

## • Reading Comprehension 4 Level 9

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

Some people say that **the best defense is a good offense**; an octopus, however, would disagree. In addition to being one of the strangest and most beautiful creatures in nature, the octopus has some of the most inventive and effective defense mechanisms imaginable. While other animals have teeth, horns, or claws to help defend them from predators, the octopus concentrates its energy on hiding from and confusing its attackers. When it wants to get away, the octopus has an impressive arsenal of tricks at its disposal.

The most well-known of the octopus's defense mechanisms is its ability to squirt clouds of ink into the water. Some octopi use this cloud of ink as camouflage; after squirting the ink, the octopus retreats into the ink cloud where the predator cannot see it. Other octopi use the ink cloud as a decoy. If a large, intelligent predator such as a shark knows that octopi use ink clouds for camouflage, it might simply attack the ink cloud blindly, hoping to make contact with the octopus inside. However, some sneaky octopi will release the ink cloud in one direction and scurry away in another direction, leaving the predator with nothing but a mouthful of ink. In addition to confusing predators' sense of sight, these ink clouds also confuse their sense of smell. The ink is composed primarily of melanin (the same chemical that gives human skin its color), which can shut down a predator's sense of smell. If an octopus cannot be seen or smelled, it has a much higher chance of escaping an attack.

Another defense mechanism possessed by many octopi is the ability to change color, much like a chameleon. Most animals get their skin color from chemicals in the skin called chromatophores (melanin is one of these chromatophores). Chromatophores might contain yellow, orange, red, brown, or black pigments, and the amount of each pigment present in the skin determines an animal's color. While most animals are always the same color, some species of octopi can control the amount of each color pigment in their skin cells, allowing them to change color. Some poisonous octopi, when provoked, will change their skin to a bright, eye-catching color to warn predators that they are dangerous and ready to strike. Other octopi use this ability to change their skin to the color and texture of seaweed or coral, allowing them to blend in with their environment. Finally, some octopi—such as the mimic octopus—use this color-changing ability to masquerade as another type of animal. The body of an octopus is highly flexible, and some species can combine this flexibility with their color-changing skills to make themselves resemble more dangerous animals such as sea snakes or eels.

Yet another defense mechanism possessed by some octopi is the ability to perform an autotomy, or self-amputation, of one of their limbs and regrow it later. Many species of skink and lizard also possess this ability, which allows them to shed their tails when caught by a predator and therefore get away. When a predator catches a tentacle the octopus can amputate this tentacle, thereby **unfettering** itself, and regrow the tentacle later. Some octopi, however, are even cleverer. When threatened by a predator, these octopi will shed a tentacle before being attacked in the hope that the predator will go after the detached tentacle rather than the octopus itself.

While the octopus may not be the most vicious creature in the ocean, its numerous and clever defense mechanisms help it to survive in the dangerous undersea world.

## Questions

- 1) Which of the following sentences from the passage best expresses the main idea?
- A. The most well-known of the octopus's defense mechanisms is its ability to squirt clouds of ink into the water.
  - B. Some people say that the best defense is a good offense; an octopus, however, would disagree.
  - C. Another defense mechanism possessed by many octopi is the ability to change color, much like a chameleon.
  - D. When it wants to get away, the octopus has an impressive arsenal of tricks at its disposal.
- 2) The author claims in paragraph 1 that an octopus would disagree with the statement "the best defense is a good offense" because
- A. octopi employ more defensive than offensive capabilities
  - B. octopi possess good defensive and offensive capabilities
  - C. octopi can protect themselves from teeth, horns, and claws
  - D. not all octopi possess the same defense mechanisms
- 3) Which of the following statements best describes the organizational structure of paragraphs 2-4?
- A. The author lays out several reasons to support the argument that the octopus has the best defense mechanisms of any sea creature.
  - B. The author devotes one paragraph each to explaining three different defense mechanisms possessed by the octopus.
  - C. The author devotes one paragraph each to highlighting three potential threats to the octopus and how the octopus deals with each one differently.
  - D. The author compares and contrasts three different defense mechanisms employed by the octopus.
- 4) According to the passage, which of the following statements about the chemical melanin are true?
- I. An octopus's ink is composed primarily of melanin.
  - II. Melanin is a chromatophore.
  - III. Like the octopus, chameleons use melanin to change color.
- A. I only
  - B. I and II only
  - C. II and III only
  - D. I, II, and III
- 5) As used in paragraph 4, which of the following is the best synonym for **unfettering**?
- A. freeing
  - B. regrowing
  - C. amputating
  - D. sacrificing
- 6) The final paragraph can best be described as a
- A. prediction conclusion, in which the author looks toward the future
  - B. full circle conclusion, in which the author incorporates and builds on a word or theme from the introduction
  - C. solution conclusion, in which the author proposes a solution to a problem posed earlier in the passage
  - D. summary conclusion, in which the author restates the passage's main idea

## Answers and Explanations

1) **D**

When looking for the main idea of a passage, a good place to start is the end of the first paragraph. Many passages begin by introducing the reader to the topic in the opening sentences and then establishing the author's argument or main idea at the end of the first paragraph in what is commonly known as a thesis statement. Such a pattern holds true for this passage. The last sentence of paragraph 1, "When it wants to get away, the octopus has an impressive arsenal of tricks at its disposal," lets the reader know that the author intends to discuss the "impressive arsenal of tricks" possessed by the octopus for escaping predators. This is confirmed by the organizational structure of the essay, which devotes one paragraph each to describing three of the octopus's most important defense mechanisms, or its "impressive arsenal of tricks." Therefore **(D)** is correct. The first sentence of the passage, "Some people say that the best defense is a good offense; an octopus, however, would disagree," might seem to introduce the passage's topic—defense and the octopus—but it does so only vaguely. Based on this sentence, the reader might be able to guess that the passage is about defense and the octopus, but the sentence gives no indication of how these ideas are related, and therefore does not express the main idea clearly. This means **(B)** is incorrect. Choices **(A)** and **(C)** contain details that support the author's main idea, but these details do not express the main idea. Therefore they are incorrect.

