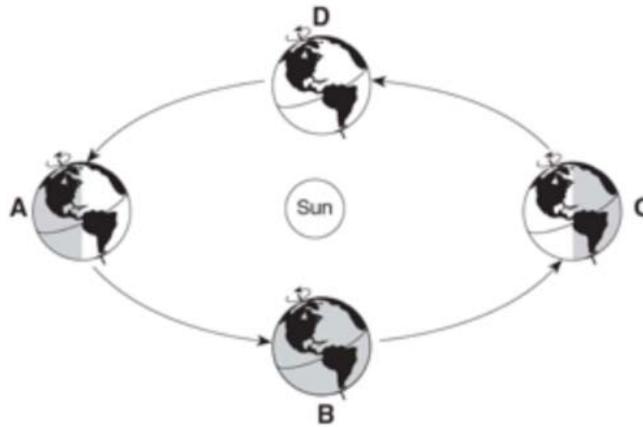


Name _____

Regents and Mid Term Preparation

The Seasons

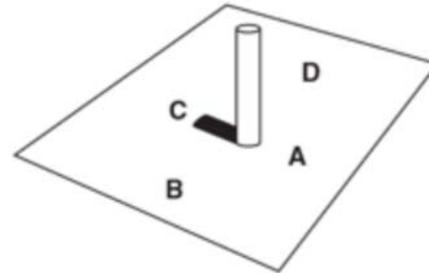
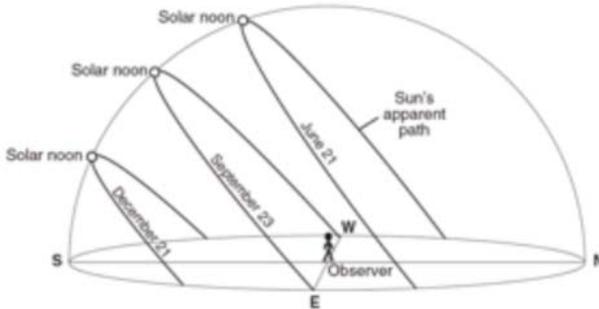


Description	Position	Description	Position
March 21st	B	South Pole-24 Hrs of Dark	C
June 21st	C	High Kinetic Energy	A
December 21st	A	Low Kinetic Energy	C
September 23rd	D	Earth Close to Sun	A
Northern Hemisphere Winter	A	Earth Far from Sun	C
Northern Hemisphere Spring	B	Southern Hemisphere Spring	D
North Hemisphere Summer	C	Southern Hemisphere Fall	B
Northern Hemisphere Fall	D	Southern Hemisphere Winter	C
Greatest Orbital Velocity	A	South Hemisphere Summer	A
Least Orbital Velocity	C	9 Hrs of Day in NYS	A
23 1/2 N-Zenith	C	12 Hrs of Day in NYS	D,B
0 (Equator)-Zenith	D,B	15 Hrs of Day in NYS	C
23 1/2 S-Zenith	A	Winter Solstice	A
North Pole-24 Hrs Day	C	Vernal Equinox	B
South Pole-24 Hrs Day	A	Autumnal Equinox	D
North Pole-24 Hrs Dark	A	Summer Solstice	C

