

Science 10 Hawketts

Preparing for QUIZ #2 for Weather Unit on Tuesday October 17, 2017

1. Results of the flashlight demonstration:

- Why did we do it? To show that the sun's rays are more direct and concentrated on the equatorial parts of the globe all year round. Due to the tilt of the Earth, the countries in the Northern and Southern hemispheres experience the rays of the Sun at an angle, which means the same amount of energy is spread out over a larger area, therefore making it weaker and indirect.

-The key point here is that much of Earth's weather, especially the changing seasons, is caused by the Earth's revolution around the Sun combined with the tilt of Earth's axis.

2. Section 13.6 in textbook: Prevailing Wind Patterns

Focus on:

- Definition causes and effects of prevailing winds, Fig 2 p. 517
- Coriolis Effect (See Fig 1 p. 516)
- Jet Streams, where they form (See Fig 4 p. 518) Caused by pressure differences between the warm and cold regions of the Earth. Travel in a wavy pattern.

3. Section 13.8 in textbook: The Hydrosphere

Focus on:

- Definition of hydrosphere
- About 70% of Earth's surface is covered with water (includes salt and fresh water and ice)
- The Pacific Ocean is the world's largest and deepest ocean
- Study Fig 3 on page 522 which explains that only 2.5% of the Earth's water is fresh water
- Canada has 10% of the world's supply of fresh water and only 0.5 % of the world's population

4. Section 13.9 in textbook

Focus on:

- Oceans are very important in weather dynamics because they make up so much of the Earth's surface
- There is a vast volume of water at the equator, where the radiation from the Sun is direct
- The Gulf Stream (a slow, warm current) and the Labrador Current (a fast, cold current) are the names of the major ocean currents affecting our weather on the East coast of Canada (see Fig 1, p.525)
- The causes of ocean currents (See Fig 2, p. 526)

5. Sec 13.3 in textbook - In summary, the following factors interact to create weather:

- a. Solar energy
- b. Cloud cover
- c. Earth's rotation
- d. Jet Streams
- e. Prevailing winds
- f. Ocean currents
- g. Land Masses
- h. The Hydrosphere