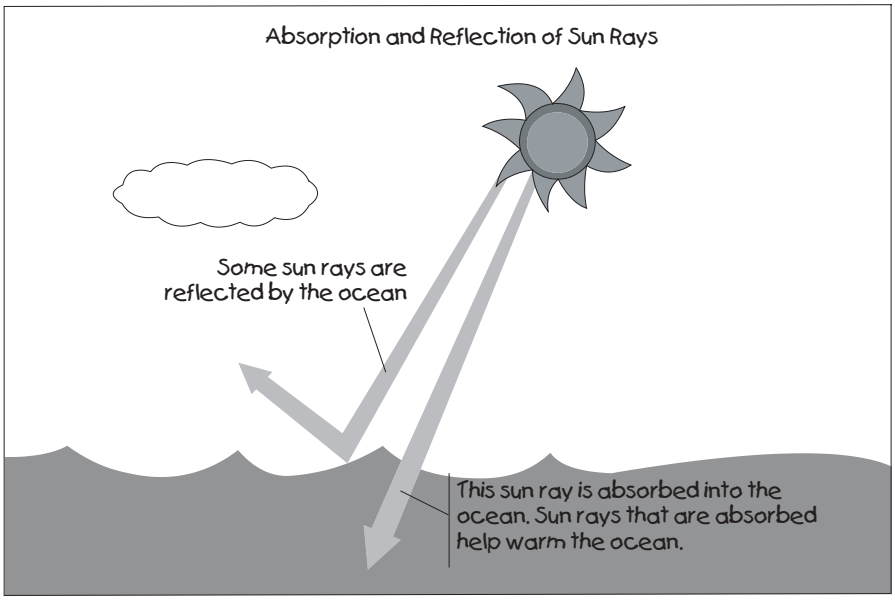
THE OCEAN'S EFFECT ON WEATHER

How does the ocean influence our weather?

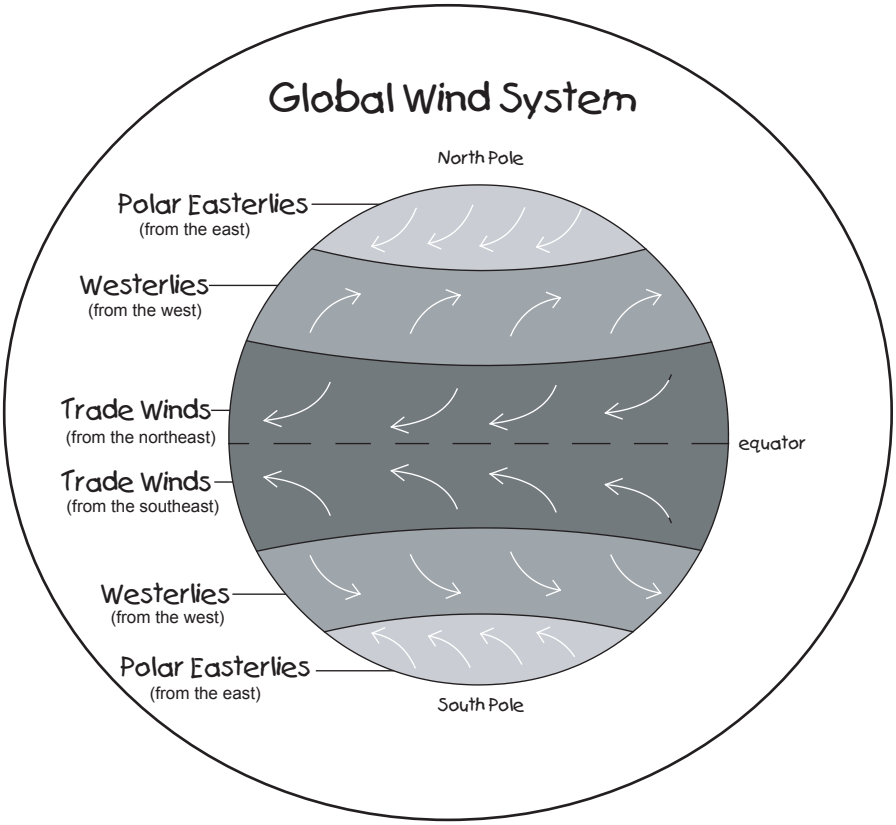
The ocean plays an important part in forming our weather. But first things first. As you learned in the previous section, it all starts with the sun. While there are several factors that affect our weather, all weather systems have their origins with the sun. When the sun's rays hit the surface of the ocean, some of the rays are absorbed and others are reflected. The sun rays that are absorbed help to warm the ocean. Some areas of the world's oceans receive more sunlight; thus, the waters are warmer.



