text.

### PRACTICE AT



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To answer this question, first identify what point the author is trying to get across in the paragraph in which the three phrases appear. Next, consider the effect that the series of three phrases has on the author's intended point.

6

As used in line 35, “channeled” most nearly means

- A) worn.
- B) sent.
- C) constrained.
- D) siphoned.

**Content:** Information and Ideas

**Key:** C

**Objective:** Students must determine the meaning of a word in the context in which it appears.

**Explanation:** Choice C is the best answer because the context makes clear that the kind of “exception” (line 36) Jordan describes should be narrowly constrained, or limited. As lines 37-39 indicate, the Federal Convention of 1787 “limited impeachment to high crimes and misdemeanors, and discounted and opposed the term ‘maladministration,’” presumably because the term implied too broad a scope for the exception.

Choice A is not the best answer because while “channeled” sometimes means “worn,” it would make no sense in this context to say that the kind of “exception” (line 36) Jordan describes should be narrowly worn.

Choice B is not the best answer because while “channeled” sometimes means “sent,” it would make no sense in this context to say that the kind of “exception” (line 36) Jordan describes should be narrowly sent.

Choice D is not the best answer because while “channeled” sometimes means “siphoned,” it would make no sense in this context to say that the kind of “exception” (line 36) Jordan describes should be narrowly siphoned.

7

In lines 46-50 (“Prosecutions . . . sense”), what is the most likely reason Jordan draws a distinction between two types of “parties”?

- A) To counter the suggestion that impeachment is or should be about partisan politics
- B) To disagree with Hamilton’s claim that impeachment proceedings excite passions
- C) To contend that Hamilton was too timid in his support for the concept of impeachment
- D) To argue that impeachment cases are decided more on the basis of politics than on justice

**Content:** Rhetoric

**Key:** A

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The context clues that indicate the intended meaning of a word may not always be found in the actual sentence in which the word appears. In this question, the strongest clues appear later in the paragraph, when the author states, “It limited impeachment to...,” and “It is to be used only for great misdemeanors...”

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As with Question 5, this question depends upon an understanding of the reasoning immediately preceding and following the sentence in which Jordan draws a distinction between types of parties. Be sure, therefore, to consider Jordan’s statement in the context in which it appears.

**Objective:** Students must interpret the speaker’s line of reasoning.

**Explanation:** Choice A is the best answer. Jordan is making a distinction between two types of “parties”: the informal associations to which Alexander Hamilton refers and the formal, organized political parties such as the modern-day Republican and Democratic parties. Jordan anticipates that listeners to her speech might misinterpret her use of Hamilton’s quotation as suggesting that she thinks impeachment is essentially a tool of organized political parties to achieve partisan ends, with one party attacking and another defending the President. Throughout the passage, and notably in the seventh paragraph, Jordan makes clear that she thinks impeachment should be reserved only for the most serious of offenses — ones that should rankle people of any political affiliation.

Choice B is not the best answer because Jordan offers no objection to Hamilton’s notion that impeachment proceedings excite passions. Indeed, she quotes Hamilton extensively in a way that indicates that she fundamentally agrees with his view on impeachment. Moreover, she acknowledges that her own speech is impassioned — that she feels a “solemnness” (line 2) and a willingness to indulge in “hyperbole” (line 1).

Choice C is not the best answer because Jordan offers no objection to Hamilton’s level of support for the concept of impeachment. Indeed, she quotes Hamilton extensively in a way that indicates that she fundamentally agrees with his view on impeachment.

Choice D is not the best answer because Jordan suggests that she and her fellow members of Congress are “trying to be big” (line 66), or high-minded, rather than decide the present case on the basis of politics. Indeed, throughout the last four paragraphs of the passage (lines 35-67), she elaborates on the principled and just basis on which impeachment should proceed. Moreover, throughout the passage, Jordan is focused on the present impeachment hearings, not on the justice or injustice of impeachments generally.

8

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 13-16 (“It . . . office”)
- B) Lines 20-23 (“The division . . . astute”)
- C) Lines 51-54 (“The drawing . . . misdemeanors”)
- D) Lines 61-64 (“Congress . . . transportation”)

**Content:** Information and Ideas

**Key:** C

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Questions 7 and 8 can be viewed as two-part questions since the answer to Question 8 is dependent upon the answer to Question 7. It may be helpful to revisit your answer to the first question after reading the answer choices in the second question.

**Objective:** Students must determine which portion of the passage provides the best evidence for the answer to question 7.

**Explanation:** Choice C is the best answer because in lines 51-54, Jordan draws a contrast between political motivations and “high crime[s] and misdemeanors” as the basis for impeachment and argues that impeachment “must proceed within the confines” of the latter concept. These lines thus serve as the best evidence for the answer to the previous question.

Choice A is not the best answer because lines 13-16 only address a misconception that Jordan contends some people have about what a vote for impeachment means. Therefore, these lines do not serve as the best evidence for the answer to the previous question.

Choice B is not the best answer because lines 20-23 only speak to a division of responsibility between the two houses of the U.S. Congress. Therefore, these lines do not serve as the best evidence for the answer to the previous question.

Choice D is not the best answer because lines 61-64 serve mainly to indicate that the U.S. Congress has an extensive and important agenda. Therefore, these lines do not serve as the best evidence for the answer to the previous question.

### SAMPLE 3:

#### Science Passage with Graphic, Lower Text Complexity

The following natural science passage on loggerhead turtles is of lower complexity, although some aspects of the passage are more challenging than others (as is generally true of the published materials you read). This passage is accompanied by a graphic.

#### Questions 9-13 are based on the following passage and supplementary material.

This passage is adapted from Ed Yong, “Turtles Use the Earth’s Magnetic Field as Global GPS.” ©2011 by Kalmbach Publishing Co.

In 1996, a loggerhead turtle called Adelita swam across 9,000 miles from Mexico to Japan, crossing the entire Pacific on her way. Wallace J. Nichols tracked this epic journey with a satellite tag. But Adelita herself had no such technology at her disposal. How did she steer a route across two oceans to find her destination?

Nathan Putman has the answer. By testing hatchling turtles in a special tank, he has found that they can use the Earth’s magnetic field as their own Global Positioning System



#### REMEMBER

One science passage on the Reading Test will be accompanied by an informational graphic.

10 (GPS). By sensing the field, they can work out both their latitude and longitude and head in the right direction.

