

# SAT Reading: Timing and Section Management Strategies

## LEARNING OBJECTIVE

After completing this chapter, you will be able to:

- Recognize at a glance which passages in a section are likely to be easiest for you

## Timing

You have 65 minutes to read 5 passages and answer 52 questions, so you need to complete each passage and its accompanying questions in an average of 13 minutes to finish on time. (Note that passages are not all the same length or difficulty, so some will take longer than others.) After 32 minutes, you should be about halfway done with the section. When the proctor informs you that there are 5 minutes remaining, you should ideally be working on the last few questions.

Note that this is a brisk pace. Reading for structure can help, as can triaging questions and skipping those that you can see at a glance will be time-consuming. Your real task is not actually to attempt all the questions in 65 minutes but to get as many points from the section as you can.

## Section Management

You may want to triage entire passages on the Reading section, not just questions. Some test takers have a hard time with literature, or primary source passages, or science; if you have distinct preferences about subject matter, you might consider leaving a particular passage type for last. For example, the section typically opens with the Literature passage. If that's the passage you feel least confident about, it makes sense to skip it and do it last. (Just be careful with your bubbling.)

Remember that you probably won't spend the same amount of time on each question for a passage. Every question counts for the same number of points, so be sure to complete the questions you find easiest to answer first. Also, be aware that the questions are usually arranged with Globals at the beginning of the set and increasing line number references, and that you will typically see two Command of Evidence questions per passage. Approached correctly, these questions should be quick: when you research the Detail or

Inference question that immediately precedes the Command of Evidence question, leave your finger on the support you find for the correct answer, then look for that support among the answer choices for the Command of Evidence question.

Finally, moving efficiently through this section is important, but that does not mean that you should skip over any text. Reading all of the text in the passage is essential to answering questions efficiently and accurately.

When considering the structure of the entire test, keep in mind that you will have a break after you complete this section. If you start to feel tired, remind yourself that you'll have a break soon. The more focused you can remain, the easier it will be for you to determine each correct answer.

There is a full Reading section in the How Much Have You Learned? section of this chapter. Use it to practice timing: skip questions you find too time-consuming and return to them if you have time. When you are finished, check your work—and reflect on how well you managed the section.

If you're still looking for more practice with Reading question sets after finishing this chapter, **go online** ([www.kaptest.com/moreonline](http://www.kaptest.com/moreonline)) and use the Qbank to generate additional practice sets for yourself.

## How Much Have You Learned?

Questions 1–10 refer to the following passage.

The passage is adapted from Wilkie Collins, *The Woman in White*, first published in 1859. It is considered one of the first novels of the mystery genre.

Pesca's face and manner, on the evening when we confronted each other at my mother's gate, were more than sufficient to inform me that something extraordinary had happened.

5 It was quite useless, however, to ask him for an immediate explanation. I could only conjecture, while he was dragging me in by both hands, that, knowing my habits, he had come to the cottage to make sure of meeting  
10 me that night and that he had some news to tell of an unusually agreeable kind.

We both bounced into the parlor in a highly abrupt and undignified manner. My mother sat by the open window laughing and  
15 fanning herself. Pesca was one of her especial favorites, and his wildest eccentricities were always pardonable in her eyes. From the first moment she found out that the little Professor was deeply and gratefully attached to her son,  
20 she opened her heart to him unreservedly and took all his puzzling foreign peculiarities for granted, without so much as attempting to understand any one of them.

My sister Sarah, with all the advantages of  
25 youth, was, strangely enough, less pliable. She did full justice to Pesca's excellent qualities of heart, but she could not accept him implicitly, as my mother accepted him, for my sake. Her insular notions of propriety rose in perpetual  
30 revolt against Pesca's constitutional contempt for appearances, and she was always more or less undisguisedly astonished at her mother's familiarity with the eccentric little foreigner. I have observed, not only in my sister's case,  
35 but in the instances of others, that we of the young generation are nowhere near as hearty and impulsive as some of our elders. I constantly see old people flushed and excited by the prospect of some anticipated pleasure

40 which altogether fails to ruffle the tranquility of their serene grandchildren. Are we, I wonder, quite such genuine boys and girls now as our seniors were in their time? Has the great advance in education taken rather  
45 too long a stride, and are we in these modern days just the least trifle in the world too well brought up?

Without attempting to answer those questions decisively, I may at least record that  
50 I never saw my mother and my sister together in Pesca's society without finding my mother much the younger woman of the two. On this occasion, for example, while the old lady was laughing heartily over the boyish manner in  
55 which we tumbled into the parlor, Sarah was perturbedly picking up the broken pieces of a teacup, which the Professor had knocked off the table in his precipitate advance to meet me at the door.

60 "I don't know what would have happened, Walter," said my mother, "if you had delayed much longer. Pesca has been half mad with impatience, and I have been half mad with curiosity. The Professor has brought some  
65 wonderful news with him, in which he says you are concerned, and he has cruelly refused to give us the smallest hint of it till his friend Walter appeared."

"Very provoking; it spoils the set,"  
70 murmured Sarah to herself, mournfully absorbed over the ruins of the broken cup.

While these words were being spoken, Pesca, happily and fussily unconscious of the irreparable wrong which the crockery had  
75 suffered at his hands, was dragging a large arm-chair to the opposite end of the room, so as to command us all three, in the character of a public speaker addressing an audience. Having turned the chair with its back towards  
80 us, he jumped into it on his knees and excitedly addressed his small congregation of three from an impromptu pulpit.



“Now, my good dears,” began Pesca, “listen to me. The time has come—I recite my good news—I speak at last.”

“Hear, hear,” said my mother, humoring the joke.

“The next thing he will break, Mamma,” whispered Sarah, “will be the back of the best arm-chair.”

“Among the fine London Houses where I teach the language of my native country,” said Pesca, “is one, mighty fine, in the big place called Portland. The golden Papa there, the mighty merchant, says ‘I have got a letter from my friend, and he wants a recommend from me, of a drawing-master, to go down to his house in the country. Perhaps you know of a drawing-master that I can recommend?’”

“I address myself to the mighty merchant, and I say, ‘Dear sir, I have the man! The first and foremost drawing-master of the world!’”

- The narrator’s stance is best described as that of
  - a writer learning about a possible teaching job.
  - a social historian chronicling generational changes produced by evolving social conventions.
  - a young man eager to set out on his own, free of the strictures of his family.
  - a careful observer describing the natures of three characters he knows well.
- The central purpose of the first paragraph is to
  - provide insight into the narrator’s habits.
  - demonstrate Pesca’s disregard for the narrator’s feelings.
  - introduce the tone and setting of the passage.
  - build suspense regarding the nature of the news Pesca has brought.
- The description of Pesca and the narrator in lines 12–13 (“We both . . . manner”) is primarily meant to
  - illustrate the personalities of the narrator and Pesca.
  - suggest that their disruptive behavior was in fact combative.
  - portray Pesca as a bad influence on the narrator.
  - provide a humorous contrast to the seriousness of the narrator’s mother.
- The narrator’s mother’s attitude toward Pesca is best described as
  - confusion about his enthusiastic manner.
  - disapproving of his unkempt appearance.
  - amusement at his wild schemes.
  - appreciative of his relationship with her son.



5. Which choice provides the best evidence for the answer to the previous question?
- A) Lines 17–23 (“From . . . them”)
  - B) Lines 25–27 (“She . . . implicitly”)
  - C) Lines 28–31 (“Her . . . appearances”)
  - D) Lines 60–62 (“I don’t . . . longer”)
6. The questions in lines 41–47 (“Are we . . . brought up?”) most nearly imply that
- A) the narrator and his sister received a poor education.
  - B) some young people may behave too maturely for their age.
  - C) some older people are too childish in their behavior.
  - D) some children were raised inappropriately by their parents.
7. According to the passage, the narrator’s sister is upset about the broken teacup because
- A) it makes the tea set incomplete.
  - B) she does not have the money to replace it.
  - C) it was important to her mother.
  - D) Pesca deliberately knocked it off the table.
8. The attitude of Pesca toward the narrator’s sister is best described as
- A) disrespectful and dismissive of her opinions.
  - B) enthusiastic in furthering her education.
  - C) unfazed by her concern for his behavior.
  - D) disappointed by her disregard for his feelings.
9. Which choice provides the best evidence for the answer to the previous question?
- A) Lines 48–52 (“Without . . . two”)
  - B) Lines 72–75 (“While . . . his hands”)
  - C) Lines 79–82 (“Having . . . pulpit”)
  - D) Lines 91–94 (“Among . . . Portland”)
10. As used in line 77, “command” most nearly means
- A) order.
  - B) engage.
  - C) lead.
  - D) bully.

Questions 11–20 refer to the following passage.

This is an excerpt from a speech by William Lloyd Garrison, one of the most prominent opponents of slavery in the United States. It was delivered in 1854.

Let me define my positions, and at the same time challenge anyone to show wherein they are untenable.

