

Name: _____ Date: _____ Class: _____

If Earth's Axis Tilt Were to Change

Earth Science Short Essay Assignment

Situation: An asteroid has impacted Earth and its force was not enough to cause global catastrophic damage or loss of life. However, the Earth wobbled on its axis and now its tilt has changed.

Directions: Print this assignment.

Look at the illustrations below which shows Earth in its revolutionary orbit around the sun. An "X" has been placed at the approximate location of the United States.

Illustration A shows Earth's revolution with a normal 23.5° axis tilt.

Illustration B shows Earth with no axis tilt at all.

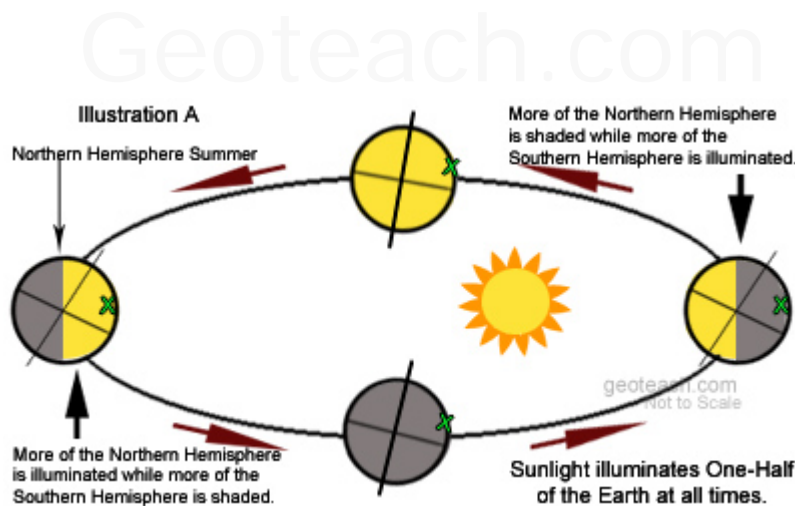
Illustration C shows Earth with an axis tilt of approximately 45° .

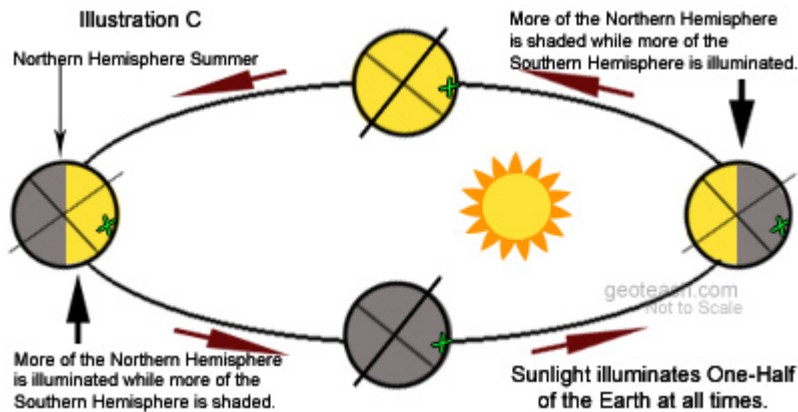
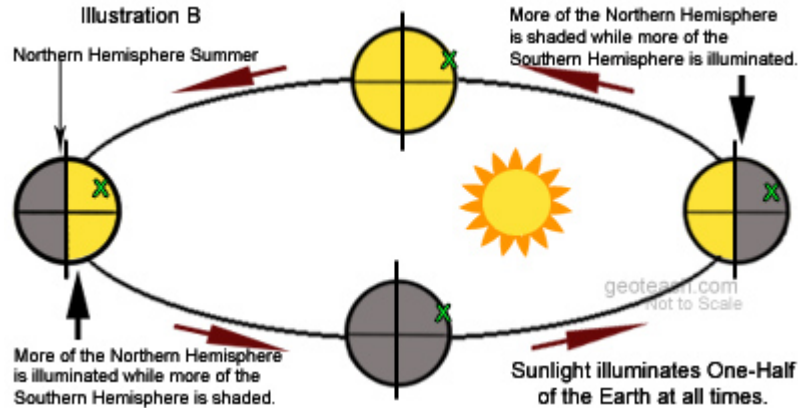
Using complete sentences to express yourself and basing your responses on your knowledge of Earth Science, answer the 2 questions that appear on page 2 of this assignment. Support your answer with scientific information.

Neatly write your answers on lined paper or type your responses.

Identify each answer as Question 1 and Question 2.

Attach your answer sheet to these 2 question pages and submit all pages to your teacher.





Question 1: If Earth's axis were not tilted at all, in other words, if it were perpendicular to Earth's plane of orbit, what effects would that have on people living in the United States? Be sure to mention any seasonal changes. Notice the Winter and Summer positions in the illustrations.

Expand your thinking and your answer to include, not only a time period of one year, but also the cumulative effects over a longer time period.

Consider: first the astronomy and then, weather, cultural, economical and psychological factors.

Question 2: If Earth's axis tilt significantly increased from 23.5° to 45° , what effects would that have on people living in the United States? Be sure to mention any seasonal changes. Notice the Winter and Summer positions in the illustrations.

Expand your thinking and your answer to include, not only a time period of one year, but also the cumulative effects over a longer time period.

Consider: first the astronomy and then, weather, cultural, economical and psychological factors.

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