Putman works in the lab of Ken Lohmann, who has been studying the magnetic abilities of loggerheads for over 20 years. In his lab at the University of North Carolina, Lohmann  
 15 places hatchlings in a large water tank surrounded by a large grid of electromagnetic coils. In 1991, he found that the babies started swimming in the opposite direction if he used the coils to reverse the direction of the magnetic field around them. They could use the field as a compass to get their bearing.

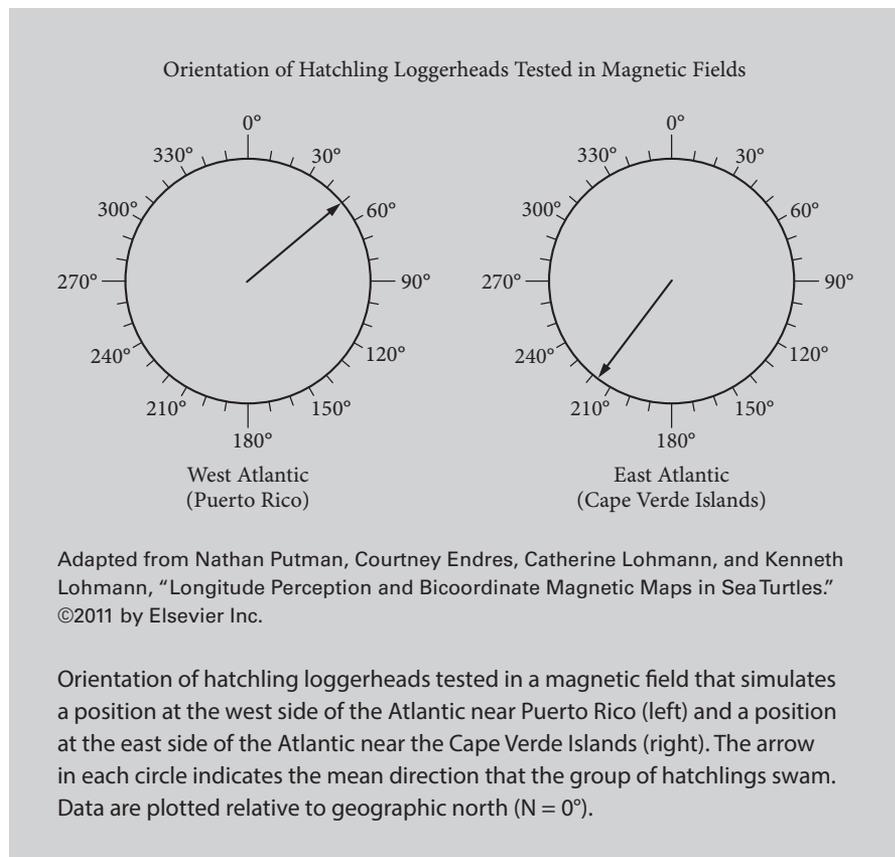
20 Later, Lohmann showed that they can also use the magnetic field to work out their position. For them, this is literally a matter of life or death. Hatchlings born off the sea coast of Florida spend their early lives in the North Atlantic gyre, a warm current that circles between North America and  
 25 Africa. If they're swept towards the cold waters outside the gyre, they die. Their magnetic sense keeps them safe.

Using his coil-surrounded tank, Lohmann could mimic the magnetic field at different parts of the Earth's surface. If he simulated the field at the northern edge of the gyre, the  
 30 hatchlings swam southwards. If he simulated the field at the gyre's southern edge, the turtles swam west-northwest. These experiments showed that the turtles can use their magnetic sense to work out their latitude—their position on a north-south axis. Now, Putnam has shown that they can also  
 35 determine their longitude—their position on an east-west axis.

He tweaked his magnetic tanks to simulate the fields in two positions with the same latitude at opposite ends of the Atlantic. If the field simulated the west Atlantic near Puerto Rico, the turtles swam northeast. If the field matched that on  
 40 the east Atlantic near the Cape Verde Islands, the turtles swam southwest. In the wild, both headings would keep them within the safe, warm embrace of the North Atlantic gyre.

Before now, we knew that several animal migrants, from loggerheads to reed warblers to sparrows, had some way of  
 45 working out longitude, but no one knew how. By keeping the turtles in the same conditions, with only the magnetic fields around them changing, Putman clearly showed that they can use these fields to find their way. In the wild, they might well also use other landmarks like the position of the sea, sun and stars.

50 Putman thinks that the turtles work out their position using two features of the Earth's magnetic field that change over its surface. They can sense the field's inclination, or the angle at which it dips towards the surface. At the poles, this angle is roughly 90 degrees and at the equator, it's roughly  
 55 zero degrees. They can also sense its intensity, which is strongest near the poles and weakest near the Equator. Different parts of the world have unique combinations of these two variables. Neither corresponds directly to either latitude or longitude, but together, they provide a "magnetic  
 60 signature" that tells the turtle where it is.



9

The passage most strongly suggests that Adelita used which of the following to navigate her 9,000-mile journey?

- A) The current of the North Atlantic gyre
- B) Cues from electromagnetic coils designed by Putman and Lohmann
- C) The inclination and intensity of Earth's magnetic field
- D) A simulated "magnetic signature" configured by Lohmann

**Content:** Information and Ideas

**Key:** C

**Objective:** Students must draw a reasonable inference from the text.

**Explanation:** Choice C is the best answer. The first paragraph describes the 9,000-mile journey that Adelita made and raises the question, which the rest of the passage tries to answer, of how this loggerhead turtle was able to "steer a route across two oceans to find her destination" (lines 5-6). The answer comes most directly in the last paragraph, which presents Putman's belief that loggerhead turtles "work out their position using two features of the Earth's magnetic field that change over its surface" (lines 50-52): its inclination and its intensity. It is reasonable, therefore, to infer from the passage that this was the method that Adelita used.

Choice A is not the best answer because there is no evidence in the passage that Adelita used the current of the North Atlantic gyre to navigate her 9,000-mile journey. The passage does discuss the North Atlantic gyre but only as the place where loggerhead turtle hatchlings “born off the sea coast of Florida spend their early lives” (lines 22-23).

Choice B is not the best answer because there is no evidence in the passage that Adelita navigated her 9,000-mile journey with the aid of cues from electromagnetic coils designed by Putman and Lohmann. The passage does say that Putman and Lohmann use electromagnetic coils as part of their research on loggerhead turtles, but the coils are part of tanks used in a laboratory to study loggerhead hatchlings (see lines 12-16).

