

• Reading Comprehension 1 Level 7

Directions: Read the passage. Then answer the questions below.

Fleas are perfectly designed by nature to feast on anything containing blood. Like a shark in the water or a wolf in the woods, fleas are ideally equipped to do what they do, making them very difficult to defeat. The bodies of these tiny parasites are extremely hardy and well-suited for their job.

A flea has a very hard exoskeleton, which means the body is covered by a tough, tile-like plate called a sclerite. Because of these plates, fleas are almost impossible to squish. The exoskeletons of fleas are also waterproof and shock resistant, and therefore fleas are highly resistant to the sprays and chemicals used to kill them.

Little spines are attached to this plate. The spines lie flat against the flea's thin, narrow body as the flea scurries through an animal's fur in search of food. However, if anything (like fingers or a self-grooming pet) tries to pull a flea off through the hair coat, these spines will extend and stick to the fur like Velcro.

Fleas are some of the best jumpers in the natural world. A flea can jump seven inches, or 150 times its own length, either vertically or horizontally. An equivalent jump for a person would be 555 feet, the height of the Washington Monument. Fleas can jump 30,000 times in a row without stopping, and they are able to accelerate through the air at an incredibly high rate—a rate which is over ten times what humans can withstand in an airplane.

Fleas have very long rear legs with huge thigh muscles and multiple joints. When they get ready to jump, they fold their long legs up and crouch like a runner on a starting block. Several of their joints contain a protein called resilin, which helps catapult fleas into the air as they jump, similar to the way a rubber band provides momentum to a slingshot. Outward facing claws on the bottom of their legs grip anything they touch when they land.

The adult female flea mates after her first blood meal and begins producing eggs in just 1 to 2 days. One flea can lay up to 50 eggs in one day and over 2,000 in her lifetime. Flea eggs can be seen with the naked eye, but they are about the size of a grain of salt. Shortly after being laid, the eggs begin to transform into cocoons. In the cocoon state, fleas are fully developed adults, and will hatch immediately if conditions are favorable. Fleas can detect warmth, movement, and carbon dioxide in exhaled breath, and these three factors stimulate them to emerge as new adults. If the flea does not detect appropriate conditions, it can remain dormant in the cocoon state for extended periods. Under ideal conditions, the entire life cycle may only take 3 weeks, so in no time at all, pets and homes can become infested.

Because of these characteristics, fleas are intimidating opponents. The best way to control fleas, therefore, is to take steps to prevent an infestation from ever occurring.

Questions

- 1) The primary purpose of the passage is to
- A. educate the reader about the physical characteristics of fleas
 - B. compare fleas to other members of the animal kingdom
 - C. relate the problems that can result from a flea infestation
 - D. explain why a flea infestation is hard to get rid of
- 2) The author's tone in the passage is best described as
- A. concerned
 - B. passionate
 - C. informative
 - D. opinionated
- 3) According to the passage, fleas are resistant to sprays and chemicals because they
- A. have waterproof sclerites
 - B. are excellent jumpers
 - C. reproduce very rapidly
 - D. can stick to fur like Velcro
- 4) Fleas are difficult to squish because they have
- I. sclerites
 - II. tough spines
 - III. resilin in their joints
- A. I only
 - B. I and II only
 - C. II and III only
 - D. I, II, and III
- 5) According to the passage, which of the following statements is true?
- A. Fleas extend their little spines if threatened.
 - B. Fleas have the ability to jump higher than humans.
 - C. Humans can jump higher if they consume foods containing resilin.
 - D. The resilin found in fleas is used to make rubber bands.
- 6) According to the passage, fleas are able to jump
- I. with a high rate of acceleration
 - II. up and down and from side to side
 - III. because the blood they eat contains resilin
- A. I only
 - B. I and II only
 - C. II and III only
 - D. I, II, and III

- 7) Based on information in the passage, the reader can understand that
- A. fleas will die without access to blood
 - B. fleas survive at a higher rate in outdoor habitats
 - C. fleas will die after they produce 2,000 eggs
 - D. newly hatched fleas are the size of a grain of salt
- 8) The author mentions the Washington Monument in order to
- A. estimate the extreme distance that a flea is able to jump
 - B. illustrate a comparison made between fleas and humans
 - C. clarify a point made regarding fleas and acceleration
 - D. demonstrate the superiority of fleas over humans
- 9) It can be inferred that fleas will emerge from eggs as adults
- A. when they outgrow the cocoon
 - B. after a period of 3 weeks
 - C. when they sense there is access to blood
 - D. if there is too much carbon dioxide in the cocoon
- 10) Using the information in the passage as a guide, it can be concluded that
- A. humans do not possess the physical characteristics of the flea because they have no use for them
 - B. humans do not pay much attention to fleas because they do not pose a serious threat
 - C. fleas have many physical advantages, although these are outweighed by their many disadvantages
 - D. fleas are designed in such a way as to give them unique physical advantages in life

