

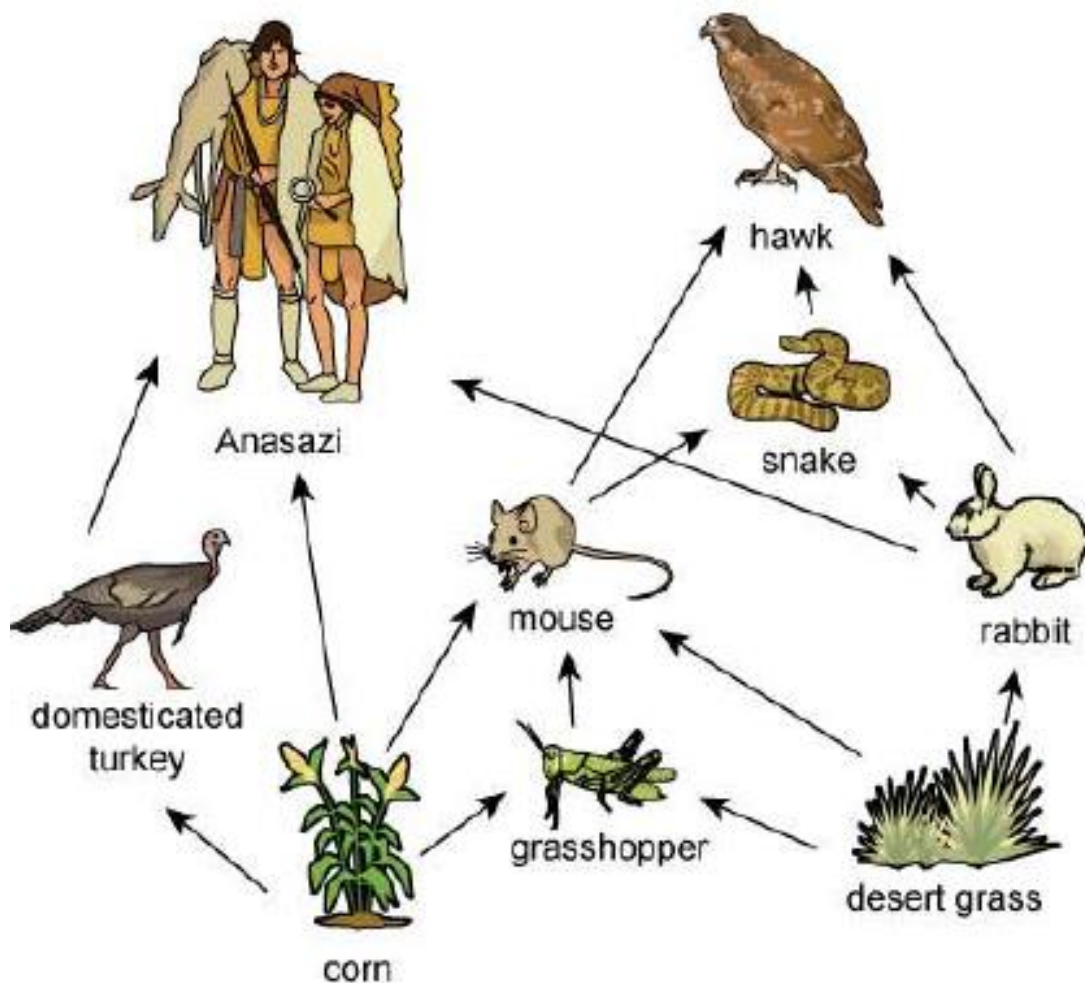
Use the information about the Anasazi and the Great Drought and your knowledge of science to answer the questions.

The Anasazi and the Great Drought

The Anasazi were a Native American people who settled areas that are now known as Arizona, New Mexico, Colorado and Utah. Evidence suggest that the Anasazi suddenly moved from their settlements in about A.D. 1300. Scientists have recently looked at what may have caused the Anasazi to move and relocate much farther south in Arizona and New Mexico.

The Anasazi set up complex farming communities in the years A.D. 100 through 1200. They built irrigation structures such as reservoirs, stone damns, and low stone walls. These structures helped the Anasazi store and sue water for their crops. The Anasazi primarily raised corn, beans and domesticated turkeys. Figure 1 shows a typical food web for the ecosystem in which the Anasazi people lived.

Figure 1. Food Web of Anasazi Ecosystem



A period known as the Great Drought occurred from A.D. 1276 through 1299. Scientists suggest that this drought may explain why the Anasazi suddenly left their communities. Scientists have collected evidence of the drought by studying tree rings. Trees produce growth rings during annual growing seasons. The widths of the annual rings depend on the available precipitation and average temperatures. Table 1 shows evidence collected from tree ring studies. These studies show how the West was affected by droughts from A.D. 850 through 1400. In years with normal precipitation levels, 38 percent of the West was affected by droughts. Drier years occurred when more than 38 percent of the West was affected by droughts.