Choice D is not the best answer because there is no evidence in the passage that Adelita navigated her 9,000-mile journey with the aid of a simulated “magnetic signature” configured by Lohmann. The passage does describe how Lohmann and Putman manipulate magnetic fields as part of their research on loggerhead turtle hatchlings (see, for example, lines 14-19), but there is no indication that the two scientists used (or even could use) the kind of equipment necessary for this project outside of laboratory tanks or with Adelita in the wild.

10

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 1-3 (“In 1996 . . . way”)
- B) Lines 27-28 (“Using . . . surface”)
- C) Lines 48-49 (“In the wild . . . stars”)
- D) Lines 58-60 (“Neither . . . it is”)

**Content:** Information and Ideas

**Key:** D

**Objective:** Students must determine which portion of the passage provides the best support for the answer to question 9.

**Explanation:** Choice D is the best answer because in lines 58-60, the author indicates that “together, [inclination and intensity] provide a ‘magnetic signature’ that tells the turtle where it is.” Therefore, these lines serve as the best evidence for the answer to the previous question.

Choice A is not the best answer because in lines 1-3, the author establishes that Adelita made a 9,000-mile journey but does not explain how she navigated it. Therefore, these lines do not serve as the best evidence for the answer to the previous question.

## PRACTICE AT

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Many wrong answer choices may be tempting as they often contain information that appears in the passage. The passage does refer to the North Atlantic gyre, as well as electromagnetic coils, for instance. Only choice C, however, is relevant to the question of how Adelita was able to navigate her journey.

## PRACTICE AT

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Approach this question by going back to Question 9 and rereading the question and your answer. Then assess which choice best supports the answer to Question 9.

Choice B is not the best answer because in lines 27-28, the author indicates that Lohmann is able to “mimic the magnetic field at different parts of the Earth’s surface” in his laboratory but does not explain how Adelita navigated her 9,000-mile journey or suggest that Lohmann had any influence over Adelita’s trip. Therefore, these lines do not serve as the best evidence for the answer to the previous question.

Choice C is not the best answer because, in lines 48-49, the author notes that loggerhead turtles “in the wild” may make use of “landmarks like the position of the sea, sun and stars” but does not indicate that Adelita used such landmarks to navigate her 9,000-mile journey. Therefore, these lines do not serve as the best evidence for the answer to the previous question.

**11**

As used in line 3, “tracked” most nearly means

- A) searched for.
- B) traveled over.
- C) followed.
- D) hunted.

**Content:** Information and Ideas

**Key:** C

**Objective:** Students must determine the meaning of a word in the context in which it appears.

**Explanation:** Choice C is the best answer because the context makes clear that Nichols followed Adelita’s “epic journey with a satellite tag” (lines 3-4).

Choice A is not the best answer because while “tracked” sometimes means “searched for,” it would make little sense in this context to say that Nichols searched for Adelita’s “epic journey with a satellite tag” (lines 3-4). It is more reasonable to conclude from the passage that Nichols knew about Adelita and her journey and used a satellite tag to help follow it.

Choice B is not the best answer because while “tracked” sometimes means “traveled over,” it would make no sense in this context to say that Nichols traveled over Adelita’s “epic journey with a satellite tag” (lines 3-4).

Choice D is not the best answer because while “tracked” sometimes means “hunted,” it would make no sense in this context to say that Nichols hunted Adelita’s “epic journey with a satellite tag” (lines 3-4).

## PRACTICE AT



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Here’s a strategy you may find helpful if you’re struggling on a “word in context” question such as Question 11 — substitute each of the answer choices for the given word in the sentence and determine which fits best in the context.

12

Based on the passage, which choice best describes the relationship between Putman’s and Lohmann’s research?

- A) Putman’s research contradicts Lohmann’s.
- B) Putman’s research builds on Lohmann’s.
- C) Lohmann’s research confirms Putman’s.
- D) Lohmann’s research corrects Putman’s.

**Content:** Information and Ideas

**Key:** B

**Objective:** Students must characterize the relationship between two individuals described in the passage.

**Explanation:** Choice B is the best answer. Putman “works in the lab of Ken Lohmann, who has been studying the magnetic abilities of loggerheads for over 20 years” (lines 12-14). Lohmann had earlier demonstrated that loggerhead turtles “could use the [magnetic] field as a compass to get their bearing” (line 19) and “use their magnetic sense to work out their latitude—their position on a north-south axis” (lines 32-34). Putman has since (“Now,” line 34) built on Lohmann’s work by demonstrating that the turtles “can also determine their longitude—their position on an east-west axis” (lines 34-35).

Choice A is not the best answer because the passage does not indicate that Putman’s research contradicts Lohmann’s. In fact, Putman’s work complements Lohmann’s. Lohmann had demonstrated that loggerhead turtles “could use the [magnetic] field as a compass to get their bearing” (line 19) and “use their magnetic sense to work out their latitude—their position on a north-south axis” (lines 32-34). Putman has, in turn, demonstrated that the turtles “can also determine their longitude—their position on an east-west axis” (lines 34-35).

Choice C is not the best answer because the research of Lohmann that the passage describes came before that of Putman. Putman “works in the lab of Ken Lohmann, who has been studying the magnetic abilities of loggerheads for over 20 years” (lines 12-14). Lohmann had earlier demonstrated that loggerhead turtles “could use the [magnetic] field as a compass to get their bearing” (line 19) and “use their magnetic sense to work out their latitude—their position on a north-south axis” (lines 32-34). Putman has since (“Now,” line 34) built on Lohmann’s work by demonstrating that the turtles “can also determine their longitude—their position on an east-west axis” (lines 34-35).

Choice D is not the best answer because the passage does not indicate that Lohmann’s research corrects Putman’s. First, Lohmann’s research that the

## PRACTICE AT

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On Question 12, begin by determining if Putman’s and Lohmann’s research is complementary or contradictory; doing so will allow you to eliminate two of the four answer choices. Then, research the passage for additional clues that refine the relationship between their research.

passage describes came before that of Putman (see explanation for choice C) and thus could not “correct” Putman’s later research. Second, the passage does not indicate that Putman’s research contradicts Lohmann’s (see explanation for choice A), meaning that there is nothing for Lohmann to “correct” with his own research.

13

**PRACTICE AT****khanacademy.org/sat**

Another way to phrase this question is, “Why did the author refer to reed warblers and sparrows?” It’s often helpful to paraphrase the question in your own words to ensure you understand what it’s asking.

