

10FI

Go to Mrs. Arsenault's teacher page for information on . Please email me if you have any questions or ideas you would like to share.

Mrs. Arsenault's Teacher Page - <https://secure1.nbed.nb.ca/sites/ASD-W/harveyhighschool/Teachers/pages/category.aspx?CategoryId=19&Name=Mrs.+Arsenault>

9 Science (10FI)

Learning Opportunities

May 25 – 29

What can we see in the sky?

The universe is everything that exists, including all matter and energy everywhere. Astronomy is the study of what is beyond Earth.

We can see countless stars spread unevenly in the night sky. People have given names to patterns of stars that seem to suggest different shapes. These stars may be very far apart but appear to be close to each other from our point of view on Earth. These groups of stars are called constellations. Constellations have been used for thousands of years to keep track of time and indicate direction. Different constellations are seen from different parts of Earth.

The solar system is our Sun and the objects that travel around it. The objects in our solar system are much closer to us than the other stars we see.

Planets are objects that revolve around a star. Moons are objects that revolve around a planet. Planets and moons do not emit their own light. They are nonluminous. They can only be seen when light from the Sun bounces off them.

Stars emit a large amount of energy. We see this energy as twinkling light. The light reflected off planets and moons appears as a steady light.

This short video (3:20) from NASA tells you what can be seen in the sky this month. Scroll down a bit on the web page to see the video. <https://solarsystem.nasa.gov/whats-up-skywatching-tips-from-nasa/>

Consider these questions:

Why is it very difficult to see Neptune and Pluto?

Why is it more common to see Jupiter than Mercury?

How does an astronomer's method of gathering information differ from that of other scientists?

The effects of planetary motion

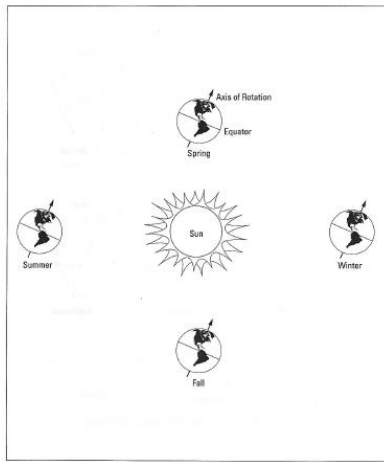
The position of the stars and planets slowly change. They move across the sky from east to west.

The Earth rotates around its axis. The Earth's axis is an imaginary straight line that connects the north and south poles. One rotation takes 24 hours. This movement causes the stars and planets to appear to be moving.

The Earth also revolves around the Sun. It takes one year for a complete revolution. This motion lets us see different constellations at different times of the year and causes our seasons.

This diagram shows the position of Earth around the Sun during different seasons.

Blackline Master 13.3a
Changing Seasons for the Northern Hemisphere

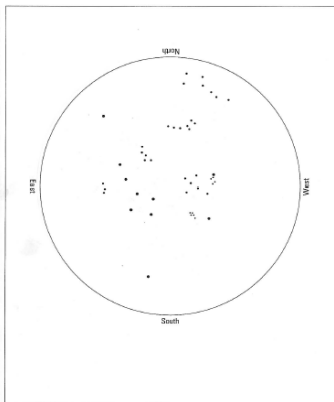


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Looking at this picture, why is it colder here in winter and warmer in summer?

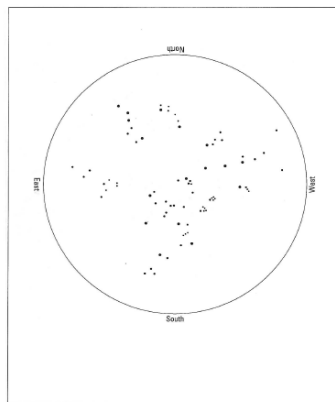
Blackline Master 13.1b
Fall Star Map



4-254 Spenc/Blackline Master

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Blackline Master 13.1a
Winter Star Map



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Look at the 2 Star Maps

Notice the different positions of the stars at different times of the year.

Do you recognize any constellations on the star maps?

Consider these questions:

Why does a constellation appear to change position from hour to hour during the night?

Why does a constellation appear to be at different locations at the same time on different nights?

If we were on a planet other than Earth, do you think the night sky would look the same? If not, what would be different?

Use the Winter star map to complete Activity 13.4