

## **6th Grade Maroon and Gold - NTI Day 20 Checklist**

**Required Assignments:** The following assignments should be completed for NTI Day 20. These assignments are required for all students!

\_\_\_\_\_ MATH - Assessment

\_\_\_\_\_ ENGLISH LANGUAGE ARTS - Independent Reading (10 minutes) - Please have your parent/guardian initial. Complete the text structure quiz. Complete the author's purpose quiz.

\_\_\_\_\_ SOCIAL STUDIES - Assessment Free Choice

\_\_\_\_\_ SCIENCE - Continue the moon phase calendar. Read and Review the notes for 2.2 The Reason for Seasons. Use the notes to complete the 13 questions on the "Earth in Space" handout.

\_\_\_\_\_ EXPLORE - See explore packet for directions and assignments.

**Optional Assignments:** The following assignments are optional. We encourage you to complete at least some of these assignments each day.

\_\_\_\_\_ Read for 20 minutes - either to yourself or to a younger sibling!

\_\_\_\_\_ Complete lessons in Edmentum

Account: HCBOE2

Login: Lightspeed username (for example, kwhalen2026)

Password: Lightspeed password

\_\_\_\_\_ Join the NEW NTI Day Google Classrooms and complete the supplemental activities posted there.

Social Studies code: qzaivku

Science code: dadch3d

ELA code: p6yh3ma

**{Most Important Contact List}**

Harrison County Middle School:  
Phone number: 859-234-7123

**6th Grade Gold team**

**6th Grade Maroon Team**

<b>Candace Copes</b> Subject: Math Email: <a href="mailto:candance.copes@harrison.kyschools.us">candance.copes@harrison.kyschools.us</a>	<b>Leann Brannock</b> Subject: Math Email: <a href="mailto:leann.brannock@harrison.kyschools.us">leann.brannock@harrison.kyschools.us</a>
<b>Tiffany Thornsby</b> Subject: Science Email: <a href="mailto:tiffany.thornsby@harrison.kyschools.us">tiffany.thornsby@harrison.kyschools.us</a> Join Remind 101- Text @hcmslab to 81010	<b>Johnny Mac Dawson</b> Subject: Science Email: <a href="mailto:johnny.dawson@harrison.kyschools.us">johnny.dawson@harrison.kyschools.us</a>
<b>Autumn Marshall</b> Subject: English Email: <a href="mailto:autumn.marshall@harrison.kyschools.us">autumn.marshall@harrison.kyschools.us</a> Join Remind 101- Text @marshowl to 81010	<b>Kristen Campbell</b> Subject: English Email: <a href="mailto:kristen.campbell@harrison.kyschools.us">kristen.campbell@harrison.kyschools.us</a>
<b>Brenna Lenz</b> Subject: Social Studies Email: <a href="mailto:brenna.lenz@harrison.kyschools.us">brenna.lenz@harrison.kyschools.us</a> Join Remind 101- Text @lenzw	<b>Kelly Whalen</b> Subject: Social Studies Email: <a href="mailto:kelly.whalen@harrison.kyschools.us">kelly.whalen@harrison.kyschools.us</a>
<b>Kaitlyn Justice</b> Subject: English/Reading Resource Email: <a href="mailto:kaitlyn.justice@harrison.kyschools.us">kaitlyn.justice@harrison.kyschools.us</a>	<b>Jeanie Royse</b> Subject: English/Reading Resource Email: <a href="mailto:jeanie.royse@harrison.kyschools.us">jeanie.royse@harrison.kyschools.us</a>
<b>6th grade aides:</b> <a href="mailto:alicia.glenn@harrison.kyschools.us">alicia.glenn@harrison.kyschools.us</a>	<b>6 Maroon Remind 101 Information-</b> Text @c4778h

The **center** of a numerical data set summarizes all of the values with one number. Mathematicians often use *mean* or *median* to calculate the center of their data set.

**Mean**

The mean is the average.

