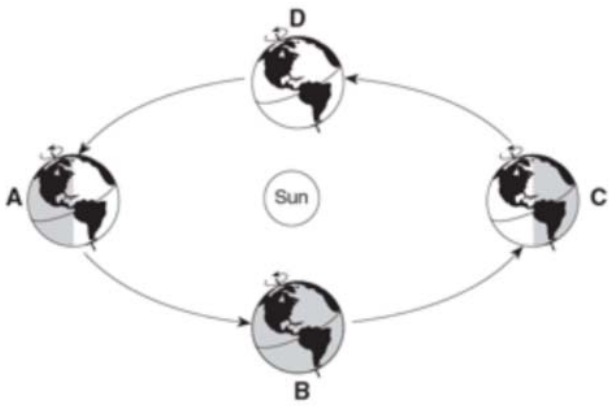
Name_____ Regents and Mid Term Preparation

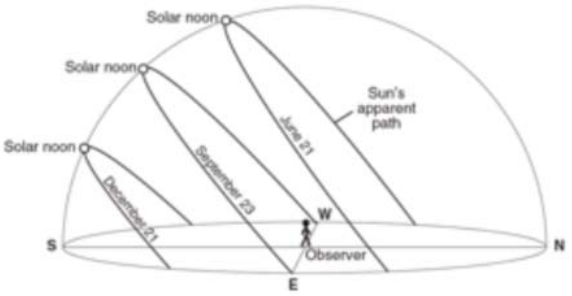
The Seasons

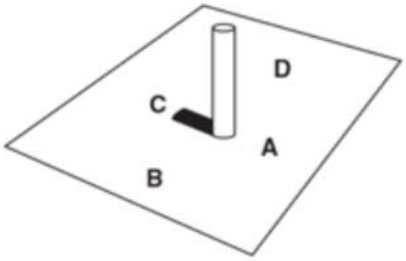


Description	Position	Description	Position
March 21st		South Pole-24 Hrs of Dark	
June 21st		High Kinetic Energy	
December 21st		Low Kinetic Energy	
September 23rd		Earth Close to Sun	
Northern Hemisphere Winter		Earth Far from Sun	
Northern Hemisphere Spring		Southern Hemisphere Spring	
North Hemisphere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

Name_____ Regents and Mid Term Preparation

Sun's Path in NYS





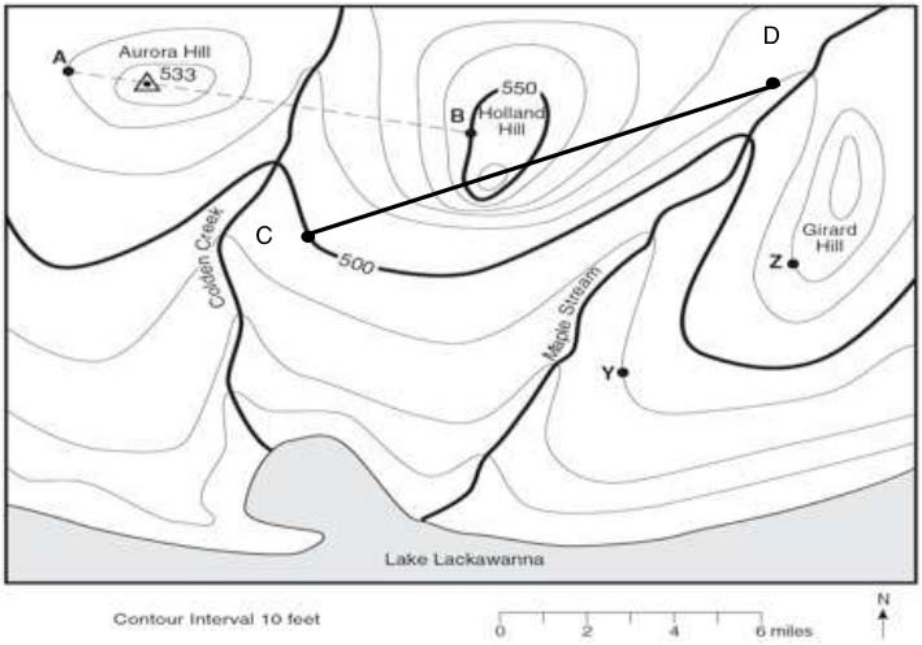
1. What direction does the sun rise in summer? _____
2. What direction does the sun rise in winter? _____
3. What direction does the sun rise in fall/spring? _____
4. How long is the sun out in fall/spring? _____
5. How long is the sun out in winter? _____
6. How long is the sun out in summer? _____
7. What direction do you look to see the noon time sun? _____
8. What direction do you look to see polaris? _____
9. From sunrise to noon, what happens to the length of a shadow? _____
10. From noon to sunset, what happens to the length of a shadow? _____
11. From sunrise to noon, what happens to the angle of insolation and intensity of insolation? _____
12. From noon to sunset, what happens to the angle of insolation and intensity of insolation? _____
13. What season does the sun have the greatest insolation? _____
14. What season does the sun have the least insolation? _____
15. Does the sun ever reach the zenith in NYS? _____
16. What direction does the sun set during winter? _____
17. What direction does the sun set during fall/spring? _____
18. What direction does the sun set during summer? _____
19. Does the sun physically move across the sky? _____ Explain!