- The author refers to reed warblers and sparrows (line 44) primarily to
- A) contrast the loggerhead turtle’s migration patterns with those of other species.
  - B) provide examples of species that share one of the loggerhead turtle’s abilities.
  - C) suggest that most animal species possess some ability to navigate long distances.
  - D) illustrate some ways in which the ability to navigate long distances can help a species.

**Content:** Rhetoric

**Key:** B

**Objective:** Students must determine the main rhetorical effect a part of the passage has on the passage as a whole.

**Explanation:** Choice B is the best answer because the author indicates that reed warblers and sparrows, like loggerhead turtles, had previously been known to have “some way of working out longitude” (lines 44-45).

Choice A is not the best answer because although the author notes that loggerhead turtles, reed warblers, and sparrows are all “animal migrants” (line 43), he offers no specifics about the migration patterns of reed warblers and sparrows, and the only connection he draws among the three animals is their recognized ability of somehow “working out longitude” (line 45).

Choice C is not the best answer because the author only mentions three “animal migrants” by name (loggerhead turtles, reed warblers, and sparrows) and indicates that “several” such migrants had previously been known to have “some way of working out longitude” (lines 43-45). He makes no claim in the passage that most animal species have some long-distance navigation ability.

Choice D is not the best answer because although the author indicates that reed warblers and sparrows, like loggerhead turtles, are “animal migrants” (line 43), he offers no specifics about how the ability to navigate long distances might help reed warblers and sparrows (nor, for that matter, much information about how this ability might help loggerhead turtles).

**SAMPLE 4:****U.S. and World Literature Passage, Higher Text Complexity**

The following passage from a literary text is of higher complexity, although some aspects of the passage are less challenging than others (as is generally true of the published materials you read).

**Questions 14-18 are based on the following passage.**

This passage is adapted from Edith Wharton, *Ethan Frome*, originally published in 1911. Mattie Silver is Ethan's household employee.

Mattie Silver had lived under Ethan's roof for a year, and from early morning till they met at supper he had frequent chances of seeing her; but no moments in her company were comparable to those when, her arm in his, and her  
 5 light step flying to keep time with his long stride, they walked back through the night to the farm. He had taken to the girl from the first day, when he had driven over to the Flats to meet her, and she had smiled and waved to him from the train, crying out, "You must be Ethan!" as she  
 10 jumped down with her bundles, while he reflected, looking over her slight person: "She don't look much on housework, but she ain't a fretter, anyhow." But it was not only that the coming to his house of a bit of hopeful young life was like the lighting of a fire on a cold hearth. The girl was more  
 15 than the bright serviceable creature he had thought her. She had an eye to see and an ear to hear: he could show her things and tell her things, and taste the bliss of feeling that all he imparted left long reverberations and echoes he could wake at will.

20 It was during their night walks back to the farm that he felt most intensely the sweetness of this communion. He had always been more sensitive than the people about him to the appeal of natural beauty. His unfinished studies had given form to this sensibility and even in his unhappiest moments  
 25 field and sky spoke to him with a deep and powerful persuasion. But hitherto the emotion had remained in him as a silent ache, veiling with sadness the beauty that evoked it. He did not even know whether any one else in the world felt as he did, or whether he was the sole victim of this mournful  
 30 privilege. Then he learned that one other spirit had trembled with the same touch of wonder: that at his side, living under his roof and eating his bread, was a creature to whom he could say: "That's Orion down yonder; the big fellow to the right is Aldebaran, and the bunch of little ones—like bees swarming—  
 35 they're the Pleiades . . ." or whom he could hold entranced before a ledge of granite thrusting up through the fern while he unrolled the huge panorama of the ice age, and the long dim stretches of succeeding time. The fact that admiration for his learning mingled with Mattie's wonder at what he taught

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Keywords and phrases throughout the final paragraph signal a shift in the focus of the narrative. For instance, "...these memories came back with the poignancy of vanished things," signals a temporal shift, and words such as "dull," "indifference," and "fatuity" point to a change in the main character's feelings.

40 was not the least part of his pleasure. And there were other sensations, less definable but more exquisite, which drew them together with a shock of silent joy: the cold red of sunset behind winter hills, the flight of cloud-flocks over slopes of golden stubble, or the intensely blue shadows of hemlocks on  
45 sunlit snow. When she said to him once: "It looks just as if it was painted!" it seemed to Ethan that the art of definition could go no farther, and that words had at last been found to utter his secret soul. . . .

As he stood in the darkness outside the church these  
50 memories came back with the poignancy of vanished things. Watching Mattie whirl down the floor from hand to hand he wondered how he could ever have thought that his dull talk interested her. To him, who was never gay but in her presence, her gaiety seemed plain proof of  
55 indifference. The face she lifted to her dancers was the same which, when she saw him, always looked like a window that has caught the sunset. He even noticed two or three gestures which, in his fatuity, he had thought she kept for him: a way of throwing her head back when she  
60 was amused, as if to taste her laugh before she let it out, and a trick of sinking her lids slowly when anything charmed or moved her.

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This question, like many questions from the rhetoric category, asks you to think about the passage on a broader level. Thus, when reading passages on the SAT, pay as much attention to the structure and purpose of the passage (the "how" and "why") as you do to the content of the passage (the "what").

**14**

Over the course of the passage, the main focus of the narrative shifts from the

- A) reservations a character has about a person he has just met to a growing appreciation that character has of the person's worth.
- B) ambivalence a character feels about his sensitive nature to the character's recognition of the advantages of having profound emotions.
- C) intensity of feeling a character has for another person to the character's concern that that intensity is not reciprocated.
- D) value a character attaches to the wonders of the natural world to a rejection of that sort of beauty in favor of human artistry.

**Content:** Rhetoric**Key:** C**Objective:** Students must describe the overall structure of a text.

**Explanation:** Choice C is the best answer. The first paragraph traces the inception of Ethan's feelings for Mattie: Ethan "had taken to the girl from the first day" (lines 6-7) and saw her as "like the lighting of a fire on a cold hearth" (line 14). The second paragraph (lines 20-48) focuses on "their night walks back to the farm" and Ethan's elation in perceiving that "one other spirit . . . trembled with the same touch of wonder" that characterized his own (lines 30-31). In other words, the main focus of the first two paragraphs

is the intensity of feeling one character, Ethan, has for another, Mattie. The last paragraph shifts the focus of the passage to Ethan's change in perception; he sees Mattie in a social setting interacting with other men, wonders "how he could ever have thought that his dull talk interested her" (lines 52-53), interprets her seeming happiness as "plain proof of indifference" toward him (lines 54-55), and sees betrayal in the "two or three gestures which, in his fatuity, he had thought she kept for him" (lines 57-59).