Add all of the numbers in a data set and then divide the sum by the total number of data points.

data set: 6, 8, 6, 8, 7, 4, 3

$$6 + 8 + 6 + 8 + 7 + 4 + 3 = 42$$

$$42 \div 7 = 6 \quad \text{or} \quad \frac{42}{7} = 6$$

$$\text{mean} = 6$$

**Median**

The median is the middle value.

Order the numbers in a data set from least to greatest. Identify the number that falls in the middle.

data set: 6, 8, 6, 8, 7, 4, 3

3, 4, 6, 6, 7, 8, 8

$$\text{median} = 6$$

The **variation** uses one number to describe how all of the values are different. The most basic measure of variation is *range*.

**Range**

The range is the difference between the highest and lowest value in a data set.

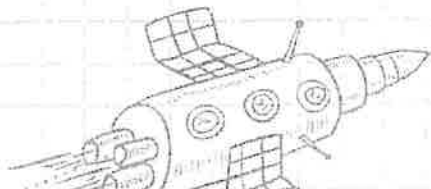
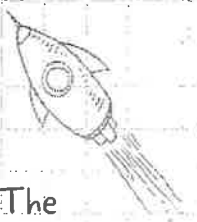
Subtract the lowest value from the highest value.

6, 8, 6, 8, 7, 4, 3

$$8 - 3 = 5$$

$$\text{range} = 5$$

$$\text{mean} = 6$$





(You may use a calculator!)

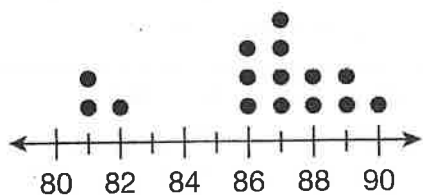
### Lesson Practice

Choose the best answer.

Use the dot plot for questions 1–3.

Javier recorded the high temperature each day in the dot plot below.

Daily High Temperatures (in °F)

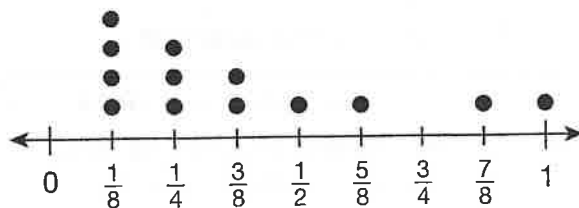


- On how many days did Javier record the high temperature?
  - 1
  - 9
  - 15
  - 90
- What was the mode temperature during the sample period?
  - 90°F
  - 89°F
  - 88°F
  - 87°F
- Between which temperatures is there a gap in the data?
  - between 80°F and 82°F
  - between 82°F and 86°F
  - between 85°F and 91°F
  - between 89°F and 91°F

Use the dot plot for questions 4–6.

The dot plot below shows how Vicki split up a large bag of rice into smaller bags.

Bags of Rice in Pounds



- What is the mode of the data?
 

A. $\frac{1}{8}$ pound	C. $\frac{3}{8}$ pound
B. $\frac{1}{4}$ pound	D. no mode
- What is the median of the data?
 

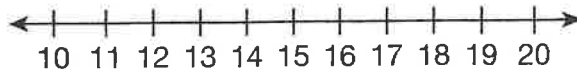
A. $\frac{1}{8}$ pound	C. $\frac{3}{8}$ pound
B. $\frac{1}{4}$ pound	D. $\frac{1}{2}$ pound
- Which statement is **not** true?
  - The data clusters from  $\frac{1}{8}$  pound to  $\frac{3}{8}$  pound.
  - Fewer than half the bags weigh more than  $\frac{1}{2}$  pound.
  - The range of the weights is  $\frac{7}{8}$  pound.
  - There is no gap in the data.

6. The following low temperatures were recorded for 10 days in February.

15°F, 18°F, 10°F, 17°F, 17°F, 20°F, 16°F, 17°F, 15°F, 14°F

A. Construct a dot plot for the temperatures.

Low Temperatures (in °F)



B. Which measure of center best describes the data, the median or the mean? Explain your answer.

---

---

---

---

C

What is a *statistical question*? It's a question that can be answered by *collecting data*, and you expect to collect a *variety of answers*.

