

Oceans, Climate & Weather Web Quest

Use the link below to answer the following questions about climate.

http://www.classzone.com/books/earth_science/terc/content/investigations/es2101/es2101page01.cfm

- What is Climate?
- What are the two simplest ways to describe an areas climate?

Click "next"

- Climate of a particular location is influenced by:
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Use the link below to answer the following questions about weather vs. climate.

http://oceanservice.noaa.gov/facts/weather_climate.html

- What is the difference between weather and climate?

Use the link below to access & watch the presentations titled "Ocean's Role in Climate" and "Human Contributions to Global Climate Change". Answer the questions that follow:

<http://www.pbslearningmedia.org/resource/ttv10.sci.ess.watcyc.currents/the-role-of-ocean-currents-in-climate/>

- How much of Earth's surface is covered by oceans?
- How much more radiation do ocean surfaces absorb than land?
- What do ocean currents have to do with climate?
- Why is Europe not a frozen land despite its latitude?
- How do the currents in the northern hemisphere move? Southern?
- Why is Hawaii cooler than usual for a tropical climate?

Based on what you have learned answer the follow questions?

- How does the ocean stabilize the Earth's climate system?
- What is the major source of heat for the ocean?

Use the following website to answer this question,

<http://oceanservice.noaa.gov/education/pd/climate/factsheets/howhuman.pdf>

- What are some examples of human's impacting global climate?

Use the link below to answer the following questions about ocean currents and their effect on climate:

http://www.ehow.com/about_6534691_climate-affected-ocean-currents_.html

- How do the ocean currents affect the coastal climates in summer and winter?
- What type of climate do cities near warm ocean currents experience?
- What helped trigger the Little Ice Age of northwestern Europe from the 13th to the 19th centuries?

- How do warm and cold ocean currents affect precipitation?

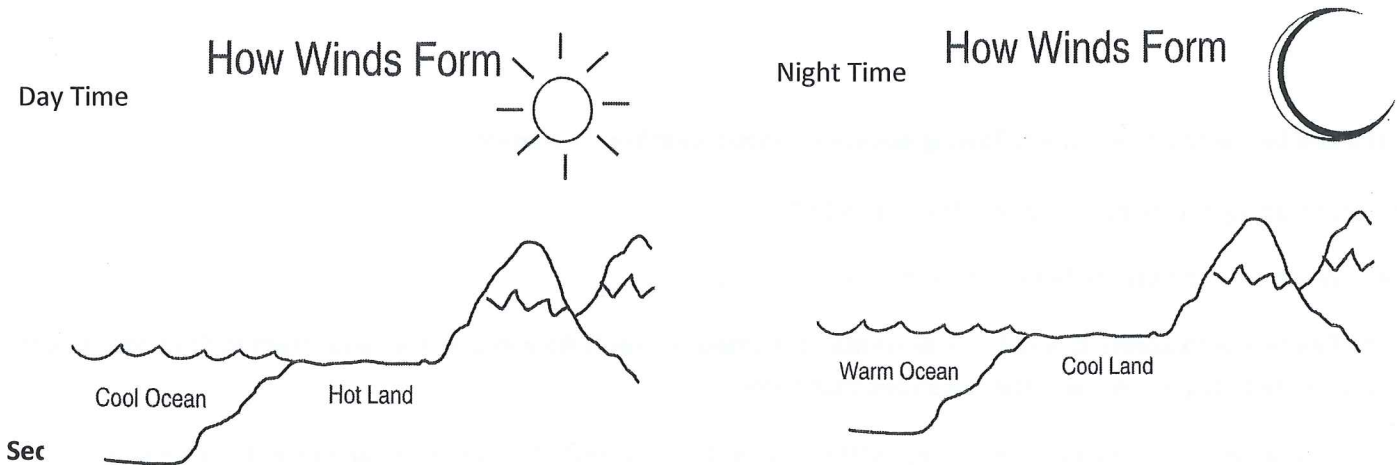
Use the website and what you have learned to draw conclusions and answer the following questions.

- Kansas City is an inland city. Based on its location, what type of temperature range would Kansas experience?
- Galveston is a coastal city. Based on its location, what type of temperature range would Galveston experience?

Use the link below to answer the following questions about convection. (We will do this together since you cannot access youtube)

<http://www.youtube.com/watch?v=gM0d3fGew-0>

Draw arrows to represent the direction of convection currents; label them as Land and Sea Breezes.



1. Go to the website below and read about each of the following topics. (You will have to click on the link name for each topic to learn about the ocean currents and heat distribution.)

<http://www.divediscover.whoi.edu/circulation/index.html>

Click on, "Begin the Interactive".

- a. Differential Heating
- b. Clickable Tank (Temperature zones)
- c. North Atlantic Circulation
- d. World Circulation

When you have learned about how ocean circulation patterns work, please answer the questions below.

1. The curve of the earth causes the sun's rays to strike where?
2. The world's surface ocean currents are driven by what force?
3. The density of seawater, which affects deep ocean circulation, depends on what?
4. If you traveled from the surface of the ocean to the bottom, what would you find out about density?
5. What would you find out about temperature and salinity traveling from the surface to the bottom?
6. Why does surface water sink in the North Atlantic?
7. What is the name of the world's system of ocean currents that distribute heat around the world?