    _____
20. From season to season, how many degrees does the noon time sun shift in the sky? _____
21. Why is it so cold in NY during winter? _____
22. Why is it so hot in NY during summer? _____
23. Why does the sun shift its position along the horizon with the changing seasons?

    _____
24. On the shadow diagram, what letter represents South? _____

Name_____ Regents and Mid Term Preparation

Topographic Maps



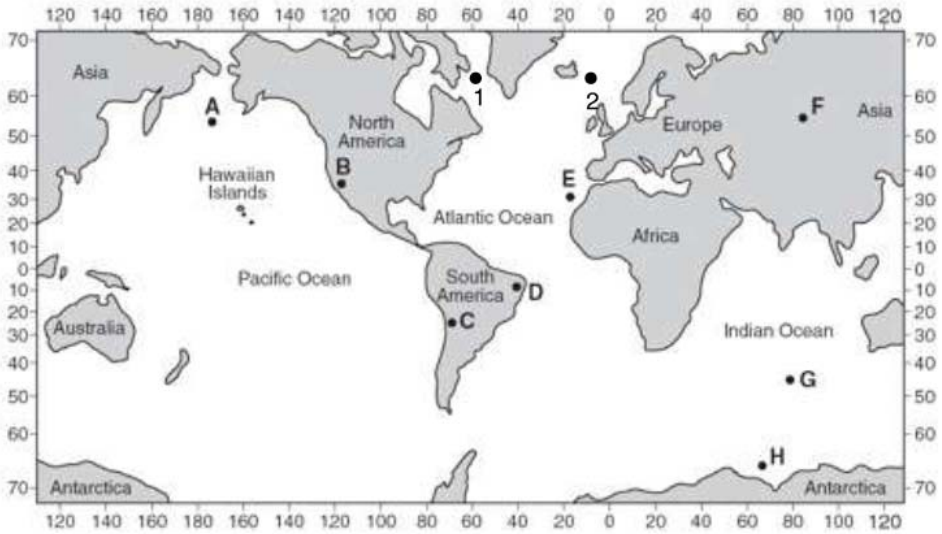
1. What is the direction of stream flow for Maple Stream? _____
2. Provide an evidence that supports your answer.

_____

3. What is the highest possible elevation of Girard Hill? _____
4. Determine the gradient between points A and B. _____
5. Create a profile between points C and D

Name_____ Regents and Mid Term Preparation

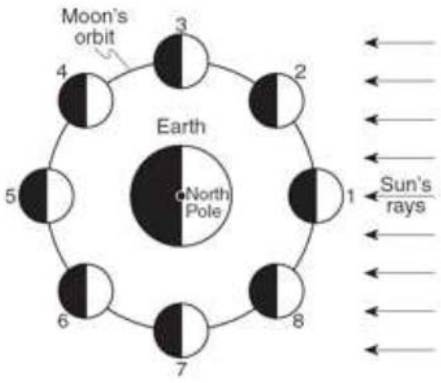
Latitude and Longitude



1. What is the latitude and longitude of point B? _____
2. What is the latitude and longitude of point C? _____
3. What is the latitude and longitude of point G? _____
4. How many degrees separates each time zone? _____
5. How many degrees of longitude are in each time zone? _____
6. As you go east, the time does _____
7. As you go west, the time gets _____
8. If its 6:00am at point 1, what time is it at point 2? _____
9. If the altitude of polaris is 42 degrees, what is your latitude? _____
10. If your latitude is 61 degrees North, what is your altitude of polaris? _____
11. What is the altitude of polaris if you latitude is 41 degrees south? _____
12. What latitude gets the most direct sun on June 21st? _____
13. What latitude gets the most direct sun on December 21st? _____
14. What latitude gets the most direct sun on March 21st? _____
15. What latitude gets the most direct sun on September 23rd? _____