Can you describe the weather in your city?

The Global Wind System

So far you've learned that uneven heating of the earth is the starting point for all of our weather. The amount of heat that reaches the earth is the key determinant in what kind of weather an area of the world has. Another factor that affects our weather is wind. Because of uneven heating, the earth has developed constant winds in certain parts of the world. These constant winds are part of a global wind system and affect weather in all parts of the world. Below is a diagram of part of the earth's global wind system.



1) According to the graph of the global wind system, the Westerly winds come from where?

_____

2) What wind systems blow at the equator? _____

_____

3) Do you think the Polar Easterly winds are cold or hot winds? Explain. _____

_____

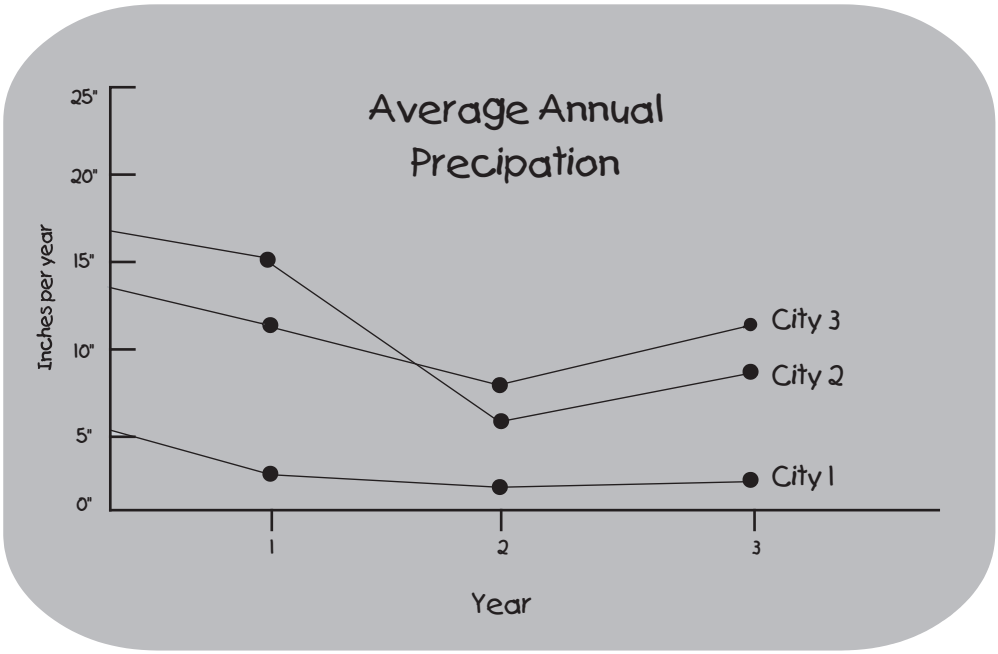
_____

4) What do all the winds in the global wind system have in common? _____

_____

The Role of the Water Cycle in Weather

Every second of every day water evaporates from the ocean. This water enters the atmosphere as water vapor. At some point, enough water molecules come together to form clouds. When cooled, these water molecules condense (turn into a liquid) and fall to the ground as rain (precipitation). This process is known as the water cycle. Since more the two-thirds of the earth's surface is water, the ocean is a major factor in the formation of clouds and the amount of precipitation in our atmosphere.



The graph above displays data about the average amount of precipitation in three cities. Each city has different amounts of precipitation.

1) What was the average amount of precipitation in year 1 for city 1? _____

2) What was the average amount of precipitation in year 1 for city 2? _____

3) What was the average amount of precipitation in year 1 for city 3? _____

4) What happened to the precipitation in all of the cities in year 2? _____

_____

5) How is city 1 different from city 3? _____

_____

_____