Check all that are statistical questions:

- How many people participated in the 2015 Boston Marathon?
- How many calories did each runner consume before the race?
- Who won the New York Marathon last year?
- What are the ages of the last 10 Cleveland Marathon winners?

Alex wants to know the length of each touchdown pass thrown by Tom Brady in his career.

6.SP.B.5.B

How could he collect the data to answer this question?

What units would he use to label the data?

What other units can be used to represent length?

## Warm Up #240

6.SP.A.2

& 6.SP.B.5

Age of Graduate Students



Check all that are true:

- There is a cluster from 26 to 31 years.
- The data point at 23 is an outlier.
- There is a peak at 29 years.

Identify the gap in the data. \_\_\_\_\_

What is the range of the data? \_\_\_\_\_

## Warm Up #243

6.SP.B.4

Use the data from the dot plot to answer the questions.

How many students were included in this survey?

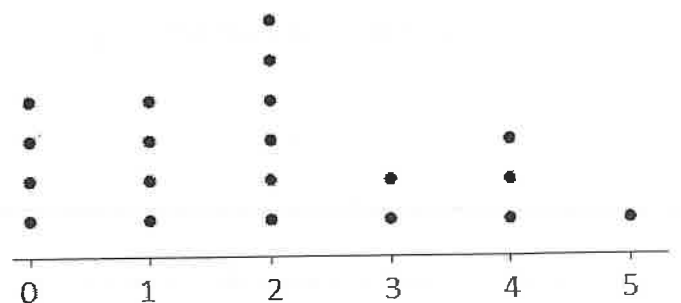
6.SP.B.5.A

What was the mode?

What was the median?

What was the range?

Number of Cell Phones  
Owned in your Lifetime



## Reading NTI Day #20

**I Can Statement:** I can identify text structure and author's purpose.

### **Bell ringers:**

1. Name and describe a text structure.  
Answer:
2. Name and describe one type of author's purpose.  
Answer:
3. What is a summary?  
Answer:

### **Checklist:**

\_\_\_\_\_ Independent Reading (10 minutes) - Please have your parent/guardian initial.

\_\_\_\_\_ Complete the text structure quiz.

\_\_\_\_\_ Complete the author's purpose quiz.

Mrs. Marshall and Mrs. Campbell hope that you have had a wonderful week. We look forward to seeing you again and wish you a wonderful spring break!

"You're braver than you believe, and stronger than you seem, and smarter than you think." -- Winnie the Pooh (*Pooh's Most Grand Adventure*)





**Matching:** Match the definition to the term and shade in the appropriate bubble.

10. One or more events and the results from those events.	
11. Information is organized in order of time.	b. problem and solution
12. A difficulty is described and an answer is offered.	c. sequence / order
	d. cause and effect

13. Differences and similarities of two or more things are discussed.	a. cause and effect
14. Explains how something happens or is done, step-by-step	b. descriptive
15. Gives details of something to give the reader a mental picture.	c. compare and contrast
	d. sequence / order

5. Making ice-cream is not easy. Cream and sugar have to first be mixed in a frozen container. Ingredients may be added at this point, if desired. The mixture must be stirred and whipped until the cream and sugar mixture is frozen. Depending on the equipment, this may take as long as an hour. After the ice-cream is prepared, it must be kept frozen until it is ready to be enjoyed. Making ice-cream is difficult, but most people would agree that it is worth the trouble.

- a. problem and solution
- d. cause and effect

- b. compare and contrast
- e. sequence / order

6. Have you ever had an ice-cream headache? That's when a painful sensation resonates in your head after eating something cold (usually ice-cream) on a hot day. This pain is produced by the dilation of a nerve center in the roof of your mouth. The nerve center is overreacting to the cold by trying to heat your brain. Ice-cream headaches have turned many smiles to frowns.

