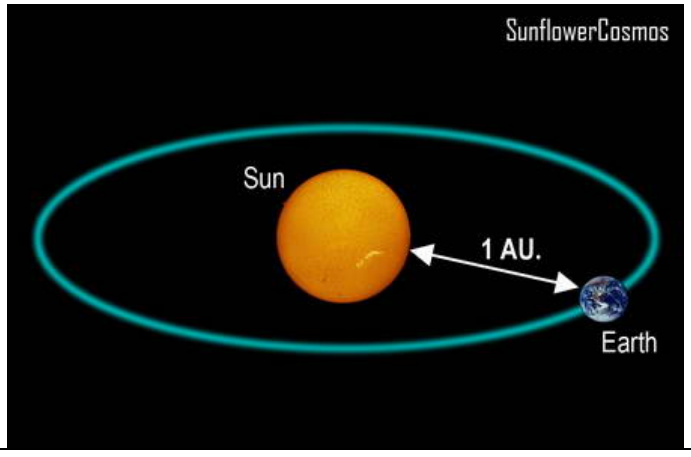
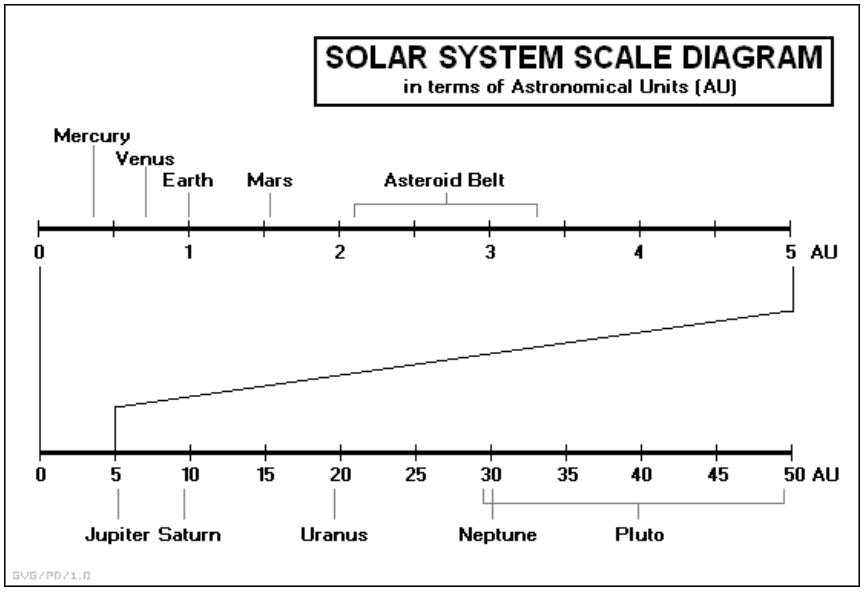
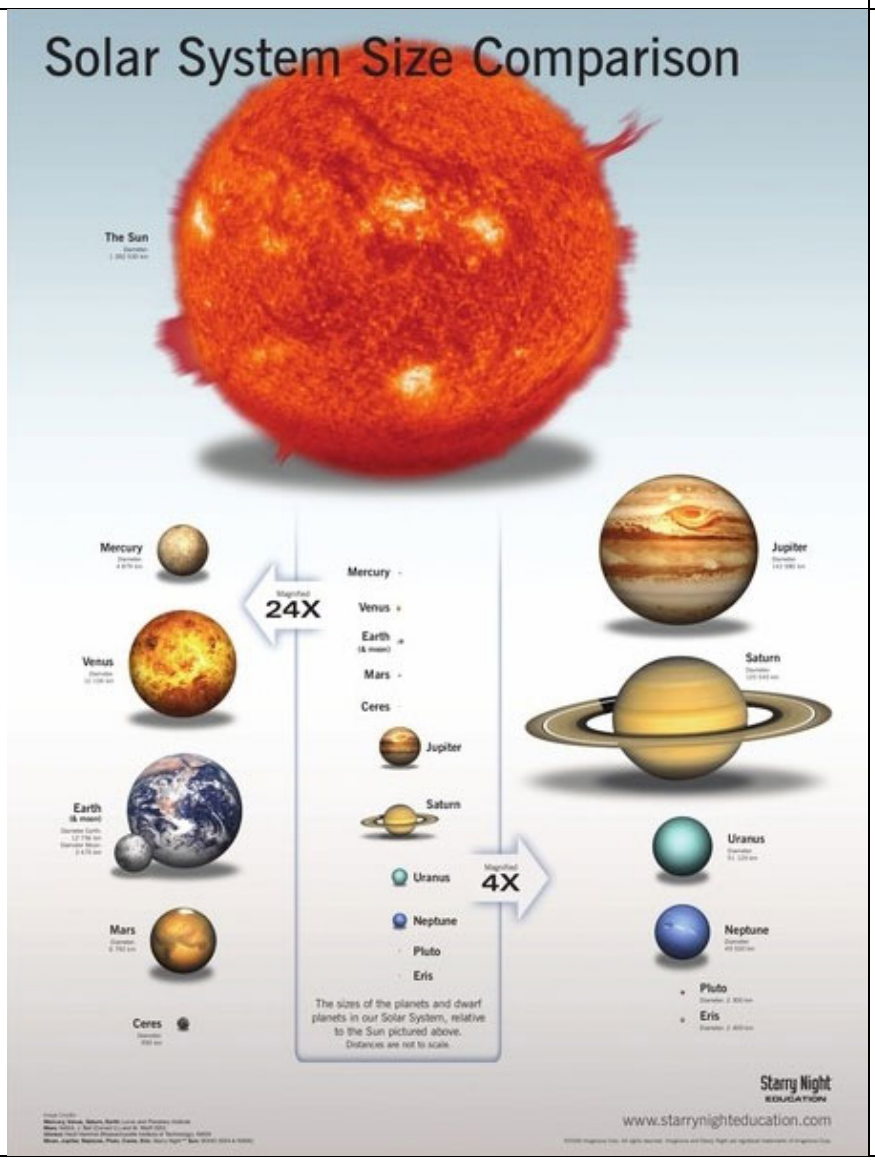
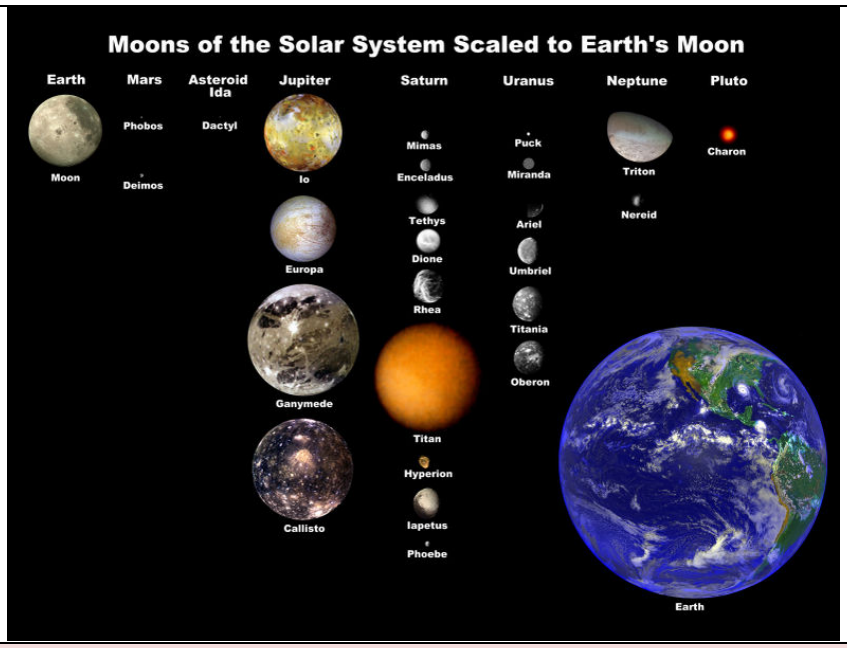
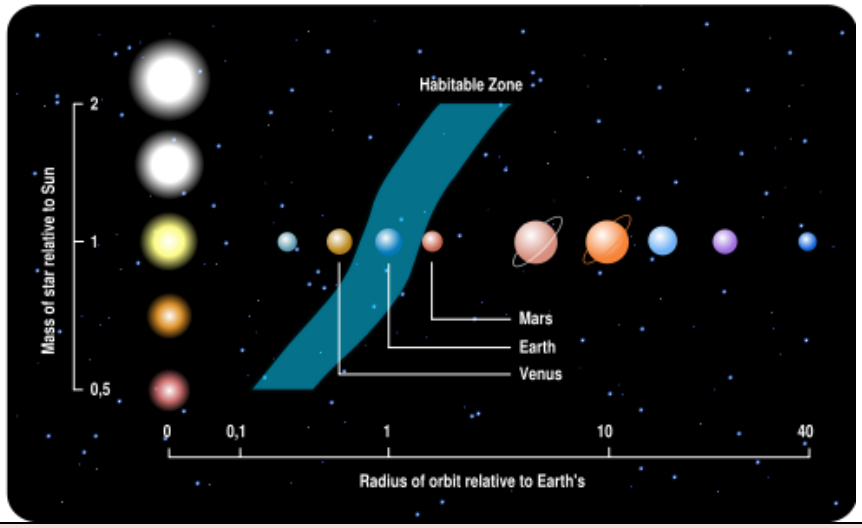
"Comparative Analysis of Planets"
Newcomer Academy
Middle School
Visualization Four

Chapter	Subtopic/Media	Key Points of Discussion	Notes/ Vocabulary
1	**Solar System Intro**	Our solar system has an average sized **star**, the **Sun**. Revolving around the Sun are eight unique **planets**. The four **inner planets** are **Mercury, Venus, Earth, and Mars**. These are all rocky planets. Beyond these planets lies the **asteroid** belt, within the belt there is Ceres. Ceres is a **dwarf planet**. The next four planets are our **Jovian/Outer planets**. They are **Jupiter, Saturn, Uranus, and Neptune**. The outer planets are all **gas giants**, with each possessing rings and many **moons**. Beyond the planets lies the **Kuiper belt**. This contains rocks, gas, dust and the left over materials from