I am a believer in that portion of the  
5 Declaration of American Independence in which it is set forth, as among self-evident truths, “that all men are created equal; that they are endowed by their Creator with certain inalienable rights; that among these  
10 are life, liberty, and the pursuit of happiness.” Hence, I am an abolitionist. Hence, I cannot but regard oppression in every form—and most of all, that which turns a man into a thing—with indignation and abhorrence. Not  
15 to cherish these feelings would be recreancy to principle. They who desire me to be dumb on the subject of slavery, unless I will open my mouth in its defense, ask me to give the lie to my professions, to degrade my manhood,  
20 and to stain my soul. I will not be a liar, a poltroon, or a hypocrite, to accommodate any party, to gratify any sect, to escape any odium or peril, to save any interest, or to promote any object. Convince me that one man may  
25 rightfully make another man his slave, and I will no longer subscribe to the Declaration of Independence. Convince me that liberty is not the inalienable birthright of every human being, of whatever complexion or clime, and  
30 I will give that instrument to the consuming fire. I do not know how to espouse freedom and slavery together. . . .

These are solemn times. It is not a struggle for national salvation; for the nation, as such,  
35 seems doomed beyond recovery. The reason why the South rules, and the North falls prostrate in servile terror, is simply this: with the South, the preservation of slavery is paramount to all other considerations—  
40 above party success, denominational unity, pecuniary interest, legal integrity, and

constitutional obligation. With the North, the preservation of the Union is placed above all other things—above honor, justice, freedom,  
45 integrity of soul. . . . All these she is ready to discard for the union. Her devotion to it is the latest and most terrible form of idolatry. . . . If, at any time, she grows restive under the yoke, and shrinks back aghast at the new atrocity  
50 contemplated, it is only necessary for that power to crack the whip of disunion over her head, as it has done again and again, and she will cower and obey like a plantation slave—for has she not sworn that she will sacrifice  
55 everything in heaven and on earth, rather than the Union?

What then is to be done? Friends of the slave, the question is not whether by our efforts we can abolish slavery . . . but whether  
60 we will go with the multitude to do evil, sell our birthright for a mess of pottage, cease to cry aloud and spare not. . . . Let us stand in our lot, “and having done all, to stand.” At least, a remnant shall be saved. Living  
65 or dying, defeated or victorious, be it ours to exclaim, “No compromise with slavery! Liberty for each, for all, forever! Man above all institutions!”

11. The primary purpose of the passage is to
- compare and contrast the justifications for slavery offered by the North and the South.
  - encourage abolitionists to continue their efforts against slavery.
  - invite critiques of the author's position.
  - outline the reasons justifying slavery in order to argue against them.
12. One central idea of the passage is that
- the abolition of slavery will save the nation.
  - the South is primarily responsible for the national tragedy of slavery.
  - the ideals of the Declaration of Independence and the institution of slavery are mutually exclusive.
  - the North should uphold the unity of the nation above all other considerations.
13. The main purpose of the second paragraph is to
- argue that a practice is inconsistent with a principle.
  - describe needed changes to a social system.
  - discuss the underlying ideas in an important document.
  - suggest a way to resolve a difficult political issue.
14. Based on the passage, Garrison would be most likely to agree with which claim about the relationships of the North and the South to the institution of slavery?
- The South will agree to the abolition of slavery only through an amendment to the Constitution.
  - Slavery will become an issue of ancillary importance as the industry of the South becomes more mechanized.
  - The North has been complicit in the growth and continuation of slavery.
  - Because slavery is incompatible with the Declaration of Independence, the North demands abolition.
15. Which choice provides the best evidence for the answer to the previous question?
- Lines 4–11 (“I am . . . abolitionist”)
  - Lines 38–42 (“with . . . obligation”)
  - Lines 42–46 (“With . . . union”)
  - Lines 64–68 (“Living . . . institutions”)
16. As used in line 30, “instrument” most nearly means
- tool.
  - document.
  - expedient.
  - mechanism.
17. The primary function of the third paragraph is to
- contrast the South's use of slavery with the North's opposition to slavery.
  - describe reasons the South opposes, and the North supports, Garrison's view.
  - identify the reasons both the North and the South oppose Garrison's view.
  - outline the requirements for the abolition of slavery.
18. Which choice provides the best evidence for the claim that Garrison believes a personal decision to oppose slavery is paramount, whether or not the abolitionist movement is successful?
- Lines 31–32 (“I . . . together”)
  - Lines 46–47 (“Her . . . idolatry”)
  - Lines 57–60 (“Friends . . . evil”)
  - Lines 66–68 (“No compromise . . . institutions”)
19. In the third paragraph, Garrison implies the most important reason the North tolerates slavery is that
- abolition would cause the South to secede from the Union.
  - goods from the South would become prohibitively expensive without the use of slave labor.
  - the Declaration of Independence does not prohibit slavery.
  - the North will not meddle in the social policies of the South.



20. The passage most strongly suggests that the author believes which of the following regarding the abolition of slavery?
- A) Although the abolitionists may fail, they must continue to fight against slavery.
  - B) Because the North and the South both have compelling reasons to tolerate slavery, the abolitionists will fail.
  - C) With enough Northern support, slavery will eventually be abolished.
  - D) Thanks to the efforts of Garrison's followers, the abolition of slavery is imminent.

**Questions 21–30 refer to the following passage.**

This passage describes some research applications of a bioluminescent jellyfish protein.

Electron excitation is the process by which an electron within an atom is transferred to a higher energy state. Electron excitation is typically followed by the release of a photon when the electron falls back to its normal state. The initial transfer to the higher energy state can be accomplished by absorbing a photon, but it can happen in a variety of other ways as well. For example, the element phosphorus spontaneously combines with oxygen when exposed to air, producing a transfer of energy to the phosphorus electrons. The subsequent release of photons as the electrons fall back to lower energy states is an example of what is termed chemiluminescence, the emission of light as a result of a chemical reaction.

In a related effect called bioluminescence, light is produced by chemical reactions associated with biological activity. Bioluminescence occurs in a variety of life forms and is more common in marine organisms than in terrestrial or freshwater life. Examples of species that exhibit bioluminescence include certain bacteria, jellyfish, clams, fungi, worms, ants, and fireflies. There is considerable diversity in how light is produced, but most processes involve the reaction of a light-emitting molecule with oxygen, catalyzed by an enzyme. The light-emitting molecule varies from one organism to another, but all are grouped under the generic name luciferin. The enzymes catalyzing the reaction fall into two groups: photoproteins and luciferases. As the biochemistry of bioluminescence becomes better understood, researchers are harnessing this biological process in recombinant genetics experiments.

In 2008, Osamu Shimomura, Martin Chalfie, and Roger Tsien won the Nobel Prize in chemistry for their work in discovering specific bioluminescent proteins and

employing them to study cellular chemistry. Shimomura laid the foundation through his work on a bioluminescent jellyfish, *Aequorea victoria*. In 1962, he and a colleague isolated three key molecules that produce *A. victoria*'s bioluminescence: coelenterazine, a luciferin; aequorin, a photoprotein; and green fluorescent protein (GFP). The coelenterazine, when combined with aequorin, produces blue light that is then transduced to green light by GFP. Interestingly, GFP does not require any cofactor or substrate besides oxygen; it simply emits a green glow when exposed to blue or ultraviolet light. This means that GFP can be used, by itself, as a marker for the expression of other proteins in a cell. This innovation was Chalfie's contribution, via a paper published in 1992. Roger Tsien's research expanded on this application: he created variants of GFP with stronger fluorescence and in different colors. The result of the collective work of Shimomura, Chalfie, and Tsien is that it is nowadays possible to track a variety of cellular processes using bioluminescent proteins.

One example of this work is the study of cancer using zebrafish that have had the gene for GFP inserted into their DNA immediately next to a gene that codes for certain cancer processes. The result of this genetic manipulation is the ability to see the location of tumor cells. Zebrafish are translucent, so fluorescent tumor cells can be readily identified using a light microscope. A 2003 study of leukemia using this animal model revealed that tumor cells initially arose in the thymus and then spread to muscles and abdominal organs.

Another example is the discovery that bisphenol A (BPA), a common component of plastics, is an endocrine disrupter—specifically, that it has estrogenic activity. In a study conducted in 2002, cells in tissue culture were genetically engineered to express GFP when an estrogen receptor on the cells was stimulated. When exposed to estrogen, the cells glowed fluorescent green. Researchers

90 found that they could cause the cells to exhibit the same fluorescence by exposing them to BPA. However, the concentration of BPA required to induce fluorescence was 100,000 times higher, so it appears that BPA  
95 is only weakly estrogenic. Repeating the same experiment with polychlorinated BPA, the researchers found it to have stronger estrogenic activity than ordinary BPA. Because polychlorinated BPA is not easily biodegraded  
100 and tends to persist in the environment, they concluded that polychlorinated BPA may function as a worse endocrine disrupter than BPA.

105 The research applications of GFP are endless, and while a great deal remains to be discovered about bioluminescence in the many species that exhibit it, the discovery of this one jellyfish protein has already produced a variety of useful results.

