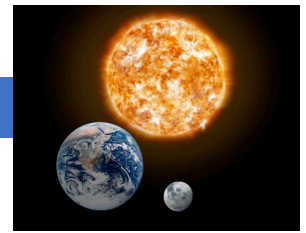


Name _____ Date _____ Block _____

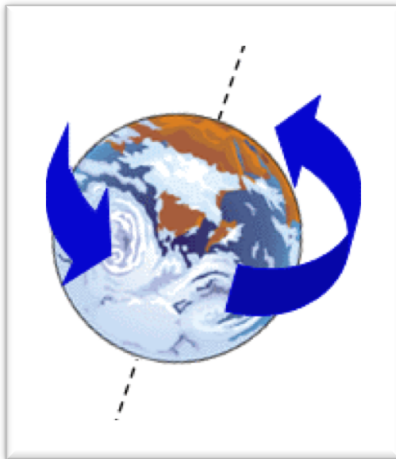


MOTION OF THE EARTH, MOON & SUN

THE EARTH, SUN, AND MOON ARE CONSTANTLY *ROTATING*. THE EARTH AND MOON ARE ALSO *REVOLVING*.

ROTATION

WHEN THE EARTH, SUN, AND MOON SPIN ON THEIR OWN AXES, THEY ARE PERFORMING A MOTION CALLED *ROTATION*. IT TAKES ONE DAY, OR 24 HOURS, FOR THE EARTH TO MAKE ONE COMPLETE ROTATION ON ITS AXIS.



ROTATION OF THE EARTH ON ITS AXIS

THE ROTATION OF THE EARTH IS RESPONSIBLE FOR THE CHANGE BETWEEN NIGHT AND DAY. WHEN ONE PART OF THE EARTH IS ROTATED TOWARD THE SUN, IT IS DAYTIME THERE. WHEN THE SAME PART OF EARTH IS ROTATED AWAY FROM THE SUN, IT IS NIGHTTIME THERE.

THE SUN AND MOON APPEAR TO RISE IN THE EAST AND SET IN THE WEST EACH DAY. AT MIDDAY, THE SUN APPEARS TO BE ALMOST DIRECTLY OVERHEAD. BUT THIS APPARENT MOTION OF THE SUN AND MOON IS A RESULT OF THE ROTATION OF THE EARTH ON ITS AXIS. THE VIDEO SHOWS HOW THE EARTH'S ROTATION RESULTS IN THE CHANGE FROM DAY TO NIGHT AND BACK AGAIN.

EARTH, MOON, AND SUN

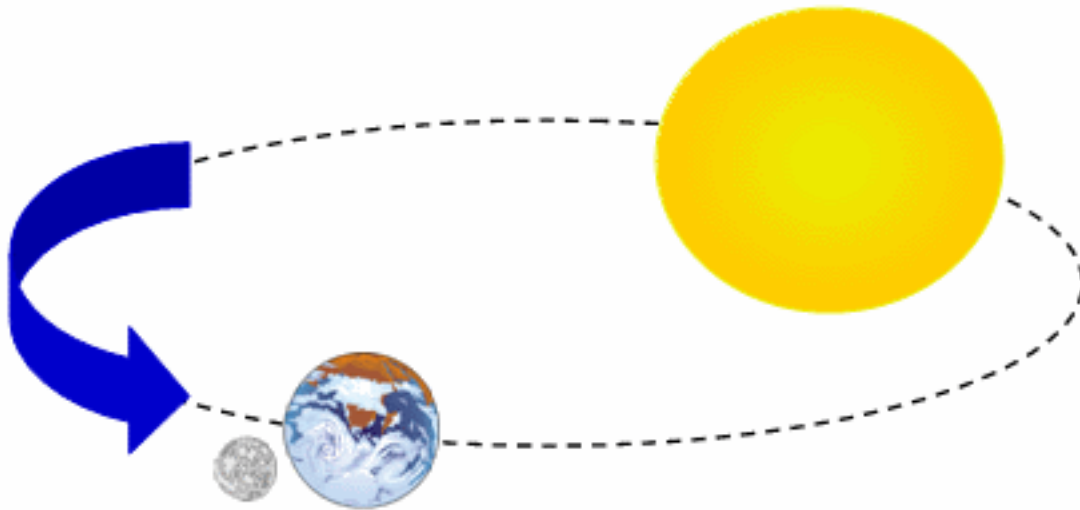
Name _____ Date _____ Block _____

THE SUN ALSO ROTATES ON ITS AXIS. THE MOON ROTATES ON ITS AXIS AS WELL. THAT'S WHY WE ONLY EVER SEE ONE SIDE OF THE MOON, BECAUSE IT ROTATES AT THE SAME SPEED THAT IT *REVOLVES* AROUND THE EARTH.



REVOLUTION

WHEN THE EARTH *REVOLVES*, IT MOVES IN AN ORBIT AROUND THE SUN. THE ORBIT IS *ELLIPTICAL*, WHICH MEANS THAT IT IS SIMILAR TO AN OVAL IN SHAPE.

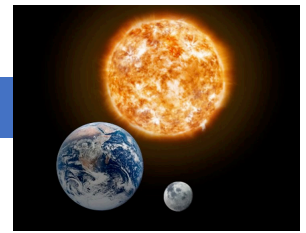


REVOLUTION OF THE EARTH-MOON SYSTEM AROUND THE SUN

THE REVOLUTION OF THE EARTH AROUND THE SUN AND THE TILT OF EARTH'S AXIS ARE RESPONSIBLE FOR THE CHANGING SEASONS. IT TAKES THE EARTH ONE YEAR, OR 365 1/4 DAYS, TO MAKE ONE COMPLETE REVOLUTION AROUND THE SUN. THE VIDEO TALKS MORE ABOUT THE EARTH'S SEASONS.

THE MOON *ORBITS*, OR REVOLVES AROUND, THE EARTH, AND IT ALSO REVOLVES AROUND THE SUN AS PART OF THE EARTH-MOON SYSTEM.

Name _____ Date _____ Block _____



THE MOON & ITS PHASES

THE MOON CAN BE SEEN WITHOUT ANY SPECIAL TOOLS. YOU CAN SIMPLY LOOK AT THE MOON AND NOTICE MANY THINGS.

THE MOON REFLECTS LIGHT FROM THE SUN

THE MOON'S SURFACE APPEARS BRIGHT, AS IF IT IS GLOWING, AT LEAST PART OF THE TIME EACH MONTH. THIS IS BECAUSE, AS THE SUN'S LIGHT STRIKES THE MOON'S SURFACE, THE LIGHT IS REFLECTED ONTO THE EARTH WHERE WE CAN SEE IT.