Name_____ Regents and Mid Term Preparation

Moon Phases



(Not drawn to scale)

Moon Phase #	Name of the Phase
1	
2	
3	
4	
5	
6	
7	
8	

Draw the Phase

1 2 3

4 5 6

7 8

1. What 2 phases (name and number) provide a spring tide? _____
2. What 2 phases (name and number) provide a neap tide?_____
3. What phase (name and number) creates a solar eclipse? _____
4. What phase (name and number) creates a lunar eclipse? _____
5. Why do we see the same side of the moon every day?

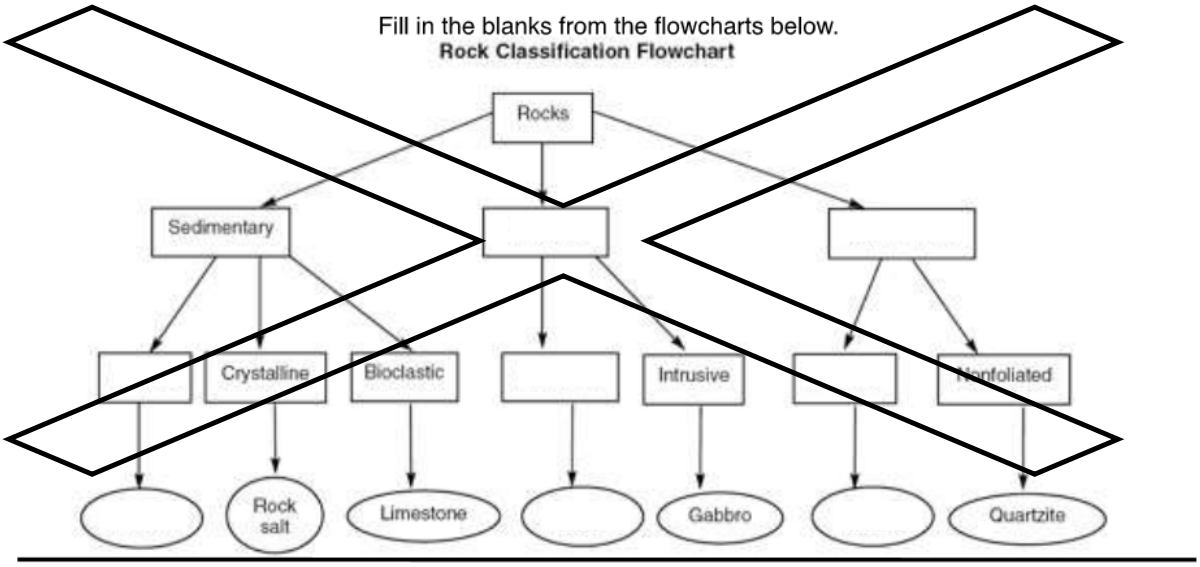
_____

6. What motion causes the phases of the moon? _____

Name_____ Regents and Mid Term Preparation

Fill in the blanks from the flowcharts below.

Rock Classification Flowchart

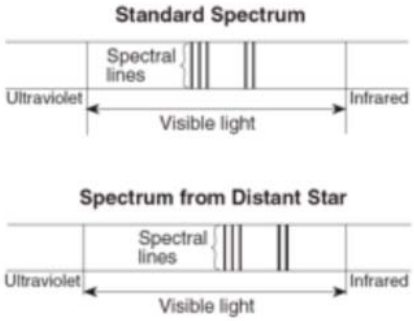


Altitude of Polaris

1. What is the latitude of the observer? _____
2. Can you see Polaris in the southern hemisphere? _____
3. What is the point directly above the observer called? _____
4. As your latitude increases, what happens to your altitude of Polaris? _____
5. What type of relationship is that called? _____
6. If one travels from NY to Chicago, what happens to their altitude of Polaris? _____