- a. problem and solution
- d. descriptive

- b. compare and contrast
- e. cause and effect

7. One time my mom and I made ice-cream. We added sugar and cream into a big glass bowl. We kept it frozen in the middle of a bigger glass bowl. While it froze, I stirred the mixture with a hand mixer. It was the first time I used one it splattered ice-cream mixture all over the kitchen. The rest of the mixture finally froze, so we ate some ice cream, and then put the remaining portions in the freezer so that it wouldn't get freezer burn. That was a good day.

- a. problem and solution
- d. sequence/order

- b. compare and contrast
- e. cause and effect

8. It was the most beautiful banana split that I had ever seen. In the middle of the bowl, there were three scoops of ice-cream: chocolate, strawberry, and vanilla. On top of the ice-cream were a banana and a thick web of chocolate and caramel sauces. A huge puff of whipped cream covered the sauces and a handful of crushed nuts dappled the whipped cream. On top was a cherry, but I've never liked the soggy squish of cherries.

- a. problem and solution
- d. descriptive

- b. compare and contrast
- e. cause and effect

9. When it comes to making ice-cream, you can do it the traditional way, by stirring it in a frozen container, or you can use liquid nitrogen to freeze your mixture. There are some advantages to using liquid nitrogen. Since liquid nitrogen freezes the mixture faster, the crystal grains are smaller, giving the ice-cream a creamier texture. The downside is that ice-crystals grow faster in ice-cream prepared using liquid nitrogen, so it must be stored at much colder temperatures. Both methods produce a distinct texture, and both are delicious.

- a. problem and solution
- d. descriptive

- b. compare and contrast
- e. cause and effect

## Text Structure Quiz

Directions: Read each passage and identify the text structure.

1. Ice-cream is a delicious frozen treat that comes in a many different colors and flavors. Two of my favorite flavors are strawberry and chocolate. Though both of these flavors are delicious, strawberry may contain pieces of fruit while chocolate usually will not. Even though more chocolate ice-cream is sold across the country annually than strawberry, each flavor tastes great inside of a milk shake.

- a. cause and effect
- b. compare and contrast
- d. descriptive
- e. sequence / order

2. The ice-cream shop around the corner from my house has the best ice-cream in the city. When you first walk inside, there is a long chrome counter with matching stools extending to alongside the far wall. Right where the counter stops, the booth seating begins. There are lots of old-timey knickknacks on the walls and chrome napkin holders on all the tables. My favorite part of the shop is behind the counter glass, where they keep all of the ice-cream flavors. A rainbow of delicious sugary flavors is kept cool and delicious behind the counter glass.

- a. problem and solution
- b. compare and contrast
- d. descriptive
- e. sequence / order

3. Freezer burn may have wasted more ice-cream than sidewalks. If you don't know, freezer burn is when ice crystals form on the surface of ice-cream. These ice crystals can ruin the texture and flavor of the ice cream. But you can prevent freezer burn. Since freezer burn is caused when melted ice-cream is refrozen, rather than eating your ice-cream from the container as it melts, scoop your ice-cream into a bowl and put the container back in the fridge immediately. Doing this ought to help you solve your issues with freezer burn.

- a. problem and solution
- b. compare and contrast
- d. descriptive
- e. sequence / order

4. No one knows the true origin of ice-cream, but the first published ice-cream recipe appears in "Mrs. Mary Eales's Receipts," a cook book that was printed in London in 1718. Sometime around 1832, an African American confectioner named Augustus Jackson created multiple ice cream recipes and invented a superior technique to manufacture ice cream. Ice cream soda was invented around 1874, but the real breakthrough may have been at the 1904 World's Fair in St. Louis, Missouri, when the American ice-cream cone was unveiled!

- a. problem and solution
- b. cause and effect
- d. descriptive
- e. sequence / order



## Day 20 NTI Review Activity

Directions: Over the last few weeks you have learned a lot about ancient Greece. We've covered democracy, different city-states, the Persian Wars, the Golden Age of Greece, and their contributions to modern society. Now it's time to reflect on what you've learned! You should select ONE of the following options as your review activity. If you choose to complete a tech option, you may 'share' or email your completed assignment to your teacher.

