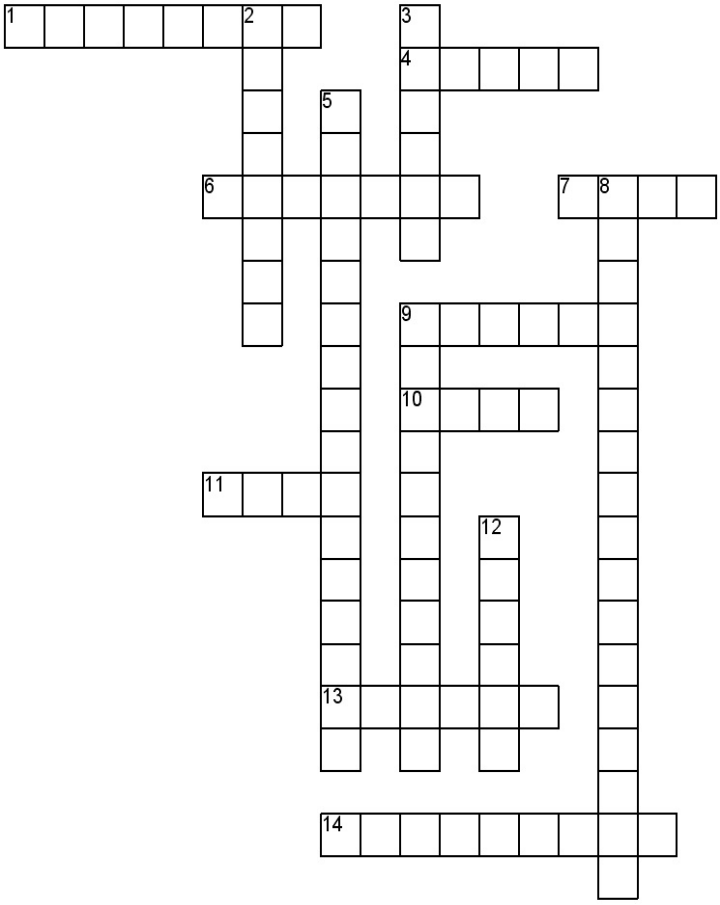
A. Crossword Puzzle

① Read the on-line Earth & Space notes for this chapter (i.e. see "youngs-wiki") and complete the crossword.



Almost all processes on Earth, including the climate, are powered by __(9d)__ (a type of __(14a)__ that comes from the Sun). Solar energy can be divided into different types or ranges of energy - __(5d)__ (high energy), visible light, and __(8d)__ (low energy).

An important factor in determining climate is how much solar energy a region receives. Two main factors that affect the amount of solar energy received are __(1a)__ and the Earth's tilt.

- At lower latitudes (__(3d)__ to the equator) the solar radiation hits Earth's surface almost straight on and so the energy is concentrated in a smaller area (thus __(13a)__ temperatures). At higher latitudes (__(6a)__ from the equator), solar radiation hits Earth's surface at a larger angle and so the energy is spread across a larger area (thus __(4a)__ temperatures).
- When the North Pole is tilted toward the Sun, we receive __(11a)__ solar energy (ie __(9a)__) and when the North Pole is tilted away we receive __(10a)__ solar energy (ie __(12d)__).

Note! The __(7a)__ of the Earth has more of an effect on seasonal changes in climate than the __(2d)__ of Earth from the Sun.

B. Wrap-Up Notes

① Take a blank lined page and at the top of the page, in the middle, write the title for this section.
② Leave a blank line and then, on the left side, write the heading "WRAP UP NOTES".
③ Turn to the last page of the notes (P.311) and add the wrap up notes below this heading. Be sure to write neatly!

C. Questions

① Leave a blank line after the wrap up notes and then, on the left side again, write the heading "QUESTIONS".
② Answer the questions below under this heading. Be sure to use complete sentences and to write neatly!
③ Attach your answers to this sheet when you are finished.

1. Compare the Sun's energy that reaches the equator to the Sun's energy that reaches the areas nearer the poles. Use diagrams to support your answer.
2. Explain why a city in Canada experiences winter at the same time a city in South America experiences summer.
3. What do you think Earth's climate would be like if it had a circular orbit and no tilt?
4. Which has a greater effect on Canada's seasonal climate changes - Earth's tilt or Earth's orbit?
5. According to the scientist Milutin Milankovitch, what three factors cause the cycles of ice ages?