THE MOON DOES NOT MAKE ITS OWN LIGHT. IT REFLECTS LIGHT FROM THE SUN.

THE MOON'S PHASES

THE MOON'S APPEARANCE CHANGES OVER THE PERIOD OF ABOUT A MONTH AS THE MOON MOVES IN ITS ORBIT AROUND THE EARTH. THE APPEARANCE OF THE MOON IN A PARTICULAR POSITION IN ITS ORBIT IS CALLED THE PHASE OF THE MOON. THE FOUR MAIN MOON PHASES

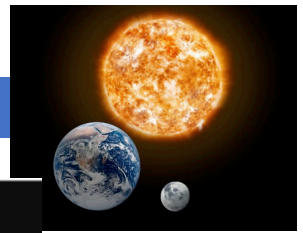
ARE:

- 1. NEW MOON**
- 2. FIRST QUARTER MOON**
- 3. FULL MOON**
- 4. LAST (OR THIRD) QUARTER MOON**

THE TIME BETWEEN ONE NEW MOON AND THE NEXT IS ABOUT 29½ DAYS. WHEN VIEWED FROM THE EARTH'S SURFACE, THE MAIN PHASES OF THE MOON LOOK LIKE THE ONES SHOWN IN THE PICTURE BELOW.

EARTH, MOON, AND SUN

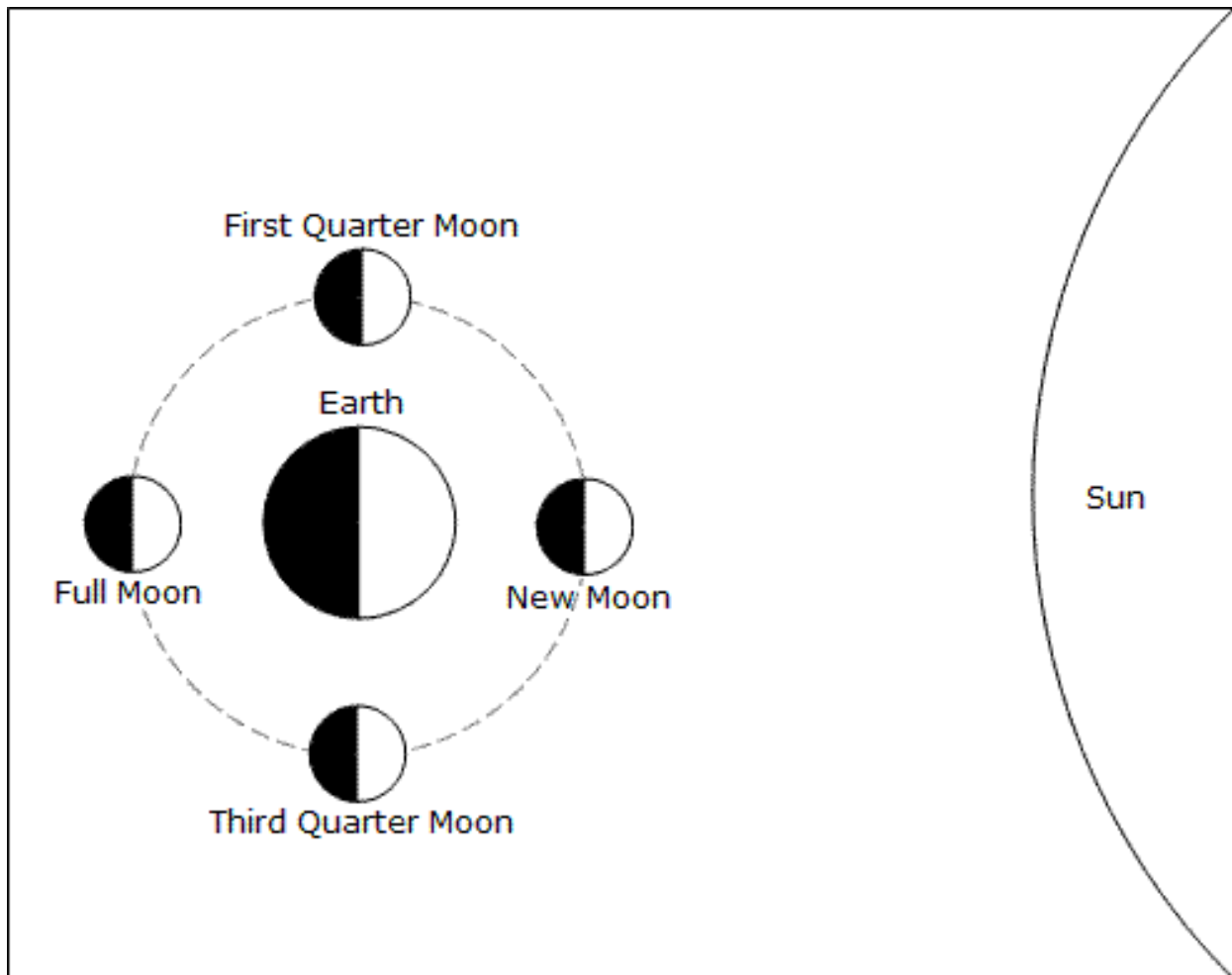
Name _____ Date _____ Block _____



new first quarter full third quarter

IF THE EARTH, MOON, AND SUN WERE VIEWED FROM A POINT OUT IN SPACE, THE PHASES OF THE MOON WOULD LOOK DIFFERENT FROM HOW THEY APPEAR FROM THE SURFACE OF THE EARTH. THE PICTURE BELOW SHOWS HOW THE EARTH, MOON, AND SUN ARE PLACED DURING EACH OF THE MAIN MOON PHASES. NOTICE THAT THE SIDE OF THE MOON THAT IS FACING THE SUN IS ALWAYS BRIGHT BECAUSE IT IS RECEIVING LIGHT, AND THE SIDE OF THE MOON THAT FACES AWAY FROM THE SUN IS ALWAYS DARK BECAUSE IT DOES NOT RECEIVE ANY OF THE SUN'S LIGHT.