Name_____ Regents and Mid Term Preparation

Doppler Effect-Red Shift/Blue Shift



1. The doppler effect supports the idea that the universe is _____
2. Red shifts support the idea that objects are moving _____
3. Blue shifts support the idea that objects are moving _____
4. How long ago did the Big Bang occur? _____
5. Infrared Radiation is on what side of the spectrum? _____
6. Ultraviolet Radiation is on what side of the spectrum? _____
7. The Red end of the spectrum is (long or short) wavelength? _____
8. The Blue end of the spectrum is (long or short) wavelength? _____
9. What is the name of the galaxy that we live in? _____
10. What type of galaxy do we live in? _____
11. The farther an object is red-shifted, what do we know about it's distance?

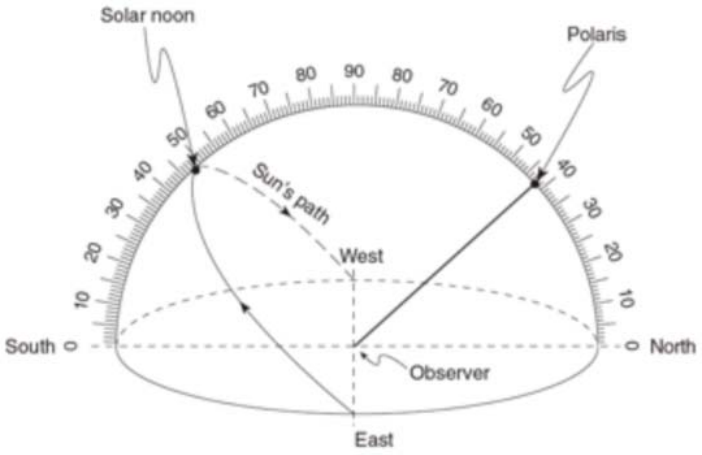
_____

12. The farther an object is red-shifted, what do we know about it's speed?

_____

Name_____ Regents and Mid Term Preparation

Sun's Path and Altitude of Polaris



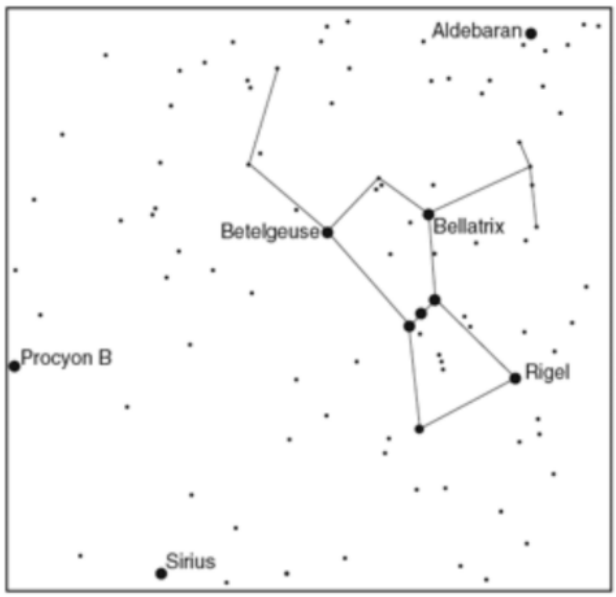
1. What season is shown in the diagram above? _____
2. What is the altitude of the noon sun? _____
3. What direction would the noon shadow of the observer point? _____
4. What is the altitude of Polaris? _____
5. Name a city in NYS that would see Polaris at this altitude? _____
6. What would the altitude of the noon sun be in Summer? _____
7. What is the zenith? _____
8. Does the noon sun ever reach the zenith in NYS? _____
9. Explain why the zenith is never reached in NYS.

   _____

10. What happens to the length of the shadow from sunrise to noon? _____
11. What happens to the length of the shadow from noon to sunset? _____
12. What season has the longest noon shadow? _____
13. What season has the greatest angle of insolation? _____
14. What season has the shortest noon shadow? _____
15. What season has the lowest angle of insolation? _____