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Sun's Path in NYS

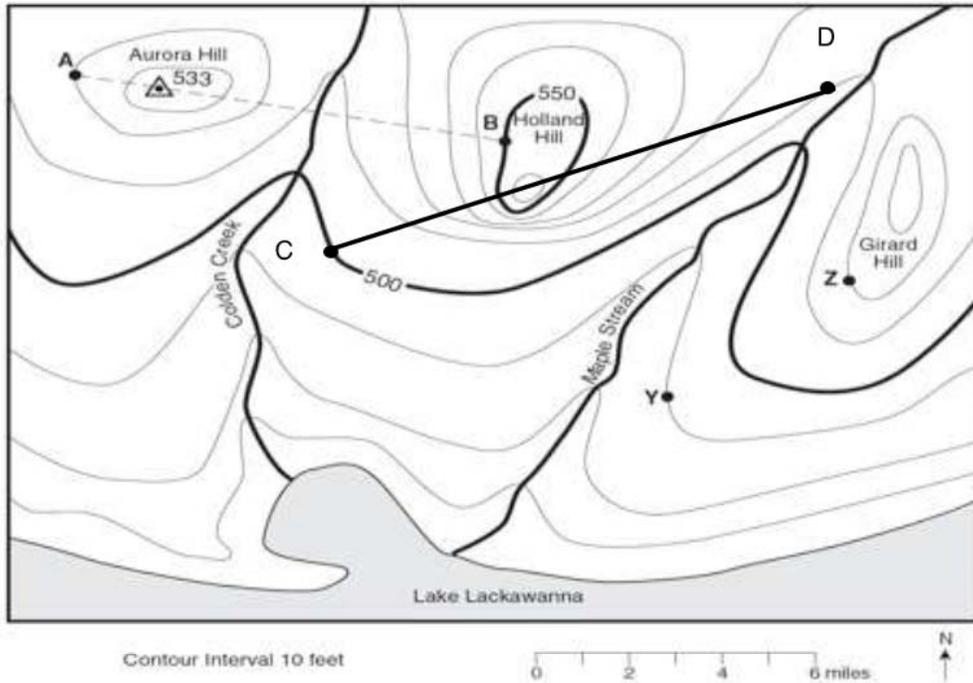


1. What direction does the sun rise in summer? NE
2. What direction does the sun rise in winter? SE
3. What direction does the sun rise in fall/spring? E
4. How long is the sun out in fall/spring? 12
5. How long is the sun out in winter? 9
6. How long is the sun out in summer? 15
7. What direction do you look to see the noon time sun? S
8. What direction do you look to see polaris? N
9. From sunrise to noon, what happens to the length of a shadow? SMALLER
10. From noon to sunset, what happens to the length of a shadow? LONGER
11. From sunrise to noon, what happens to the angle of insolation and intensity of insolation? INCREASES
12. From noon to sunset, what happens to the angle of insolation and intensity of insolation? DECREASES
13. What season does the sun have the greatest insolation? SUMMER
14. What season does the sun have the least insolation? WINTER
15. Does the sun ever reach the zenith in NYS? NO
16. What direction does the sun set during winter? SW
17. What direction does the sun set during fall/spring? W
18. What direction does the sun set during summer? NW
19. Does the sun physically move across the sky? NO Explain!
ROTATION
20. From season to season, how many degrees does the noon time sun shift in the sky? 23.5
21. Why is it so cold in NY during winter? TILT AWAY FROM SUN
22. Why is it so hot in NY during summer? TILT TOWARDS THE SUN
23. Why does the sun shift its position along the horizon with the changing seasons?
EARTH REVOLUTION
24. On the shadow diagram, what letter represents South? A

