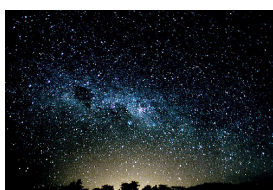


Astronomy Lesson

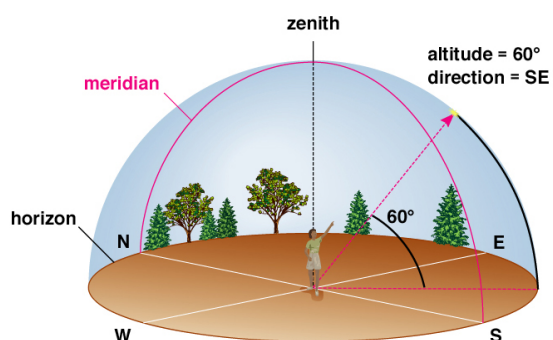
2.1

Night Sky basics



The Night Sky

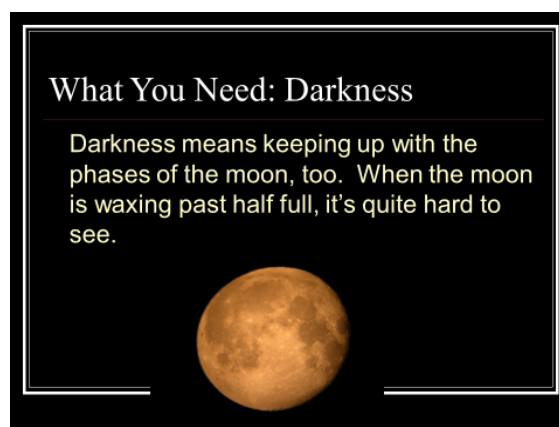
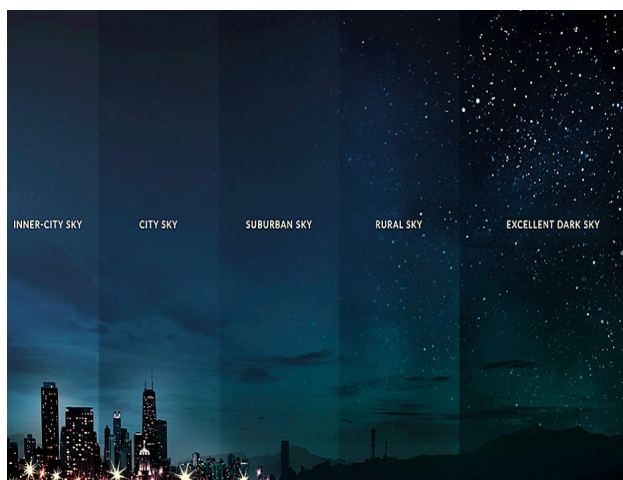
You need only to look up for a few hours to begin to see these same patterns yourself. Like the Sun, stars rise in the east and set later in the west. Planets follow this same pattern unless they are in a retrograde period, though these periods are not especially common.



What You Need for Stargazing

You don't really need anything, but some things are handy, like...

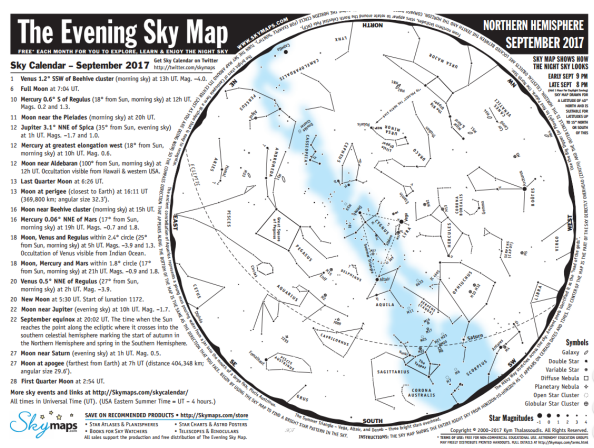
Complete darkness-Don't laugh, it's not that easy to find. Rural areas are slowly being urbanized, bringing their lights with them. Light pollution is a real problem.



Astronomy Lesson

2.2

Identifying constellations




What You Need: Flashlight



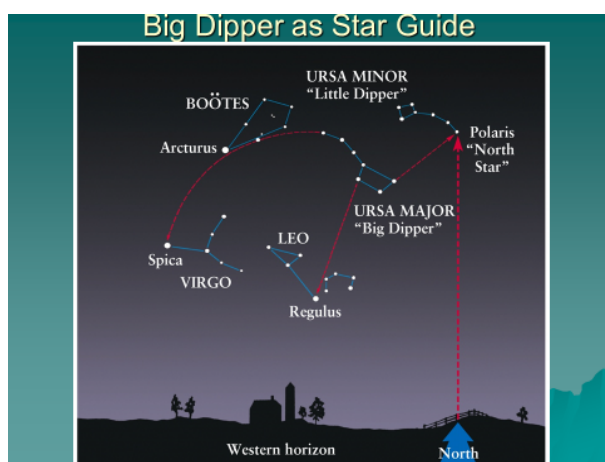
Well, you don't have to trip around in the dark. You can bring a flashlight! There's one problem here though. It takes your eyes about **20-30** minutes to get acclimated to the dark. Your pupils aren't fully dilated until then, so a regular flashlight will never do. Your eyes will have to get acclimated every time you turn it on. To prevent this, your flashlight should have a **red gel** to protect your eyes. Red saran wrap with a rubber band works great. It works great for catching night crawlers too.