PHASES OF THE MOON



Name _____ Date _____ Block _____

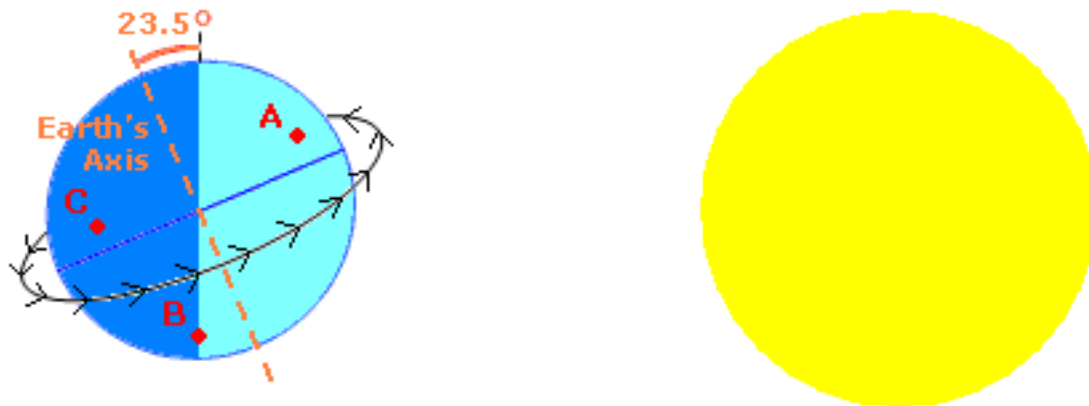
BETWEEN NEW MOON AND FULL MOON, THE MOON IS WAXING; IT APPEARS TO GROW LARGER. BETWEEN FULL MOON AND NEW MOON, THE MOON IS WANING; IT APPEARS TO GROW SMALLER.



EARTH'S DAY/NIGHT CYCLE

THE EARTH'S CYCLE OF DAY AND NIGHT IS CAUSED BY THE EARTH'S *ROTATION*.

THE EARTH'S ROTATION ON ITS AXIS AS IT REVOLVES AROUND THE SUN IS WHAT CAUSES THE CHANGE FROM DAY TO NIGHT EVERY 24 HOURS. THE MODEL BELOW SHOWS THE RELATION OF THE SUN TO THE EARTH.



IF YOU WERE LIVING AT POINT A, IT WOULD BE DAYTIME BECAUSE POINT A IS LOCATED ON THE BRIGHT SIDE OF THE EARTH.

IF YOU WERE LIVING AT POINT B YOU WOULD BE SEEING A SUNRISE. POINT B IS EXPERIENCING SUNRISE BECAUSE IT IS ON THE BOUNDARY OF THE LIGHT AND DARK SIDES OF THE EARTH AND THE EARTH IS ROTATING IN SUCH A WAY THAT POINT B WILL BE ON THE BRIGHT SIDE OF THE EARTH NEXT.

IF YOU WERE LIVING AT POINT C, IT WOULD BE NIGHTTIME, BECAUSE POINT C IS LOCATED ON THE DARK SIDE OF THE EARTH.

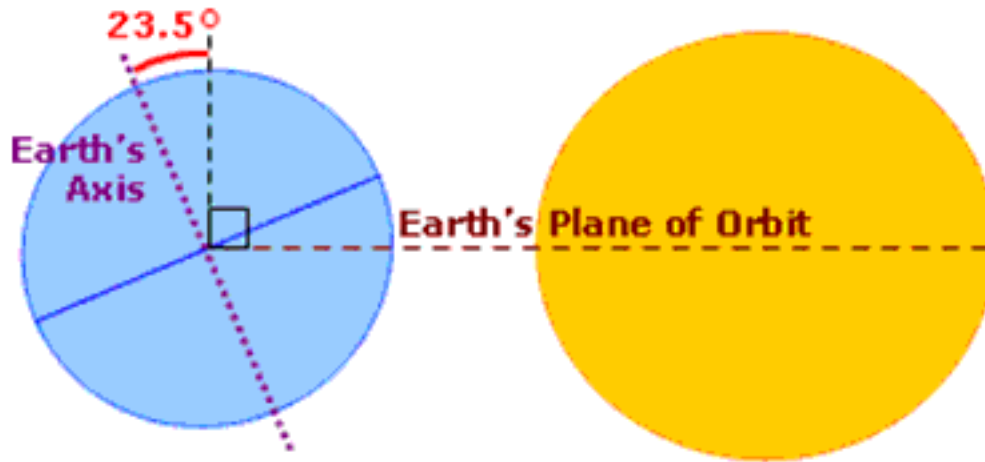
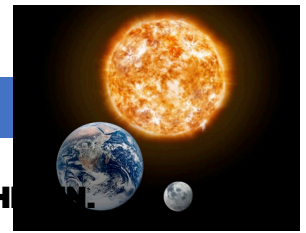
THE EARTH'S TILT

THE TILT OF THE EARTH'S AXIS, COMBINED WITH THE EARTH'S ORBIT AROUND THE SUN, RESULTS IN THE CHANGES IN SEASONS THROUGHOUT THE YEAR, AS WELL AS AN INCREASE IN DAYLIGHT HOURS DURING THE SUMMER.

EARTH, MOON, AND SUN

Name _____ Date _____ Block _____

THE EARTH'S AXIS IS NOT PERPENDICULAR TO ITS PLANE OF ORBIT AROUND THE SUN. RATHER, IT IS TILTED 23.5° FROM PERPENDICULAR, AS SHOWN BELOW.

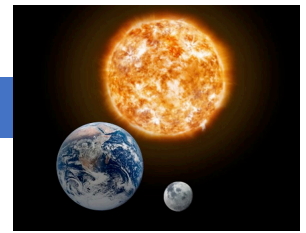


AT ANY GIVEN TIME, THERE IS A REGION ON EARTH THAT "POINTS TOWARD" THE SUN MORE THAN OTHER REGIONS. AS A RESULT, THIS REGION WILL EXPERIENCE HIGHER TEMPERATURES. DUE TO THE EARTH'S TILT, AS THE EARTH REVOLVES AROUND THE SUN, THE REGION THAT "POINTS TOWARD" THE SUN CONSTANTLY CHANGES. THIS CONSTANT CHANGE RESULTS IN THE CHANGES IN SEASONS THROUGHOUT THE YEAR.

AS YOU CAN SEE IN THE DIAGRAM ABOVE, THE SOUTHERN HEMISPHERE IS EXPOSED TO MORE DIRECT RAYS FROM THE SUN THAN THE NORTHERN HEMISPHERE. THIS WOULD CORRESPOND TO "SOUTHERN SUMMER." WHEN THE EARTH IS ON THE OPPOSITE SIDE OF THE SUN, THE NORTHERN HEMISPHERE WILL BE EXPOSED TO MORE DIRECT RAYS FROM THE SUN THAN THE SOUTHERN HEMISPHERE. THIS WOULD CORRESPOND TO "NORTHERN SUMMER."

