Ecosystems

What are the different types of land environments?

Biomes are large geographic areas that have similar climates and ecosystems. The six most common types of biomes are: tundra, taiga, temperate forest, tropical rain forest, grassland, and desert.

Climate is the pattern of weather that occurs in a particular area over many years. Many factors make up the climate of a region. The two main factors are temperature and precipitation. The climate of an area largely determines the plants that can grow in the area, which in turn determines the types of animals that can live there. Although biomes are often named for their predominant vegetation, each biome is also characterized by animals adapted to that particular environment. For example, grasslands are more likely than forests to be populated by large grazing mammals.

A particular biome may exist in various regions of the world. For example, the taiga biome extends in a broad band across North America, Europe, and Asia. Also, biomes usually transition into one another, without sharp boundaries.

Latitude, altitude, and precipitation are the three factors that determine the biome existing in a particular area of the world. Latitude is a distance north or south of the equator. It is expressed in degrees (o) and minutes ('). Longitude is a distance east or west of the prime meridian, the designated zero meridian that passes through Greenwich, England. It is also measured in degrees (o) and minutes ('). Altitude is the vertical elevation of a location, above or below sea level. Altitude is measured in meters (m). Precipitation is rain, snow, sleet, or hail that falls to the ground. It is usually measured in millimeters (mm).

In this Virtual Lab you will examine Earth's land biomes. You will analyze latitude, longitude, altitude, precipitation, and temperature data about a representative city to determine the biome in which the city is located.

Objectives:
- Describe how climate influences land environments.
- Compare and contrast Earth's land biomes and their plant and animal life.

Procedure:

1. Examine the location, precipitation, or temperature data for the selected city by clicking the corresponding file tab.

2. Analyze the location, precipitation, and temperature data for the selected city.

3. Calculate the average yearly precipitation and temperature data for the selected city. Record the results in the Table.

4. Determine where the city is located, and click the corresponding location on the world map.

5. After the location of the selected city is correctly determined, use the location, precipitation, and temperature data to determine the biome in which the city is located. Click the biome button that corresponds to the biome.

- If the city is located in the selected biome, the entire biome will fill in on the world map. Record the name of the biome in the Table.
- If the city is not located in the selected biome, check the location, precipitation, and temperature data about the selected city and try again.

6. Investigate another city by clicking the New Location button. Repeat steps 1-7 of the procedure until all the land biomes on the world map are filled in.

7. After all the land biomes on the world map are filled in, click the Video button below a biome button. Watch the video about the biome. Repeat this step for each of the six biomes.

8. Complete the Journal questions.

9. Click the Reset button to get a different set of six cities.