**Teacher Name:**  **Co-Teacher Name:**

**Course/Grade:** 7th Grade Science **Date(s): Period(s):** 88 minutes or 1 block

**Content Standard(s) & Inquiry Standard(s):**

SC8.4.1 - Students will investigate and describe Earth and the solar system

**Indicator(s):**

SC8.4.1.b - Describe the relationship between motion of objects in the solar system and the phenomena of day, year, eclipses, phases of the Moon, and seasons.

**Unit Title:** Earth in Space **Lesson Title:** Focus on Astronomy Vocabulary

**Concept Based (Enduring Understandings/Generalizations):**

1. Seasons change according to the planet’s orientation to the sun.

2. Time depends on the motion of a planet and its relationship to a star (the Sun).

4. The motion of planets relative to their moon(s) and sun(s) are responsible for moon phases, eclipses, and tides.

**Materials and Resources:**

* Astronomy textbook
* Frayer model worksheet
* white or colored paper for foldable
* colored pencils or markers (optional)

**Accommodations for students with an IEP or 504 Plan (specific to this lesson):**

**Literacy Standard(s)/Indicator(s):**

RST.6-8.1 – Cite specific textual evidence to support analysis of science and technical texts.

RST.6-8.4 – Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.

WHST.6-8.9 – Gather evidence from informational texts to support analysis, reflection, and research.

SL.7.1 – Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others’ ideas and expressing their own clearly.

**Literacy Strategies:** Frayer model, Think alouds, Preview of text structures and features, Advance organizers

**Procedures/Routines Focus:** Hand raising, Teach and pause, Finished early?

**\*REMINDER\* NeSA-S review items should be included each day as an opener or during the lesson.**

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| **A+NTICIPATORY SET (3 - 5 minutes)**  Display the Astronomy unit vocabulary words for students to become familiar with. Ask students to list the terms in three columns:   * Words I know * Words I’ve heard before * Words I don’t know | |
| **OBJECTIVE/LEARNING GOAL(S)**  I will know (knowledge):   1. how our methods of keeping time (hours, days, years) relate to the movement of Earth in the solar system. 2. planetary rotation determines the length of day. 3. planetary revolution around the sun determines the length of a year.   I will be able to (skill):   1. explain the difference between rotation and revolution. | |
| **PROCEDURES: GRADUAL RELEASE OF INSTRUCTION**  **Modeled (5-7 minutes)**  Learning goals are discussed followed by demonstration/direct Instruction.  **1) Introduction to Astronomy**   * Have students turn to page 4 in the Astronomy textbook * Reading Warm-Up – Read the section objectives out loud as a class. * Provide students with the 4 mini Frayer models handout or have students draw 4 mini Frayer models in their science notebook. * Have students record the 4 terms to learn in the center circles of the 4 mini Frayer models.   **2) Read the introductory paragraphs under “Astronomy: The Original Science” out loud as a class. Complete the mini Frayer model for “Astronomy” together as a class.**  **5) Read pages 5-7 out loud as a class. Do a “Think Aloud” with the students on how theories of the universe have changed throughout history (see teacher notes on early astronomers.)** | **Shared (5-7 minutes)**  Checking for understanding occurs via engagement activities. Re-teaching may be needed prior to guided practice.  **3) Have students complete the mini Frayer models for year, month, and day using the paragraph on the bottom of page 4 and their prior knowledge.**  **4) Discuss the words year, month, and day in terms of movements in space as a class. Relate these movements to the units on a calendar.** |
| **Guided Practice (15-50 minutes)**  Leveled performance groups or rotating stations or cooperative learning/group work occur with descriptive feedback.  **6) Preview of text section on “Planetary Motion” pages 80-83**   * Divide students into groups of 3 * Have each group use the section review on page 83 to preview the text before reading. * Assign each student in each group two questions from page 83: student one, questions 2 & 5; student two, questions 3 & 6; and student three, questions 3 & 7. * Ask students to scan the text for where they think the answers to their assigned questions can be found. The students can then state to their group, “This is where the answer to #\_\_ can be found.”   **Independent Practice (6-8 minutes)**  Students working independently applying what they have learned in the lesson.  **7) Students read the text section on “Planetary Motion” pages 80-83 for learning. Students should record answers to questions 2-7 on page 83 in their science notebook.**  **8) Students create a vocabulary foldable of the terms to learn for this section of text; rotation, orbit, and revolution. Students should include the definition and a graphic representation (drawing, clipart, picture, etc.) for each vocabulary word.** | |
| **SUMMARY/EXIT SLIP (5-8 minutes)**  Have students fill out exit slips explaining the difference between rotation and revolution. | |

**Course Work outside of class:**

The vocabulary foldable for rotation, orbit, and revolution could be completed outside of class if time in class is limited.

Alternative vocabulary strategies could be used per teacher and/or student preferences. For Example, students could create a concept web with graphic representations of the words or an ongoing unit vocabulary table in their science notebook.

Students should complete a learning sentence using the vocabulary words introduced in class each day that you work on vocabulary. The sentences should be written in conjunction with the activity that you have chosen, for example, if you have your students complete the foldable, have them write the sentence on the foldable.