Choice A is not the best answer because while Ethan acknowledges that Mattie "don't look much on housework" (line 11), the first paragraph also notes that Ethan "had taken to the girl from the first day" (lines 6-7); therefore, there is no support for the notion that Ethan's "reservations" about Mattie lasted for any length of time or ever constituted the main focus of the narrative.

Choice B is not the best answer because while Ethan does exhibit ambivalence about his sensitive nature, seeing it as a "mournful privilege" (lines 29-30), the main focus of the narrative does not shift to his recognition of the advantages of having profound emotions. Indeed, in the last paragraph Ethan's profound emotions give him only grief, as he sees Mattie seemingly rejecting him.

Choice D is not the best answer because while the second paragraph (lines 20-48) does discuss in depth the value Ethan attaches to natural beauty, nothing in the passage signifies that he has rejected natural beauty in favor of human artistry. The closest the passage comes to this is in lines 45-46, in which Mattie is said to have likened a natural scene to a painting.

**15**

In the context of the passage, the author's use of the phrase "her light step flying to keep time with his long stride" (lines 4-5) is primarily meant to convey the idea that

- A) Ethan and Mattie share a powerful enthusiasm.
- B) Mattie strives to match the speed at which Ethan works.
- C) Mattie and Ethan playfully compete with each other.
- D) Ethan walks at a pace that frustrates Mattie.

**Content:** Rhetoric

**Key:** A

**Objective:** Students must determine the main rhetorical effect of the author's choice of words.

**Explanation:** Choice A is the best answer. The author uses the phrase mainly to introduce a topic discussed at length in the second paragraph

(lines 20-48) — namely, the growing connection Ethan sees himself forming with Mattie over the course of many evening walks during which they share similar feelings for the wonders of the natural world. In the context of the passage, the phrase evokes an image of two people walking eagerly and in harmony.

Choice B is not the best answer because while the phrase literally conveys Mattie’s attempts to keep up with Ethan’s pace, the phrase relates to times of leisure during which Ethan and Mattie walked arm-in-arm (see lines 1-4) rather than times of work. Moreover, the phrase is used primarily in a figurative way to suggest shared enthusiasm (see explanation for choice A).

Choice C is not the best answer because while the phrase literally describes Mattie’s attempts to keep up with Ethan’s pace, the context makes clear that Mattie and Ethan are not in competition with each other; instead, they are enjoying times of leisure during which the two walk arm-in-arm (see lines 1-4). The phrase is used primarily in a figurative way to suggest shared enthusiasm (see explanation for choice A).

Choice D is not the best answer because while the phrase could in isolation be read as conveying some frustration on the part of Mattie, who had to expend extra effort to keep up with Ethan’s pace, the context makes clear that Mattie is not annoyed with Ethan but is instead enjoying times of leisure during which the two walk arm-in-arm (see lines 1-4). The phrase is used to suggest shared enthusiasm (see explanation for choice A).

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Choice C may seem tempting, as the relationship between Ethan and Mattie is described in the passage as containing an aspect of playfulness. The idea that Mattie and Ethan playfully compete with one another is not, however, the intended purpose of the phrase referred to in the question.

16

The description in the first paragraph indicates that what Ethan values most about Mattie is her

- A) fitness for farm labor.
- B) vivacious youth.
- C) receptive nature.
- D) freedom from worry.

**Content:** Information and Ideas

**Key:** C

**Objective:** Students must characterize the relationship between two individuals in the passage.

**Explanation:** Choice C is the best answer. Lines 8-14 mention many of Mattie’s traits: she is friendly (“smiled and waved”), eager (“jumped down with her bundles”), easygoing (“she ain’t a fretter”), and energetic (“like the lighting of a fire on a cold hearth”). However, the trait that appeals the most to Ethan, as suggested by it being mentioned last in the paragraph, is her

openness to the world around her: “She had an eye to see and an ear to hear: he could show her things and tell her things, and taste the bliss of feeling that all he imparted left long reverberations and echoes he could wake at will” (lines 15-19).

Choice A is not the best answer because the passage suggests that Ethan does not actually view Mattie as particularly well suited to farm labor. When first seeing Mattie, Ethan thinks to himself, after “looking over her slight person,” that “she don’t look much on housework” (lines 10-11).

Choice B is not the best answer because the passage suggests that Mattie’s youth is not what Ethan values most about Mattie. Although the passage does note that “the coming to his house of a bit of hopeful young life was like the lighting of a fire on a cold hearth” (line 12-14), the narrator goes on to note that “the girl was more than the bright serviceable creature [Ethan] had thought her” (lines 14-15), indicating that Ethan values something more in Mattie than simply her vivacity.

Choice D is not the best answer because although Ethan acknowledges that Mattie “ain’t a fretter” (line 12), there is no evidence that Mattie’s freedom from worry is what Ethan values the most about Mattie. The first paragraph lists several positive traits that Mattie has, with the most emphasis being placed on her openness to the world around her (see explanation for choice C).

17

Which choice provides the best evidence for the answer to the previous question?

- A) Lines 1-6 (“Mattie . . . farm”)
- B) Lines 6-12 (“He had . . . anyhow”)
- C) Lines 12-14 (“But it . . . hearth”)
- D) Lines 15-19 (“She had . . . will”)

**Content:** Information and Ideas

**Key:** D

**Objective:** Students must determine which portion of the passage provides the best evidence for the answer to the previous question.

**Explanation:** Choice D is the best answer. Lines 15-19 explain that Mattie “had an eye to see and an ear to hear: [Ethan] could show her things and tell her things, and taste the bliss of feeling that all he imparted left long reverberations and echoes he could wake at will.” In other words, Mattie is open, or receptive, to ideas and experiences. Therefore, these lines serve as the best evidence for the answer to the previous question.

### PRACTICE AT

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What makes this question particularly challenging is that there is quite a bit of support for choice B in the first paragraph of the passage. Choice C, however, is the best answer because the first paragraph ends with a strong emphasis on Mattie’s receptive nature, underscored by the keyword “But” in line 12.

### PRACTICE AT

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Questions 16 and 17 form an interrelated question pair. The thought process that led you to the answer for Question 16 will help you select the answer for Question 17.

