Teacher: Mr. Edwards
Date: 9/9-13
Subject: Science
Period: 1-3

COS Standard:
a. Construct an evidence-based explanation of how the relative positions of the sun and Earth result in observable phenomena, including day and night cycles, length of year, and seasons.
b. Construct an evidence-based explanation of how the relative positions of the sun, moon, and Earth result in observable phenomena, including lunar cycles, eclipses, and tidal cycles.

Outcome(s)/Objective(s)/I can statement:
- I can explain how the positions of the sun and Earth result in day and night cycles, the length of a year, and seasons.
- I can explain how the positions of the sun, moon, and Earth result in lunar cycles, eclipses, and tidal cycles.

ACTIVATING LEARNING STRATEGY/STRATEGIC TEACHING STRATEGIES:
☐ KWL ☐ Word Splash ☐ Anticipation Guide ☐ Lecture ☐ Graphic Organizer/VLT ☐ Poem, Rhymes, etc.
☐ Survey ☐ Possible Sentence ☐ Think-Pair-Share ☐ Reading ☐ Pictograph ☐ Acronyms/Word
☐ First Word ☐ Concept Map ☐ Vocabulary Overview ☐ Model ☐ Diagram ☐ Other: Hands-on experiment
☐ Word Map ☐ Frayer Model ☐ Daily Language Practice (DLP) _____
☐ Hands-on ☐ Mind Map/Visual Guide

Engagement Strategies:
☐ - Collaborative Group Work ☐ - Writing to Learn ☐ - Literacy Groups ☐ Other: Hands-on Activity
☐ - Questioning Techniques ☐ - Scaffolding Text ☐ - Classroom Talk ☐ - T.W.I.R.L.

Technology Integration:
☐ Smart board ☐ Document Camera ☐ IPADS ☐ MacBooks ☐ Computers ☐ Kindles ☐ Interactive Tablets ☐ Digital/ Video Camera
☐ Clickers ☐ ACCESS ☐ Computer Program: _____ ☐ Other: _____

PROCEDURAL CONTENT (application):

Monday

Essential Question: How do the positions of the sun and Earth influence day and night cycles, the length of a year, and seasons?

Daily Objective(s):
- Explain how the Earth's rotation and revolution around the sun cause day and night cycles, the length of a year, and the changing seasons.

I Can Statement:
- I can explain how the Earth's position relative to the sun causes day and night cycles, the length of a year, and seasons.

Preview (Before) Warm-up- Hook:
- Show a time-lapse video of day turning into night and the changing seasons. Ask students to predict how the Earth's movement might cause these phenomena.

Instruction (During):
- I Do: Use a globe and a lamp (as the sun) to demonstrate how Earth's rotation causes day and night and how its tilt and orbit around the sun create seasons.
- We Do: Work together as a class to model the Earth's rotation and orbit using students as Earth and the sun.
- Y'all Do: In pairs, students will create a diagram showing the Earth's position during different seasons and label the day/night cycle.
- You Do: Students individually write a paragraph explaining how the Earth's tilt affects the seasons.

Small Groups:
- Groups work on creating posters that illustrate the Earth's movement around the sun and how it causes different seasons and day/night cycles.

After/Homework:
- Research and explain how different cultures around the world experience and celebrate the changing seasons.

Tuesday

Essential Question: How do the positions of the sun, moon, and Earth create observable phenomena like lunar cycles, eclipses, and tidal cycles?

Daily Objective(s):
- Describe and explain how the relative positions of the sun, moon, and Earth result in lunar cycles, solar and lunar eclipses, and tides.

I Can Statement:

- I can describe how the sun, moon, and Earth's positions cause lunar cycles, eclipses, and tides.

Preview (Before) Warm-up- Hook:
- Show images or videos of the different phases of the moon, an eclipse, and a tidal wave. Ask students to hypothesize how these are related to the positions of the sun, moon, and Earth.

Instruction (During):
- I Do: Use models to show how the moon's orbit around the Earth causes the lunar phases, how eclipses occur, and how tides are influenced by the gravitational pull of the moon and sun.
- We Do: As a class, use a diagram to track the moon's phases and discuss how eclipses occur when the sun, moon, and Earth align.
- Y'all Do: In small groups, students will create models or simulations to demonstrate lunar cycles, eclipses, or tidal patterns.
- You Do: Individually, students write a journal entry explaining how the moon's phases change over the month.

Small Groups:
- Group activity where students use hands-on materials (e.g., balls, flashlights) to recreate lunar cycles and demonstrate how eclipses occur.

After/Homework:
- Research and summarize a recent lunar eclipse or tide event, including how and why it happened.

Wednesday

Essential Question: What evidence supports our understanding of the Earth's and moon's movements in relation to observable phenomena?

Daily Objective(s):
- Construct an evidence-based explanation of how Earth's rotation and revolution, and the moon's orbit, result in observable phenomena.

I Can Statement:
- I can use evidence to explain how Earth's and the moon's movements cause day/night cycles, seasons, lunar cycles, eclipses, and tides.

Preview (Before) Warm-up- Hook:
- Begin with a quiz or quick review game on the topics covered so far (day/night cycles, seasons, lunar cycles, eclipses, tides).

Instruction (During):
- I Do: Present different forms of evidence (e.g., historical observations, satellite data) that support our understanding of the Earth's and moon's movements.
- We Do: Work together to analyze data from a lunar cycle calendar or tide charts and relate them to the positions of the sun, moon, and Earth.
- Y’all Do: In small groups, students will gather and present evidence that supports the causes of observable phenomena like eclipses or tides.
- You Do: Individually, students will create a fact sheet or infographic summarizing the evidence that explains these phenomena.

Small Groups:
- Collaborative analysis of historical data or records (e.g., ancient eclipse predictions, tide logs) to construct evidence-based explanations.

After/Homework:
- Create a presentation or report on how scientists use evidence to predict and explain astronomical phenomena.