Unit 6: Beyond Earth

Content Area: **Template**
Course(s):
Time Period:
Length:
Status: **Published**

State Mandated Topics Addressed in this Unit

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N/A	N/A

Unit Name

Learning Objectives

- How are other objects in our universe formed?
- How do astronomers study space?
- How does the interaction of the sun, moon and earth affect our planet?
- What are the biggest differences between the inner planets and the outer planets?

Essential Skills

- Describe moon theory and the Big Bang Theory
- Draw out a picture of a solar eclipse and a lunar eclipse. Include where the umbra and penumbra would be.
- Identify the number of tides and on Earth and how they are affected by space.
- Name all of the famous astronomers learned about and their contribution to astronomy
- Name all of the phases of the moon
- 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.
- Name the layers of the suns atmosphere and their characteristics.
- Name the life cycle of a star.
- Name what ancient astronomers thought the universe revolved around and how they benefited from studying space.
- Write the changes in dates for our seasons and what causes seasons on our planet.

Standards

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.
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-ESS1-3	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.

Instructional Tasks/Activities

- Big Bang and Beginning of the Universe
- Build Your Own Universe Lab
- Common assessment chapter test
- Common assessment quiz
- Constructed response
- Do now's and/or exit slips
- Exit Cards (answer to daily objective questions)
- Graphic organizers or models
- Guided practice
- Homework
- Homework
- Individual, small, and large group work
- Intro to Space Science
- Laboratory investigations within small groups
- Moon Formation Theories and Lesson
- Moon Phases and Tides
- Orbits and Kepler Intro
- Orbits Virtual Lab
- Orbits/Kepler Lab
- Planet formation and our solar system
- Review Activity
- Section Review Questions
- Solar System and Planets Project
- Space Science Research Project
- Star formation lesson
- Star formation project
- Stars and star formation lesson
- Study Guide Packets
- Vocabulary flash cards or map (word, picture, sentence, example)

Assessment Procedure

- Flashcards and/or drill and practice
- Inquiry based activities with reflective discussion
- Laboratory groups
- Lecture with note taking or guided notes
- Online models and simulators
- Power point presentations
- Whole and small group discussions

Recommended Technology Activities

- Appropriate Content Specific Online Resource
- Chromebook
- 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 Forms
- Google Slides
- Kahoot
- MagicSchool AI
- Other- Specified in Lesson
- Quiziz
- 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