

Warm Up

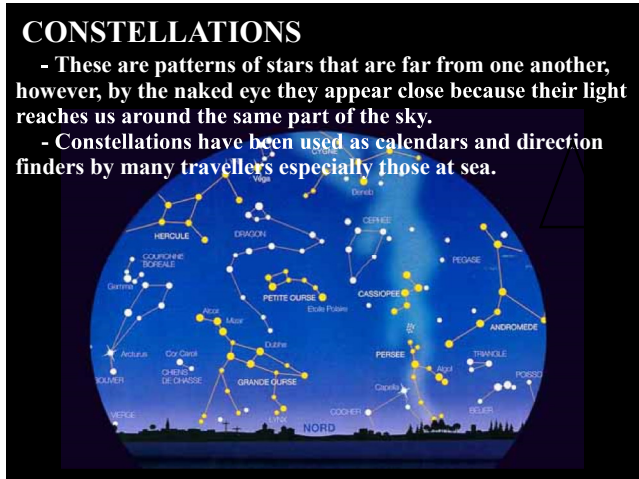
Think about our night sky. In your notebooks write 5 things you know that are in the night sky.



WHAT DO YOU SEE?

- Chances are, at some point you have looked up at the night sky and noticed patterns or changes
- Humans for many years have been curious about what is in our night's sky and this, study of what is beyond the Earth, is called astronomy
- The universe is everything that exists, including all matter and energy everywhere.

- The first, most numerous thing you may see in the night sky is the stars
- There are also many patterns and systems that may not be apparent at first glance
- The stars can take the form of Gods, animals, etc.
- Groups of stars that seem to form shapes or patterns are called constellations.



ANCESTORS TAKE ON CONSTELLATIONS

Objects in the sky have fascinated humans throughout time. The explanations of how these celestial objects came to be are even more fascinating.

it with their frame of reference.

Stars are not always in the sky at the same time, but change positions over time - giving rise to the creation of calendars. The Sun and the Moon have their own pattern or rising and setting - the Moon also has phases. Mercury, Venus, Mars, Jupiter, and Saturn were special 'stars' called planets - meaning 'wanderer'.

First Nations people of the Pacific Northwest - believed the night sky was a pattern on a great blanket overhead, which was held up by a spinning 'world pole' resting on the chest of a woman named Stone Ribs.

Aboriginal tribes - Algonquins believed the constellation Ursa Major was a bear running from hunters.

Ancient Egyptians - The Sun God - Ra - was carried in a sacred boat across the sky every day.

- The patterns we see here on Earth are not the same as we would see if we were on a different planet.



- Constellations move throughout the sky so do not appear in the same place every night - it depends on the season and time of evening

- AB time lapse night sky

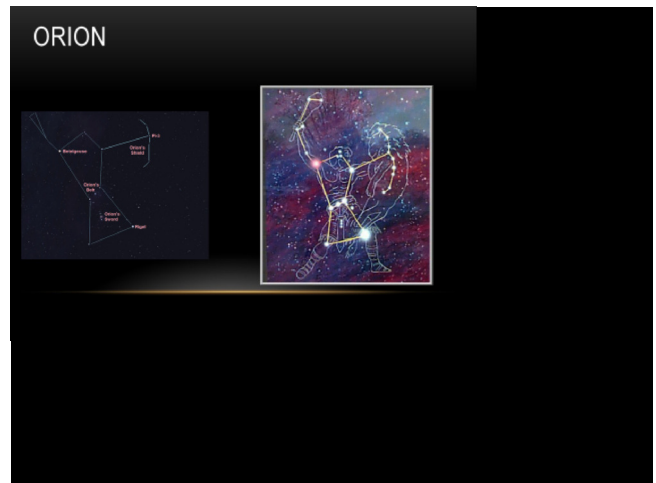
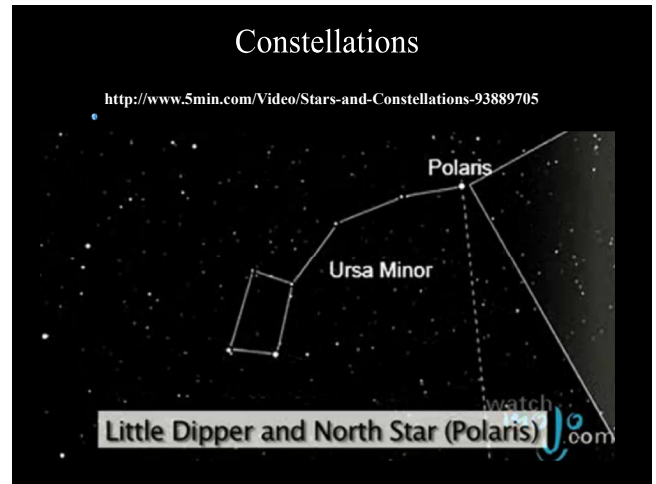
- More night sky lapse - <https://www.youtube.com/watch?v=WMY9Y5325QA>

