

## Study Guide: Climates and Ocean Currents

**\*Test: Friday, November 7, 2014\***

1. List and describe the 5 Climates we mapped. Include an example location (state or country) in each climate.

1. Polar: very cold temperatures usually too harsh for vegetation to grow ex: Greenland, Alaska

2. Arid: extremely dry with little to no vegetation, where water is evaporated quicker than it precipitates ex: Egypt, New Mexico

3. Tropical: found in the tropics & characterized by very high temperatures & high humidity ex: Brazil, Cuba

4. Mediterranean: warm, dry summers & cool, wet winters with ocean breezes ex: Spain, Italy

5. Temperate: has about the same length winters & summers, temperature extremes are uncommon ex: AR, FL, United Kingdom

2. What do you call a scientist that studies climates?

Climatologist

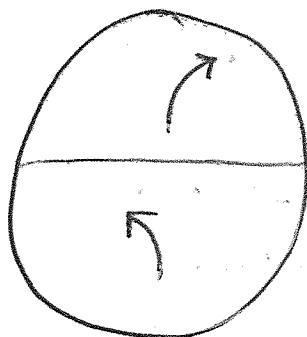
3. What factors help determine the climate of a region?

- latitude
- elevation
- closeness to large bodies of water
- ocean currents
- Orographic Effect (Rain Shadow)

4. Define Climate:

the general weather of an area over a long period of time

5. Draw a globe to model the Coriolis Effect in the Northern and Southern Hemispheres.



curves to the right in Northern Hemisphere

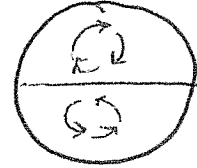
curves to the left in Southern Hemisphere

Define Coriolis Effect:

the apparent deflection of a freely moving object like water or air because of Earth's rotation

6. How does the Coriolis Effect affect ocean currents?

Causes the clockwise rotation in the Northern Hemisphere of currents and the counterclockwise rotation in the Southern Hemisphere of currents



7. Which is less dense: cool water or warm water? More dense?

↳ cool water

8. How do ocean currents affect the climate of an area?

Warm current = warmer climate  
Cold current = cooler climate

9. What 2 factors move large masses of water?

temperature  
salinity

10. What do you call the path the water takes around the globe?

Global Conveyor Belt

PRE-AP: Explain the relationship between salinity, density, and buoyancy.

salinity: amount of dissolved salts in water

density: a measure of the mass of a substance per unit volume

buoyancy: the tendency of certain objects to float or rise in a fluid

The higher the salinity, the more dense the water becomes which increases the buoyancy.  
The lower the salinity, the less dense the water becomes which decreases the buoyancy.