21. The passage evolves from an explanation of a natural biochemical process to
- A) a description of research made possible through extensions of the natural process.
  - B) an explanation of how the natural process developed through evolutionary pressure.
  - C) a discussion of efforts by scientists to reverse the effects of the natural process.
  - D) an explanation why research based on this process will have no practical results.
22. The function of the first paragraph is to
- A) introduce the main idea of the passage.
  - B) identify a point of view with which the author disagrees.
  - C) provide evidence for the author's opinion.
  - D) discuss a scientific phenomenon similar to the main topic of the passage.
23. According to the passage, bioluminescence is most often found
- A) with oxygen when exposed to the air.
  - B) among terrestrial creatures.
  - C) in marine life.
  - D) in light given off by hot objects.
24. Which of the following provides the best evidence for the answer to the previous question?
- A) Lines 9–12 (“For example . . . electrons”)
  - B) Lines 18–20 (“In . . . activity”)
  - C) Lines 21–24 (“Bioluminescence . . . life”)
  - D) Lines 34–35 (“The enzymes . . . luciferases”)



25. The passage suggests that the jellyfish *Aequorea victoria*
- A) would emit green light without the presence of aequorin.
  - B) would emit blue light without the presence of aequorin.
  - C) would emit no light without the presence of GFP.
  - D) would emit blue light without the presence of GFP.
26. Which of the following provides the best evidence for the answer to the previous question?
- A) Lines 24–27 (“Examples . . . fireflies”)
  - B) Lines 47–51 (“In 1962 . . . (GFP)”)
  - C) Lines 51–54 (“The coelenterazine . . . GFP”)
  - D) Lines 61–64 (“Roger . . . colors”)
27. Based on the passage, it can be inferred that aequorin, part of *A. victoria*’s bioluminescence machinery, is
- A) a bacterium.
  - B) a light-emitting molecule.
  - C) a luciferase.
  - D) an enzyme.
28. As used in line 45, “foundation” most nearly means
- A) basis.
  - B) charity.
  - C) organization.
  - D) innovation.
29. According to the passage, which of the following has NOT been the subject of GFP-based research?
- A) Leukemia
  - B) Electron excitation
  - C) Endocrine disrupters
  - D) Tumor cells
30. In the experiment in which it was concluded that ordinary BPA is only weakly estrogenic, the researchers are assuming that
- A) whether or not GFP illuminates depends in part on the level of estrogenic activity.
  - B) the intensity of the illumination in the GFP is directly correlated with the level of estrogenic activity.
  - C) polychlorinated BPA has higher levels of estrogenic activity than does ordinary BPA.
  - D) the level of endocrine disruption caused by BPA is correlated with the level of estrogenic activity.

Questions 31–41 refer to the following passage.

The following passage explores the history and impact of public higher education in the United States.

Every year, hundreds of thousands of students graduate from U.S. public universities. Many of the largest and most elite schools in the nation fall into the category of public, or state, institutions. Unlike private universities, which generally operate independently from any government influence, public higher education was established through government legislation and is sustained through state and federal involvement in various ways. A look into the history of U.S. public higher education can shed light on the changing ideals of the American story over the past century and a half.

America's earliest higher-education institutions, like Harvard, were initially developed by and for clergy, or church workers. For 17th-century Puritans in America, church leadership was of utmost importance. At that time, clergy was the main profession for which college degrees were offered. Later, during the 18th and 19th centuries, paralleling the onset of secular (and increasingly scientifically inclined) modern thought, the nation and government acknowledged the need for broader higher education opportunities. Philosophers and politicians alike were aware that well-educated citizens were a vital element of a functional democracy. A better-informed voting population could secure a better political future. Moreover, with aims to advance the fields of technology and agriculture through higher education, legislators anticipated potential economic improvements nationwide as well. It was in the nation's best interest to make college more accessible.

In 1862, President Lincoln signed the Morill Land-Grant Act. This was, in many ways, the force behind the public university system. The Morill Act ensured that public land would be

set aside for the establishment of universities across the country. The coming decades saw a massive increase in the opening of universities in the nation. Hundreds of U.S. public universities began to operate. These schools received federal and state support, offered practical, accessible education, and sought, originally, to advance the fields of agriculture and mechanics. Soon these schools offered wide varieties of subjects and specialties. These universities would be operated by their respective states, but all would adhere to certain broad federal regulations.

At the time, the government was seeking to mend racial injustices through legislation. To this effect, a second land act was passed in 1890 in hopes of inhibiting discrimination in public universities. While at the time this did not accomplish the intended openness and diversity, it paved the way for the culture of diversity the American university system enjoys today. Many public universities are now richly diverse, with regulations in place to accept students of any race, ethnicity, or socioeconomic status. In a similar vein, women, who were once a minority in colleges, increasingly gained a strong presence in U.S. universities over the past 150 years. Women actually surpassed men in overall U.S. college attendance around the turn of the 21st century.

Since the legislation of the 19th century, public universities have undergone momentous growth. The system has evolved to address and accommodate the nuances of 20th- and 21st-century American culture and development. Offering in-state students some of the most affordable degree programs in higher education, these schools have now graduated millions of undergraduate and graduate students. Public universities also manage the majority of the nation's government-funded academic research initiatives. Featuring some of the most competitive athletic programs in the world, as well as elite scholarship and arts programs,

the U.S. public universities's accomplishments  
 90 seem boundless. With schools in Alaska,  
 Hawaii, and even U.S. territories like Puerto  
 Rico and Guam, public university impact  
 reaches the farthest corners and populations of  
 the nation. The state school system has been  
 95 formative for American culture, philosophy,  
 economics, medicine, politics, and much more.

The eminence of the U.S. public university  
 network stretches beyond the United States.  
 Students travel from across the globe to study  
 100 at top programs. Cutting-edge schools like the  
 University of Virginia (UVA) and University  
 of California at Los Angeles (UCLA) receive  
 continual international attention for their  
 accomplishments in scholarship and research.  
 105 Programs, faculty, and students from these  
 schools participate in the global conversation  
 in significant ways, working toward a better  
 future for the planet.

Given those early visions for a more  
 110 robustly educated voting population, the  
 enormity of the system that the Morrill  
 Act launched is remarkable. U.S. public  
 universities have both shaped and employed  
 many of America's greatest thinkers.  
 115 Considering their timeline and their  
 accomplishments, these schools seem to reflect  
 the post-Civil War history of diversity, liberty,  
 creativity, and equal opportunity that in many  
 ways distinguishes the American cultural  
 120 identity.

31. The passage's primary purpose is to
- A) summarize the accomplishments of U.S. public universities since the 19th century.
  - B) explain the historical influence of religion on the development of the university system.
  - C) discuss the relationship between U.S. higher education and the cultural values of the nation.
  - D) summarize the historical effect of the Morrill Land-Grant Act on U.S. public universities.
32. Which of the following pieces of evidence would most strengthen the author's line of reasoning throughout the passage?
- A) Information about the ways in which private and public universities differ in paragraph 1
  - B) An example of how the 17th-century clergy benefited from higher education in paragraph 2
  - C) Statistics showing increased enrollment numbers of minority students in paragraph 4
  - D) An example of a competitive public university athletic program in paragraph 5
33. In the second paragraph, the author uses the idea that educated citizens are necessary for a functioning democracy to
- A) show why an educated workforce increased agricultural production.
  - B) demonstrate the continued role of the clergy in American public life.
  - C) explain why the government was playing a larger role in public education.
  - D) emphasize the importance of technological innovation for the economy.



34. Which choice provides the best evidence for the answer to the previous question?
- A) Lines 21–23 (“At that time . . . offered”)
  - B) Lines 23–28 (“Later . . . opportunities”)
  - C) Lines 31–33 (“A better-informed . . . future”)
  - D) Lines 33–37 (“Moreover . . . well”)
35. The purpose of the third paragraph is to
- A) highlight an example of the government increasing access to public education.
  - B) discuss initial technological advances in agriculture and mechanics.
  - C) outline the effects of the Morrill Land-Grant Act on the U.S. economy.
  - D) explain the relationship between federal and state control of public universities.
36. In line 49, the author’s use of the word “accessible” implies that
- A) public universities would expand course offerings to encompass a range of subjects.
  - B) the likelihood that people with limited means could attend a university was increasing.
  - C) agriculture and mechanics would receive the most federal and state support.
  - D) President Lincoln supported passage of the Morrill Land-Grant Act to expand education.
37. As used in line 54, “adhere” most nearly means
- A) resist.
  - B) notice.
  - C) acquiesce.
  - D) comply.
38. In the fourth paragraph, the author uses the fact that more women than men now attend college to
- A) contrast the advances of women’s rights with racial injustice in public universities.
  - B) provide an example of how the land acts initially failed to stop discrimination.
  - C) show that public universities have grown increasingly diverse over time.
  - D) illustrate the challenges many people still face to attend public universities.
39. Which choice provides the best evidence for the answer to the previous question?
- A) Lines 58–60 (“To this effect . . . universities”)
  - B) Lines 60–64 (“While . . . today”)
  - C) Lines 64–67 (“Many . . . status”)
  - D) Lines 67–70 (“In a similar . . . years”)
40. As used in line 77, “nuances” most nearly means
- A) eras.
  - B) categories.
  - C) circumstances.
  - D) variations.
41. The fifth paragraph supports the central idea of the passage by
- A) discussing how public university athletic programs have grown increasingly competitive.
  - B) providing evidence of the success of federal legislation meant to invest in public universities.
  - C) explaining that in-state tuition rates have increased enrollment in U.S. public universities.
  - D) noting that the U.S. public university system has expanded into U.S. territories.