Name_____ Regents and Mid Term Preparation

Stars



1. What is the luminosity and temperature of Betelgeuse?

_____

2. What is the temperature and luminosity of Rigel?

_____

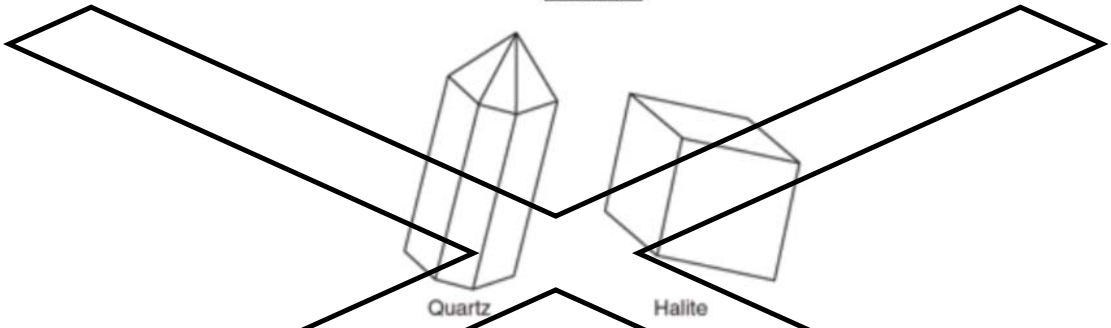
3. What is the name of the reaction that produces light within a star? _____
4. What is the "fuel" of the sun? _____
5. The majority of stars fit into what category? _____
6. Our own sun is considered a (what group of star?) _____
7. In 5 billion years, our sun is going to turn into a _____
8. We can see Orion in December...why can't we see Orion in June?

_____

9. What color star is Sirius? _____
10. What group of stars does Aldebaran belong to? _____

Name_____ Regents and Mid Term Preparation

Minerals



1. What is the hardness and composition of quartz? _____
2. What is the luster and form of breakage of halite? _____
3. What makes quartz different from halite? _____
4. What mineral has a metallic luster, hardness of 6.5 and is a brassy yellow color?

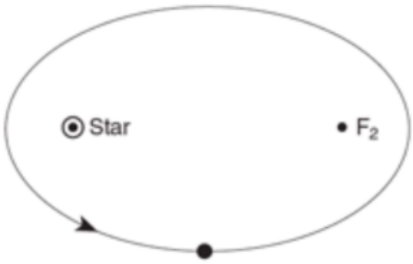
_____

5. What mineral has a non-metallic luster, has cleavage and bubbles with acid?

_____

6. What mineral has a greasy feel and and is used in ceramics? _____

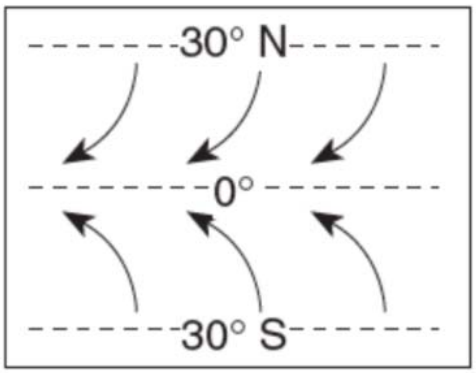
Eccentricity

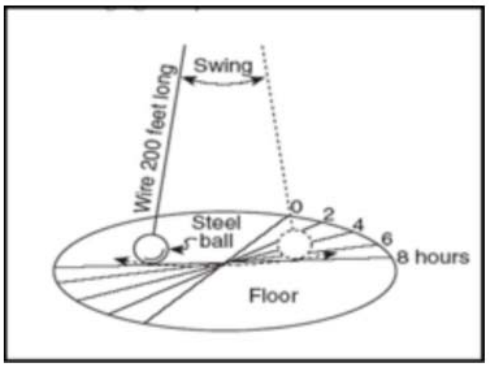


1. What is the eccentricity of this ellipse? _____
2. When the planet gets close to the star, what happens to the velocity? _____
3. The more elliptical this ellipse gets...what happens to eccentriciy? _____
4. Low eccentricity is what shape orbit....round or oval? _____

Name_____ Regents and Mid Term Preparation

Earth Rotation





1. The Earth rotates in what direction? _____
2. What direction do wind and water currents deflect towards in the northern hemisphere? _____
3. What direction do wind and water currents deflect towards in the southern hemisphere? _____
4. The coriolis effect is caused by what? _____
5. The Foucault Pendulum supports the idea that the Earth does what? _____
6. The Earth rotates how many degrees per hour? _____
7. What does rotation give us on the planet? _____
8. What does revolution give us on the planet? _____