**Option 1:** A poster highlighting why ancient Greece is important. Your poster may be completed on copy paper. It does NOT have to be on poster board. It must include 5 pictures (either hand drawn, printed from the internet, or cut from magazines) and 5 facts. Your poster must also include a heading. If you need paper, you may use the back of this assignment sheet.

**Option 2:** A Google Slide or Power Point Presentation. Your presentation must include at least 5 slides. Each slide must include a slide and a piece of information about Greece.

**Option 3:** Design a test about Ancient Greece. Your test must include 20 questions related to what you've learned over the last 2 weeks. Your questions may be a combination of true/false, multiple choice, fill in the blank, and short answer. You must include a key to your test. You may do this on paper or type it on Google Docs or Forms.



## 2.2 The Reason for Seasons

- Our goals for learning:
  - **What causes the seasons?**
  - **How does the orientation of Earth's axis change with time?**

### Thought Question

TRUE OR FALSE? Earth is closer to the Sun in summer and farther from the Sun in winter.

© 2014 Pearson Education, Inc.

### Thought Question

TRUE OR FALSE? Earth is closer to the Sun in summer and farther from the Sun in winter.

© 2014 Pearson Education, Inc.

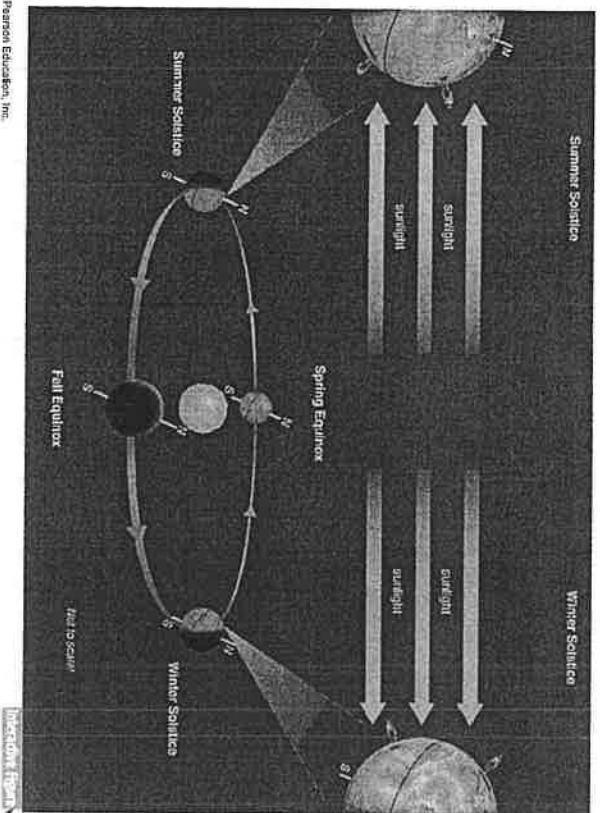
### Thought Question

TRUE OR FALSE! Earth is closer to the Sun in summer and farther from the Sun in winter.

***Hint: When it is summer in America, it is winter in Australia.***

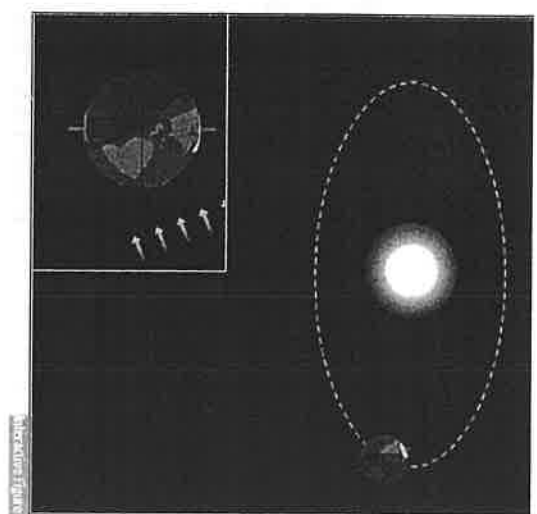
- Seasons are opposite in the N and S hemispheres, so distance cannot be the reason.
- The real reason for seasons involves Earth's axis tilt.