**Questions 42–52 refer to the following passages.**

Passage 1 discusses the possibility of panspermia, the idea that life on Earth is of extraterrestrial origin. Passage 2 is a response to Passage 1.

**Passage 1**

Panspermia, the hypothesis that life on Earth originated in outer space, has had a number of supporters since the nineteenth century—some of them quite distinguished—  
5 but it has never won general acceptance among biologists. However, recent research has found possible support for panspermia.

Most of the meteorites that strike Earth originated in the lifeless wastes of the asteroid  
10 belt. A few, though, have been identified as fragments that were torn from the Moon and Mars by comets and asteroids and eventually drifted to Earth. The Moon and Mars are lifeless, but there is reason to believe that,  
15 billions of years ago, Mars was warmer and moister than it is now and capable of supporting life. Indeed, Mars may have been more conducive to the development of life than Earth was during the early history of the  
20 solar system. It is feasible that life developed on Mars first and was carried to Earth on space-borne debris.

But could living organisms have survived the journey through space? The effects of cosmic  
25 rays on the known Martian meteorites indicate that they took from 700,000 to 15,000,000 years to reach Earth. It seems inconceivable that any life forms could have survived such conditions for so long. However, computer simulations  
30 suggest that fragments hurled into space from a collision on Mars would begin reaching Earth in only 16,000 years. Moreover, it is therefore conceivable that an improbable stroke of luck allowed a meteor to carry living things from  
35 Mars to Earth—and the Tanpopo experiment has shown that certain bacteria, when clustered together to inhibit damage by ultraviolet rays, can survive in space for at least one year. Panspermia can thus no longer be dismissed  
40 as science fiction or the fanciful speculation

of unscientific minds: it is becoming an increasingly viable, even promising, field of research within the field of astrobiology.

**Passage 2**

While absence of evidence is not evidence  
45 of absence, the panspermia hypothesis will remain nothing more than a tantalizing idea until incontrovertible evidence is found that interplanetary transfer of microbes is not only possible, but also historical fact. Finding such  
50 evidence is absurdly challenging, the more so because alternative explanations abound for the presence of bacteria on objects in space.

Take the recent discovery of marine and land bacteria similar to species found on Earth  
55 (they belong to the genera *Mycobacterium* and *Delftia*) in cosmic dust present on the exterior of the International Space Station (ISS). Even if the discovery is genuine and not the result of cross-contamination of the samples at  
60 any stage between their collection and their analysis in a laboratory on Earth, it by no means indicates that the bacteria arrived at the ISS from an extraterrestrial source. It is far more likely that they are ordinary Earth  
65 bacteria that were transported to the ISS on the surfaces of supplies or other objects as part of routine restocking, as is known to have occurred in the past. It is also possible, though less likely, that they are ordinary  
70 Earth bacteria that were hurled into the outer atmosphere by storm systems. Either way, their discovery on ISS surfaces does not demonstrate their extraterrestrial origin—and the issue of indeterminate origin will hamper  
75 any similar type of study. It follows that very carefully designed, novel experiments will be required to conclusively demonstrate or refute the panspermia hypothesis, and while multiple researchers are working on this problem, it  
80 will be years, and more probably decades, before we can draw plausible and meaningful inferences.

42. The author of Passage 1 would be most likely to agree with which of the following statements about the solar system?
- A) The Moon used to be more capable of supporting life than it currently is.
  - B) It is possible that there was a time when Mars had conditions more suitable to life than Earth did.
  - C) It is likely that a fragment from the Moon carried life to Earth.
  - D) The life found on Mars billions of years ago could have originated from the asteroid belt.
43. Which choice provides the best evidence for the answer to the previous question?
- A) Lines 8–10 (“Most . . . belt”)
  - B) Lines 10–13 (“A few . . . Earth”)
  - C) Lines 17–22 (“Indeed . . . debris”)
  - D) Lines 29–32 (“However . . . years”)
44. As used in line 9, the word “wastes” is closest in meaning to
- A) wilderness.
  - B) barren zones.
  - C) by-products.
  - D) fragments.
45. The main purpose of lines 32–38 (“Moreover . . . year”) is to
- A) counter an objection to a hypothesis.
  - B) indicate the need for further study.
  - C) provide the answer to a question.
  - D) describe an event that is likely to have occurred many times.
46. According to the author of Passage 2, which of the following best summarizes the reasons to be skeptical of discoveries of bacteria on extraterrestrial objects as evidence for panspermia?
- A) Scientists cannot avoid bias when examining evidence for hypotheses they believe to be true.
  - B) A large number of highly improbable events would need to have occurred at precisely the same time.
  - C) It is very unlikely that such bacteria would have survived the lengthy journey from Mars to Earth.
  - D) There is high probability that the bacteria came from some terrestrial source.
47. Based on the discussion of the bacteria found on the exterior of the International Space Station, the author of Passage 2 would be most likely to agree with which of the following?
- A) It is easier for bacteria to be carried into Earth’s outer atmosphere from its surface than from elsewhere in the solar system.
  - B) It is not possible that bacteria from an extraterrestrial source could have survived a journey through space.
  - C) The time required to create experiments that will determine the origin of the bacteria makes the process of doing so impractical.
  - D) The dust on the ISS that the bacteria are found in likely came from rocks that originated on Earth.
48. Which choice provides the best evidence for the answer to the previous question?
- A) Lines 44–49 (“While . . . fact”)
  - B) Lines 53–57 (“Take . . . (ISS)”)
  - C) Lines 63–68 (“It is . . . past”)
  - D) Lines 75–82 (“It follows . . . inferences”)



49. In using the phrase “absence of evidence is not evidence of absence . . .” (lines 44–45), the author is
- A) pointing out a logical flaw in critics’ arguments.
  - B) condemning the lack of research conducted into the panspermia hypothesis.
  - C) laying a logical foundation for an argument made later.
  - D) acknowledging that a lack of evidence does not disprove a hypothesis.
50. The author of Passage 2 would be most likely to respond to the evidence presented in lines 14–20 by
- A) dismissing the evidence as completely irrelevant to the topic at hand.
  - B) conceding that the evidence does, in fact, lend substantial support to the panspermia hypothesis.
  - C) asserting that such evidence is insufficient to support the hypothesis of panspermia and therefore inconclusive.
  - D) shifting to a position of provisional acceptance of panspermia dependent upon the results of future experiments.
51. The authors of both passages provide an answer to which of the following questions?
- A) What would be required for the panspermia hypothesis to gain widespread acceptance?
  - B) How does the panspermia hypothesis compare to other potential explanations of the origins of terrestrial life?
  - C) What conditions would have had to exist to allow microorganisms of extraterrestrial origin to have reached Earth?
  - D) Is the panspermia hypothesis currently worth serious consideration as an explanation for the origins of life on Earth?
52. Which choice best states the relationship between the two passages?
- A) Passage 2 directly refutes the evidence presented in Passage 1.
  - B) Passage 2 challenges the primary argument of Passage 1.
  - C) Passage 2 provides a broader context for the ideas discussed in Passage 1.
  - D) Passage 2 considers additional evidence to further the goals of Passage 1.

## Answers and Explanations

Suggested passage notes:

- ¶1: Description of P; good news
- ¶2: Mom likes P
- ¶3: Sister doesn't like P b/c too improper; young gen. more stuffy than old
- ¶4: Mom's reaction to P vs. sister's reaction to P
- ¶5–6: Mom excited for news; sister upset over cup
- ¶7–8: P actions
- ¶9–10: Mom and sister's reactions to P
- ¶11–12: P's announcement

1. D

**Difficulty:** Medium

**Category:** Inference

**Strategic Advice:** Focus on how the narrator sees the characters and events.

**Getting to the Answer:** Literature passages tend to focus on the relationships among main characters. Here, the main characters are the narrator, his mother, his sister, and Pesca. The narrator focuses on the reaction that each woman has to Pesca's actions. Predict that the author wants to create a sketch of each woman by using those different responses. **(D)** is correct.

(A) is incorrect because, even though a job is mentioned at the end, it is for a "drawing-master," not a writer. And this is just a small point at the end, which ignores everything else that precedes it in the passage. (B) is incorrect because there's no indication of the narrator being a historian, let alone one who is studying generational changes or social conventions. (C) is incorrect because there is no indication that the narrator is looking to leave his family.