THE EARTH'S TILT ALSO CAUSES AN INCREASE IN DAYLIGHT HOURS DURING THE SUMMER. IN FACT, CERTAIN REGIONS ON EARTH CAN EXPERIENCE NON-STOP DAYLIGHT FOR SIX MONTHS OF THE YEAR. FOR EXAMPLE, DURING SUMMER, THE NORTH POLE "POINTS TOWARD" THE SUN, SO IT IS ALWAYS EXPOSED TO DAYLIGHT, REGARDLESS OF THE EARTH'S ROTATION.

Name _____ Date _____ Block _____



EARTH, SUN & MOON

QUESTION 1 .

SELECT THE CHOICE THAT BEST COMPLETES THE FOLLOWING SENTENCE:

WHEN AN OBJECT SPINS ON ITS AXIS, IT _____.

- A. VIBRATES**
- B. ROTATES**
- C. EXPLODES**
- D. REVOLVES**

QUESTION 2 .

THE _____ AND _____ HEMISPHERES OF THE EARTH EXPERIENCE OPPOSITE SEASONS.

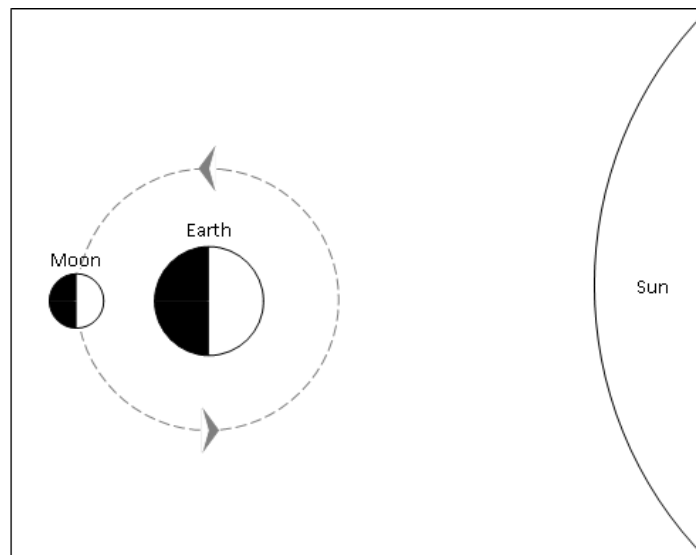
- A. EASTERN, WESTERN**
- B. WESTERN, NORTHERN**
- C. NORTHERN, SOUTHERN**
- D. SOUTHERN, EASTERN**

QUESTION 3 .

WHICH OF THE FOLLOWING CORRECTLY DESCRIBES THE RELATIONSHIP BETWEEN THE EARTH AND THE SUN?

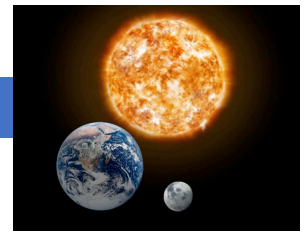
- A. THE SUN AND EARTH BOTH ORBIT THE MOON.**
- B. THE EARTH ORBITS THE SUN.**
- C. THE SUN ORBITS THE EARTH.**
- D. THE MOON ORBITS THE SUN AND THE EARTH ORBITS THE MOON.**

QUESTION 4 .



EARTH, MOON, AND SUN

Name _____ Date _____ Block _____



IMAGINE YOU ARE VIEWING THE MOON FROM EARTH. BASED ON THE DIAGRAM ABOVE, WHICH OF THE FOLLOWING PHASES WOULD YOU SEE?

- A. THIRD QUARTER**
- B. FULL MOON**
- C. FIRST QUARTER**
- D. NEW MOON**

QUESTION 5 .

WHICH OF THE FOLLOWING CAUSES THE CHANGE FROM DAY TO NIGHT?

- A. THE ROTATION OF THE EARTH**
- B. THE REVOLUTION OF THE EARTH AROUND THE SUN**
- C. THE ROTATION OF THE SUN**
- D. THE REVOLUTION OF THE MOON AROUND THE EARTH**

QUESTION 6 .

WHAT CAUSES TEMPERATURES IN THE SUMMER TO BE HIGHER THAN TEMPERATURES IN THE WINTER?

- A. VOLCANIC ACTIVITY IS AT ITS PEAK DURING THE SUMMER, RESULTING IN ELEVATED TEMPERATURES ON EARTH.**
- B. MORE OF THE SUN'S RAYS DIRECTLY HIT A PARTICULAR REGION ON EARTH DURING THE SUMMER THAN DURING THE WINTER.**
- C. GLOBAL WARMING TAKES PLACE DURING THE SUMMER MONTHS, WHICH RAISES TEMPERATURES ON EARTH.**
- D. THE EARTH IS CLOSER IN DISTANCE TO THE SUN DURING THE SUMMER THAN IT IS DURING THE WINTER.**

QUESTION 7 .



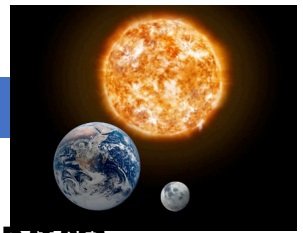
THE FIGURE ABOVE SHOWS THE EARTH AT TWO DIFFERENT POSITIONS IN ITS ORBIT AROUND THE SUN.

IN WHICH POSITION WOULD IT BE SUMMER IN THE NORTHERN HEMISPHERE?

- A. BOTH POSITION A AND POSITION B**
- B. POSITION A**
- C. NEITHER POSITION A NOR POSITION B**
- D. POSITION B**

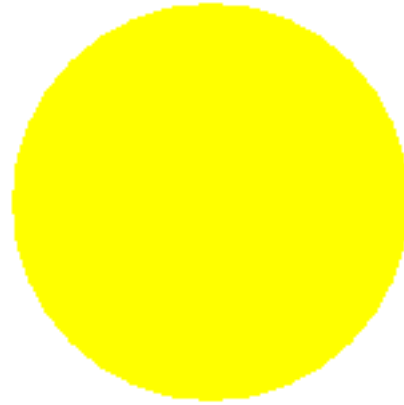
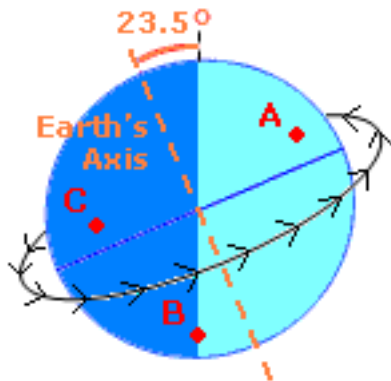
EARTH, MOON, AND SUN

Name _____ Date _____ Block _____



QUESTION 8 .

IF YOU LIVED AT POINT A IN THE DIAGRAM BELOW, WHAT TIME OF DAY WOULD IT BE?