Choice A is not the best answer because lines 1-6 only describe Ethan and Mattie’s living situation and indicate that Ethan enjoys walking with her in the evenings. They do not indicate which quality of Mattie’s Ethan values the most. Therefore, these lines do not serve as the best evidence for the answer to the previous question.

Choice B is not the best answer because lines 6-12 only indicate Ethan’s first impression of Mattie. Mattie comes across as generally friendly and enthusiastic in their first encounter, but it is not these qualities that Ethan values the most. Therefore, these lines do not serve as the best evidence for the answer to the previous question.

Choice C is not the best answer because lines 12-14 only convey that there was something special about Mattie beyond her friendliness and enthusiasm. They do not indicate what Ethan values the most about Mattie. Therefore, these lines do not serve as the best evidence for the answer to the previous question.

## PRACTICE AT



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The clues that can help you answer this question can be found in the lines immediately preceding the lines referenced in the question. When asked why the author includes a particular detail, always consider the context in which the detail appears.

18

The author includes the descriptions of the sunset, the clouds, and the hemlock shadows (lines 42-45) primarily to

- A) suggest the peacefulness of the natural world.
- B) emphasize the acuteness of two characters’ sensations.
- C) foreshadow the declining fortunes of two characters.
- D) offer a sense of how fleeting time can be.

**Content:** Rhetoric

**Key:** B

**Objective:** Students must analyze the relationship between a particular part of a text and the whole text.

**Explanation:** Choice B is the best answer. Lines 40-45 indicate that “there were other sensations, less definable but more exquisite, which drew [Ethan and Mattie] together with a shock of silent joy: the cold red of sunset behind winter hills, the flight of cloud-flocks over slopes of golden stubble, or the intensely blue shadows of hemlocks on sunlit snow.” In the context of the second paragraph (lines 20-48), which focuses on the connection Ethan and Mattie establish through their shared interest in and sensitivity to nature, the descriptions primarily serve to emphasize the acuteness, or intensity, of the characters’ sensations. According to the passage, Ethan and Mattie do not merely appreciate nature or see it as pretty or calm; rather, they experience a powerful “shock of silent joy” when in the presence of natural beauty.

Choice A is not the best answer because there is no indication that the descriptions are included primarily to emphasize the peacefulness of the natural world. Some readers may see “the cold red of sunset behind winter

hills, the flight of cloud-flocks over slopes of golden stubble, or the intensely blue shadows of hemlocks on sunlit snow” (lines 42-45) as evoking a peaceful, harmonious scene. However, Ethan and Mattie do not merely appreciate nature or see it as pretty or calm; rather, they experience a powerful “shock of silent joy” (line 42) when in the presence of natural beauty.

Choice C is not the best answer because there is no evidence in the passage that the descriptions are included primarily to foreshadow Ethan’s and Mattie’s declining fortunes. In fact, there is no evidence in the passage of decline for either character apart from the agitation that Ethan experiences over his relationship with Mattie.

Choice D is not the best answer because there is no evidence in the passage that the descriptions are included primarily to offer a sense of time as fleeting. In fact, the speed at which time passes plays no particular role in the passage.

### SAMPLE 5:

#### Science Passage Pair, Medium Text Complexity

The following pair of passages from a life science text is of medium complexity: it represents the middle range of language difficulty and cognitive demand of passages that you’ll find on the Reading Test.



#### REMEMBER

You will see one set of paired passages on the SAT Reading Test.

#### Questions 19-23 are based on the following passages.

Passage 1 is adapted from Susan Milius, “A Different Kind of Smart.” ©2013 by Science News. Passage 2 is adapted from Bernd Heinrich, *Mind of the Raven: Investigations and Adventures with Wolf-Birds*. ©2007 by Bernd Heinrich.

#### Passage 1

In 1894, British psychologist C. Lloyd Morgan published what’s called Morgan’s canon, the principle that suggestions of humanlike mental processes behind an animal’s behavior should be rejected if a simpler explanation will do.

Line 5 Still, people seem to maintain certain expectations, especially when it comes to birds and mammals. “We somehow want to prove they are as ‘smart’ as people,” zoologist Sara Shettleworth says. We want a bird that masters a vexing problem to be employing human-  
10 style insight.

New Caledonian crows face the high end of these expectations, as possibly the second-best toolmakers on the planet.

15 Their tools are hooked sticks or strips made from spike-edged leaves, and they use them in the wild to winkle grubs out of crevices. Researcher Russell Gray first saw the process on a cold morning in a mountain forest in New Caledonia, an

island chain east of Australia. Over the course of days, he and crow researcher Gavin Hunt had gotten wild crows used to  
 20 finding meat tidbits in holes in a log. Once the birds were checking the log reliably, the researchers placed a spiky tropical pandanus plant beside the log and hid behind a blind.

A crow arrived. It hopped onto the pandanus plant, grabbed the spiked edge of one of the long straplike leaves and  
 25 began a series of ripping motions. Instead of just tearing away one long strip, the bird ripped and nipped in a sequence to create a slanting stair-step edge on a leaf segment with a narrow point and a wide base. The process took only seconds. Then the bird dipped the narrow end of its leaf strip into a  
 30 hole in the log, fished up the meat with the leaf-edge spikes, swallowed its prize and flew off.

“That was my ‘oh wow’ moment,” Gray says. After the crow had vanished, he picked up the tool the bird had left behind. “I had a go, and I couldn’t do it,” he recalls. Fishing  
 35 the meat out was tricky. It turned out that Gray was moving the leaf shard too forcefully instead of gently stroking the spines against the treat.

The crow’s deft physical manipulation was what inspired Gray and Auckland colleague Alex Taylor to test other wild  
 40 crows to see if they employed the seemingly insightful string-pulling solutions that some ravens, kea parrots and other brainiac birds are known to employ. Three of four crows passed that test on the first try.

### Passage 2

For one month after they left the nest, I led my four young  
 45 ravens at least once and sometimes several times a day on thirty-minute walks. During these walks, I wrote down everything in their environment they pecked at. In the first sessions, I tried to be teacher. I touched specific objects—sticks, moss, rocks—and nothing that I touched remained  
 50 untouched by them. They came to investigate what I had investigated, leading me to assume that young birds are aided in learning to identify food from the parents’ example. They also, however, contacted almost everything else that lay directly in their own paths. They soon became more  
 55 independent by taking their own routes near mine. Even while walking along on their own, they pulled at leaves, grass stems, flowers, bark, pine needles, seeds, cones, clods of earth, and other objects they encountered. I wrote all this down, converting it to numbers. After they were thoroughly familiar  
 60 with the background objects in these woods and started to ignore them, I seeded the path we would later walk together with objects they had never before encountered. Some of these were conspicuous food items: raspberries, dead meal worm beetles, and cooked corn kernels. Others were  
 65 conspicuous and inedible: pebbles, glass chips, red winterberries. Still others were such highly cryptic foods as encased caddisfly larvae and moth cocoons. The results were dramatic.