2. C

**Difficulty:** Medium

**Category:** Function

**Strategic Advice:** Consult your passage map to identify the function of the first paragraph.

**Getting to the Answer:** This paragraph provides context for the rest of the passage. The narrator describes Pesca's expressive nature, his understanding of Pesca, and the reason for the subsequent events in the passage. Predict that this paragraph sets the stage for

understanding how Pesca's character will impact the rest of the story. **(C)** matches that prediction.

(A) is incorrect because the paragraph describes Pesca's behavior, not the narrator's. Even though the narrator's habits are mentioned in one sentence, the paragraph is still about Pesca using that information. (B) is incorrect because Pesca is just excited. He's not said to be dismissive of the narrator's feelings. (D) is incorrect because Pesca's news is not really important to the story. It's more about people's reaction to Pesca's excitement.

3. A

**Difficulty:** Medium

**Category:** Function

**Strategic Advice:** To understand why a narrator chooses a particular phrase, focus on the author's intention in the surrounding text. The cited section will work to accomplish that intention.

**Getting to the Answer:** Throughout the paragraph, the narrator describes why his mother finds Pesca so pleasing. This introductory wording sets the stage by describing Pesca as undignified. This feature of his personality is a great match for **(A)**.

(B) is incorrect because the word "bouncing" implies good humor, not aggression. (C) is incorrect because the mother appreciates the bond between the narrator and Pesca. There is no suggestion of Pesca being a bad influence. (D) is incorrect because it is the narrator's sister who is more serious, not his mother.

4. D

**Difficulty:** Medium

**Category:** Inference

**Strategic Advice:** Note that the next question is a Command of Evidence question, so make a mark next to any sentences that support the answer to this question. Doing so could come in handy for the next question.

**Getting to the Answer:** The strongest indication of the mother's attitude comes in the second paragraph. She laughs as Pesca excitedly enters the room. But, more tellingly, she is described as accepting his peculiar behavior because he is "deeply and greatly attached to her son." This is echoed in **(D)**.

(A) is incorrect because, if anything, the mother is said to merely accept any of Pesca's peculiarities without even trying to understand them. That doesn't mean she's confused. Even if she were to find those peculiarities a little confusing, it doesn't follow that she's confused by his enthusiasm. (B) is incorrect because it describes the sister's attitude, not the mother's. (C) is incorrect because there is no indication of any wild schemes.

5. A

**Difficulty:** Medium

**Category:** Command of Evidence

**Strategic Advice:** Be sure to use any information used in the previous question to save time on this question.

**Getting to the Answer:** The support for the previous question came primarily from the second paragraph. That includes lines 17–23, which describe how the mother has opened her heart to Pesca because of his attachment to her son. (A) is correct.

(B) and (C) are incorrect because they refer to the sister's attitude, not the mother's. (D) is incorrect because, although the mother is speaking, she is not indicating any attitude toward Pesca at that moment.

6. B

**Difficulty:** Medium

**Category:** Inference

**Strategic Advice:** When given a line reference, consider the context of the surrounding text.

**Getting to the Answer:** This question refers to some thoughts the narrator presents at the end of the third paragraph. In that paragraph, the narrator is talking about his sister, who is rather serious compared to her mother. The narrator then describes how this is typical of young people, who don't seem as excitable or impulsive as their elders. The narrator's questions at the end hint that younger people are perhaps *too* serious these days. That matches (B).

(A) is incorrect because it misuses the word "education." The author is actually suggesting that young people are so *well* educated that they forget how to have a little fun. (C) is incorrect because the author seems to regret the serious behavior of young people, not the excitable behavior of older people. (D) is incorrect because there is no questioning of how parents are raising their children.

7. A

**Difficulty:** Medium

**Category:** Detail

**Strategic Advice:** The phrase "According to the passage" means that the correct answer will be spotted directly in the text. Don't rely on memory. Find the detail and literally put your finger on it.

**Getting to the Answer:** The cause of the sister's disappointment is found in the sixth paragraph, in which she mourns the broken teacup and claims that "it spoils the set." This matches (A).

(B) is incorrect because there's no mention of its cost or how much money the sister has. (C) is incorrect because the mother seems unconcerned with the broken teacup. (D) is incorrect because Pesca is said to have knocked it over upon excitedly entering the room. It's presented as an accident, not a deliberate act.

8. C

**Difficulty:** Medium

**Category:** Inference

**Strategic Advice:** A quick glance ahead shows that the next question is a Command of Evidence question. It is worth taking note of any lines that support the answer to this question, as those may be useful for the next question.

**Getting to the Answer:** The passage provides a lot of information about the attitude of the narrator's sister toward Pesca: she has contempt for his appearance and is bothered by his behavior, which resulted in a broken teacup. However, there are few hints about Pesca's attitude. The only clue is in the seventh paragraph, where Pesca is said to be unaware of the broken teacup, suggesting that Pesca is oblivious to the sister's unhappiness. That matches (C).

(A) is incorrect because it's too strong. Pesca is just excited and unaware of the narrator's sister's bad mood; he is not purposely being rude or dismissing her. (B) is incorrect because Pesca's enthusiasm is more about his news, not for any desire to educate the sister. (D) is incorrect because, while the sister is unhappy with Pesca, he does not seem to notice or be disappointed in any way.



9. B

**Difficulty:** Medium

**Category:** Command of Evidence

**Strategic Advice:** Consider the purpose of each given quote to make sure it matches the ideas expressed in the previous question.

**Getting to the Answer:** The previous question asked about Pesca's attitude toward the narrator's sister. As Pesca never addresses the sister directly, the only suggestion of attitude comes from lines 72–75, in which Pesca is seen as oblivious to the sister's concern about her broken teacup. Those are the lines cited in correct answer (B).

(A) is incorrect because those lines indicate more the sister's attitude toward Pesca, not the other way around. (C) is incorrect because it shows Pesca's excitement in sharing his news with everyone in the room, not his attitude toward the sister in particular. (D) is incorrect because it's Pesca talking about himself, without expressing any attitude toward the sister or anyone else.

10. B

**Difficulty:** Hard

**Category:** Vocab-in-Context

**Strategic Advice:** For Vocab-in-Context questions, read the entire sentence for meaning. Be ready to eliminate choices that give a common definition for the word.

**Getting to the Answer:** In line 78, the author is describing how Pesca grabbed a chair so that he could be like “a public speaker addressing an audience.” In that sense, commanding an audience means seeking their undivided attention, or keeping them engaged. That makes (B) the correct answer.

(A), (C), and (D) are incorrect because they all refer to a different concept of commanding that is not consistent with this passage. Pesca is not giving orders or leading or bullying anyone.

Suggested passage notes:

- ¶1: challenge to find flaw in G's position
- ¶2: slavery incompatible w/ Dec of Independence
- ¶3: South's & North's reasons for slavery
- ¶4: G's opinion—abolitionists can't end slavery, but can oppose it

11. B

**Difficulty:** Medium

**Category:** Global

**Strategic Advice:** Always ask yourself, “Why did the author write this passage?” after you read the passage, and before you start on the questions.

**Getting to the Answer:** Garrison ends the passage by answering the question in line 57, “What then is to be done?” He goes on to state in the final paragraph that abolitionists should continue their efforts to abolish slavery whether or not they are successful. (B) is correct.

(A) and (D) are distortions of information presented in the third paragraph. Garrison outlines the reasons the North and the South use to justify slavery, but dismisses them as erroneous without arguing against them, (D), or comparing them, (A). (C) is too narrow. While, in the first paragraph, Garrison does invite his opponents to criticize his views, this is not mentioned in any of the later parts of the text and is therefore not the central goal of the passage.

12. C

**Difficulty:** Medium

**Category:** Global

**Strategic Advice:** Use your passage map to predict the answer to a Global question.

**Getting to the Answer:** Review the passage map to refresh your memory of the central ideas. (C) is found in the summary of paragraph 2 and is the correct answer.

(A) is a distortion of information in the passage. Although the author believes slavery must be abolished, lines 33–35 state his view that the nation may already be beyond saving. (B) is extreme; Garrison believes that both the North and the South are responsible for the institution of slavery, not that the South is “primarily responsible.” (D) is the opposite of what the passage says. As stated in lines 42–46, Garrison believes that the North is putting the Union first, but then he goes on to harshly criticize this view, calling it “the latest and most terrible form of idolatry” in lines 46–47.

**13. A****Difficulty:** Hard**Category:** Function

**Strategic Advice:** Function questions ask how or why the author used a feature in the passage. Keep the overall purpose of the passage in mind and answer the question, “Why did the author write the second paragraph?”

**Getting to the Answer:** The passage map notes that slavery is incompatible with the Declaration of Independence, so **(A)** is the correct answer. The practice mentioned in the choice is slavery, and it is inconsistent with the principle that “all men are created equal” in the Declaration of Independence.

