



- 1▶ Most people recognize camouflage for its utility as military protection. Camouflage is widely used to disguise soldiers on the front lines of a conflict from their opponents, and therefore, save the lives of the soldiers. However, camouflage as protection for soldiers is a relatively recent military innovation, and one that originated through imitating nature.
- 2▶ Camouflage did not originate with humans; rather, it is a highly varied adaptation copied from nature. As with many ideas that are considered modern and innovative, the concept of camouflage came about from observing how animals acted in the wild. As animals, insects, and other species evolved, weaker, slower prey developed creative means to avoid the predators that chased and killed them. For example, certain animals change their coats, the fur covering their skin, while other species take on the appearance or even sometimes the behavior of their predators to evade capture and death.
- 3▶ Camouflage is one of the most effective ways for animals to avoid attack in the treeless Arctic. However, the summer and winter landscapes there are so diverse that a single protective color scheme would, of course, prove ineffective in either one season or the other. Thus, many of the inhabitants of the Arctic tundra change their camouflage twice a year. The arctic fox is a clear-cut example of this phenomenon; it sports a brownish-gray coat in the summer which then turns white as cold weather sets in, and the process reverses itself in the springtime. Its brownish-gray coat blends in with the barren tundra landscape in the months without snow, and the white coat naturally blends in with the landscape of the frozen winter tundra.
- 4▶ Camouflaging falls under three broad categories: mimesis, crypsis, and dazzling, each of which provides a distinct advantage to the creature who has a specific adaptation, and each of which has evolved within particular species based on their requirements for survival. In mimesis, which is also referred to as “masquerade,” the entire animal is disguised as some other creature or object which is of no interest to its enemy, such as when a grasshopper mimics an edible dry leaf. While mimesis is commonly practiced by animals targeted for prey, there are instances when a predator will take advantage of it; for example, the flower mantis, an insect, can successfully replicate the appearance of a certain flower, which allows this predator to draw in and devour its prey. The advantage of mimesis is that it allows animals to hide as they move around in the open.
- 5▶ Crypsis is a more diverse form of camouflage than mimesis. Crypsis allows the animal to hide by blending in with the background, making it extremely difficult to perceive the animal, especially when it stays still. Many insects and reptiles have this adaptation, changing color to blend into a background of leaves, trunks, or desert rocks. There are several other ways, in addition to changing color to melt into the background, that crypsis works in the wild. Animals such as leopards and giraffes use disruptive patterning, the bold marks on their coat, to blend into the trees of the forest or jungle. Other animals have evolved in such a way that they can eliminate the shadow from around their bodies; shadow is a definite indicator of the presence of an animal or object and may be a key element that predators track. The horned lizard, for instance, has developed a wide and flat body that allows it to lie virtually undetected against the ground of its natural habitat.
- 6▶ Dazzling is a less common form of camouflage than mimesis and crypsis that allows the animal to hide while in motion. Dazzling resembles the disruptive patterning of crypsis, but serves as a greater advantage to animals while they move. Whereas disruptive pattern may make an animal such as a giraffe more conspicuous when in motion, dazzling creates an illusion of distance and speed, a clear advantage for an animal being chased. Perhaps the most well-known example of an animal that makes use of dazzling is the zebra. It is often fairly simple to spot a single zebra while it is standing still. However, the distinctive black and white stripes can create a tremendous amount of confusion for a hunter pursuing a fleeing herd of zebras. In a large group, the pattern of each zebra’s stripes blends in with the stripes of the zebras around it, thus making it difficult for the predator to select a specific target, thus allowing the striped animals a greater chance of escape.

1. Which of the sentences below best expresses the essential information in the highlighted sentence in paragraph 2? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) Evolution resulted in strengthening aggressive animals and insects.
- (B) Evolution of vulnerable species resulted in protective adaptations.
- (C) A variety of species developed predatory

3. Which of the sentences below best expresses the essential information in the highlighted sentence in paragraph 4? *Incorrect* choices change the meaning in important ways or leave out essential information.

- (A) Mimesis is a popular strategy for predators, such as the flower mantises, who can more easily see their prey when they take on the appearance of particular flowers.
- (B) Mimesis is usually used by animals being