

## **Chapter 1**

Our sun is the most massive and luminous star in the Milky Way.

**False**

The word astronomy

**Means "patterns among the stars"**

If there are about 6000 stars in the entire sky that can be seen by the unaided human eye, about how many stars would be seen at a particular instant on a given dark night from a single location with an uninterrupted distant horizon?

**3000**

If an event were to take place on the Sun, how long would it take for the light to reach us?

**8 minutes**

The distance to the nearest large spiral galaxy, Andromeda, is 2.5 million light-years. How long does it take light to travel from us to Andromeda?

**2.5 million years**

The early universe was composed mainly of which two elements?

**Hydrogen and helium**

A light year is measured in units of:

**Distance**

The cosmological principle states that:

**The universe looks the same everywhere as long as you look on large enough spatial scales**

Classify the following descriptions as either True or False:

**False: A scientific theory, which has been proven to be true and is no longer subject to testing, is a fact.**

**True: A scientific theory may be a single hypothesis or group of hypothesis, which has been tested and confirmed a number of times**

**False: A hypothesis is the same as a scientific theory**

The number  $5.33 \times 10^7$  is equal to \_\_\_\_\_.

**53300000**

Suppose you were writing to a pen pal in another universe. What address would you put on the envelope that included all the major structures in which we reside? Select the order from the list below in which you would put on your address, starting with your local location.

**1. Earth**

**2. The Solar System**

3. The Milky Way
4. The Local Group
5. Virgo Supercluster
6. The Universe

The nightly motion of objects across our sky is caused by the  
Rotation of Earth on its axis

Which of the following statements best represents the overall rationale for scientific investigation?

Reality is comprehensible, and a limited number of fundamental principles governs the nature and behavior of the universe.

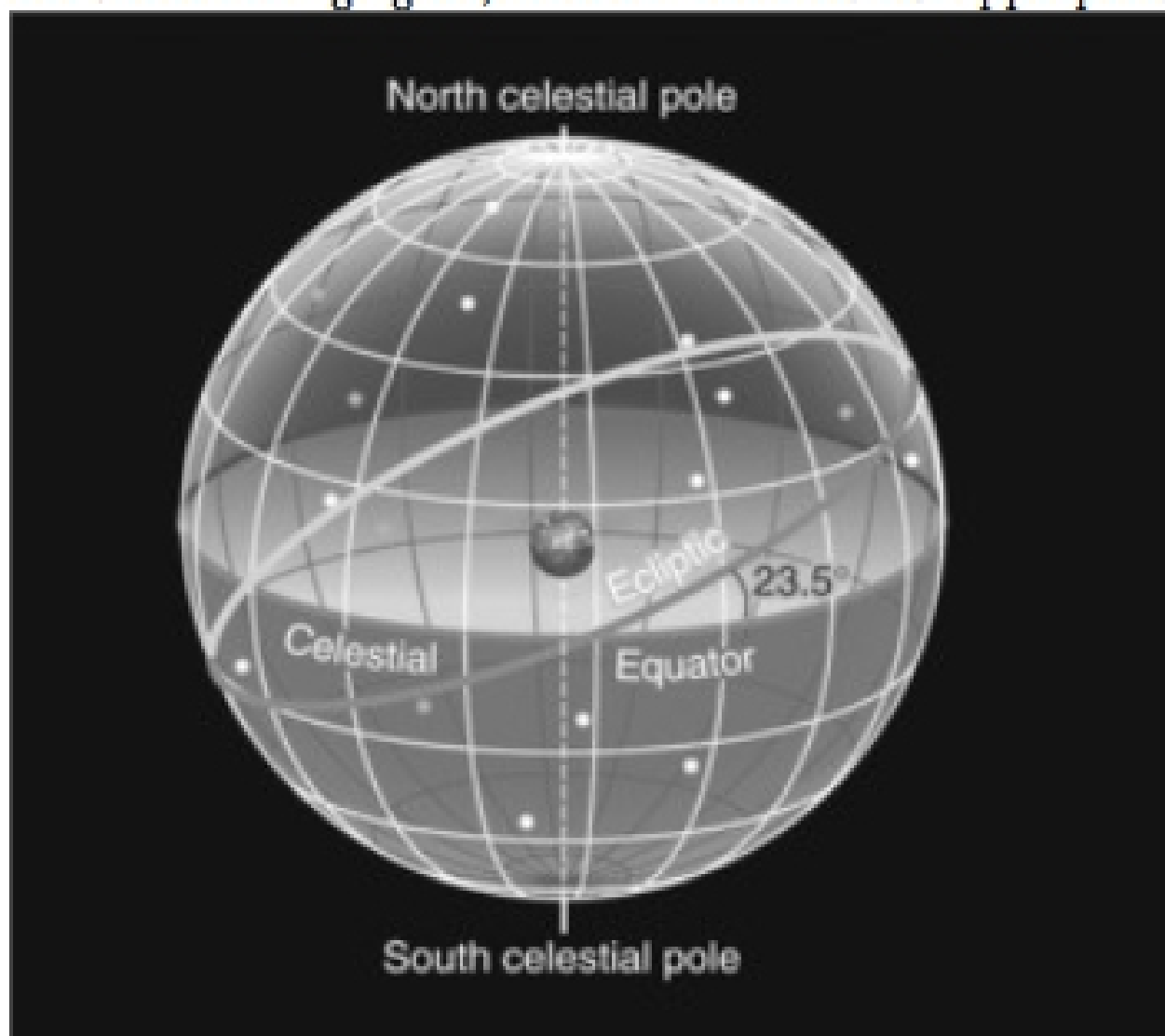
### **Chapter 2**

The nightly motion of objects across our sky is caused by the  
Rotation of Earth on its axis

If you go out at exactly 9P.M. each evening over the course of one month, the position of a given star will move westward by tens of degrees. What causes this motion?

