Wind direction and Earth’s rotation (Coriolis effect), continental barriers, and water density (temperature & salinity), have a major influence on Earth’s ocean currents. The **Coriolis effect** causes the wind to deflect to the left (counter clockwise) in the Southern Hemisphere and to the right (clockwise) in the Northern Hemisphere. **Water Density** changes with temperature and salinity. As warm waters near the equator travel north (Norther Hemisphere) or south (Southern Hemisphere) they begin to cool and start sinking towards the ocean floor, eventually returning to the equator. The water’s salinity (amount of salt) can affect its density too. When salt water freezes and becomes ice the salt does not freeze, instead the salt returns to the ocean’s water. **Continental Barriers** also change the direction of ocean currents because water cannot continue its normal path. Using this information, make a map of the ocean currents during the Triassic Period, when the only land mass was the super continent Pangea.

**Directions:**

1. Make a Legend Box explaining your ocean current map. Use red arrows for warm water currents, and blue arrows for cold water.
2. Draw red arrows showing the direction warm water ocean currents travel.
3. Draw blue arrows showing the direction cold water ocean currents travel.
4. Answer the questions below.

1. How does your map compare to the expert’s map? Are your currents traveling in the same direction?

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2. When salt water freezes were does the salt go? How does this affect the water’s density?

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3. What would happen to the sea water’s density if a massive ice sheet melted into the ocean?

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4. What makes the wind deflect to the left in the Southern Hemisphere and to the right in the Northern Hemisphere?

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5. What happens to an ocean current when it encounters a land barrier?

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**Use the Ocean’s Current Globe to answer the following questions.**

Land Borders that touch water are shaded blue. Borders that don’t touch water are in black. All major rivers are shown in blue also.

6. At what latitude/parallel do warm currents reach in the N. Hemisphere? S. Hemisphere?

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7. Why do warmer currents travel farther North is the N. Hemisphere than South in the S. Hemisphere?

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8. Which coast line of the United States is warmer, the East Coast or West Coast? Why? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_