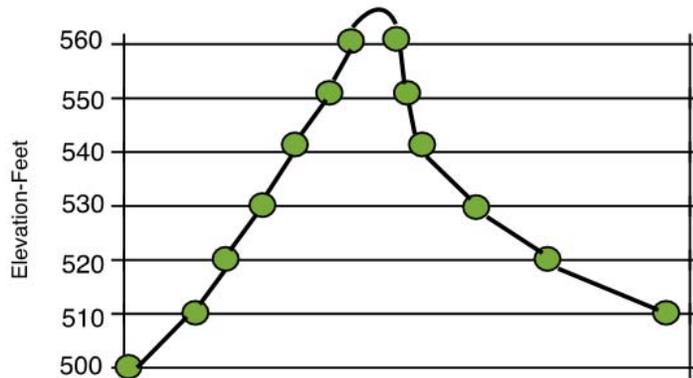
Name _____

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Topographic Maps



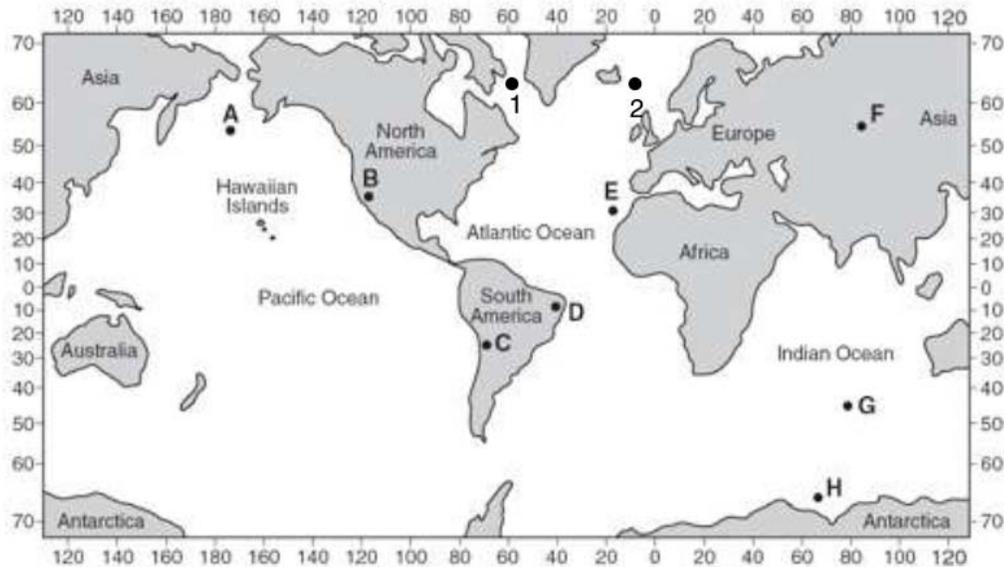
1. What is the direction of stream flow for Maple Stream? SW
2. Provide an evidence that supports your answer. RIVERS FLOW FROM HIGH ELEVATION TO LOW ELEVATION
3. What is the highest possible elevation of Girard Hill? 539FT
4. Determine the gradient between points A and B. 3.2 FT/MILE
5. Create a profile between points C and D



Name _____

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Latitude and Longitude

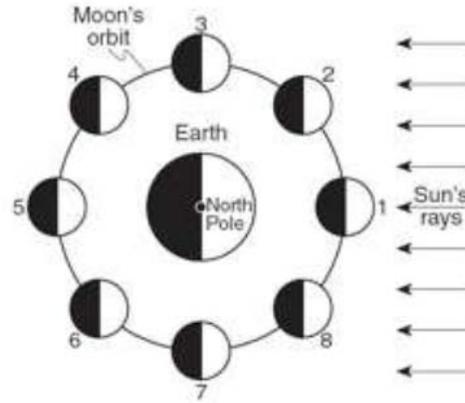


1. What is the latitude and longitude of point B? _____ 40N, 120W _____
2. What is the latitude and longitude of point C? _____ 30S, 70W _____
3. What is the latitude and longitude of point G? _____ 45S, 70E _____
4. How many degrees separates each time zone? _____ 15 DEGREES _____
5. How many degrees of longitude are in each time zone? _____ 15 DEGREES _____
6. As you go east, the time does _____ INCREASE _____
7. As you go west, the time gets _____ LESS _____
8. If its 6:00am at point 1, what time is it at point 2? _____ 9:00AM _____
9. If the altitude of polaris is 42 degrees, what is your latitude? _____ 42N _____
10. If your latitude is 61 degrees North, what is your altitude of polaris? _____ 61 _____
11. What is the altitude of polaris if you latitude is 41 degrees south? _____ NONE _____
12. What latitude gets the most direct sun on June 21st? _____ 23.5 N _____
13. What latitude gets the most direct sun on December 21st? _____ 23.5 S _____
14. What latitude gets the most direct sun on March 21st? _____ EQUATOR _____
15. What latitude gets the most direct sun on September 23rd? _____ EQUATOR _____

Name _____

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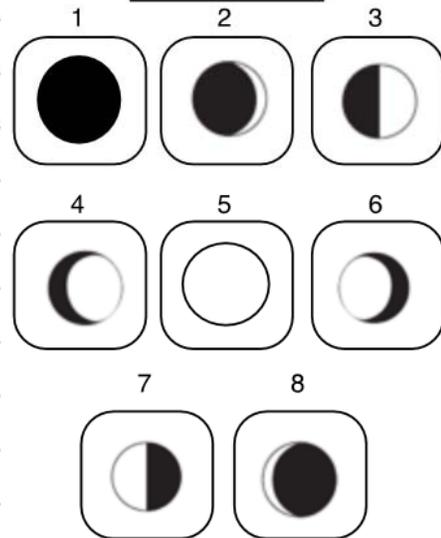
Moon Phases