- A. SUNSET**
- B. SUNRISE**
- C. DAYTIME**
- D. NIGHTTIME**

QUESTION 9 .

SELECT EACH CORRECT ANSWER.

THE EARTH HAS FOUR MAIN SEASONS: WINTER, SPRING, SUMMER, AND FALL.

WHAT CAUSES THE SEASONS TO CHANGE?

- **THE EARTH REVOLVES AROUND THE SUN.**
- **THE EARTH'S AXIS IS TILTED.**
- **THE EARTH ROTATES ON ITS AXIS.**

QUESTION 10 .

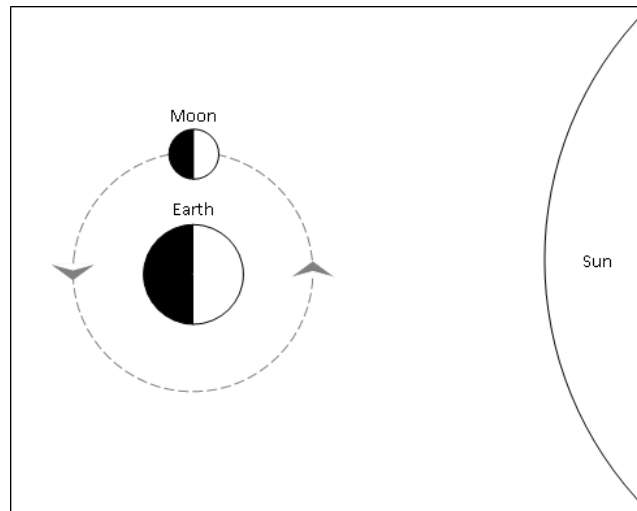
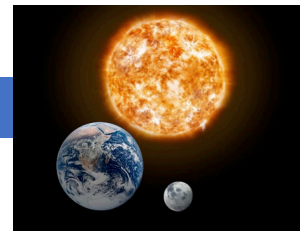
THEO WATCHES THE MOON EVERY NIGHT FOR FOUR WEEKS. HE NOTICES THAT

- A. IT IS A HALF MOON EACH NIGHT.**
- B. IT IS A LITTLE DIFFERENT EACH NIGHT.**
- C. THERE IS A FULL MOON EVERY THREE NIGHTS.**
- D. IT IS A FULL MOON EACH NIGHT.**

EARTH, MOON, AND SUN

Name _____ Date _____ Block _____

QUESTION 11 .



IMAGINE YOU ARE VIEWING THE MOON FROM EARTH. BASED ON THE DIAGRAM ABOVE, WHICH OF THE FOLLOWING PHASES WOULD YOU SEE?

- A. THIRD QUARTER**
- B. FULL MOON**
- C. NEW MOON**
- D. FIRST QUARTER**

QUESTION 12 .

THE SUN ALWAYS SHINES ON HALF OF THE MOON. DURING A NEW MOON, THE MOON LOOKS DARK.

WHERE IS THE LIT SIDE OF THE MOON DURING A NEW MOON?

- A. THE LIT SIDE FACES TOWARD THE EARTH.**
- B. THE LIT SIDE FACES AWAY FROM THE SUN.**
- C. THE LIT SIDE FACES HALF AWAY FROM THE EARTH.**
- D. THE LIT SIDE FACES AWAY FROM THE EARTH.**

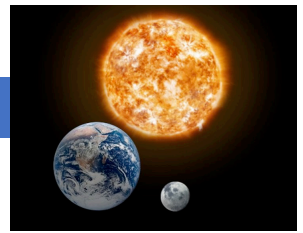
QUESTION 13 .

WHAT DEFINES ONE EARTH YEAR?

- A. ONE REVOLUTION OF THE EARTH AROUND THE SUN.**
- B. ONE FULL ROTATION OF THE EARTH ON ITS AXIS.**
- C. ONE REVOLUTION OF THE EARTH AROUND THE MOON.**
- D. ONE REVOLUTION OF ALL PLANETS AROUND THE SUN.**

EARTH, MOON, AND SUN

Name _____ Date _____ Block _____



QUESTION 14 .

WHICH STATEMENT BELOW IS CORRECT?

- A. THE EARTH-MOON SYSTEM REVOLVES AROUND THE SUN.**
- B. THE EARTH REVOLVES AROUND THE SUN-MOON SYSTEM.**
- C. THE SUN REVOLVES AROUND THE EARTH-MOON SYSTEM.**
- D. THE MOON REVOLVES AROUND THE SUN, BUT THE EARTH DOES NOT.**

QUESTION 15 .

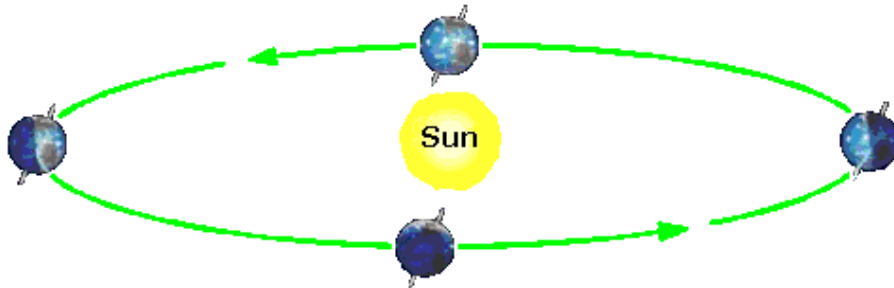
TYPE YOUR ANSWER IN THE BOX. USE NUMERALS, NOT WORDS.

HOW LONG DOES IT TAKE FOR THE EARTH TO GO THROUGH ONE FULL DAY/NIGHT CYCLE?

ROUND TO THE NEAREST HOUR.

HOUR(S)

QUESTION 16 .



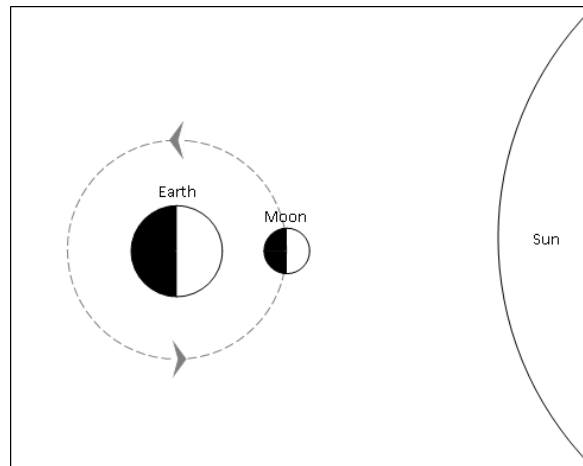
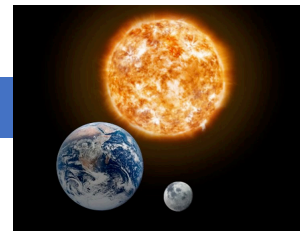
THE EARTH REVOLVES, OR MOVES IN A CIRCULAR PATTERN, AROUND THE SUN. AT EACH OF THE POSITIONS SHOWN ABOVE, THE EARTH HAS _____.