Answers and Explanations

1) **D**

In paragraph 1, we learn that “fleas are ideally equipped to do what they do, making them very difficult to defeat.” In paragraph 2 the author explains why fleas are hard to squish and why they resist so many sprays designed to kill them. In paragraphs 3-6, the author explains what makes fleas so difficult to get rid of, both in terms of their physical characteristics and the way they reproduce. In the last paragraph, the author calls fleas “intimidating opponents” and suggests that preventing an infestation is easier than getting rid of an infestation. From this we can understand that the primary purpose of the passage is to explain why a flea infestation is hard to get rid of. Therefore **(D)** is correct. The passage does provide information about the physical characteristics of fleas, but it also educates readers about the life cycle and reproduction process of a flea. Furthermore, these details all support the author’s main point, which is that a flea infestation is very hard to get rid of. Because it is too narrow in scope, **(A)** is incorrect. In paragraph 1, the author briefly compares a flea to “a shark in the water or a wolf in the woods.” Later the author says that fleas “are some of the best jumpers in the natural world.” However, the author does not expand on these comments; rather, the author describes in detail why a flea infestation is hard to get rid of. Because the comparisons are only minor details in the passage, **(B)** is incorrect. The passage does not contain any information about the problems that can result from a flea infestation, so **(C)** is incorrect.

2) **C**

The author presents facts about the characteristics of fleas without expressing any emotions or opinions in the passage. Since the author’s main purpose is to present information, we can conclude that the tone is informative. Therefore **(C)** is correct. *Concerned* means worried or anxious. The author does not express any anxiety about fleas, so **(A)** is incorrect. *Passionate* means caused by strong feelings. Since the author does not express emotions in the passage, **(B)** is incorrect. *Opinionated* means certain of one’s opinions or stubborn. The author is presenting facts, not opinions, so **(D)** is incorrect.

3) **A**

In paragraph 2, we learn that “a flea has a very hard exoskeleton, which means the body is covered by a tough, tile-like plate called a sclerite.” From this we can understand that, on a flea, a sclerite forms the exoskeleton. Later in paragraph 2, the author says that “the exoskeletons of fleas are also waterproof and shock resistant, and therefore fleas are highly resistant to the sprays and chemicals used to kill them.” Since we know that the exoskeleton on a flea is called a sclerite, we can infer that the sclerite is waterproof, which makes fleas resistant to sprays and chemicals. Therefore **(A)** is correct. The other answer choices are all characteristics of fleas mentioned in the passage, but none of them make fleas resistant to chemicals. Therefore **(B)**, **(C)**, and **(D)** are incorrect.

4) **A**

In paragraph 2, we learn that “a flea has a very hard exoskeleton, which means the body is covered by a tough, tile-like plate called a sclerite. Because of these plates, fleas are almost impossible to squish.” From this we can understand that the sclerite makes a flea difficult to squish. This supports **option (I)**. In paragraph 3, we learn that fleas do have spines attached to the sclerite, but these spines make a flea difficult to pull off, not difficult to squish. This eliminates **option (II)**. In paragraph 5, we learn that fleas have a protein in their joints called resilin, “which helps catapult fleas into the air as they jump.” From this we can understand that resilin helps fleas jump, but it does not make them difficult to squish. This eliminates **option (III)**. Therefore **(A)** is correct.

5) **A**

In paragraph 3, we learn that fleas have little spines that normally lie flat, but “if anything (like fingers or a self-grooming pet) tries to pull a flea off through the hair coat, these spines will extend and stick to the fur like Velcro.” From this we can understand that if a flea is threatened by something trying to remove it, it will extend its spines in order to stick to the fur. This means that **(A)** is correct. In paragraph 4, we learn that “a flea can jump seven inches, or 150 times its own length.” This means that fleas are able to jump higher *in proportion to their body sizes* than humans are, but fleas can only jump 7 inches. A human can jump higher than 7 inches, so **(B)** is incorrect. There is no reference in the passage to humans consuming resilin, which makes **(C)** incorrect. In paragraph 5, we learn that resilin “helps catapult fleas into the air as they jump, similar to the way a rubber band provides momentum to a slingshot.” This means the resilin found in fleas joints helps them spring in a way similar to rubber bands, but the passage does not state that rubber bands contain resilin. Therefore **(D)** is incorrect.