- AB from ISS - <http://www.youtube.com/watch?v=KA1yVZoXv9M>

-Today we often use shapes when referring to constellations so everyone can study & find the shapes as it is easier for everyone to relate to

- In Canada there are 3 constellations that we can see all year round (Big Dipper, Little Dipper, and Cassiopeia)

- The most important star to travellers is the Northern Star (Polaris) as it currently sits in the northern direction of Earth's spin axis



Information relating to all 88 constellations

<http://www.dibonsmith.com/constel.htm>

Each constellation has a Greek myth associated with it

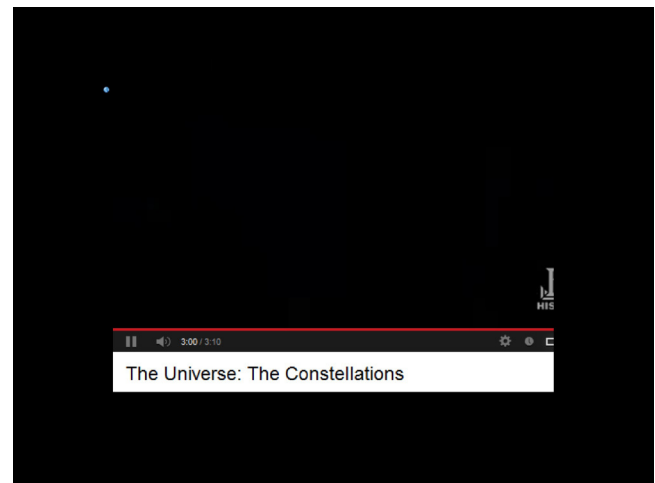
Orion - is made up of 7 stars - two for his feet, two for his shoulders, and three for his belt

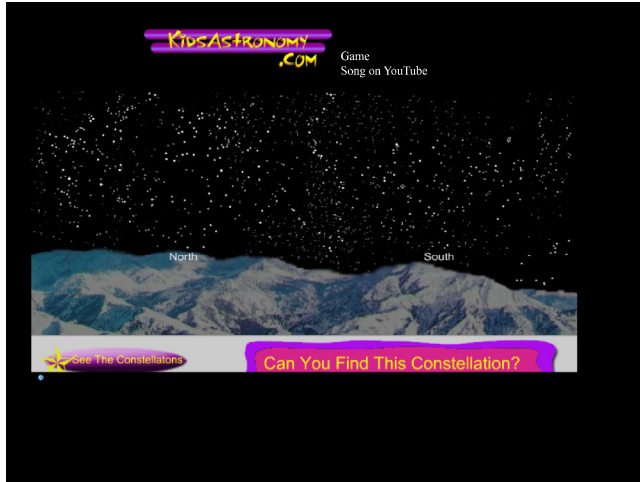


**Orion
The Hunter**

There are two different versions of the Orion myth, depending on the identity of his parents. The first of these identifies the sea-god Neptune as Orion's father and the great huntress Queen Euryale of the Amazons as his mother. [redacted] inherited her talent, and [redacted]

[redacted]
[redacted]
[redacted] to his vanity, [redacted]
[redacted]





The Night Sky

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By iCandi Apps

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Description

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What's New in Version 1.9.2

Thank you for using The Night Sky, and making it one of the most successful apps on the App Store.

