

Learning Goals for the Unit:

Students should be able demonstrate their knowledge and thoroughly answer the following questions.

Essential Questions

- How does gravity affect the orbit of objects in the solar system?
- What are tides and what causes them?
- What is the Sun and how does it relate to other objects in the solar system?
- Why do constellations seem to move across the nighttime sky?
- Why does the Moon appear to change shape during the course of a month?

Learning Outcomes for the Unit:

Goals are what lead up to an outcome. By answering each of the essential questions above, the learner will be able to do the following listed. (TLW=The Learner Will)

1. TLW design a model that describes the position and relationship of the planets and other objects to the Sun.
2. TLW describe the motion of planets and moons in terms of rotation on axis and orbits due to gravity.
3. TLW explain Moon phases as they relate to the position of the Moon in its orbit around the Earth, resulting in a varying amount of observable reflected light.
4. TLW explain that the Moon, stars, constellations, and the Sun appear to move because the Earth rotates on its axis and orbits the Sun.
5. TLW explain lunar and solar eclipses based on the relative positions of the Earth, Moon, and Sun and the orbit of the Moon.
6. TLW explain the tides of the oceans as they relate to the gravitational pull and orbit of the Moon.
7. TLW research a selected planet, constellation, type of eclipse, or spacecraft, design a visual aid and deliver a presentation on the selected topic.

Potential Methods of Assessment:

Summative Assessments-Each of the 7 outcomes listed above will be a section in the unit. I would like to have a summative assessment at the end of the section that must be passed to go on to the next section. These summative assessments, at the most, will have ten questions and will cover all material in the unit (readings, videos, group work, etc). They will be comprised of multiple-choice, true/false, and short answer questions.

Formative Assessments-

- Design an online solar system to scale that shows relationships of planets and planets to the sun.
- Moon Phase PowerPoint
- Explain the difference between a lunar and solar eclipse (writing prompt graded with a rubric)
- Tides/Gravitational Pull StAIR. Students will create a 5-10 slide StAIR.
- Research a selected planet, constellation, type of eclipse, or spacecraft, design a visual aid and deliver a presentation on the selected topic.

Course Communication Policy:

Student to Teacher-e-mail, set up a discussion forum where students can ask questions and get answers back from the teacher or other classmates.

Student to Student- Discussion forum or they can e-mail each other.

Student to Parent-e-mail, and I would like to have a resource parents can go to for help, answers to questions, videos etc...maybe on my personal website???