Coriolis Effect
Wednesday, January 30th

• Turn in Reading Assignment up front
• Have World Map/Convection Diagram from Monday on your desk
• Objective: We will diagram the global convection cells on the Earth.
• Warm-up (discuss with a partner):
  1. What causes winds on the Earth?
  2. On the world map, mark the latitude with the highest temperature with a “T” and the latitudes with the coldest temperatures with a “C”.
Survey - Explanation of Content

Period 1
Period 4
Period 5
Period 6
Explanation of Content

Positives
• Explains things multiple times
• You slow down when students ask
• Teaches very clearly

Areas for Growth
• Do not assume we understand
• More examples
• More handouts
Explanation of Content

Resolutions

1. Use notecards for cold calling
2. Use more animations and visuals in class
Thursday, January 31st

• Have definition assignment out on table
• Grab Coriolis Guided Notes from the front
• Copy objective and work on warm-up
• Objective: We will observe and define the Coriolis Effect
Without Cooling of Air and Rotation of Earth
Quick Questions

Warm air has a (1)_________ density and therefore (2)(rises/falls) creating a region of (3)________ pressure
Quick Questions

4. What direction do winds in the United States flow?

a. East to West
b. West to East
c. From the poles to the equator
d. From the equator to the poles
Coriolis Effect Lab

• Move into assigned lab group
• Read background for lab
• Answer Reading question on Lab worksheet
“You spin me right ‘round baby…”

- If the Earth was not rotating, all winds would move North and South
  - Like one huge beach convection cycle
“You spin me right ‘round baby…”

• What happened when you tried to draw straight lines on the spinning paper?
A merry-go-round as an example of the Coriolis effect

- To an observer above the merry-go-round, objects travel straight.
- To an observer on the merry-go-round, objects follow curved paths.
- Internet video of balls being rolled across a moving merry-go-round.

Figure 6-8
Coriolis Effect

- **Because the Earth Spins**, moving objects appear to be deflected from a straight path.

- **Coriolis Effect**: The apparent deflection of objects such as winds and storms over the surface of a planet.
The Coriolis effect on Earth

- As Earth rotates, different latitudes travel at different speeds.
- The change in speed with latitude causes the Coriolis effect.

Figure 6-9a
Coriolis Effect

- Ships of War
- http://www.uwf.edu/atc/projects/coriolis/main.swf
Coriolis Effect

- From the North Pole, the Earth Spins Counter-Clockwise.
Northern-Hemisphere

• In the Northern-Hemisphere, objects appear to be deflected to the right.
  – Think No\textbf{R}th—\textbf{R}ight
• In the Southern-Hemisphere, objects appear to be deflected to the left.
Result = East-West Winds
Quick Questions
Quick Questions

4. Use your convection cell map to answer the following question. If the world was not spinning and the distance between the poles and equator was smaller, all winds at the Earth’s surface would flow…

a. East to West
b. West to East
c. From the poles to the equator
d. From the equator to the poles.
Quick Questions

5. Since the world is rotating, winds at the surface of the United States tend to flow…

a. East to West

b. West to East

c. From the North Pole to the Equator

d. From the Equator to the North Pole
Explanation of Content (1st Period)
Explanation of Content (2\textsuperscript{nd} Period)
Explanation of Content (4th)
Explanation of Content (5th)

Explanation of Content (6th)