- A. A DIFFERENT SEASON**
- B. A DIFFERENT TILT**
- C. THE SAME TEMPERATURE**
- D. THE SAME TIME OF DAY**

EARTH, MOON, AND SUN

Name _____ Date _____ Block _____

QUESTION 17 .



IMAGINE YOU ARE VIEWING THE MOON FROM EARTH. BASED ON THE DIAGRAM ABOVE, WHICH OF THE FOLLOWING PHASES WOULD YOU SEE?

- A. FIRST QUARTER**
- B. FULL MOON**
- C. THIRD QUARTER**
- D. NEW MOON**

QUESTION 18 .

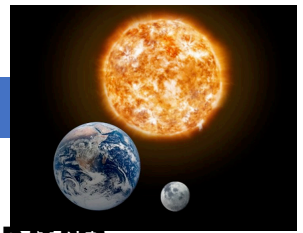
IN THE MORNING, RAFAEL NOTICES THAT THE SUN APPEARS ON ONE SIDE OF THE SKY. IN THE EVENING, HE NOTICES THAT THE SUN APPEARS TO BE ON THE OTHER SIDE OF THE SKY. HOWEVER, IN CLASS, RAFAEL LEARNED THAT THE SUN DOES NOT ACTUALLY MOVE ACROSS THE SKY FROM ONE SIDE TO ANOTHER.

WHY DOES IT APPEAR THAT THE SUN STARTS THE DAY ON ONE SIDE OF THE SKY AND ENDS THE DAY ON THE OTHER?

- A. THE SUN SPINS.**
- B. THE EARTH HAS TWO SUNS.**
- C. THE EARTH SPINS.**
- D. THE SUN MOVES AROUND THE EARTH.**

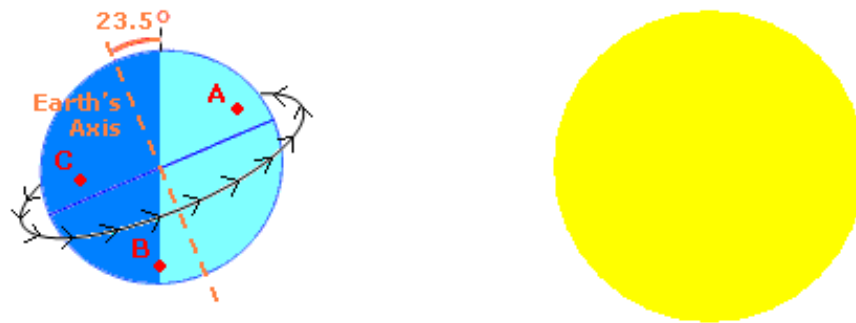
EARTH, MOON, AND SUN

Name _____ Date _____ Block _____

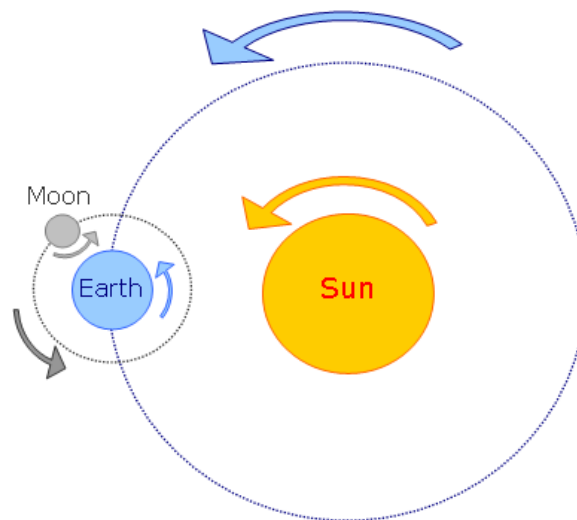


QUESTION 19 .

IF YOU LIVED AT POINT C IN THE DIAGRAM BELOW, WHAT TIME OF DAY WOULD IT BE?



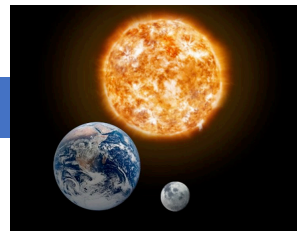
- A. DAYTIME**
 - B. SUNSET**
 - C. SUNRISE**
 - D. NIGHTTIME**
- QUESTION 20 .**



BASED ON THE DIAGRAM ABOVE, WHICH STATEMENT IS TRUE?

- A. THE SUN REVOLVES AROUND THE EARTH, AND THE EARTH REVOLVES AROUND THE MOON.**
- B. THE EARTH REVOLVES AROUND THE MOON, AND THE EARTH REVOLVES AROUND THE SUN.**
- C. THE EARTH REVOLVES AROUND THE SUN, AND THE MOON REVOLVES AROUND THE EARTH.**
- D. THE MOON REVOLVES AROUND THE SUN, AND THE SUN REVOLVES AROUND THE EARTH.**

Name _____ Date _____ Block _____



ANSWERS

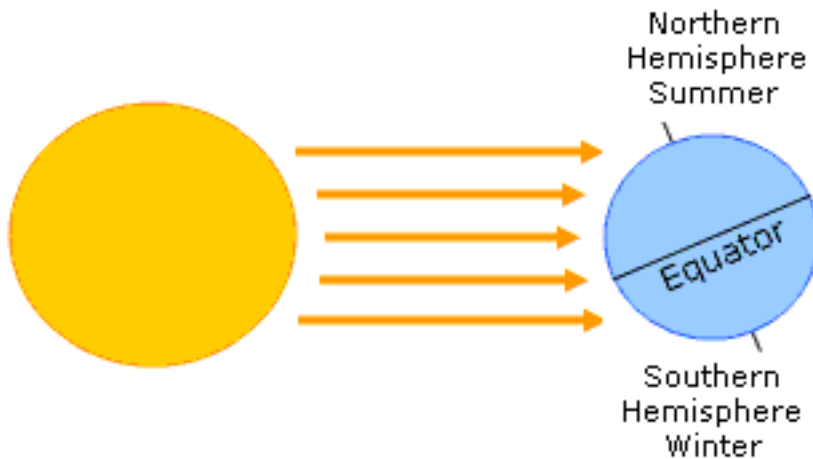
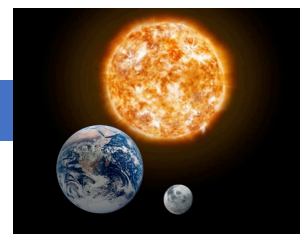
1. B
2. C
3. B
4. B
5. A
6. B
7. D
8. C
9. --
10. B
11. D
12. D
13. A
14. A
15. --
16. A
17. D
18. C
19. D
20. C