(Not drawn to scale)

Draw the Phase

Moon Phase #	Name of the Phase
1	NEW MOON
2	WAXING CRESCENT
3	FIRST QUARTER
4	WAXING GIBBOUS
5	FULL MOON
6	WANING GIBBOUS
7	THIRD QUARTER
8	WANING CRESCENT

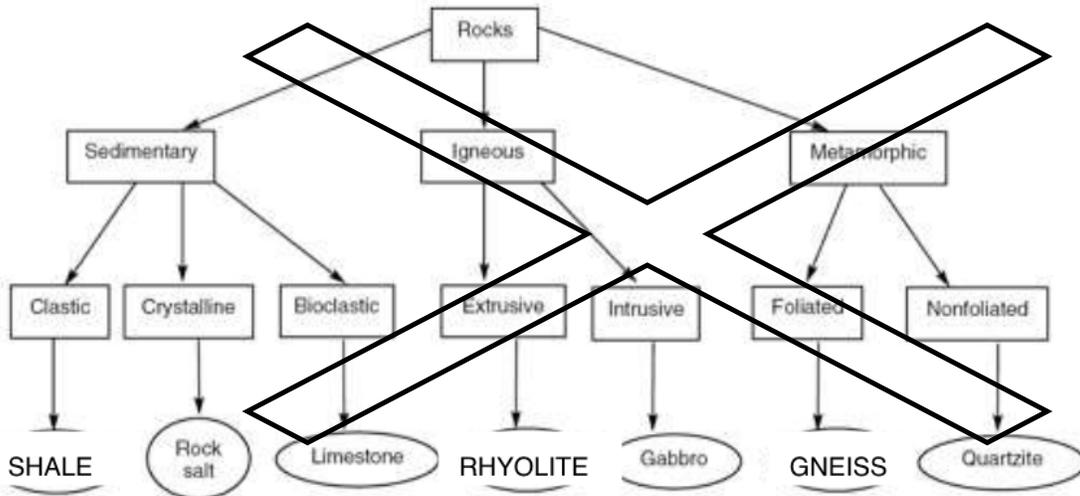


1. What 2 phases (name and number) provide a spring tide? 1,5
2. What 2 phases (name and number) provide a neap tide? 3,7
3. What phase (name and number) creates a solar eclipse? NEW MOON 1
4. What phase (name and number) creates a lunar eclipse? FULL MOON 5
5. Why do we see the same side of the moon every day?
ROTATION=REVOLUTION
6. What motion causes the phases of the moon? REVOLUTION

Name _____

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Fill in the blanks from the flowcharts below.
Rock Classification Flowchart



Altitude of Polaris

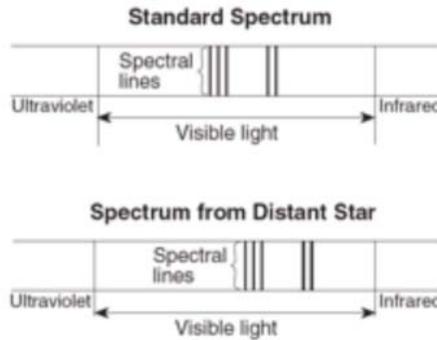


1. What is the latitude of the observer? _____ 52N _____
2. Can you see Polaris in the southern hemisphere? _____ NO _____
3. What is the point directly above the observer called? _____ ZENITH _____
4. As your latitude increases, what happens to your altitude of Polaris? _INCREASE_____
5. What type of relationship is that called? _____ DIRECT _____
6. If one travels from NY to Chicago, what happens to their altitude of Polaris? _SAME_____

Name _____

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Doppler Effect-Red Shift/Blue Shift

