

• Reading Comprehension 6 Level 9

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

For many people who live in cities, parks are an important part of the landscape. They provide a place for people to relax and play sports, as well as a refuge from the often harsh environment of a city. What people often overlook is that parks also provide considerable environmental benefits.

One benefit of parks is that plants absorb carbon dioxide—a key pollutant—and emit oxygen, which humans need to breathe. According to one study, an acre of trees can absorb the same amount of carbon dioxide that a typical car emits in 11,000 miles of driving. Parks also make cities cooler. Scientists have long noted what is called the Urban Heat Island Effect: building materials such as metal, concrete, and asphalt absorb much more of the sun's heat and release it much more quickly than organic surfaces like trees and grass. Because city landscapes contain so much of these building materials, cities are usually warmer than surrounding rural areas. Parks and other green spaces help to **mitigate** the Urban Heat Island Effect.

Unfortunately, many cities cannot easily create more parks because most land is already being used for buildings, roads, parking lots, and other essential parts of the urban environment. However, cities could benefit from many of the positive effects of parks by encouraging citizens to create another type of green space: rooftop gardens. While most people would not think of starting a garden on their roof, human beings have been planting gardens on rooftops for thousands of years. Some rooftop gardens are very complex and require complicated engineering, but others are simple container gardens that anyone can create with the investment of a few hundred dollars and a few hours of work.

Rooftop gardens provide many of the same benefits as other urban park and garden spaces, but without taking up the much-needed land. Like parks, rooftop gardens help to replace carbon dioxide in the air with nourishing oxygen. They also help to lessen the Urban Heat Island Effect, which can save people money. In the summer, rooftop gardens prevent buildings from absorbing heat from the sun, which can significantly reduce cooling bills. In the winter, gardens help hold in the heat that materials like brick and concrete radiate so quickly, leading to savings on heating bills. Rooftop vegetable and herb gardens can also provide fresh food for city dwellers, saving them money and making their diets healthier. Rooftop gardens are not only something everyone can enjoy, they are also a smart environmental investment.

Questions

- 1) Based on its use in paragraph 2, it can be inferred that **mitigate** belongs to which of the following word groups?
 - A. exacerbate, aggravate, intensify
 - B. obliterate, destroy, annihilate
 - C. allay, alleviate, reduce
 - D. absorb, intake, consume
- 2) Using information in paragraph 2 as a guide, it can be inferred that
 - A. cities with rooftop gardens are cooler than those without
 - B. some plants are not suitable for growth in rooftop gardens
 - C. most people prefer parks to rooftop gardens
 - D. most people prefer life in the country over life in the city

- 3) According to the passage, the Urban Heat Island Effect is caused by the fact(s) that
- I. cities are warmer than nearby rural areas
 - II. building materials absorb more of the sun's heat than organic surfaces
 - III. building materials release the sun's heat more quickly than organic surfaces
- A. I only
 - B. I and II only
 - C. II and III only
 - D. I, II, and III
- 4) Based on information in paragraph 3, which of the following best describes the main difference between parks and rooftop gardens?
- A. Parks are expensive to create while rooftop gardens are not.
 - B. Parks are public while rooftop gardens are private.
 - C. Parks absorb heat while rooftop gardens do not.
 - D. Parks require much space while rooftop gardens do not.
- 5) The author claims all of the following to be benefits of rooftop gardens except
- A. increased space for private relaxation
 - B. savings on heating and cooling costs
 - C. better food for city dwellers
 - D. improved air quality
- 6) According to the author, one advantage that rooftop gardens have over parks is that they
- A. decrease the Urban Heat Island Effect
 - B. replenish the air with nourishing oxygen
 - C. do not require the use of valuable urban land
 - D. are less expensive than traditional park spaces
- 7) Which of the following pieces of information would, if true, most weaken the author's claim that rooftop gardens are good for the environment?
- A. Parks have many benefits that rooftop gardens do not share.
 - B. More pollution is produced during rooftop garden construction than rooftop plants can remove from the air.
 - C. Extremely high winds atop tall city buildings can severely damage some plants.
 - D. The overall environmental benefits that result from driving less exceed those of planting a rooftop garden.
- 8) Which of the following best describes the organization of the passage?
- A. A hypothesis is stated and then analyzed.
 - B. A proposal is evaluated and alternatives are explored.
 - C. A viewpoint is established and then defended.
 - D. A thesis is presented and then supported.
- 9) Based on information in the passage, it can be inferred that the author would most likely endorse a program that
- A. permitted the construction of buildings in city park land provided they have rooftop gardens
 - B. extended discounts on plants to customers who use them to create rooftop gardens
 - C. offered free admission to schools willing to take their students on field trips to the city park
 - D. promised vacation getaways to cooler destinations for those trapped in the city at the peak of summer

Answers and Explanations

1) **C**

mitigate (*verb*): to make less severe or painful; alleviate.