**(B)** is incorrect because although Garrison believes slavery should be abolished, he does not describe what this entails or how it should be done. **(C)** is incorrect because Garrison states the principle of freedom in the Declaration of Independence and then goes on to discuss how this principle affects his views; he does not discuss the idea of freedom itself. **(D)** is incorrect because, although Garrison clearly states that slavery should be abolished, he does not propose any way to resolve the conflict that would arise with those who believe slavery should be maintained.

**14. C****Difficulty:** Medium**Category:** Inference

**Strategic Advice:** Research the answer to an Inference question in the passage. The passage must directly support the answer.

**Getting to the Answer:** The relationships of the South and the North with slavery are discussed in the third paragraph. Lines 38–39 state that the South considers the continuation of slavery the “paramount” issue; nothing is more important to the South. The North tolerates slavery because that toleration keeps the nation together. Lines 42–44 state that preservation of the union is the North’s top priority. Compare these ideas to the choices, and **(C)** is the match. By putting the unity of the nation first, Garrison would argue the North has allowed slavery to continue and to spread.

**(A)** is incorrect because it is the opposite of what the passage says. Lines 38–42 state that the South will put the preservation of slavery above “constitutional obligation.” **(B)** is incorrect because it is not mentioned in the

passage at all. **(D)** is incorrect because while the author does believe that slavery is incompatible with the Declaration of Independence, this view is not also attributed to the North. Also, the text never describes the North as demanding abolition.

**15. C****Difficulty:** Medium**Category:** Command of Evidence

**Strategic Advice:** Put your finger on the lines where you found the answer to the previous question.

**Getting to the Answer:** If you leave your finger on the line in the passage where you found the previous answer, you can answer Command of Evidence questions quickly. The reason the North tolerated slavery was found in lines 42–44, which matches **(C)**.

**(A)** and **(D)** are Garrison’s views, not those of either the North or the South. **(B)** describes the South’s view, but the answer to the previous question was the North’s toleration of slavery, so the correct evidence will support the North’s point of view.

**16. B****Difficulty:** Medium**Category:** Vocabulary-in-Context

**Strategic Advice:** Look back in the passage and determine how the author used the word given in a Vocab-in-Context question.

**Getting to the Answer:** Use the line reference to locate the word “instrument,” then read above and below that line to determine how the author is using that word. Since “instrument” is preceded by the pronoun “that” in the sentence, determine what “that” is and use the pronoun’s antecedent as your prediction. The sentence in line 30 begins in line 27, so “that” must be the noun closest to the start of the sentence—the Declaration of Independence. The Declaration of Independence is a document, so **(B)** is correct.

The remaining answers are incorrect because none of them properly refers to the Declaration of Independence.

17. C

**Difficulty:** Hard

**Category:** Function

**Strategic Advice:** Think of the author’s purpose in writing the passage and then ask yourself, “How or why did the author use the third paragraph?”

**Getting to the Answer:** The correct answer will describe why the author included the third paragraph, or how the third paragraph contributed to the author’s point of view. Review the passage map and predict “to describe the reasons both the North and the South accept slavery in the South.” (C) is correct.

(A) is incorrect because the third paragraph outlines the justifications for slavery offered by both the South and the North. (B) is incorrect because Garrison’s view is that slavery should be abolished, and the third paragraph gives the reasons both the South and the North will allow slavery to continue. (D) is incorrect because the author argues for an absolute and immediate end to slavery, and does not list any requirements for this change.

18. C

**Difficulty:** Hard

**Category:** Command of Evidence

**Strategic Advice:** Be sure your choice, on its own, supports the idea in the question.

**Getting to the Answer:** For Command of Evidence questions, the excerpt from the passage in the choice must answer the question. (C) is the only choice that addresses both the effort to abolish slavery (“the question is not whether by our efforts we can abolish slavery”) and the personal decision to oppose slavery (“but whether we will go with the multitude to do evil”).

(A), (B), and (D) all provide evidence that Garrison opposes slavery, but do not connect that opposition to the success (or lack of success) of the abolitionist movement.

19. A

**Difficulty:** Easy

**Category:** Inference

**Strategic Advice:** Research the answer in the third paragraph, looking for a statement that must be true based on the passage.

**Getting to the Answer:** The emphasis keywords in the question, “most important,” mean the passage must be equally emphatic. In lines 42–44, Garrison states that “above all other things,” the North wants “the preservation of the Union.” In other words, the North allows slavery to continue because of the fear that, if the North does not, the South will leave the Union. (A) is correct.

You may believe (B) to be true if you’ve studied U.S. history, but this is not mentioned in the text, so it is incorrect. (C) is incorrect because it is the opposite of what the passage says. Garrison argues in the second paragraph that slavery and the Declaration of Independence are incompatible. (D) is incorrect because it is not mentioned in the passage at all.

20. A

**Difficulty:** Medium

**Category:** Inference

**Getting to the Answer:** Use your understanding of the main idea to eliminate choices and then match the remaining choices to the passage. Garrison’s main idea is that abolitionists must continue to fight slavery, even though they may not be successful (lines 57–60). (A) is correct.

(B) is a distortion of information in the third paragraph. While Garrison did outline the reasons the North and South were both willing to tolerate slavery, Garrison did not consider either view “compelling.” Rather, he argued that these were the reasons “the nation . . . seems doomed beyond recovery” (lines 34–35). (C) and (D) similarly distort information in the passage. While Garrison is arguing for the abolition of slavery, he argues, in lines 57–60, that efforts for abolition must continue regardless of their success. Garrison does not state slavery will eventually, (C), or soon, (D), be abolished.



Suggested passage notes:

¶1: chemiluminescence can be caused by electron excitation. ex: phosphorus + oxygen = light

¶2: bioluminescence: light from animals; description of general chemical process

¶3: biolum. in jellyfish; GFP is important molecule

¶4: cancer research based on GFP

¶5: toxic plastics research based on GFP

¶6: GFP research is promising; much is unknown but many results already

21. A

**Difficulty:** Medium

**Category:** Global

**Getting to the Answer:** Use the passage map to see how the passage proceeds. After the discussion of the natural bioluminescence through paragraph 3, the passage moves on to a discussion of research based on this process. Paragraphs 4 and 5 discuss how jellyfish proteins involved in bioluminescence have helped scientists research topics such as cancer and potentially harmful components in plastic. (A) describes this part of the passage perfectly and is correct.

Choice (B) is incorrect because there's no discussion in the passage of how bioluminescence evolved. (C) can be eliminated because the research is not intended to reverse the effects of bioluminescence; it's using those effects in an attempt to make new discoveries. (D) is contradicted by the last line of the passage, which says that the research has already produced "useful results."

22. D

**Difficulty:** Medium

**Category:** Function

**Getting to the Answer:** When asked for the function of a paragraph, consider how it relates to the overall purpose of the passage. The purpose of the passage as a whole is to discuss bioluminescence and its research applications. The first paragraph describes chemiluminescence, and the first line of paragraph 2 says that bioluminescence is a "related effect." Therefore, you can predict that the first passage is something that is similar to the main idea but which itself is not the main idea. (D) matches this prediction perfectly and is correct.

(A) is incorrect because the first paragraph does not actually discuss the main idea, merely a related topic.

(B) and (C) both imply that the author expresses an opinion; they are both incorrect because the author expresses no opinions in this neutral, explanatory passage.

23. C

**Difficulty:** Easy

**Category:** Detail

**Strategic Advice:** Answer Detail questions by reading around the cited text until you find the information that answers the question.

**Getting to the Answer:** Paragraph 2 contains general information about bioluminescence. Read around the cited lines to find the detail you need: "Bioluminescence occurs in a variety of life forms and is more common in marine organisms than in terrestrial or freshwater life" (lines 21–24). This matches (C), which is correct.

According to the first paragraph, phosphorus does emit light when combined with oxygen, but this is an example of chemiluminescence, not bioluminescence, so (A) is incorrect. (B) is directly contradicted by the lines you found in your research, so it can be eliminated. (D) is not mentioned anywhere in the passage, so it is also incorrect.

24. C

**Difficulty:** Easy

**Category:** Command of Evidence

**Getting to the Answer:** While researching the previous question, you found that lines 21–24 supported the correct answer. Thus, (C) is correct. (A) describes the reaction between phosphorus and oxygen, not bioluminescence. (B) describes bioluminescence in general, but it doesn't establish that it's most common in marine life. (D) merely describes the two types of enzymes that might be involved in a bioluminescent reaction, so it can be eliminated.

25. D

**Difficulty:** Medium

**Category:** Inference

**Getting to the Answer:** Paragraph 3 is where this jellyfish is discussed, so direct your research there. There are a lot of facts in the paragraph, but what it tells you about the *A. victoria* is fairly straightforward: coelenterazine and aequorin interact to emit blue light, which is transformed into green light by GFP. Look for an answer that lines up with this information.

(D) is correct. GFP's function is to turn the blue light into green light, so if it wasn't there, the light would be blue. Since aequorin is described as being part of the light-producing process, there would be no bioluminescence without it, which means (A) and (B) can be eliminated. (C) is incorrect because the GFP is not directly involved in producing light; it merely changes the color.