The revolution of the Earth around the Sun

For the following figure, label each box with its appropriate descriptor.



Assume that the observer is in the continental United States. Match each statement with one of the terms at the top.

The altitude of the sun at noon is least on what date?

Winter Solstice

The beginning of fall occurs on what date?

Autumnal Equinox

The sun rises farthest south of east on what date?

Winter Solstice

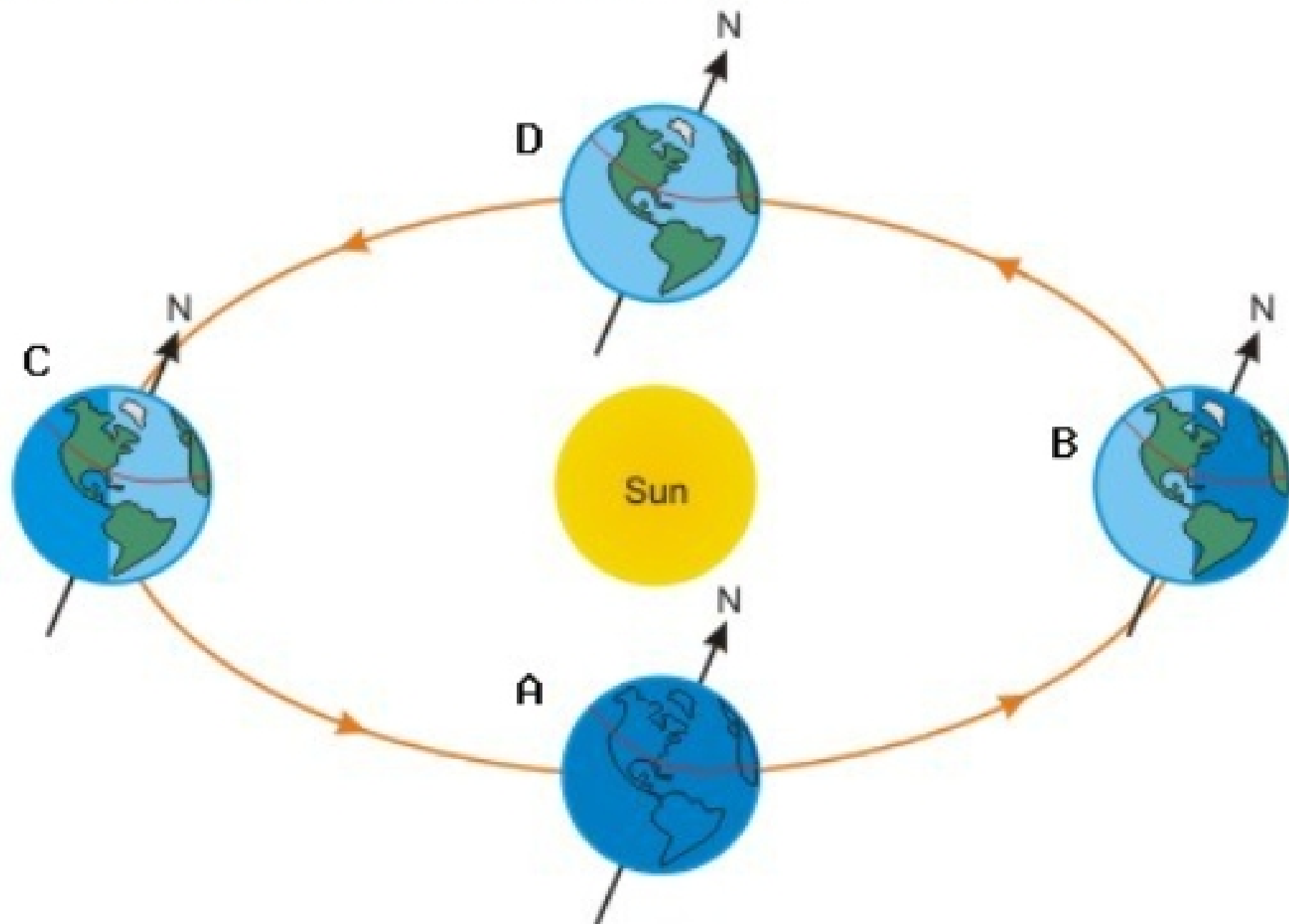
The shortest period of darkness occurs near which solstice or equinox?

Summer Solstice

When is the Earth closest to the Sun?

In the winter in the northern hemisphere.

The picture below shows the position of the Earth at four times of the year. For each position, identify the transition to the correct season.



A - Autumnal Equinox

B - Winter Solstice

C - Summer Solstice

D - Vernal Equinox