Table 1. Percentage of the West Affected by Drought over Time

Years (A.D.)	Percentage of the West Affected by Droughts
850–1050	more than 38%
1050–1100	less than 38%
1100–1300	more than 38%
1300–1350	less than 38%
1350–1400	more than 38%

Source: E. R. Cook et al., Earth-Science Reviews.

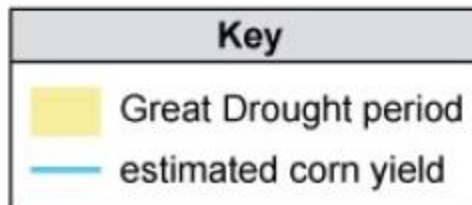
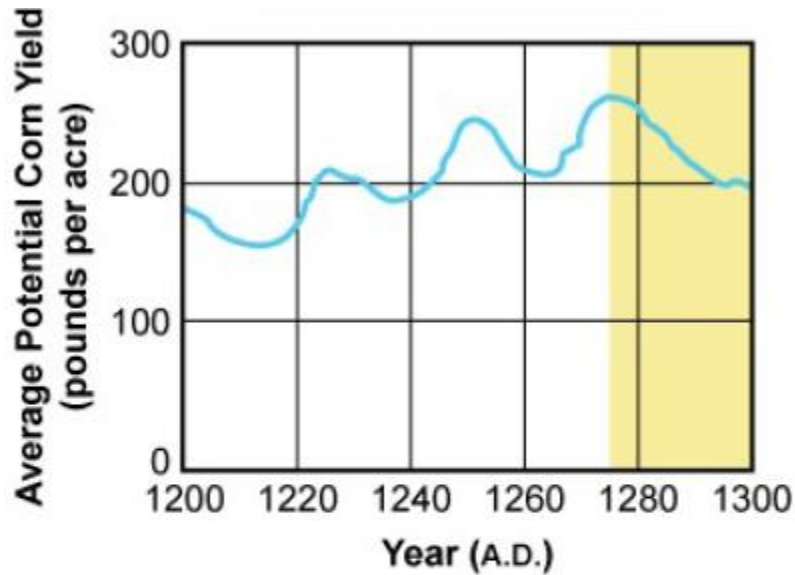
1. Scientists claim that tree growth slowed during the period from A.D. 1100 to 1300, resulting in thinner tree rings.

Based on the information in Table 1, which statement can best be used as evidence to support the claim?

- A. More than 40 percent of the West is typically affected during dry periods.
- B. The average precipitation in the West significantly increased during this period.
- C. A large percentage of the West was affected by dry conditions during this period.
- D. The average precipitation in the West increased after A.D. 1300.

2. Scientists have estimated how much corn could be grown in areas where the Anasazi lived, based on typical growing conditions. The graph shows the estimated amount of corn produced on each year between A.D. 1200 and 1300.

Great Drought Corn Yield Estimates



Source: Timothy A. Kohler.

What evidence from the graph best shows how the availability of corn likely affected the farming of domesticated turkeys in Figure 1?

- A. An increase in corn production during the Great Drought increased the domestic turkey population.
- B. An increase in corn production during the Great Drought decreased the domestic turkey population.
- C. A decrease in corn production during the Great Drought decreased the domestic turkey population.
- D. A decrease in corn production during the Great Drought increased the domestic turkey population.

3. Identify the correct bolded answer in each bracket to complete the sentences.

During the Great Drought, a decrease in the [**growth of corn; rabbit population; growth of grass**] had the greatest impact on the survival of the Anasazi people. As conditions changed, the Anasazi relied [**more; less**] on domesticated turkeys and [**snakes; mice; rabbits**] for food.

4. **Part A**

Which statement best describes how the organisms shown in Figure 1 compete for resources?

- A. Rabbits, grasshoppers, and mice all compete with snakes for food.
- B. The Anasazi, mice, and domesticated turkeys all compete for corn.
- C. Hawks, rabbits, and the Anasazi all compete for grass.
- D. Snakes, hawks, and domesticated turkeys all compete with the Anasazi for food.

Part B

Based on the information in Table 1, which statements best describe the competition in the answer to Part A during dry and wet periods?

- A. Competition for corn increased during drier periods.
- B. Competition for grass increased during wetter periods.
- C. Competition between domesticated turkeys and grasshoppers stayed the same during wetter and drier periods.
- D. Competition for resources between rabbits and mice decreased during wetter periods.
- A. Competition for resources stayed the same during wetter and drier periods.

Use the information provided and your knowledge of science to answer the questions.

5. The Red Bayou project in northwest Louisiana allows farmers to use river water diverted from the Red River when irrigating their crops.

Part A

Identify the correct bolded answer in each bracket to complete the sentences.

The amount of groundwater used for irrigation most likely **[increased; decreased; stayed the same]** as more diverted river water became available. The amount of surface water used for irrigation most likely **[increased; decreased; stayed the same]** as more diverted river water became available.

Part B

Which change would most likely occur after diverting river water for use in irrigation?

- A. an increase in soil erosion in the river
- B. an increase in flooding in the river
- C. an increase in the amount of water needed to water crops
- D. an increase in sediment, nutrients, and salt on crop soil