

Active Reading

Section: How Populations Change in Size

Read the passage below and answer the questions that follow.

Over time, the growth rates of populations change because birth rates and death rates increase or decrease. Growth rates can be positive, negative, or zero. For a population's growth rate to be zero, the average number of births must equal the average number of deaths. A population would remain the same size if each pair of adults produced exactly two offspring, and each of those offspring survived to reproduce. If the adults in a population are not replaced by new births, the growth rate will be negative and the population will shrink.

IDENTIFYING MAIN IDEAS

One reading skill is the ability to identify the main idea of a passage. The main idea is the main focus or key idea. Frequently, a main idea is accompanied by supporting information that offers detailed facts about main ideas.

In the space provided, write the letter of the term or phrase that best matches the description.

_____ 1. The average number of deaths is greater than the average number of births.

a. positive growth rate

b. negative growth rate

_____ 2. The average number of deaths equals the average number of births.

c. zero growth rate

_____ 3. The average number of births is greater than the average number of deaths.

4. Growth rate is the birth rate minus the

_____.

5. Suppose that every year, one half of the population has two offspring per person, and the other half has none. If all members of the population die after a year, what is the resulting growth rate? Explain your answer.

Active Reading *continued*

SEQUENCING INFORMATION

One reading skill is the ability to sequence information, or to logically place items or events in the order in which they occur.

Sequence the statements below to illustrate zero population growth. Write "1" on the line in front of the first step, "2" on the line in front of the second step, and so on.

_____ 6. The population size returns to what it was in year x .

_____ 7. Two adults produce two offspring in year x .

_____ 8. The offspring, as adults, reproduce one offspring each.

_____ 9. The parents die.

RECOGNIZING SIMILARITIES AND DIFFERENCES

One reading skill is the ability to recognize similarities and differences between two phrases, ideas, or things. This is sometimes known as comparing and contrasting.

Read each question and write the answer in the space provided.

10. Explain the difference between negative growth rate and zero growth rate.

11. What is similar about negative growth rate and zero growth rate?

RECOGNIZING CAUSE AND EFFECT

One reading skill is the ability to recognize cause and effect.

Read the question and write the answer in the space provided.

12. What would be the result if a population did not replace its deaths with new births?

Evolution is a change in the genetic characteristics of a population, so the parasite would have influenced the evolution of its host species through the process of natural selection.

17. Yes, roses mate with the help of bees and other flying insects that transfer pollen from plant to plant as they search for nectar. Since flying insects can easily cross a wide road, a rose on one side of the road has a reasonable chance of mating with one on the other side and is therefore part of the same population.

Active Reading

SECTION: HOW POPULATIONS CHANGE IN SIZE

- b
- c
- a
- death rate
- The average number of births would equal the average number of deaths, so the growth rate would be zero. If half the population has two offspring *each* and the other half has none, the birth rate ($0.5 \times 2 = 1.0$) is the same as if every *pair* of adults had two offspring each. If all members of the adult population then die, the growth rate remains zero.
- 4
- 1
- 2
- 3
- Negative growth rate is when a population's average number of deaths is greater than its average number of births. Zero growth rate is when the average number of deaths equals the average number of births.
- In both negative and zero growth rate, the average number of births does not exceed the average number of deaths.
- The population would decrease.

SECTION: HOW SPECIES INTERACT WITH EACH OTHER

- Students may choose four of the following: ticks, fleas, tapeworms, heartworms, bloodsucking leeches, and mistletoe.

- nourishment
- parasitism
- a
- b
- an organism alongside its food
- the practice of being alongside the food
- Parasites and predators both depend on other organisms for survival.
- A parasite spends some of its life in or on its host; parasites do not usually kill their hosts.
- The longer a host lives, the longer a parasite will have a source of nourishment.
- The host can be weakened or exposed to disease when it carries a parasite.

Map Skills

- 1953
- 50 years
- perch
- It will decrease again by 50 percent.

Quiz

SECTION: HOW POPULATIONS CHANGE IN SIZE

Matching

- c
- d
- b
- e
- a

Multiple Choice

- a
- d
- c
- b
- d

SECTION: HOW SPECIES INTERACT WITH EACH OTHER

Matching

- b
- a
- d
- e
- c

Multiple Choice

- b
- d
- c
- a
- d

Chapter Test General

MATCHING

- | | |
|------|-------|
| 1. h | 6. b |
| 2. d | 7. f |
| 3. a | 8. e |
| 4. j | 9. c |
| 5. i | 10. g |