6) **B**

In paragraph 4, we learn that “fleas are able to accelerate through the air at an incredibly high rate—a rate which is over ten times what humans can withstand in an airplane.” From this we can understand that fleas are able to jump with a high rate of acceleration. This supports **option (I)**. Also in paragraph 4, we learn that fleas are able to jump “horizontally and vertically.” From this we can understand that fleas can jump up and down and from side to side. This supports **option (II)**. In paragraph 5, we learn that “several of their joints contain a protein called resilin.” This means that resilin is not consumed by fleas, but rather it is found in their joints. This eliminates **option (III)**. Therefore **(B)** is correct.

7) **A**

In paragraph 1, we learn that fleas are parasites that “feast on anything containing blood.” Since blood is their food source, we can infer they will die if they do not have access to blood. This means **(A)** is correct. The passage does not provide us any information about the best habitat for fleas, so **(B)** is incorrect. In paragraph 6, we learn that “one flea can lay up to 50 eggs in one day and over 2,000 in her lifetime.” Although a flea may stop producing eggs after approximately 2,000, it does not logically follow that a flea will die once it produces 2,000 eggs. It could continue to live without producing eggs. This means **(C)** is incorrect. In paragraph 6, we learn that flea eggs are the size of a grain of salt, but newly hatched fleas emerge from the cocoon, where they become “fully developed adults.” We cannot assume that a fully developed adult flea is the same size as a flea egg. This means **(D)** is incorrect.

8) **B**

In paragraph 4, the author writes, "A flea can jump seven inches, or 150 times its own length....An equivalent jump for a person would be 555 feet, the height of the Washington Monument." The author uses the example of a human jumping the height of the Washington Monument to compare a human's ability to jump with that of a flea. This example shows why the flea's ability to jump 150 times its own length is so amazing, when compared to a human's ability to jump. This means the mention of the Washington Monument illustrates a comparison between fleas and humans. Therefore **(B)** is correct. A flea is not able to jump the height of the Washington Monument. It can only jump 7 inches, so **(A)** is incorrect. The author mentions the Washington Monument while discussing how high fleas can jump. The author does not discuss fleas and acceleration until later in the paragraph, so **(C)** is incorrect. Although in proportion to its body size, a flea can jump higher than a human can, this fact does not necessarily demonstrate the superiority of fleas over humans. This means **(D)** is incorrect.

9) **C**

In paragraph 6, we learn that fleas "will hatch when conditions become favorable. Fleas can detect warmth, movement, and carbon dioxide in exhaled breath, and these three factors stimulate them to emerge as adults." We can infer those three factors are crucial because they indicate the presence of living things that contain blood, which the new adults need in order to live. This means that fleas only emerge from eggs as adults when they sense there is access to blood. Therefore **(C)** is the correct answer. The passage does not provide information to support answer choices **(A)** and **(D)**, so they are incorrect. In paragraph 6, we learn the entire life cycle of a flea take only 3 weeks "under ideal conditions." However: "If the flea does not detect appropriate conditions, it can remain dormant in the cocoon state for extended periods." This means that fleas can emerge as adults after different periods of time, not necessarily 3 weeks, so **(B)** is incorrect.

10) **D**

In paragraph 1, we learn that fleas are "designed by nature" to be "ideally equipped to do what they do." The rest of the passage describes the unique advantages of the flea's physical body as well as the way a flea reproduces. These advantages make fleas an "intimidating opponent," because they help fleas survive and thrive. From this information we can conclude that fleas are designed in such a way as to give them unique physical advantages in life. Of all the answer choices, this is the only conclusion that can be made using only the information presented in the passage. Therefore **(D)** is the correct answer. Choices **(A)**, **(B)**, and **(C)** may seem like plausible conclusions that can be made about fleas and humans. However, the question asks about a conclusion that can be made using the information presented in the passage as a guide. The passage does not provide enough information to validate these answer choices. Although they may seem like they could be true, they would require additional outside information to validate. Therefore they are incorrect.