In paragraph 2, the author writes, "Parks and other green spaces help to mitigate the Urban Heat Island Effect." In paragraph 2, the author describes the positive environmental benefits of parks. The Urban Heat Island Effect, however, is presented as something negative—an environmental problem. We can infer, then, that the author mentions the Urban Heat Island Effect because one benefit of parks is that they help to lessen the negative impact of this problem. This inference is confirmed in paragraph 4 when the author writes that parks and rooftop gardens "also help to lessen the Urban Heat Island Effect." Since *mitigate* belongs to the word group with *alleviate*, *alleviate*, *reduce*, we can understand that **(C)** is correct. *Exacerbate*, *aggravate*, *intensify* are words that belong to the word group opposite the one we need. This means **(A)** is incorrect. While the parks and green spaces do help lessen the severity of the Urban Heat Island Effect, they do not *obliterate*, *destroy*, *annihilate* it. This is too extreme, so **(B)** is incorrect. *Absorb*, *intake*, *consume* seems like it could be a good choice, but this family is slightly different than what we need. While parks and green spaces do help to absorb carbon dioxide, they do not directly absorb the impact of the Urban Heat Island Effect. Therefore **(D)** is incorrect.

2) **A**

At the end of paragraph 2, the author writes, "Because city landscapes contain so much of these building materials, cities are usually warmer than surrounding rural areas. Parks and other green spaces help to mitigate the Urban Heat Island Effect." Since parks and other green spaces help to mitigate, or alleviate, the Urban Heat Island Effect, we can understand that cities with rooftop gardens are cooler than those without. **(A)** is correct. The passage does not provide information to support choices **(B)**, **(C)**, and **(D)**. Therefore they are incorrect.

3) **C**

In paragraph 2, the author writes that because cities contain so much metal, concrete and asphalt, they "are usually warmer than surrounding rural areas." The fact that cities are warmer than surrounding rural areas is an effect of, not a cause of, the Urban Heat Island Effect. This eliminates **option (I)**. In paragraph 2, the author also writes, "Scientists have long noted what is called the Urban Heat Island Effect: building materials such as metal, concrete, and asphalt absorb much more of the sun's heat...than organic surfaces like trees and grass" This means that building materials absorbing the sun's heat is a cause of the Urban Heat Island Effect, which supports **option (II)**. In the same sentence, the author also writes that these building materials "release [the sun's heat] much more quickly than organic surfaces like trees and grass." The release of heat is presented as another cause of the Urban Heat Island Effect. This supports **option (III)**. Therefore **(C)** is correct.

4) **D**

In paragraph 3 the author writes, "Unfortunately, many cities cannot easily create more parks because most land is already being used for buildings, roads, parking lots, and other essential parts of the urban environment. However, cities could benefit from many of the positive effects of parks by encouraging citizens to create another type of green space: rooftop gardens." In this excerpt, the author writes that many cities lack enough space for parks and afterward cites rooftop gardens as a suitable solution. This lets us know that the author believes that the main difference between parks and rooftop gardens is that parks require much space while rooftop gardens do not. Therefore, **(D)** is correct. In paragraph 3 the author writes that "Some rooftop gardens are very complex and require complicated engineering, but others are simple container gardens that anyone can create with the investment of a few hundred dollars and a few hours of work." This lets us know that the author does believe that rooftop gardens are not expensive to create. However, nowhere in the passage is it stated that parks are expensive to create. This rules out **(A)**. Although it may be understood that parks are public while rooftop gardens are private, this is not the main difference between them according to the author. This means **(B)** is incorrect. **(C)** is incorrect because the author states that both parks and rooftop gardens absorb heat. This is a characteristic they share in common.