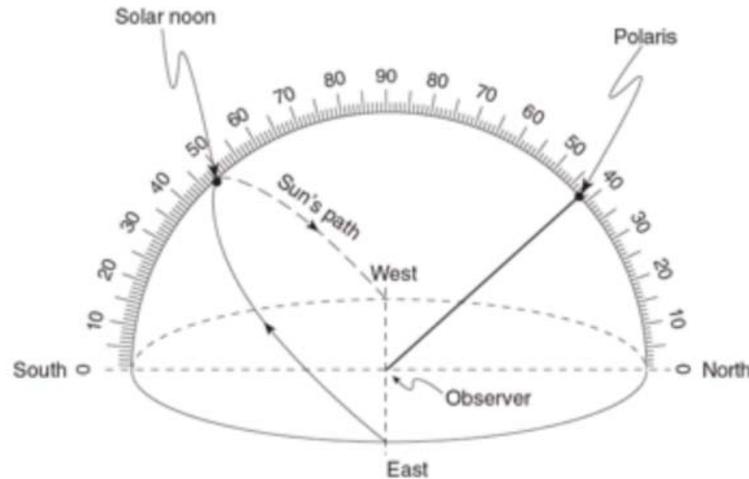


1. The doppler effect supports the idea that the universe is EXPANDING
2. Red shifts support the idea that objects are moving AWAY
3. Blue shifts support the idea that objects are moving TOWARDS
4. How long ago did the Big Bang occur? 13.7 BILLION YEARS
5. Infrared Radiation is on what side of the spectrum? RIGHT
6. Ultraviolet Radiation is on what side of the spectrum? LEFT
7. The Red end of the spectrum is (long or short) wavelength? LONG
8. The Blue end of the spectrum is (long or short) wavelength? SHORT
9. What is the name of the galaxy that we live in? MILK WAY
10. What type of galaxy do we live in? SPIRAL
11. The farther an object is red-shifted, what do we know about it's distance?
FARTHER AWAY
12. The farther an object is red-shifted, what do we know about it's speed?
TRAVELING FASTER

Name _____

Regents and Mid Term Preparation

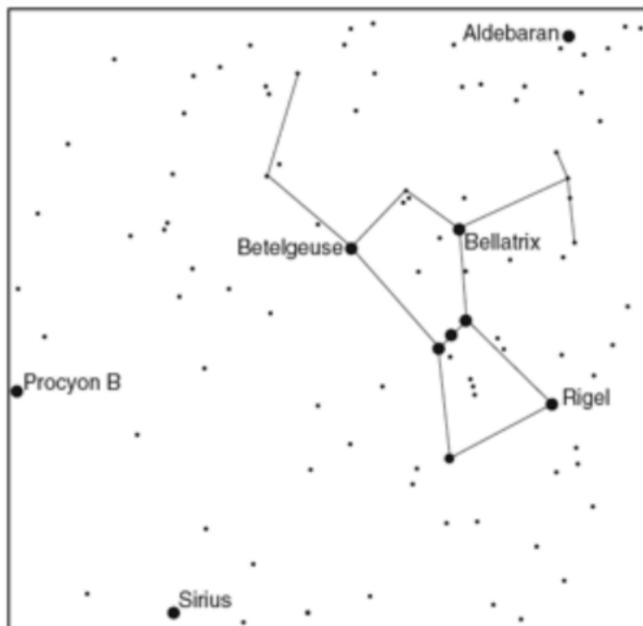
Sun's Path and Altitude of Polaris



1. What season is shown in the diagram above? FALL/SPRING
2. What is the altitude of the noon sun? 48
3. What direction would the noon shadow of the observer point? NORTH
4. What is the altitude of Polaris? 42
5. Name a city in NYS that would see Polaris at this altitude? ELMIRA
6. What would the altitude of the noon sun be in Summer? 71.5
7. What is the zenith? POINT DIRECTLY ABOVE OBSERVER
8. Does the noon sun ever reach the zenith in NYS? NO
9. Explain why the zenith is never reached in NYS. NY NOT IN THE TROPICS
10. What happens to the length of the shadow from sunrise to noon? DECREASES
11. What happens to the length of the shadow from noon to sunset? INCREASES
12. What season has the longest noon shadow? WINTER
13. What season has the greatest angle of insolation? SUMMER
14. What season has the shortest noon shadow? SUMMER
15. What season has the lowest angle of insolation? WINTER