26. C

**Difficulty:** Medium

**Category:** Command of Evidence

**Getting to the Answer:** Use your research for the previous question to point you to the correct answer here. The correct answer to the previous question depended on knowing how the *A. victoria* produced light; this is described in lines 51–54, so (C) is correct.

(A) cites lines that merely give examples of bioluminescent creatures, so it can be eliminated. (B) may seem tempting, because lines 47–51 describe the chemicals involved in *A. victoria*'s bioluminescence. However, it doesn't actually provide any information on how they interact to produce light, so it's incorrect. (D) can be eliminated because it describes further research done on GFP, not how GFP works in *A. victoria*.

27. D

**Difficulty:** Hard

**Category:** Inference

**Getting to the Answer:** *A. victoria* is the bioluminescent jellyfish that, according to the passage map, is discussed in paragraph 3, so start your research there. Aequorin is described as a photoprotein that interacts with a luciferin, which then produces light. However, the passage map indicates that the chemical process of bioluminescence is described in paragraph 2 as

well. Photoproteins are mentioned there as a class of enzymes; therefore, aequorin is an enzyme, so (D) is correct.

(A) is incorrect because bacteria are mentioned as an example of an organism that could exhibit bioluminescence itself. (B) may be tempting since aequorin is part of the light-emitting process. However, according to the passage, it's the luciferin that is the light-emitting molecule; the photoproteins merely start the reaction. According to paragraph 2, luciferase is another class of enzyme, distinct from photoproteins, that could be involved in a bioluminescent reaction, so (C) can be eliminated.

28. A

**Difficulty:** Easy

**Category:** Vocab-in-Context

**Getting to the Answer:** Check out the context in which “foundation” is used. It's used in paragraph 3 in the discussion of how three scientists won a Nobel Prize; the passage says that one of the scientists “laid the foundation” with research on a bioluminescent jellyfish. Thus, you can predict that here, “foundation” is used to mean something like *groundwork*. (A), “basis,” matches this prediction and is correct. While (B), “charity,” and (C), “organization,” can be synonyms for “foundation,” they don't fit the context here. (D) can be eliminated because, while the passage does discuss many innovations, this isn't one of them.

29. B

**Difficulty:** Hard

**Category:** Detail

**Strategic Advice:** This is a Detail question for which the three incorrect answers will be examples of GFP-based research, while the correct answer will not be. You can't predict something that doesn't appear in the passage, but you can use details from the passage to predict the incorrect answers.

**Getting to the Answer:** According to the passage map, paragraphs 4 and 5 discuss this research. Paragraph 4 mentions that GFP was used to research tumor cells, with leukemia being given as an example of one type of cancer that was studied. That means (A) and (D) can be eliminated. Paragraph 5 mentions that GFP was used to determine that BPA, a type of plastic, is an endocrine



disrupter, so (C) is incorrect. That leaves (B), electron excitation, as the correct answer. This topic is discussed at the beginning of the passage as a process that can sometimes lead to chemiluminescence, not as a subject of GFB research.

**30. A**

**Difficulty:** Hard

**Category:** Inference

**Getting to the Answer:** This asks for an assumption about estrogen levels in BPA; according to the passage, plastics research is discussed in paragraph 5, so direct your attention there. The researchers concluded that BPA was only weakly estrogenic since more BPA than pure estrogen was needed to trigger the illumination. This means that they must be assuming there's some link between the level of estrogen and whether the GFP illuminates. This is captured perfectly in (A), so it is correct.

(B) is incorrect because there's no indication that the GFP glows more brightly if estrogen levels are higher; the distinction was whether or not the GFP illuminated at all. (C) is a true statement according to the passage, but it's the conclusion of a different study; the question is about ordinary BPA, not polychlorinated BPA, so it is incorrect. (D) can be eliminated since this experiment wasn't intended to test the levels of endocrine disruption; it merely tested whether BPA contained estrogen.

Suggested passage notes:

- ¶1: 2 types of univ. = pub. & private
- ¶2: pub univ. goal = ↑ higher ed opportunity
- ¶3: 1862—gov't gave pub. land for univ.
- ¶4: history of diversity
- ¶5: major growth
- ¶6: US univ. part of global conv.
- ¶7: univ. reflect diversity, liberty, creativity

**31. C**

**Difficulty:** Hard

**Category:** Global

**Strategic Advice:** Consider what the passage is about overall and what the author wants the reader to learn, rather than an idea that is mentioned only in passing or in support of the passage's purpose. Reviewing your whole passage map can help you focus on the entirety of the passage.

**Getting to the Answer:** The author has written a brief history of public higher education in the United States; in both the introduction and conclusion, the author connects the evolution of the public university system with the evolution of generally accepted ideals and cultural values, such as diversity and liberty. Predict that the author is discussing the connection between public higher education and generally accepted ideals. (C) is correct.

**32. C**

**Difficulty:** Hard

**Category:** Inference

**Strategic Advice:** It is difficult to predict the exact answer for this type of question, but concisely stating the author's line of reasoning before reviewing the answer choices will help you eliminate the choices that do not strengthen that theme.

**Getting to the Answer:** Throughout the passage, the author discusses how the expansion of public universities has impacted American culture. In paragraph 4, the author describes how public universities have gradually become more diverse, offering educational opportunities to many people who would not have otherwise had them in previous years. This has had a significant impact on American culture. Consider which of these pieces of evidence best supports that theme; (C) is correct.

**33. C**

**Difficulty:** Hard

**Category:** Function

**Getting to the Answer:** The correct answer will reflect a specific position supported in both the second paragraph and the passage as a whole. Predict that the author is citing political and economic reasons to explain why the government "acknowledged the need" (line 27) for educated citizens. (C) is correct.

**34. B**

**Difficulty:** Medium

**Category:** Command of Evidence

**Getting to the Answer:** Use your support for the previous question to predict the answer. Consider which choice best shows a clear relationship to your answer. In the previous question, line 27 offered support for your answer; (B) is correct because it explicitly states that the government saw the "need for broader higher education opportunities" (lines 27–28).



35. A

**Difficulty:** Medium

**Category:** Function

**Getting to the Answer:** Summarize the paragraph and think about what the author would want the reader to know after reading it. Be sure to review your passage map, which should already state important information about the paragraph. Your passage map notes that in 1862, the government gave public land for university development; the paragraph states that the Morrill Act was an early example of the federal government's desire to increase enrollment at public universities. Predict that the purpose of the paragraph is to explain how the government supported public higher education. **(A)** is correct.

36. B

**Difficulty:** Medium

**Category:** Function

**Getting to the Answer:** The author's choice of words is deliberate. Read the sentence carefully and think about what the author is suggesting when he uses the word "accessible." The passage notes that public universities received federal and state support, which means the universities could then function at a lower cost and could enable more students to attend. Predict that "accessible" was used to describe how higher education was remodeled to be available to more people, especially those with limited means. **(B)** is correct.

37. D

**Difficulty:** Easy

**Category:** Vocab-in-Context

**Getting to the Answer:** Use context clues to help you predict the meaning of the word as it is used in the sentence. The last sentence in paragraph 3 contrasts the fact that although universities would be operated by states, they would still need to follow, or comply with, federal regulations because they received federal support. Predict that "adhere" most nearly means *follow* or *comply with*. **(D)** is correct.

38. C

**Difficulty:** Medium

**Category:** Function

**Getting to the Answer:** Think about why the author would want to include this fact. The paragraph's central idea is that the student populations of public universities have grown increasingly diverse. Predict that the author is describing an example of how public universities have become more diverse. Look for the answer choice that matches this prediction. **(C)** is correct.

39. B

**Difficulty:** Easy

**Category:** Command of Evidence

**Getting to the Answer:** There should be a clear relationship between the correct choice and the previous answer. Since you used the fourth paragraph as a whole to predict the last question, look for the choice that offers support for the specific answer to the previous question. **(B)** clearly states that public universities are diverse today, even though the 1890 land act did not increase diversity when it was passed. This corresponds to the answer to the previous question.

40. D

**Difficulty:** Easy

**Category:** Vocab-in-Context

**Getting to the Answer:** Predict the meaning of the word with context clues from the sentence and paragraph. The second sentence of paragraph 5 states that the public university system "has evolved," which implies it has done so in response to changes or variations in American culture over time. Predict that "nuances" most nearly means *changes* or *variations*. Check your answer choice in the sentence to ensure it makes sense. **(D)** is correct.

41. B

**Difficulty:** Medium**Category:** Inference

**Getting to the Answer:** Consider the central idea of the passage that you identified in a previous question and the central idea in the fifth paragraph. The passage is primarily about the way in which U.S. higher education has reflected American cultural identity. The fifth paragraph summarizes the major growth public higher education has undergone. Predict that as the American culture has grown to value public higher education, public higher education has undergone major growth; the fifth paragraph gives an example that supports the central idea. **(B)** is correct.