when the solar system formed. There are two more dwarf planets, **Pluto** and Eres, within this area. You have to travel to the **Ort Cloud** (about one light year away) to escape the gravitational influence of the Sun.	**Lesson 10 + 11** **Star** **Sun** **Planet** **Dwarf Planet** **Gas Giant** **Moon** **Kuiper Belt** **Ort Cloud**
2	**Distance and Order of Planets**	**Measuring Distance** **Miles** – for small distances on Earth (English/American) **Kilometers** – small distances on Earth (Scientific) **Astronomical Unit** – distance from Earth to the Sun (93,000,000 miles) used for large distances within our system **Speed of Light** – 186,000 miles/sec. or 300,000 km/sec. • 7.2 times around the Earth in one second • 8 minutes from Sun to Earth • 1.3 seconds from Moon to Earth • 5.5 hours to Pluto • 1 year to Ort Cloud • 4.3 years to nearest star • 2.54 million light years to Andromeda Galaxy  	**Mile** **Kilometer** **Astronomical Unit** **Speed of Light**

		Order of Planets and Distance 	
3	**Size of Planets**		**Lesson 10 + 11**

4	**Number of Moons**		**Lesson 10 + 11**
5	**Ability to Support Life** **And** **Habitable Zones**	Every star has a **habitable zone**, an area in which life (as we know it) can exist. This zone **fluctuates** from star to star, depending on its size and temperature. If a planet exists within that zone then either it or its moon(s) have a chance to sustain life. This is associated with the ability to have **liquid water**. The Earth falls in the habitable zone of the Sun. If it were closer it could have **evolved** like Venus, a hot planet with a runaway greenhouse effect. If Earth were further away from the Sun, it had the opportunity to be a frozen planet like Mars. Fortunately for us, the planet is at just the right distance from our star. 	**Lesson 19** **Habitable Zone** **Fluctuate** **Liquid** **Water** **Evolve**
Domeview: Wildest Weather – trip to each planet (except Uranus) to investigate the extreme conditions of each or its moon(s)			