Phone Apps are awesome

SKY VIEW
free works
great



20



Astronomy **Lesson** 2.2 Constellations

Constellation Facts

- ◆ Group of stars all in roughly the same direction from Earth, BUT Each has its own different distance from the Earth

– Therefore, NOT grouped together is space

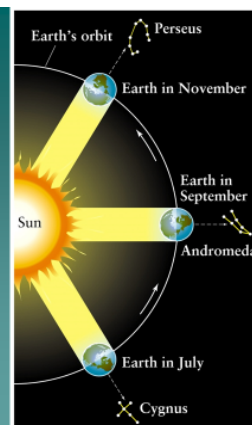
Constellation Facts

- ◆ Many constellations come from Greek astronomers and are of mythological figures or animals
- ◆ Different cultures on Earth each have different names for the constellations

Visible Constellations change over a year

- ◆ May have heard ...
 - “Orion is a winter constellation”
 - “You can see Cygnus most of the summer”
- ◆ Above comments arise because you cannot see the Constellations near where the Sun is in the sky
 - Sun so bright it washes out rest of stars
- ◆ Since Sun moves along the Ecliptic over a year the constellations “away” from the Sun change over a year.

Constellations on opposite side of Sun (Opposition)



The Zodiac

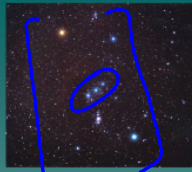
- ◆ Band of constellations closest to the Ecliptic (Sun's yearly path across the sky)
- ◆ Correspond to Horoscope "Signs"
 - Astrology used to make predictions (not science!)
- ◆ Useful for backyard astronomy: Planets and the Moon can always be found in the Zodiac
- ◆ Width of the Zodiac belt $\sim 18^\circ$

Not everything is a constellation

- ◆ Asterism :In astronomy, an asterism is a pattern of stars recognized in the Earth's night sky.
- ◆ It may be part of an official constellation or it may be composed of stars from more than one constellation.

Examples

- ◆ Orion's belt in Orion

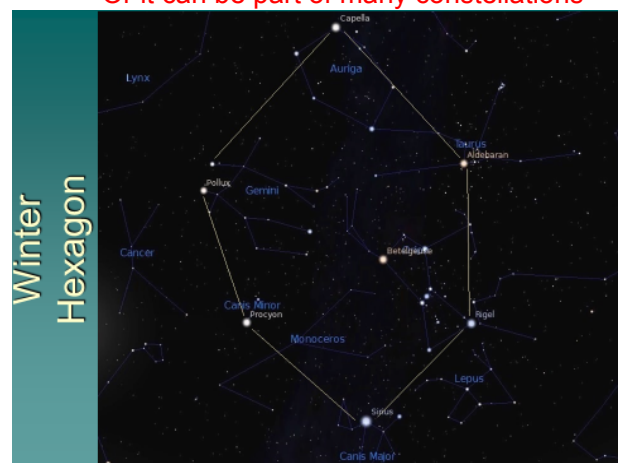


- ◆ Big dipper in Ursa major



- ◆ Great square in Pegasus

Or it can be part of many constellations



Astronomy Lesson
2.3

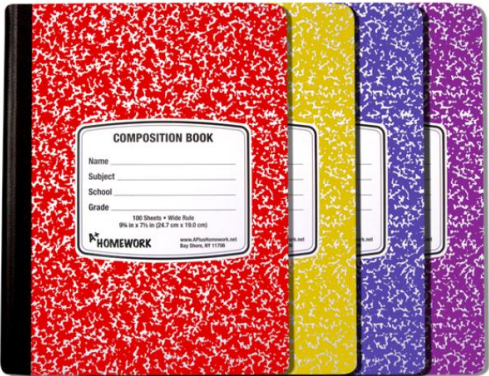
Sky journal
observations

Grading

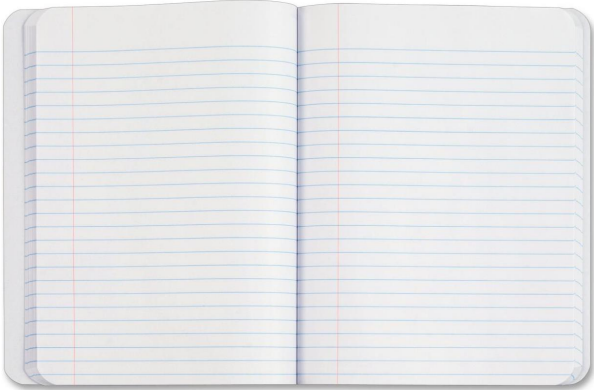
Night Sky Viewing Observation logs

	Points available	Points earned
Updated table of contents	Week # and viewing dates 2	
Headings	1 point each entry (6 points total)	Constellation name: Asterisms: * if applicable
Organization	4	
Sketch *screen shot extra credit (phone only)	2 points each entry (6 points total)	
History/mythology	2 points each entry (6 points total)	
Time of viewing	1	
Total:	25	

Sky journal



first page: table of contents



3 constellation observations