5) **A**

In paragraph 1, the author writes that parks "provide a place for people to relax and play sports, as well as a refuge from the often harsh environment of a city." A place for relaxation is described as a benefit of parks, not of rooftop gardens. While some people may find it relaxing to work on or sit in a rooftop garden, the author does not mention this benefit anywhere in the passage. Therefore **(A)** is correct. In paragraph 4, the author writes, "In the summer, rooftop gardens prevent buildings from absorbing heat from the sun, which can significantly reduce cooling bills. In the winter, gardens help hold in the heat that materials like brick and concrete radiate so quickly, leading to savings on heating bills." Here the author argues that rooftop gardens can result in savings on both heating and cooling costs, so **(B)** is incorrect. In paragraph 4, the author writes, "Rooftop vegetable and herb gardens can also provide fresh food for city dwellers," claiming that this will make "their diets healthier." This means **(C)** is incorrect. In paragraph 4, the author writes, "Like parks, rooftop gardens help to replace carbon dioxide in the air with nourishing oxygen." The author notes in paragraph 2 that humans need to breathe oxygen and that carbon dioxide is a "key pollutant," so it can be inferred that more oxygen and less carbon dioxide results in better air quality. Therefore **(D)** is incorrect.

6) **C**

In paragraph 3, the author writes, "many cities cannot easily create more parks because most land is already being used for buildings, roads, parking lots, and other essential parts of the urban environment. However, cities could benefit from many of the positive effects of parks by encouraging citizens to create another type of green space: rooftop gardens." In these sentences, the author contrasts parks, which require the use of valuable land, with rooftop gardens, which do not require any new land. Instead, rooftop gardens can be built on top of existing buildings. Therefore **(C)** is correct. Both parks and rooftop gardens decrease the Urban Heat Island Effect and replenish the nourishing oxygen in the air, so these are not advantages of rooftop gardens over parks. Therefore **(A)** and **(B)** are incorrect. The author does not state whether parks or rooftop gardens are more expensive, so **(D)** is incorrect.

7) **B**

The author's main claim in this passage—that there are many environmental benefits of rooftop gardens—is relatively modest. The author does not argue that all buildings should have rooftop gardens or that governments should require them; he or she only claims that rooftop gardens have many environmental benefits. If one could prove, however, that the negative environmental impact of constructing the garden (such as the fossil fuels emitted in construction) outweighs the environmental benefits of the garden, this would directly contradict the author's main argument. This means that if it were true that more pollution is produced during rooftop garden construction than rooftop plants can remove from the air, the author's claim that there are many environmental benefits of rooftop gardens would be severely weakened. Therefore **(B)** is correct. The author does not argue that rooftop gardens are better than parks, only that they offer some of the same benefits. Since the author is not arguing that rooftop gardens replace parks, **(A)** is incorrect. Damage from high winds atop tall city buildings would certainly be a drawback of rooftop gardens, but the author does not claim that rooftop gardens are less difficult to maintain than regular gardens, only that rooftop gardens offer many environmental benefits. This means **(C)** is incorrect. While reducing the amount of driving in cities could perhaps result in similar or even greater environmental benefits than rooftop gardens, these two plans are not mutually exclusive. A city could seek to reduce traffic *and* promote rooftop gardens at the same time, so arguing that cars are the bigger problem would not directly contradict the author's argument. This makes **(D)** incorrect.

8) **C**

In paragraphs 1 and 2 the author provides background information regarding the little known benefits of green spaces in cities. Later, in paragraph 3, the author establishes the viewpoint that "cities could benefit from many of the positive effects of parks by encouraging citizens to create another type of green space: rooftop gardens." The remainder of the passage is dedicated to defending this viewpoint. This means **(C)** is correct. The passage does not provide information to support choices **(A)**, **(B)**, and **(D)**. Therefore they are incorrect.

9) **B**

In this passage, the author advocates the creation of rooftop gardens. Therefore, it makes sense that he or she would endorse a program that extended discounts on plants to customers who use them to create rooftop gardens. Therefore **(B)** is correct. Although it may seem as though the author would endorse a program that permitted the construction of buildings in city park land provided they have rooftop gardens, this is not actually the case. In paragraph 2, the author explains the many advantages of parks, citing that they "absorb carbon dioxide" and "make cities cooler." Construction of buildings in a park would necessarily destroy beneficial green space. Therefore, the author would not endorse this program. This means **(A)** is incorrect. The passage does not provide information to support choices **(C)** and **(D)**. Therefore they are incorrect.