

Chapter 5 Section 1 Advance Class Notes

**Warm Up:**

- Why does ocean water lay on the Earth's surface?  
\_\_\_\_\_
- All objects have mass and exhibit what other property?  
\_\_\_\_\_
- What are other \_\_\_\_\_ that are pulling on the oceans?  
\_\_\_\_\_  
\_\_\_\_\_
- While the Earth's \_\_\_\_\_ pulls the oceans close to it surface, the \_\_\_\_\_ pull from both the Sun and Moon also pull on the Earth's oceans causing the Earth's \_\_\_\_\_.
- Name the 2 special tides. \_\_\_\_\_ and \_\_\_\_\_.
- \_\_\_\_\_ tides occur when the Earth, Moon, and Sun are positioned at right angles.
- \_\_\_\_\_ tides occur when the Earth, Moon and Sun are in a \_\_\_\_\_.

**Essential Questions:**

- Does the water in the Earth's oceans move or are they still? (Think about sailing ships, a message in a bottle, or an oil spill in the ocean)  
\_\_\_\_\_  
\_\_\_\_\_
- What is the Coriolis Effect and what causes it?  
\_\_\_\_\_  
\_\_\_\_\_
- What causes the Earth's oceans to move?  
\_\_\_\_\_  
\_\_\_\_\_

**Class Notes:**

Name the four causes for the movement of the Earth's waters:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Define ocean current: \_\_\_\_\_

Name four factors that affect ocean currents:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Define surface current: \_\_\_\_\_

What are the 3 factors that affect surface currents:

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

Define Global Winds: \_\_\_\_\_

Where are surface currents found:

\_\_\_\_\_ and just \_\_\_\_\_

Can surface current affect a region's climate? \_\_\_\_\_

Warm surface currents make a region's climate \_\_\_\_\_.

Cold surface currents make a region's climate \_\_\_\_\_.

What is climate? \_\_\_\_\_

What is weather? \_\_\_\_\_

Define Coriolis Effect: \_\_\_\_\_

Define Continental Deflection: \_\_\_\_\_

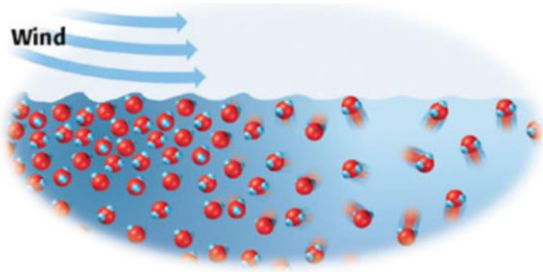
Surface currents are also affected by the \_\_\_\_\_ of the water in which they form.

Warm surface currents are from \_\_\_\_\_ and make a region's climate \_\_\_\_\_.

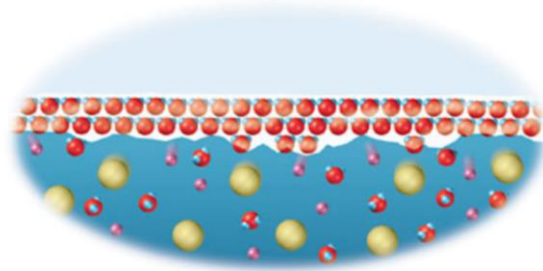
Cold surface currents are from \_\_\_\_\_ and make a region's climate \_\_\_\_\_.

Define deep current: \_\_\_\_\_

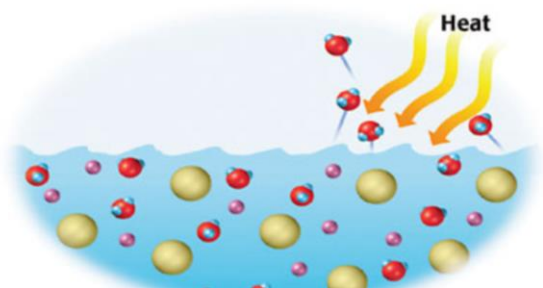
What causes the formation of deep currents: \_\_\_\_\_ causes deep currents to form. \_\_\_\_\_ and \_\_\_\_\_ affect the density of water. More \_\_\_\_\_ water always sinks to the bottom while \_\_\_\_\_ dense water rises upward.



1. As colder water molecules move closer together, the water becomes more dense, and **sinks** forming a deep current.



2. As water molecules freeze into a solid, all the salt is squeezed out into the underlying liquid water below. This water below becomes very salty, more dense, and **sinks** forming a deep current.



3. The Sun's heat causes water to evaporate as a vapor. Salt cannot go with the evaporating water and stays behind causing the remaining liquid water to become very salty, more dense, and **sinks** forming a deep current.

Section Review:

1. \_\_\_\_\_ are directly controlled by the wind.
2. An increase in density in parts of the ocean can cause \_\_\_\_\_ to form.
3. Surface currents \_\_\_\_\_.
4. List three factors that control surface currents.
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
  - c. \_\_\_\_\_
5. How does a continent affect the movement of a surface current?
6. Explain how temperature and salinity affect the formation of deep currents?
  - a. \_\_\_\_\_  
\_\_\_\_\_
  - b. \_\_\_\_\_  
\_\_\_\_\_
  - c. \_\_\_\_\_  
\_\_\_\_\_
7. do not answer
8. If there were no land on Earth, then what would the pattern of movement of the Earth's oceans look like? Explain you answer.