2) **A**

Even if the reader is not familiar with the saying "the best defense is a good offense," he or she can figure out what it means by examining the phrase closely. How could an offense also serve as a defense? The reader can infer that if an offense is extremely effective, it would render opponents unable to mount their own offense. In this way, the offense can also serve as a defense. In other words, if you attack first, others don't have the chance to attack you, and so you don't need to defend yourself. As the author notes in paragraph 1, however, "while other animals have teeth, horns, or claws to help defend them from predators, the octopus concentrates its energy on hiding from and confusing its attackers." This means that the octopus concentrates on defensive strategies rather than offensive ones. The author does note in paragraph 3 that there are some species of octopus that are poisonous, but the rest of the passage explains the numerous ways in which an octopus can defend itself. Since the octopus employs more defensive than offensive capabilities, it would likely disagree that the best defense is a good offense. Therefore **(A)** is correct. The passage does not contain information to support the idea that octopi possess good offensive capabilities. Therefore **(B)** is incorrect. Although the author tells us that octopi can protect themselves from predators in some situations, he or she does not indicate that octopi can protect themselves specifically from the teeth, horns, and claws of their predators. Instead, teeth, horns, and claws are mentioned as examples of other animals' offensive capabilities. This means **(C)** is incorrect. While the passage does imply that not all octopi possess the same defense mechanisms, this fact does not explain why an octopus would disagree with the statement "the best defense is a good offense." This makes **(D)** incorrect.

3) **B**

The purpose of this passage is to provide information about the octopus's defense capabilities. The reader can infer this purpose from the author's main idea, which is stated at the end of the first paragraph: "When it wants to get away, the octopus has an impressive arsenal of tricks at its disposal." The author is not arguing a position or comparing and contrasting, but merely informing the reader about a topic. Paragraph 2 describes the octopus's defense mechanism of the ink cloud. Paragraph 3 describes the octopus's defense mechanism of changing skin color. Paragraph 4 describes the octopus's defense mechanism of autotomy. Each of these three paragraphs explains one of the octopus's defense mechanisms, describing how it works and how the octopus uses it. Therefore **(B)** is correct. The author does not suggest in the passage that the octopus's defense mechanisms are the best of any sea creature, so **(A)** is incorrect. The three defense mechanisms described are not unique responses to different threats. In fact, they could all be employed to escape the same threat, so **(C)** is incorrect. The author describes three different defense mechanisms in paragraphs 2-4, but the author does not compare and contrast them. The paragraphs merely explain each defense mechanism without going into detail about how they relate to one another. Therefore **(D)** is incorrect.

4) **B**

In paragraph 2, the author writes that an octopus's "ink is composed primarily of melanin." This supports **option (I)**. In paragraph 3, the author writes, "Most animals get their skin color from chemicals called chromatophores (melanin is one of these chromatophores)." This supports **option (II)**. In paragraph 3, the author writes, "Another defense mechanism possessed by many octopi is the ability to change color, much like a chameleon." The author notes that both the octopus and the chameleon have the ability to change color, but the passage does not state that both animals use melanin to do so. This eliminates **option (III)**. Therefore **(B)** is correct.

5) **A**

**unfetter** (*verb*): to set free.

In paragraph 4, the author explains how the octopus uses the process of autotomy, or self-amputation, in order to escape a predator. The author begins by describing how skinks and lizards—other species that possess this ability—use autotomy, a maneuver that "allows them to shed their tails when caught by a predator and therefore get away." The reader can infer from this description that when a predator catches one of these animals by the tail, the animal can shed the tail and escape to safety. The author then describes how the octopus uses this same method: "When a predator catches a tentacle the octopus can amputate this tentacle, thereby unfettering itself, and regrow the tentacle later." As with the skink and the lizard, shedding its limb is part of the octopus's effort to free itself, or get away, from its predator. This means that by *unfettering* itself, an octopus is *freeing* itself. Therefore **(A)** is correct. The author does say that the octopus can "regrow the tentacle later," but the octopus unfetters itself by amputating the tentacle, not by *regrowing* it. This means **(B)** is incorrect. The process of autotomy is a process of *amputating*, but unfettering itself is a result of the octopus's self-amputation. Therefore unfettering does not mean amputating, so **(C)** is incorrect. The octopus sacrifices the tentacle in order to save itself. It therefore does not sacrifice itself, so *sacrificing* is not a good synonym for unfettering. This makes **(D)** incorrect.

6) **D**

The final paragraph of this passage contains only one sentence: "While the octopus may not be the most vicious creature in the ocean, its numerous and clever defense mechanisms help it to survive in the dangerous undersea world." This sentence restates the main idea, or thesis statement, of the passage: that the octopus possesses many different defense mechanisms that help it to survive in the wild. This idea is expressed at the end of paragraph 1 in the following sentence: "When it wants to get away, the octopus has an impressive arsenal of tricks at its disposal." This restatement of the main idea means that the final paragraph can best be described as a summary conclusion. Therefore **(D)** is correct. The author does not make a prediction about the future in the final paragraph, so **(A)** is incorrect. The author returns to the passage's main idea, but he or she does not incorporate and build on a particular word or theme. This would constitute a more nuanced conclusion. Instead the author simply restates the passage's main idea in slightly different words. This makes **(B)** not the best choice. The author does not propose a solution to a problem, so **(C)** is incorrect.