

## Section 5–2 Limits to Growth (pages 124–127)



**TEKS FOCUS:** 3C Impact of research on society; 12B Predation and parasitism; 12D Long-term survival and limited resource base

*This section describes what factors limit population growth.*

### Limiting Factors (page 124)

1. What is a limiting factor? \_\_\_\_\_  
\_\_\_\_\_
2. A limiting nutrient is an example of a \_\_\_\_\_.

### Density-Dependent Factors (pages 125–126)

3. What is a density-dependent limiting factor? \_\_\_\_\_  
\_\_\_\_\_
4. When do density-dependent factors become limiting? \_\_\_\_\_  
\_\_\_\_\_
5. When do density-dependent factors operate most strongly? \_\_\_\_\_  
\_\_\_\_\_
6. What are four density-dependent limiting factors?
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
  - d. \_\_\_\_\_
7. When populations become crowded, what do organisms compete with one another for?  
\_\_\_\_\_  
\_\_\_\_\_
8. The mechanism of population control in which a population is regulated by predation is called a(an) \_\_\_\_\_.
9. What are the prey and what are the predators in the predator-prey relationship on Isle Royale? \_\_\_\_\_  
\_\_\_\_\_
10. Why does the wolf population on Isle Royale decline following a decline in the moose population? \_\_\_\_\_  
\_\_\_\_\_
11. How are parasites like predators? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Density-Independent Factors** (page 127)

12. A limiting factor that affects all populations in similar ways, regardless of population size, is called a(an) \_\_\_\_\_.
13. What are examples of density-independent limiting factors? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
14. Circle the letter of each sentence that is true about changes caused by density-independent factors.
- a. Most populations can adapt to a certain amount of change.
  - b. Periodic droughts can affect entire populations of grasses.
  - c. Populations never build up again after a crash in population size.
  - d. Major upsets in an ecosystem can lead to long-term declines in certain populations.
15. What is the characteristic response in the population size of many species to a density-independent limiting factor? \_\_\_\_\_  
\_\_\_\_\_

**Reading Skill Practice**

A graph can help you understand comparisons of data at a glance. By looking carefully at a graph in a textbook, you can help yourself understand better what you have read. Look carefully at the graph in Figure 5–7 on page 126. What important concept does this graph communicate?