Unit #2 Astronomy

Content Area: **Science**
Course(s):
Time Period:
Length: **15 days**
Status: **Published**

State Mandated Topics Addressed in this Unit

State Mandated Topics Addressed in this Unit	
N/A	N/A

Astronomy

Learning Objectives

- Objective 1 - Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy that eventually reaches Earth in the form of radiation.
- Objective 2 - Construct an explanation of the Big Bang theory based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the universe.
- Objective 3 - Communicate scientific ideas about the way stars, over their life cycle, produce elements.
- Objective 4 - Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.

Essential Skills

- Essential Skill 1 - Draw out a picture of a solar eclipse and a lunar eclipse. Include where the umbra and penumbra would be.
- Essential Skill 10 - Identify the number of tides and on Earth and how they are affected by space.
- Essential Skill 2 - Write the changes in dates for our seasons and what causes seasons on our planet.
- Essential Skill 3 - Name and describe all 8 planets. (ex. Which is the hottest, which one has rings etc.) and put the planets in order starting with the one closest to the sun.
- Essential Skill 4 - Name all of the famous astronomers learned about and their contribution to astronomy
- Essential Skill 5 - Name what ancient astronomers thought the universe revolved around and how they benefited from studying space.
- Essential Skill 6 - Name all of the phases of the moon
- Essential Skill 7 - Name the layers of the suns atmosphere and their characteristics.
- Essential Skill 8 - Name the life cycle of a star.
- Essential Skill 9 - Describe moon theory and the Big Bang Theory

Standards

SCI.HS-ESS1-3	Communicate scientific ideas about the way stars, over their life cycle, produce elements.
SCI.HS-ESS1-4	Use mathematical or computational representations to predict the motion of orbiting objects in the solar system.
SCI.HS-ESS1-2	Construct an explanation of the Big Bang theory based on astronomical evidence of light spectra, motion of distant galaxies, and composition of matter in the universe.
SCI.HS-ESS1-1	Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy that eventually reaches Earth in the form of radiation.

Instructional Tasks/Activities

- Compare the diameter of the Earth to the diameter of the Sun using hands on models -Completely draw the phases of the moon
- Design and launch a bottle rocket
- Determine the validity of astrological readings based on the zodiac sign
- Foldables – organization of material (scientific method & features of living things)
- Inquiry based activity- Use pictures to determine how we have made in improvements in studying space.
- Make a cosmic timeline the length of the classroom
- Make a foldable on the life cycle of a star and in the computer lab research a star.
- PowerPoint presentation of material Group discussion
- Review game
- Think, pair, share (read assigned section of text individually, discuss with a partner, present material in pairs to class – use PowerPoint as a reference)
- Use the Star Lab to identify constellations and what the constellations represent -Complete a poem using vocabulary terms from this section

Assessment Procedure

- Classroom Total Participation Technique
- Classwork
- DBQ
- Essay
- Exit Ticket/Entrance Ticket/Do Now
- Journal / Student Reflection
- Kahoot
- Other named in lesson
- Peer Review
- Performance

- Problem Correction
- Project
- Quiz
- Rubric
- Teacher Collected Data
- Test
- Worksheet

Recommended Technology Activities

- Appropriate Content Specific Online Resource
- Appropriate Content Specific Online Resource
- Copy/Paste Content Specific Link Here
- Copy/Paste Content Specific Link Here
- Copy/Paste Content Specific Link Here
- Gimkit
- GoGuardian
- Google Classroom
- Google Docs
- Google Slides
- Google Slides
- Kahoot
- MagicSchool AI
- Other- Specified in Lesson
- Quizizz
- Screencastify

Accommodations & Modifications & Differentiation

Accommodations and Modifications should be used to meet individual needs. Their IEP and 504 plans should be used in addition to the following suggestions.

Gifted and Talented

- Compare & Contrast
- Conferencing
- Debates
- Jigsaw

- Peer Partner Learning
- Problem Solving
- Structured Controversy
- Think, Pair, Share
- Tutorial Groups

Instruction/Materials

- alter format of materials (type/highlight, etc.)
- color code materials
- eliminate answers
- extended time
- extended time
- large print
- modified quiz
- modified test
- Modify Assignments as Needed
- Modify/Repeat/Model directions
- necessary assignments only
- Other (specify in plans)
- other- named in lesson
- provide assistance and cues for transitions
- provide daily assignment list
- read class materials orally
- reduce work load
- shorten assignments
- study guide/outline
- utilize multi-sensory modes to reinforce instruction

Environment

- alter physical room environment
- assign peer tutors/work buddies/note takers
- assign preferential seating
- individualized instruction/small group
- modify student schedule (Describe)
- other- please specify in plans
- provide desktop list/formula

Honors Modifications

Resources

- Resource 1
- Resource 2
- Resource 3
- Resource 4
- Resource 5