## What causes the seasons?



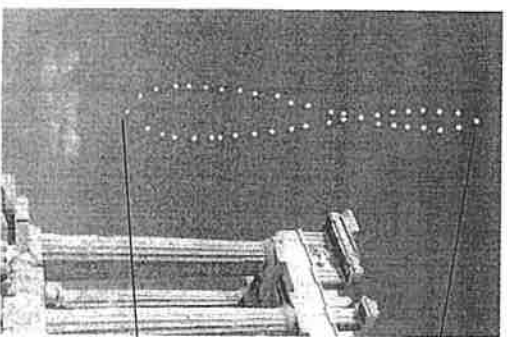
© 2014 Pearson Education, Inc.

## Axis tilt changes directness of sunlight during the year.



© 2014 Pearson Education, Inc.

## Sun's altitude also changes with seasons



Sun's position at noon in summer: Higher altitude means more direct sunlight.

Sun's position at noon in winter: Lower altitude means less direct sunlight.

© 2014 Pearson Education, Inc.

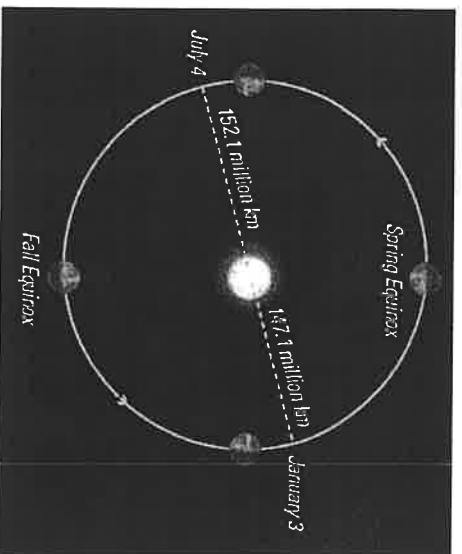
## Summary: The Real Reason for Seasons

- Earth's axis points in the same direction (to Polaris) all year round, so its orientation *relative to the Sun* changes as Earth orbits the Sun.
- Summer occurs in your hemisphere when sunlight hits it more directly; winter occurs when the sunlight is less direct.
- **AXIS TILT** is the key to the seasons; without it, we would not have seasons on Earth.



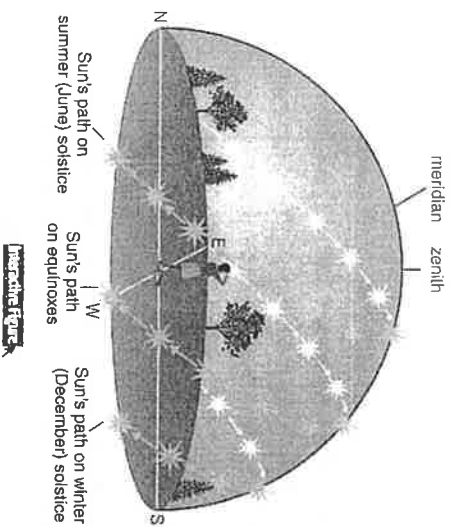
## Why doesn't distance matter?

Variation of Earth–Sun distance is small — about 3%; this small variation is overwhelmed by the effects of axis tilt.



© 2014 Pearson Education, Inc.