EXPLANATIONS

1. **WHEN AN OBJECT SPINS ON ITS AXIS, IT ROTATES. FOR EXAMPLE, THE EARTH ROTATES ONCE A DAY (EVERY 24 HOURS), WHICH RESULTS IN THE CHANGE FROM DAY TO NIGHT.**
2. **THE NORTHERN AND SOUTHERN HEMISPHERES OF THE EARTH EXPERIENCE OPPOSITE SEASONS.**

EARTH, MOON, AND SUN

Name _____ Date _____ Block _____



AS YOU CAN SEE IN THE DIAGRAM ABOVE, THE NORTHERN HEMISPHERE IS EXPOSED TO MORE DIRECT RAYS FROM THE SUN THAN THE SOUTHERN HEMISPHERE. THIS WOULD CORRESPOND TO "NORTHERN SUMMER." WHEN THE EARTH IS ON THE OPPOSITE SIDE OF THE SUN, THE SOUTHERN HEMISPHERE WILL BE EXPOSED TO MORE DIRECT RAYS FROM THE SUN THAN THE NORTHERN HEMISPHERE. THIS WOULD CORRESPOND TO "SOUTHERN SUMMER."

3. **AS THE MOON ORBITS THE EARTH, THE EARTH ORBITS THE SUN. THE SUN DOES NOT ORBIT ANYTHING IN OUR SOLAR SYSTEM.**

4. **IMAGINE YOU ARE ON THE PART OF EARTH DIRECTLY FACING THE MOON IN THIS POSITION. THE EARTH IS BETWEEN THE MOON AND SUN, AND THE PART OF THE MOON YOU ARE LOOKING AT IS FULLY LIT BY SUNLIGHT. THIS PHASE IS CALLED FULL MOON.**

5. **THE CHANGES FROM DAYS TO NIGHTS AND NIGHTS TO DAYS ARE CAUSED BY THE ROTATION OF THE EARTH. BECAUSE THE EARTH IS SHAPED LIKE A BALL, EXACTLY HALF OF THE EARTH'S SURFACE ALWAYS GETS SUNLIGHT (UNLESS A SOLAR ECLIPSE IS TAKING PLACE). BECAUSE THE EARTH IS ROTATING ON ITS AXIS, THE AREAS OF THE EARTH THAT RECEIVE SUNLIGHT ARE ALWAYS CHANGING. THIS CAUSES THE CHANGE FROM DAY TO NIGHT AND NIGHT TO DAY IN A PARTICULAR PLACE ON EARTH.**

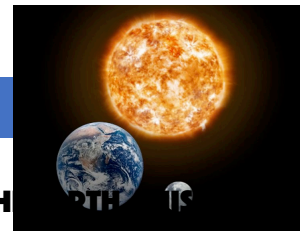
6. **DUE TO THE EARTH'S TILT, MORE OF THE SUN'S RAYS DIRECTLY HIT A PARTICULAR REGION OF THE EARTH DURING THE SUMMER MONTHS THAN DURING THE WINTER MONTHS. AS A RESULT, THE AVERAGE TEMPERATURE IS INCREASED DURING THE SUMMER.**

7. **IN POSITION A, THE SOUTHERN HEMISPHERE IS EXPOSED TO MORE DIRECT RAYS FROM THE SUN THAN THE SOUTHERN HEMISPHERE. THIS CORRESPONDS TO SUMMER IN THE SOUTHERN HEMISPHERE.**

7. **IN POSITION B, THE NORTHERN HEMISPHERE IS EXPOSED TO MORE DIRECT RAYS FROM THE SUN THAN THE SOUTHERN HEMISPHERE. THIS CORRESPONDS TO SUMMER IN THE NORTHERN HEMISPHERE.**

EARTH, MOON, AND SUN

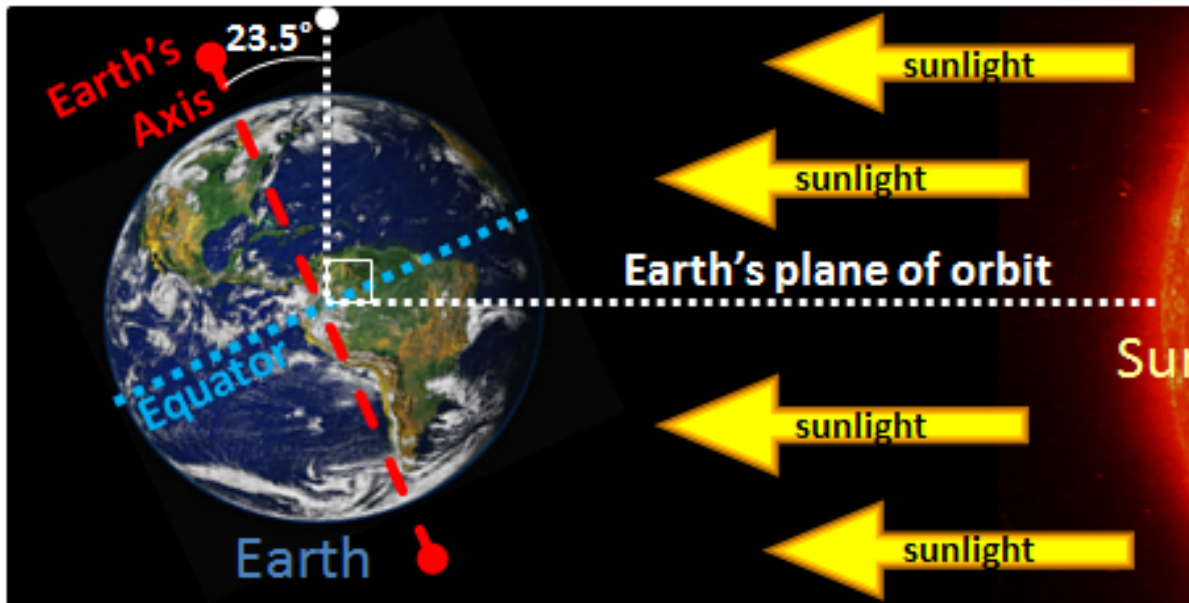
Name _____ Date _____ Block _____



8. **IN THE DIAGRAM SHOWN, POINT A IS LOCATED ON THE BRIGHT SIDE OF THE EARTH. THIS MEANS THAT IF YOU LIVED AT POINT A, IT WOULD BE DAYTIME.**

THE EARTH'S AXIS IS NOT AT RIGHT ANGLES TO ITS PLANE OF ORBIT AROUND THE SUN. IT IS TILTED 23.5° FROM PERPENDICULAR, AS SHOWN BELOW.