Suggested Passage 1 notes:

¶1: Panspermia not generally accepted but new research may suppt

¶2: Asteroids from Moon/Mars to Earth; Mars may have once had life

¶3: Transfer of life possible

Suggested Passage 2 notes:

¶1: Panspermia just hypothesis—no evidence

¶2: Bacteria on ISS likely from Earth. Special experiments needed to confirm or refute panspermia—concl likely years away.

42. B

**Difficulty:** Medium**Category:** Inference

**Strategic Advice:** The correct answer will be the one that logically follows from the statements made in the passage.

**Getting to the Answer:** The keywords in the question, “would be most likely to agree with,” identify this as an Inference question. Begin by referring back to the place in the passage where the author discusses elements of the solar system. In paragraph 2, the author states that the Moon and Mars are now lifeless, but that billions of years ago, Mars was warmer and moister and “may have been capable of supporting life.” The paragraph further states that Mars may have been more conducive to the development of life than Earth was during the early history of the solar system. **(B)** logically follows from these statements and is the correct answer.

There was no discussion of the Moon being able to support life, so (A) and (C) are incorrect. The author never states that life was actually found on Mars or where such life might have originated, so (D) can be ruled out as well.

43. C

**Difficulty:** Medium**Category:** Command of Evidence

**Getting to the Answer:** While researching the previous question, you found that lines 17–22 supported the answer. Thus, **(C)** is correct. (A) describes the lifeless area of the asteroid belt but does not discuss whether conditions were favorable for life on either Earth or Mars. (B) indicates that a few asteroids may have come from the Moon and Mars but doesn’t mention the conditions of life on Earth or Mars. (D) indicates the relatively short time in which asteroids may have reached Earth from Mars but has nothing to do with the conditions for life on either planet.

44. B

**Difficulty:** Medium**Category:** Vocab-in-Context

**Strategic Advice:** Look back in the passage and determine how the author used the word given in a Vocab-in-Context question. Imagine that the word is missing and needs to be filled in; predict a synonym.

**Getting to the Answer:** Use the line reference to locate the word “wastes,” then read above and below that line to determine how the author is using that word. Since “wastes” is preceded by the adjective “lifeless” in the sentence, and is being used to describe an area of space, the asteroid belt, you can predict “lifeless area.” **(B)** is correct.

The remaining answers are incorrect because, although each of them is an alternative definition of “wastes,” none of them makes sense in the context of the sentence.

45. A

**Difficulty:** Hard

**Category:** Function

**Strategic Advice:** Think of the author’s purpose in writing this paragraph and then ask yourself: “Why did the author include these lines; how do they help advance the purpose?”

**Getting to the Answer:** The paragraph begins with a discussion of the problems with the hypothesis of panspermia: the harsh conditions in space and the great amount of time that seems necessary for objects to travel from Mars to Earth. These are reasons that people object to the hypothesis. The cited lines go on to discuss information that might weaken those objections. Therefore, **(A)** is correct.

(B) is incorrect because there is no discussion of further study in this section of the passage. (C) may be tempting, but the information in the cited lines is not there to definitively answer the question of whether panspermia occurs; it is merely there to give evidence that weakens the objections. (D) is incorrect because the author never hints at how often an event might have occurred.

46. D

**Difficulty:** Medium

**Category:** Detail

**Strategic Advice:** Answer Detail questions by reading around the cited text until you find the information that answers the question.

**Getting to the Answer:** Paragraph 2 of Passage 2 contains information about bacteria found on the exterior of the International Space Station. The author then engages in a lengthy discussion describing the likely terrestrial origins of these bacteria. This matches **(D)**, which is correct.

The author never mentions bias among scientists, so (A) is incorrect. While the author might agree with the statements in (B) and (C), neither of these is the reason given for skepticism about the possibility of extraterrestrial origins for the bacteria found on the ISS, so both are incorrect.

47. A

**Difficulty:** Hard

**Category:** Inference

**Strategic Advice:** The correct answer to an Inference question will be the one that logically follows from the statements made in the passage.

**Getting to the Answer:** The keywords in the question, “would be most likely to agree with,” identifies this as an Inference question. Begin by referring back to the place in the passage where the author discusses the bacteria found on the ISS. The author states that the bacteria are more likely to be from Earth than from an extraterrestrial source—either contamination introduced sometime during the testing process or bacteria that were lofted into the outer atmosphere by storms on Earth. **(A)** logically follows from this information and is the correct answer.

(B) is incorrect because it is too extreme: the author thinks it unlikely that the bacteria have an extraterrestrial origin, but never implies that it is impossible. (C) is incorrect because the author indicates that further “novel experiments” will be needed to make meaningful determinations about the possibility of panspermia and that the process may take decades, but never mentions that such experimentation will take too long to be practical. (D) can be ruled out since the author refers to the dust on the ISS as “cosmic dust,” implying that it has a nonterrestrial origin.

48. C

**Difficulty:** Easy

**Category:** Command of Evidence

**Getting to the Answer:** While researching the previous question, you determined that the information in lines 63–71 supported the answer. Thus, **(C)** is correct.

Choice (A) merely says that hard evidence for the panspermia hypothesis is needed, so it can be eliminated. Choice (B) indicates that the bacteria are similar to those found on Earth, but doesn’t discuss the likely origins of the bacteria. Choice (D) discusses what kind of experiments will be needed in the future, but this does not support the author’s assertion that the bacteria on the ISS likely came from Earth.



49. D

**Difficulty:** Medium**Category:** Function

**Strategic Advice:** Think of the author’s overall purpose in writing the passage and then ask: “Why did the author include this line; in what way does it function?”

**Getting to the Answer:** Note how the author begins the passage with the cited phrase “While absence of evidence is not evidence of absence” to contrast with what follows: “the panspermia hypothesis will remain nothing more than a tantalizing idea until incontrovertible evidence is found . . .” The author is pointing out that the hypothesis is unsupported by any evidence, but is also conceding that the lack of such evidence is not sufficient to disprove the hypothesis. Therefore, **(D)** is correct.

(A) is incorrect because the cited line is a concession to logic, not a flaw. (B) is incorrect because the author isn’t condemning the lack of research, merely stating that there isn’t evidence to support the hypothesis. (C) is incorrect because the statement is not a foundation for the author’s argument, but an acknowledgment that the lack of evidence is inconclusive.

50. C

**Difficulty:** Medium**Category:** Inference

**Strategic Advice:** Find the answer that logically follows from the information in the passages.

**Getting to the Answer:** The keywords in the question, “would be most likely to respond,” indicates an Inference question. Begin by referring back to the cited evidence in Passage 1; it provides evidence to support the idea that Mars may have been suitable for life at an earlier time in the history of the solar system. Next, recall the central claim of Passage 2: there is not adequate evidence to consider panspermia as anything more than a “tantalizing hypothesis” until conclusive evidence is found that shows that the interplanetary transfer of microbial life has actually occurred in the past. Since the evidence presented in the cited lines does not accomplish this goal, it follows that the author of Passage 2 would say that such evidence is inadequate; **(C)** logically follows from these statements and is correct.

(A) is too extreme; there is no reason to believe that the author of Passage 2 would consider the cited evidence “completely irrelevant,” only insufficient. Because the author’s central position is that evidence for the actual transfer of life from Mars to Earth would be needed to conclude that panspermia is a valid hypothesis, (B) and (D) can both be eliminated.

51. D

**Difficulty:** Medium**Category:** Detail

**Strategic Advice:** You may have a hard time predicting the answer to a “which of the following” question. If so, check each answer choice against information in the passages.

**Getting to the Answer:** (A) is incorrect because, while Passage 1 states that there is recent research that makes panspermia a more viable hypothesis, it never explains what additional evidence would lead to wider acceptance.

Neither author compares the panspermia hypothesis to other hypotheses regarding the origins of terrestrial life, so (B) is incorrect.

(C) is incorrect because, although Passage 1 hints at some of the factors that might make the transfer of life from Mars to Earth possible, Passage 2 never delves into the conditions necessary for microorganisms to have originated from an extraterrestrial source.

**(D)** is correct because Passage 1 concludes that the panspermia hypothesis is worthy of scientific consideration while Passage 2 argues that there is insufficient evidence to consider panspermia an explanation for the origins of life on Earth.

52. B

**Difficulty:** Medium

**Category:** Function

**Strategic Advice:** Think about each author's central claim in order to determine the relationship between the two passages.

**Getting to the Answer:** In simplest terms, the author of Passage 1 argues that the panspermia hypothesis is worthy of serious consideration because there is suggestive evidence that life might have once existed on Mars and evidence that life might be able to survive a voyage through space from Mars to Earth. In contrast, the author of Passage 2 argues that there is insufficient evidence to make the case for panspermia anything more than mere speculation. This matches **(B)**, which is the correct choice.

(A) is incorrect because Passage 2 doesn't refute the evidence presented in Passage 1, but rather considers it inadequate. (C) is incorrect because Passage 2 does not provide a broader context for the ideas discussed in Passage 1, but instead refutes them. (D) is incorrect because Passage 2 does not have the purpose of furthering the goals of Passage 1.