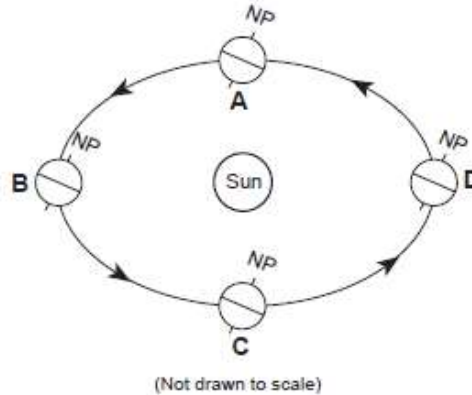


Tilt of the Earth and the Seasons

1. Which position in the diagram to the right best represents the Earth on the first day of summer in the Northern Hemisphere?

- (1) A
- (2) B
- (3) C
- (4) D



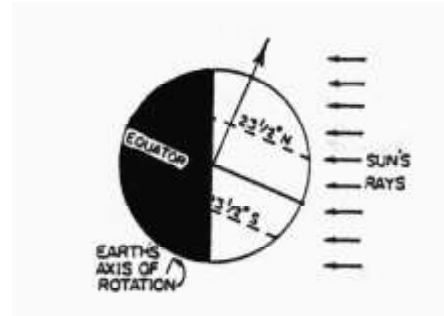
2. The tilt of the Earth on its axis is a cause of the Earth's

- (1) uniform daylight hours
- (2) seasons
- (3) 24-hour day
- (4) $365\frac{1}{4}$ day year

3. In the diagram to the right, the direct rays of the Sun's rays are striking the Earth's surface at $23\frac{1}{2}^{\circ}\text{N}$.

What is the date shown in the diagram?

- (1) March 21
- (2) June 21
- (3) September 23
- (4) December 21



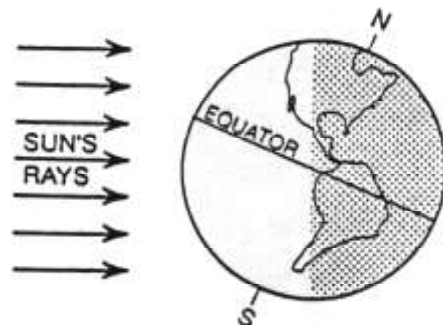
4. The factor that contributes most to the seasonal temperature changes during one year in New York State is the changing

- (1) speed at which the Earth travels in its orbit around the Sun
- (2) tilt of Earth's axis
- (3) distance between the Earth and Sun
- (4) energy given off by the Sun

5. The diagram to the right represents the Earth in space.

Which date is most likely represented by the diagram?

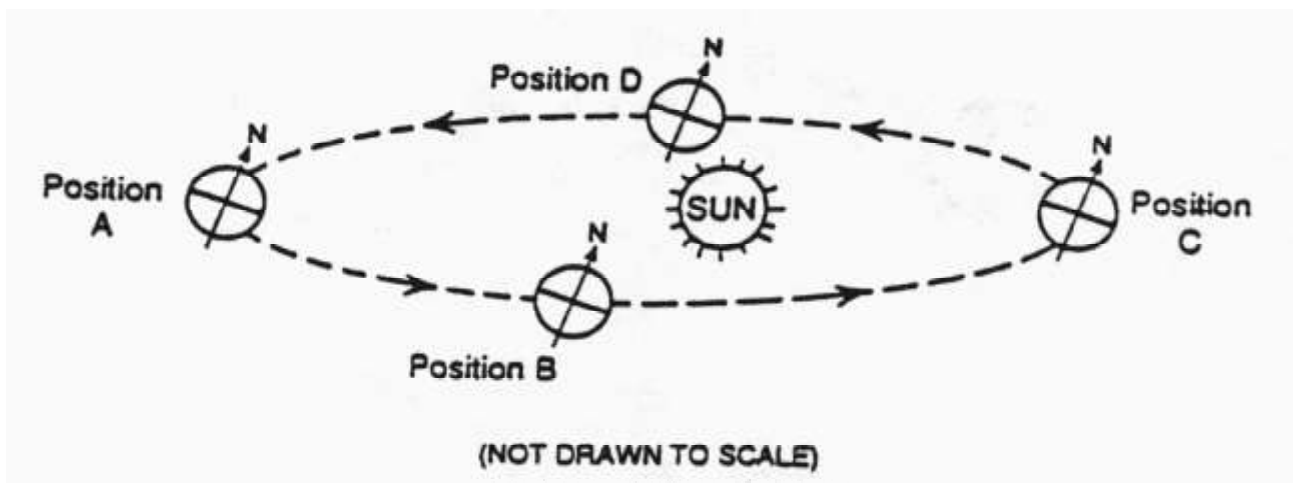
- 1 June 6
- 2 September 2
- 3 December 30
- 4 May 4



6. In the Northern Hemisphere, during which season does the Earth reach its greatest distance from the Sun?
 (1) winter (3) spring
 (2) summer (4) fall
7. On June 21st the Sun will be directly overhead at the
 1 Tropic of Cancer 3 Equator
 2 Tropic of Capricorn 4 North Pole

Questions 8-9:

The diagram below represents four positions of the Earth as it revolves around the Sun.



8. At which position is the Earth located on December 21?
 (1) A (3) C
 (2) B (4) D
9. Which position of the Earth represents the vernal (spring) equinox?
 (1) A (3) C
 (2) B (4) D
10. The Earth's axis of rotation is tilted $23\frac{1}{2}$ degrees from a line perpendicular to the plane of its orbit. What would be a result if the tilt were increased to $33\frac{1}{2}$ degrees?
 (1) an increase in the amount of solar radiation received by the Earth
 (2) colder winters and warmer summers in New York State
 (3) less difference between winter and summer temperatures in New York State
 (4) shorter days and longer nights at the Equator