9.

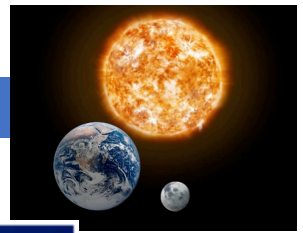


AT ANY GIVEN TIME, THERE IS AN AREA OF EARTH THAT "POINTS TOWARD" THE SUN MORE THAN OTHER AREAS. AS A RESULT, THIS PLACE WILL HAVE HIGHER TEMPERATURES. DUE TO THE EARTH'S TILT, WHICH REGION "POINTS TOWARD" THE SUN CONSTANTLY CHANGES AS THE EARTH REVOLVES AROUND THE SUN. THIS CONSTANT CHANGE RESULTS IN THE CHANGES IN SEASONS THROUGHOUT THE YEAR.

10. **THE MOON IS A LITTLE DIFFERENT EACH NIGHT.**

EARTH, MOON, AND SUN

Name _____ Date _____ Block _____



THE MOON LOOKS A LITTLE DIFFERENT EVERY DAY, BUT IT LOOKS THE SAME AGAIN ABOUT EVERY FOUR WEEKS.

IMAGINE YOU ARE ON THE PART OF EARTH DIRECTLY FACING THE MOON IN THIS POSITION. THE PART OF THE MOON YOU ARE LOOKING AT IS ONLY HALF LIT BY

- 11. SUNLIGHT. BECAUSE OF THIS, SOMETIMES THIS PHASE IS CALLED A HALF MOON. A BETTER NAME FOR THIS PHASE IS FIRST QUARTER BECAUSE IT MARKS THE FIRST QUARTER OF A COMPLETE LUNAR CYCLE.**

THE SUN ALWAYS SHINES ON HALF OF THE MOON. PEOPLE ON EARTH CANNOT ALWAYS SEE THE HALF OF THE MOON THAT IS LIT.

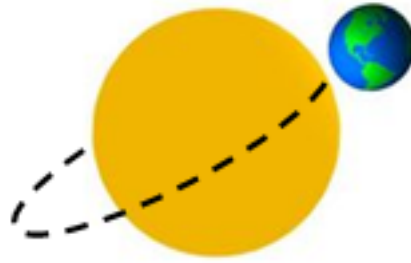
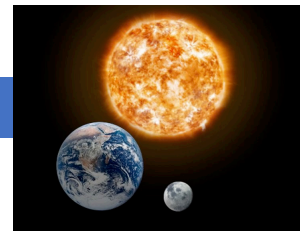
- 12. THE MOON LOOKS DARK DURING A NEW MOON, BECAUSE THE LIT SIDE FACES AWAY FROM THE EARTH.**

FROM EARTH, THE SHAPE OF THE LIGHT ON THE MOON CHANGES OVER TIME. THIS HAPPENS BECAUSE THE EARTH SPINS ON ITS AXIS AND THE MOON CHANGES POSITIONS AS IT MOVES AROUND THE EARTH.

- 13. ONE REVOLUTION OF THE EARTH AROUND THE SUN IS THE DEFINITION OF A YEAR. SPECIFICALLY, IT IS AN EARTH YEAR. AN EARTH YEAR HAS 365 DAYS.**

EARTH, MOON, AND SUN

Name _____ Date _____ Block _____



EVERY PLANET HAS A DIFFERENT YEAR LENGTH BECAUSE EVERY PLANET TAKES A DIFFERENT AMOUNT OF TIME TO MAKE ONE FULL ORBIT AROUND THE SUN.

WHEN ONE OBJECT MOVES AROUND ANOTHER OBJECT, IT *REVOLVES*.

14. THE EARTH-MOON SYSTEM REVOLVES AROUND THE SUN. THE GRAVITATIONAL PULL OF THE SUN CAUSES ALL THE PLANETS AND PLANET-MOON SYSTEMS IN OUR SOLAR SYSTEM TO REVOLVE AROUND THE SUN.

15. IT TAKES THE EARTH 24 HOURS TO COMPLETE ONE ROTATION ON ITS AXIS. DURING THE ROTATION, EARTH GOES THROUGH ONE COMPLETE DAY/NIGHT CYCLE.

THE EARTH HAS A TILTED AXIS. THE TILT OF THE EARTH IS ALWAYS THE SAME.

16. THE EARTH HAS DIFFERENT SEASONS BECAUSE IT REVOLVES AROUND THE SUN. THE FOUR POSITIONS OF EARTH IN THE PICTURE SHOW WINTER, SPRING, SUMMER, AND FALL.

THE EARTH HAS A DAY AND A NIGHT BECAUSE IT ROTATES ON ITS AXIS.

17. IMAGINE YOU ARE ON THE PART OF EARTH DIRECTLY FACING THE MOON IN THIS POSITION. THE PART OF THE MOON YOU ARE LOOKING AT IS NOT BEING HIT BY SUNLIGHT, SO IT WOULD APPEAR DARK. WHEN THE MOON IS BETWEEN THE EARTH AND SUN, AND IS ALMOST INVISIBLE FROM EARTH, IT IS IN A NEW MOON PHASE.

18. IT APPEARS THAT THE SUN STARTS THE DAY ON ONE SIDE OF THE SKY AND ENDS THE DAY ON THE OTHER BECAUSE THE EARTH SPINS, OR ROTATES. AS THE EARTH SPINS, THE SUN SEEMS TO MOVE FROM EAST TO WEST.

THIS APPARENT MOTION IS RELATED TO THE MOTION OF THE EARTH. IT IS NOT RELATED TO THE MOTION OF THE SUN.

19. IN THE DIAGRAM SHOWN, POINT C IS LOCATED ON THE DARK SIDE OF THE EARTH. THIS MEANS THAT IF YOU LIVED AT POINT C, IT WOULD BE NIGHTTIME.

20 THE EARTH REVOLVES AROUND THE SUN, AND THE MOON REVOLVES AROUND THE EARTH.

EARTH, MOON, AND SUN

Name _____ Date _____ Block _____

