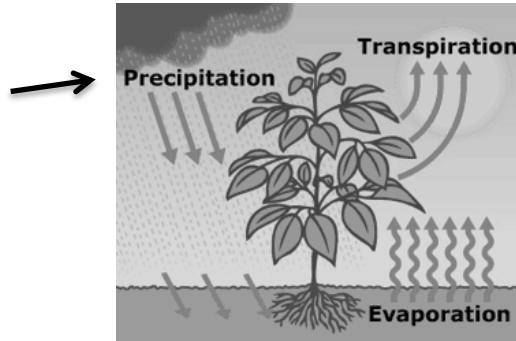


Ready, Set, Grow Answer Key

Background

Using words, arrows, or drawings, annotate the diagram below to indicate how these processes (precipitation, transpiration, and evaporation) will be affected by increasing temperatures and changing precipitation patterns.

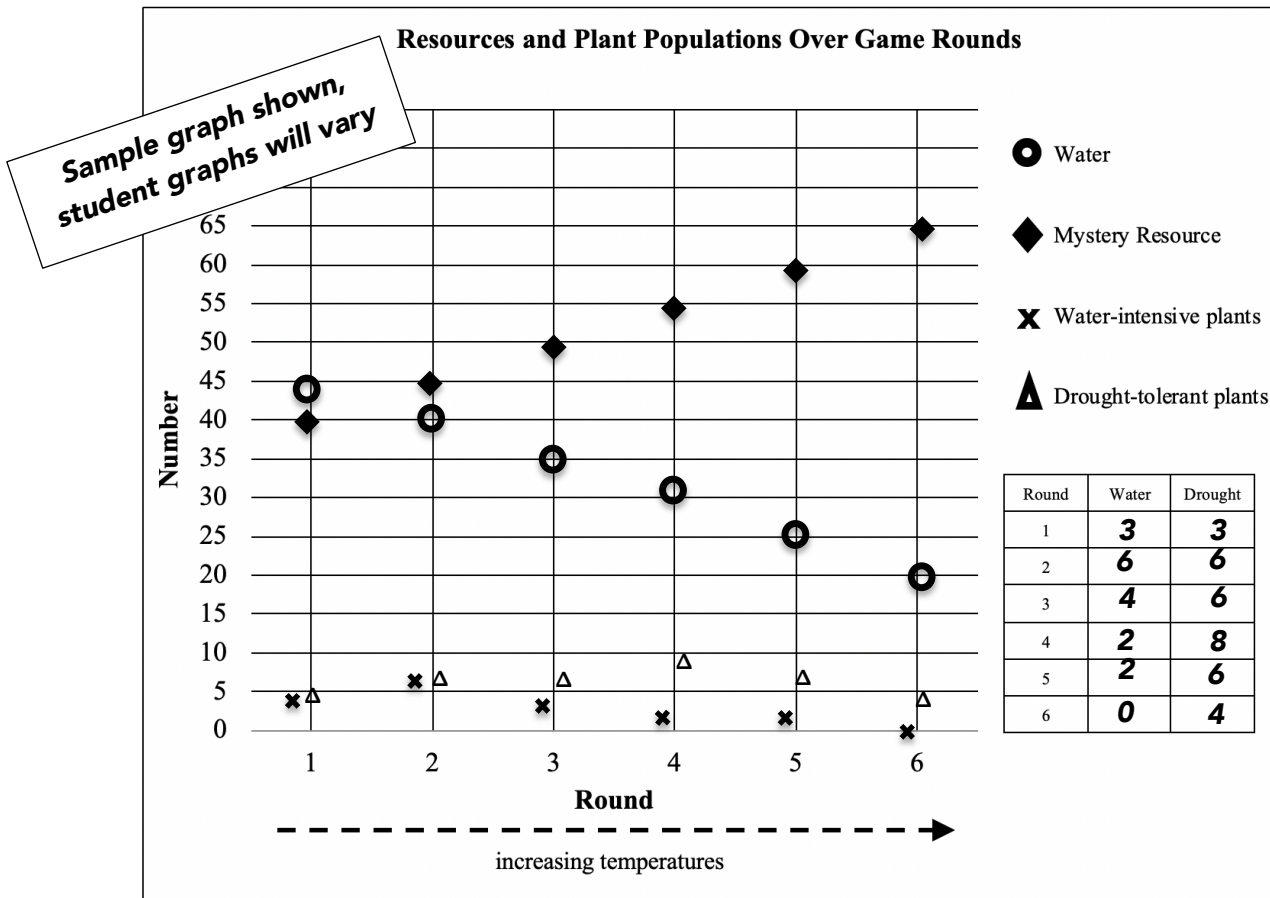
Some areas will receive less precipitation, and some will receive more. In NM, spring, an important season for growing plants, is predicted to have less precipitation.



Water loss from plants and soil will increase with warmer temperatures and drier conditions.

Game Graph

Using the symbols indicated in the legend, denote the number of water cards, carbon dioxide cards, water-intensive plants, and drought-tolerant plants at the beginning of each round. At the end of the game, connect the corresponding symbols with a line.



Results

As temperatures increased and water availability was reduced in Bernalillo county:

1. which plant population tended to have more individuals during most of the game rounds?

- a. Water-Intensive Plants b. Drought-Tolerant Plants c. Neither

← This is usually the case

2. which plant population had more individuals at the end of the game?

- a. Water-Intensive Plants b. Drought-Tolerant Plants c. Neither

← This is usually the case

Discussion

3. How will plant populations be affected by increasing temperatures and reduced water availability in the future?

Increasing temperatures and reduced water availability will impact plant populations by increasing transpiration rates and further reducing the amount of water available. Plants need water to survive. When it gets warmer and drier, they will have less of it.

4. How will increasing temperatures and reduced water availability affect other parts of the ecosystem?

When temperature and water availability affect plant growth, this can affect the animals that rely on plants as a food source. This impact can spread through the food web, changing the composition of an ecosystem.

5. List the resources plants need. Circle the resources that were modeled in our game scenario.

Nutrients **Water** **Sun** **Space**
Suitable temperature range **Carbon dioxide**

6. Are the resources circled in question 5 limiting resources for plant growth? Explain your answer.

Yes, water availability is a limiting resource because plants need water for survival. If there is not adequate water, plants cannot grow and reproduce. Temperature impacts the water availability. Therefore, it can also be limiting.

7. Discuss with a small group what plant need you think is represented by the mystery resource in our game and complete the statements below.

I argue that the mystery resource is: **Student responses will vary.**

The evidence I have to support this claim is: **Student responses will vary.**