The four young birds on our daily walks contacted all new  
 70 objects preferentially. They picked them out at a rate of up to  
 tens of thousands of times greater than background or  
 previously contacted objects. The main initial criterion for  
 pecking or picking anything up was its novelty. In subsequent  
 trials, when the previously novel items were edible, they  
 75 became preferred and the inedible objects became  
 “background” items, just like the leaves, grass, and pebbles,  
 even if they were highly conspicuous. These experiments  
 showed that ravens’ curiosity ensures exposure to all or almost  
 all items in the environment.

19

Within Passage 1, the main purpose of the first two paragraphs (lines 1-10) is to

- A) offer historical background in order to question the uniqueness of two researchers’ findings.
- B) offer interpretive context in order to frame the discussion of an experiment and its results.
- C) introduce a scientific principle in order to show how an experiment’s outcomes validated that principle.
- D) present seemingly contradictory stances in order to show how they can be reconciled empirically.

**Content:** Rhetoric

**Key:** B

**Objective:** Students must determine the main purpose of two paragraphs in relation to the passage as a whole.

**Explanation:** Choice B is the best answer. Passage 1 opens with an explanation of Morgan’s canon and continues with a discussion of people’s expectations regarding animal intelligence. Taken together, the first two paragraphs indicate that despite cautions to the contrary, people still tend to look for humanlike levels of intelligence in many animals, including birds. These two paragraphs provide a framework in which to assess the work of Gray and Hunt, presented in the rest of the passage. The passage’s characterization of the experiment Gray and Hunt conduct, in which they observe a crow’s tool-making ability and to which Gray responds by trying and failing to mimic the bird’s behavior (“I had a go, and I couldn’t do it,” line 34), suggests that Shettleworth, quoted in the second paragraph, is at least partially correct in her assessment that “We somehow want to prove [birds] are as ‘smart’ as people” (lines 6-7).

Choice A is not the best answer because while the reference to Morgan’s canon in the first paragraph offers a sort of historical background (given that the canon was published in 1894), the second paragraph describes people’s continuing expectations regarding animal intelligence. Furthermore, the fact that Gray and Hunt may share with other people the tendency to look for humanlike intelligence in many animals does not by itself establish that the main purpose of the first two paragraphs is to question the uniqueness of Gray and Hunt’s findings.

Choice C is not the best answer because while the reference to Morgan’s canon in the first paragraph does introduce a scientific principle, the discussion in the second paragraph of people’s expectations regarding animal intelligence, as well as the passage’s characterization of Gray and Hunt’s experiment and how the researchers interpret the results, primarily suggest that people tend to violate the canon by attributing humanlike levels of intelligence to many animals.

Choice D is not the best answer because although the first two paragraphs do present different perspectives, they are not seemingly or genuinely contradictory. The second paragraph, particularly the quotation from Shettleworth, serves mainly to qualify (not contradict) the position staked out in the first paragraph by suggesting that while Morgan’s canon is probably a sound principle, people still tend to project humanlike levels of intelligence onto many animals. Moreover, the experiment depicted in the rest of the passage primarily bears out Shettleworth’s claim that “We somehow want to prove [birds] are as ‘smart’ as people” (lines 6-7) and thus does not reconcile the perspectives found in the opening paragraphs.

20

According to the experiment described in Passage 2, whether the author’s ravens continued to show interest in a formerly new object was dictated primarily by whether that object was

- A) edible.
- B) plentiful.
- C) conspicuous.
- D) natural.

**Content:** Information and Ideas/Understanding relationships

**Key:** A

**Objective:** Students must identify an explicitly stated relationship between events.

**Explanation:** Choice A is the best answer. The last paragraph of Passage 2 presents the results of an experiment in which the author scattered unfamiliar objects in the path of some ravens. According to the passage, the birds

## PRACTICE AT



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In contrast to Question 19, which requires a broader understanding of the passage, Question 20 asks about a specific detail. On this type of question, it may help to locate and reread the relevant detail in the passage before selecting your answer.

initially “contacted all new objects preferentially” but in “subsequent trials” only preferred those “previously novel items” that “were edible” (line 69-74).

Choice B is not the best answer because the ravens studied by the author only preferred those “previously novel items” that “were edible,” whereas “the inedible objects became ‘background’ items, just like the leaves, grass, and pebbles” (lines 74-76). In other words, plentiful items did not continue to interest the ravens unless the items were edible.

Choice C is not the best answer because the ravens studied by the author only preferred those “previously novel items” that “were edible,” whereas “the inedible objects became ‘background’ items, just like the leaves, grass, and pebbles, even if they were highly conspicuous” (lines 74-77). In other words, conspicuous items did not continue to interest the ravens unless the items were edible.

Choice D is not the best answer because the ravens studied by the author only preferred those “previously novel items” that “were edible,” whereas “the inedible objects became ‘background’ items, just like the leaves, grass, and pebbles” (lines 74-76). In other words, natural items did not continue to interest the ravens unless the items were edible.

**21**

The crows in Passage 1 and the ravens in Passage 2 shared which trait?

- A) They modified their behavior in response to changes in their environment.
- B) They formed a strong bond with the humans who were observing them.
- C) They manufactured useful tools for finding and accessing food.
- D) They mimicked the actions they saw performed around them.

**Content:** Synthesis/Analyzing multiple texts

**Key:** A

**Objective:** Students must synthesize information and ideas from paired texts.

**Explanation:** Choice A is the best answer. Both bird species studied modified their behavior in response to changes in their environment. The researchers described in Passage 1 “had gotten wild crows used to finding meat tidbits in holes in a log” (lines 19-20). In other words, the researchers had repeatedly placed meat in the log — that is, changed the crows’ environment — and the birds had responded by modifying their behavior, a point reinforced in line 21, which noted that the birds began “checking the log reliably.” The ravens in Passage 2 act in analogous fashion, responding to the introduction of new objects in their environment by “pick[ing] them out at a rate of up to

**PRACTICE AT**

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The incorrect answers to Question 21 are traits that may have been possessed by either the crows in Passage 1 or the ravens in Passage 2. Only choice A describes a trait that the birds from both passages exhibited.

tens of thousands of times greater than background or previously contacted objects” (lines 70-72).

