Climate Patterns and Life

After completing this investigation, students will be able to:
  • compare climate patterns from a variety of regions of the globe and explain how climate is defined by precipitation and temperature;
  • give examples of the relationship between climate and the living environment (the biome).

PART A: Introduction to Biomes
Biome presentations
Prepare a chart on which you will record your data for your presentation. Then, as you observe your classmates presentations, take notes to complete the chart.

Sample chart:

<table>
<thead>
<tr>
<th>Biome Type</th>
<th>Example Location Name</th>
<th>Temperature Average and Range</th>
<th>Precipitation Average and Range</th>
<th>Vegetation, Animals, and other notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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</tbody>
</table>

1. Determine your home biome using the maps, graphics, and other resources listed here. List the name of the biome that you live in and then, using the Whittaker diagram, give the range of average annual temperature and precipitation that you would expect to find in your biome.
2. Given a temperature and rainfall can you predict which biome type will be found? Use the graphic above, which characterizes biomes by climate patterns. Here are several examples to try:

   Average Annual Temperature: 15°C / Average Annual Precipitation: 100 cm

   Average Annual Temperature: -10°C / Average Annual Precipitation: 50 cm

**PART B: Biomes and Climatology Comparison**

1. How do the biomes change as you go from west to east across the United States? Use your knowledge of regional climate forces to explain this pattern.
2. Look for two cities around the world that share a biome type and compare their climatographs. Do they have similar temperatures and receive similar patterns of precipitation? List the cities and explain.

3. Describe the animals and vegetation that you see in the images of the climate zones.

4. How does climate and life vary around the Earth’s surface? Give specific examples from the Google Earth project or PowerPoint file.

5. Imagine you are a modern day explorer and have been charged with describing how climate and biomes change as you travel north to south across a continent along one line of longitude. Write several paragraphs describing your imaginary journey by bus, train, car, or even horseback, from the North Pole to the equator. Tell your readers how the vegetation and animal life change as you travel south. Are the transitions gradual or abrupt? Use words to create a set of visual images for your readers. Be sure to include which line of longitude you are traveling on your journey. Optional: add sketches of the plants and animals that you saw on your journey.