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Screenshots

iPhone | iPad ¹⁰⁺, a great review



BEST for sky aiming in App Store! ★★★★★
by JOHAN SOSA

If you want the best app for figuring out what a particular star is by aiming at it with your phone or iPad there is simply NO BETTER app than this one! I was used to SkyMap and SkyWalk until a month back when I tried this. I only decided to try this one and others because the other two have confusing UIs for sky aiming (sky walk for example has way too much graphics on screen and though those can be disabled somewhat it doesn't move smoothly or randomly goes in an out of aim mode). Unlike the other apps, NightSky lacks in depth information about a particular star... Which in my opinion is no big deal because wikipedia has anything you'd wanna know. This app is sky aimer focussed so it's not meant for looking at past or future skies (lots of other apps and the internet has that stuff). The only change I would ever make to NightSky is an on screen magnitude slider. I really hope the author avoids the temptation of adding all sorts of bells and whistles (aside from the visible magnitude slider). because right now this app is a sky aimer's dream come true.

Vocabulary

- *Astronomer* - a person who studies the sky
- *Hemisphere* - half of the Earth
- *Light-year* - the distance light travels in one year (9,458,000,000,000 kilometers)
- *Magnitude* - a number that describes how bright a star appears. Smaller numbers mean brighter stars.

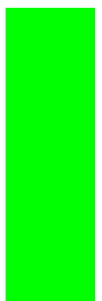
Starting with the sun, can you list the planets?



My
Very
Excited
Mother
Just
Served
Us
Nachos

Sun

Mercury
Venus
Earth
Mars
Jupiter
Saturn
Uranus
Neptune

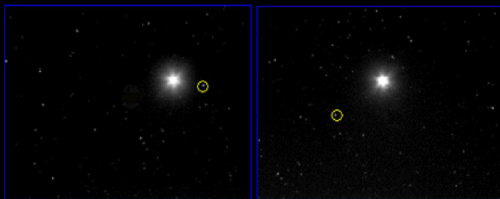


OBJECTS IN OUR SOLAR SYSTEM

- The Solar System consists of the sun and everything that travels around it.
- This includes the planets and their moons.
- We can see some of the planets that revolve around our sun
- The most prominent object in the night sky would be the moon, but we can only see it in phases - we will learn why.

- The only luminous objects in the sky are stars.
 - This means they produce their own light.
 - These stars include our nearest star, the SUN.
- We can only see other objects (planets and moons) because light from our sun illuminates them.
- Nonluminous objects (planets, moons) tend to revolve around luminous ones (stars).

- Planets appear to move through constellations that are made of stars as the planets are closer and wander through the night sky unlike stars that travel with constellations



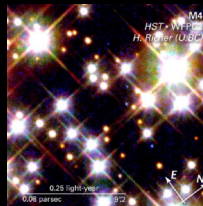
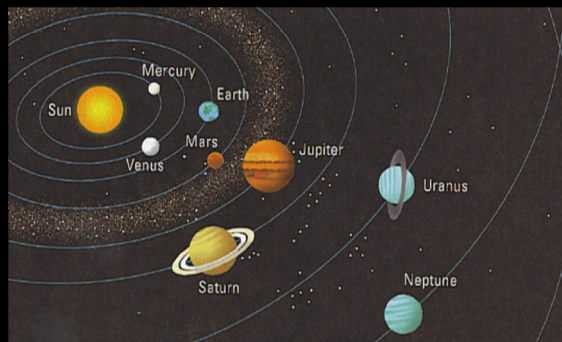
Mars



FUN NOTE:
Everything in the solar system is much closer to earth than the stars.

Why can't we see all of the planets if they are closer than the stars?

The sun is very bright, so objects close to it get hidden in the daytime glare.
So when Mercury comes close to the sun it becomes difficult to see from Earth.



A star is matter that emits huge amounts of energy.

A planet is matter that revolves around a star.

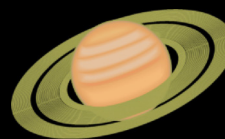


Table 1 Comparing Planets and Stars

Feature	Planet	Star
location	in the solar system	far beyond the solar system
distance from Earth	fairly near	very far
real size	smaller than most stars	usually larger than planets
reason we see object	reflects light from the Sun	emits its own light
surface temperature	usually cool or very cold	very hot
what object is made of	usually rocks or gases	gases under high pressure and temperature
observable feature	does not appear to twinkle	appears to twinkle
long-term observable feature	very slowly wanders through constellations	appears to move through sky as part of a constellation

Venus, Mars, Jupiter, Saturn, and Mercury are the five planets visible from Earth with the unaided eye.

Homework: (skip)

- Determine the constellation that is associated with your birthday.
- Describe what it looks like and the brief story behind it.
- p.402 # 2 and 3.

<http://www.enchantedlearning.com/subjects/astronomy/stars/constellations.shtml>