Choice B is not the best answer because while there is some evidence that the ravens described in Passage 2 formed a bond with the author, going on walks with him and possibly viewing him as their “teacher,” there is no evidence that a similar bond formed between the researchers described in Passage 1 and the crows they studied. Indeed, these researchers “hid behind a blind” (line 22) in an effort to avoid contact with their subjects.

Choice C is not the best answer because while crows’ tool-making ability is the central focus of the experiment described in Passage 1, there is no evidence that the ravens in Passage 2 did anything similar. Passage 1 does mention that “some ravens” use “seemingly insightful string-pulling solutions” (lines 40-41), but nothing in Passage 2 suggests that the ravens in that particular study had or displayed tool-making abilities.

Choice D is not the best answer because while there is some evidence that the ravens described in Passage 2 mimicked human behavior, going on walks with the author and possibly viewing him as their “teacher,” there is no evidence that the crows in Passage 1 did any mimicking. Passage 1, in fact, suggests that the ability of the crow to produce the meat-fishing tool was innate rather than a skill it had acquired from either humans or other birds.

22

One difference between the experiments described in the two passages is that unlike the researchers discussed in Passage 1, the author of Passage 2

- A) presented the birds with a problem to solve.
- B) intentionally made the birds aware of his presence.
- C) consciously manipulated the birds’ surroundings.
- D) tested the birds’ tool-using abilities.

**Content:** Synthesis/Analyzing multiple texts

**Key:** B

**Objective:** Students must synthesize information and ideas from paired texts.

**Explanation:** Choice B is the best answer. The researchers described in Passage 1 “hid behind a blind” (line 22) to avoid being seen by the crow. The author of Passage 2, on the other hand, made no attempt to conceal his presence; in fact, as he describes it, he “led” the ravens in his study on “walks” (lines 44-46), during which he “touched specific objects” (line 48) and then watched to see whether the birds touched the same objects. The author of Passage 2 notes that the ravens “soon became more independent” (line 54-55), going their own way rather than continuing to follow the author.

## PRACTICE AT



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This question asks you to identify something the author of Passage 2 did that the researchers discussed in Passage 1 did not do. Thus, the correct answer must fulfill both of these criteria. If an answer choice fulfills only one of two criteria, eliminate it!

From this, it is clear that the author of Passage 2, unlike the researchers described in Passage 1, intentionally made the birds aware of his presence.

Choice A is not the best answer because while a case could be made that the author of Passage 2 gave the ravens a problem to solve (Which new objects are best to touch?), the researchers described in Passage 1 presented the crows with a problem as well: how to extract meat from a log. Thus, presenting birds with a problem to solve was not a difference between the experiments.

Choice C is not the best answer because both the researchers described in Passage 1 and the author of Passage 2 consciously manipulated the birds' surroundings. The crow researchers placed meat pieces in a log and a pandanus plant behind the log (see lines 18-22). The author of Passage 2 put unfamiliar objects on a path for the ravens to find (see lines 61-62). Thus, conscious manipulation of the birds' surroundings was not a difference between the experiments.

Choice D is not the best answer because there is no evidence that the author of Passage 2 tested the ravens' tool-using abilities. The passage instead indicates that the author recorded observations about the birds' interactions with objects naturally occurring in and artificially introduced into the environment.

23

Is the main conclusion presented by the author of Passage 2 consistent with Morgan's canon, as described in Passage 1?

- A) Yes, because the conclusion proposes that the ravens' behavior is a product of environmental factors.
- B) Yes, because the conclusion offers a satisfyingly simple explanation of the ravens' behavior.
- C) No, because the conclusion suggests that the ravens exhibit complex behavior patterns.
- D) No, because the conclusion implies that a humanlike quality motivates the ravens' behavior.

**Content:** Synthesis/Analyzing Multiple Texts

**Key:** D

**Objective:** Students must synthesize information and ideas from paired texts.

**Explanation:** Choice D is the best answer. According to Passage 1, Morgan's canon is "the principle that suggestions of humanlike mental processes behind an animal's behavior should be rejected if a simpler explanation will do" (lines 2-4). The main conclusion drawn by the author of Passage 2 is that "ravens' curiosity ensures exposure to all or almost all items in the

### PRACTICE AT

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Break this challenging question down into a series of logical steps. First, identify the main conclusion of Passage 2 and refresh your memory of Morgan's canon. Next, determine if the conclusion in Passage 2 is consistent with Morgan's canon, and eliminate two answer choices accordingly. Lastly, examine the differences between the remaining two choices and select the one that is supported by the passages.

environment” (lines 78-79). In referring to the ravens’ behavior as reflecting “curiosity,” a human trait, the author of Passage 2 would seem to be ascribing a humanlike mental process to an animal’s behavior without explicitly considering alternate explanations.

Choice A is not the best answer because the main conclusion drawn by the author of Passage 2 is that “ravens’ curiosity ensures exposure to all or almost all items in the environment” (lines 78-79). In referring to the ravens’ behavior as reflecting “curiosity,” a human trait, the author of Passage 2 would seem to be ascribing a humanlike mental process to an animal’s behavior without explicitly considering alternate explanations. Morgan’s canon holds that such suggestions should be rejected unless a “simpler explanation” cannot be found (line 4); therefore, the conclusion the author of Passage 2 reaches is not consistent with Morgan’s canon. Moreover, by ascribing the ravens’ behavior to “curiosity,” the author of Passage 2 seems to reject environmental factors as the cause.

Choice B is not the best answer because the main conclusion drawn by the author of Passage 2 is that “ravens’ curiosity ensures exposure to all or almost all items in the environment” (lines 78-79). In referring to the ravens’ behavior as reflecting “curiosity,” a human trait, the author of Passage 2 would seem to be ascribing a humanlike mental process to an animal’s behavior without explicitly considering alternate explanations. Morgan’s canon holds that such suggestions should be rejected unless a “simpler explanation” cannot be found (line 4); therefore, the conclusion the author of Passage 2 reaches cannot be the type of “simpler explanation” Morgan was alluding to.

Choice C is not the best answer because while the main conclusion drawn by the author of Passage 2 is not consistent with Morgan’s canon (see explanation for choice D), nothing about how the canon is described in Passage 1 precludes the possibility that animals can exhibit complex behavior patterns. The canon merely rejects the idea that humanlike mental processes should quickly or easily be attributed to animals.