Name _____

Regents and Mid Term Preparation

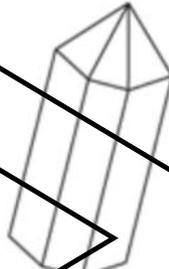
Stars

1. What is the luminosity and temperature of Betelgeuse?
500,000 X BRIGHTER/3500C
2. What is the temperature and luminosity of Rigel?
____400,000X BRIGHTER/12,000C_____
3. What is the name of the reaction that produces light within a star? __FUSION__
4. What is the "fuel" of the sun? _____HYDROGEN_____
5. The majority of stars fit into what category? __MAIN SEQUENCE_____
6. Our own sun is considered a (what group of star?) _MAIN SEQUENCE_____
7. In 5 billion years, our sun is going to turn into a __RED GIANT_____
8. We can see Orion in December...why can't we see Orion in June?
_____EARTH REVOLVES AROUND THE SUN_____
9. What color star is Sirius? __WHITE/BLUE-WHITE_____
10. What group of stars does Aldebaran belong to? __GIANT_____

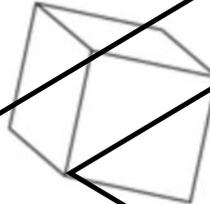
Name _____

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Minerals



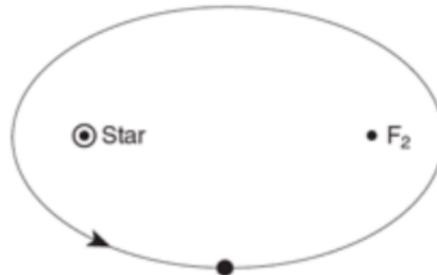
Quartz



Halite

1. What is the hardness and composition of quartz? _____ 7/SiO₂_____
2. What is the luster and form of breakage of halite? ___NONMETALLIC/CLEAVAGE___
3. What makes quartz different from halite? _INTERNAL ARRANGEMENT OF ATOMS_
4. What mineral has a metallic luster, hardness of 6.5 and is a brassy yellow color?
_____ PYRITE _____
5. What mineral has a non-metallic luster, has cleavage and bubbles with acid?
_____ CALCITE _____
6. What mineral has a greasy feel and and is used in ceramics? ___TALC_____

Eccentricity

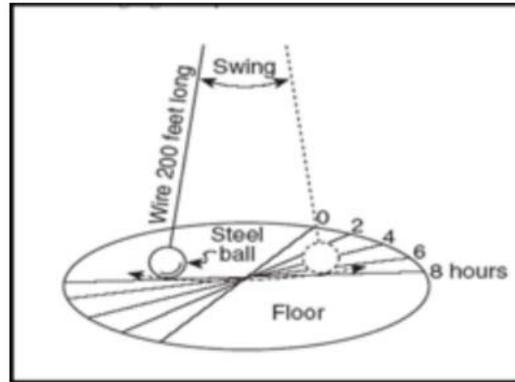
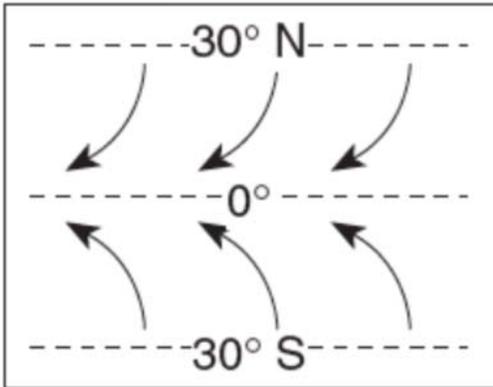


1. What is the eccentricity of this ellipse? _____ 0.672 _____
2. When the planet gets close to the star, what happens to the velocity? _INCREASES_
3. The more elliptical this ellipse gets...what happens to eccentricity? _GETS HIGHER_
4. Low eccentricity is what shape orbit....round or oval? ___ROUND___

Name _____

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Earth Rotation



1. The Earth rotates in what direction? _____ COUNTERCLOCKWISE _____
2. What direction do wind and water currents deflect towards in the northern hemisphere? _____ RIGHT _____
3. What direction do wind and water currents deflect towards in the southern hemisphere? _____ LEFT _____
4. The coriolis effect is caused by what? ___ EARTH ROTATION _____
5. The Foucault Pendulum supports the idea that the Earth does what? _ ROTATES _
6. The Earth rotates how many degrees per hour? _____ 15 DEGREES _____
7. What does rotation give us on the planet? _____ DAY/NIGHT _____
8. What does revolution give us on the planet? _____ SEASONS _____