## We can recognize solstices and equinoxes by Sun's path across sky:

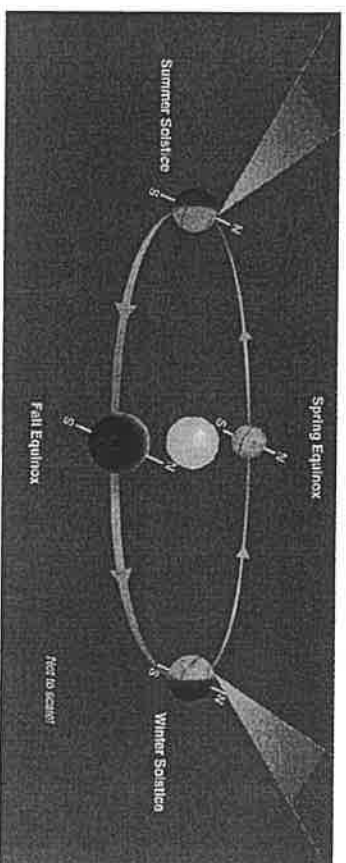


© 2014 Pearson Education, Inc.

- Summer (June) solstice:** highest path; rise and set at most extreme north of due east
- Winter (December) solstice:** lowest path; rise and set at most extreme south of due east
- Equinoxes:** Sun rises precisely due east and sets precisely due west.

## How do we mark the progression of the seasons?

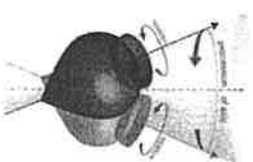
- Summer (June) solstice
- Winter (December) solstice
- Spring (March) equinox
- Fall (September) equinox



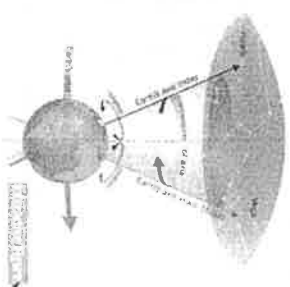
© 2014 Pearson Education, Inc.

## How does the orientation of Earth's axis change with time?

- Although the axis seems fixed on human time scales, it actually precesses over about 26,000 years.
  - ⇒ Polaris won't always be the North Star.
  - ⇒ Positions of equinoxes shift around orbit; e.g., spring equinox, once in *Aries*, is now in *Pisces*!



Earth's axis precesses like the axis of a spinning top



© 2014 Pearson Education, Inc.

## What have we learned?

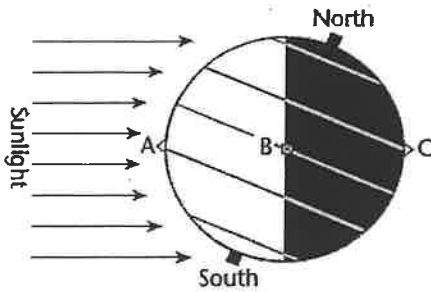
- **What causes the seasons?**
  - The tilt of the Earth's axis causes sunlight to hit different parts of the Earth more directly during the summer and less directly during the winter.
  - We can specify the position of an object in the local sky by its **altitude** above the horizon and its **direction** along the horizon.
  - The **summer and winter solstices** are when the Northern Hemisphere gets its most and least direct sunlight, respectively. The **spring and fall equinoxes** are when both hemispheres get equally direct sunlight.

## What have we learned?

- **How does the orientation of Earth's axis change with time?**
  - The tilt remains about  $23.5^\circ$  (so the season pattern is not affected), but Earth has a 26,000 year precession cycle that slowly and subtly changes the orientation of Earth's axis.

## Earth In Space (pages 14-21)

Use the following diagram to answer questions 1-5.



1. What season is it in the Northern Hemisphere?
2. Would a person at point A see the sun? Where would the sun be in the sky?
3. Would a person at point B see the sun? Where would the sun be in the sky?
4. Would a person at point C see the sun? Where would the sun be in the sky?
5. Is the person at B seeing a sunrise or sunset? Why?
6. What are the two major motions of Earth as it travels through space?
7. Which motion causes day and night?
8. What causes the seasons?
9. What is the measure of the tilt of Earth's axis?
10. How do the solstices and equinoxes relate to the seasons?
11. During the December solstice, what season is the Northern Hemisphere experiencing?
12. During the December solstice, what season is the Southern Hemisphere experiencing?
13. How would the seasons be different if the Earth were not tilted on its axis?

