**Grade Level: \_\_\_5\_\_\_ Subject: \_\_Sci**

**Unit Number and Title:\_\_Unit 7\_Sun, Earth, and Moon Systems\_\_\_ #Days\_\_15\_\_\_\_ #SEs\_\_2\_\_\_ #PAs\_\_2\_\_\_**

**\_\_IFD Planning Guide**

**Science**

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| **IFD Summary**  Address the physical features of the Sun, Earth, and Moon, including the day / night cycle. Students will develop a model illustrating how Earth’s rotation causes the day / night cycle and the apparent movement of the Sun across the sky. |

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| **PA # \_\_\_\_\_\_:**  **Description of PA:** | **Standard:**  **(verb/content)** | **TCD or VAD notes Specificity**  **(TCD for High School)** | **STAAR Analysis**  **(released items)** | **Vocab** | **Notes-Resources:**  **Instruction:** |
| **PA**  Make a graphic organizer that identifies and compares the similarities and differences between the physical characteristics of the Sun, Earth, and Moon.  **Unit Understanding**  The Sun, Earth, and Moon can be distinguished by their physical characteristics.   * What are the defining physical characteristics of the Sun, Earth, and Moon? | **Process:**  **5.2G** **Organize, examine, and evaluate** info by **making:**   * Graphs * Tables * Maps * Charts | **Construct:**  Tables, charts using tech | **Note:** Consider characteristics NOT typical of each |  |  |
| **5.8D S**  **ID** and **compare** the physical attributes of the Sun, Moon, and Earth | **Physical:**  -Size  -Features  -Composition  -Location  **Comparisons:**  -To each other and all three |  | Craters  Diameter  Atmosphere  Surface temp  Satellite  Gravity  Physical features  Sphere | -Compare the objects to each other, noting the vocabulary used  -**Venn diagram** to compare and contrast all three |
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| **Misconceptions**  -Students may think that the Sun Earth and Moon are relatively the same size and distance from each other.  -Students may thin the Moon makes its own light | | | | | |
| **PA # \_\_\_\_\_\_:**  **Description of PA:** | **Standard:**  **(verb/content)** | **TCD or VAD notes**  **(TCD for High School)** | **STAAR Analysis**  **(released items)** | **Vocab** | **Notes-Resources:**  **Instruction:** |
| **PA**  Create a storyboard to illustrate and describe how Earth’s rotation causes the day / night cycle and the apparent movement of the Sun across the sky  **Unit Understanding**  The rotation of the Earth on its axis produces the day / night cycle and causes the apparent movement of the Sun across the sky.   * What are the effects of Earth’s rotation? | **Process:**  **Draw or develop** a model showing how something works or looks that cannot be seen |  | Model the Earth spinning to cause the apparent “movement” of the Sun |  |  |
| **5.8C R**  **Demonstrate** that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky. | **Day/night cycle:**  -Observation using models  -Sun is stationary  -Earth rotation and where day and night are on the model.  Why is sunrise to the east and sunset to the west?  -Shadows | Which arrow shows the movement that causes day and night?  Show how time will correspond to Sun’s position in sky. Designate direction! | Globe,  model,  rotation,  rate  rotation  axis  orbit  revolution, rotation (know difference)  clockwise  counterclockwise | Earth and other planets orbit the Sun |
|  |  |  | Shadows |  |
| **Misconceptions:**   * Students may think the Earth’s revolution around the Sun causes day and night, rather than the rotation of the Earth on its axis every 24 hours. * Students may think that day and night are caused by the Sun going around the Earth, rather than the rotation of the Earth on its axis every 24 hours. * Students may think the Sun moves across the sky, rather than the Sun only appearing to move as the Earth rotates on its axis every 24 hours. | | | | | |

Assessment Creator

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| **Unit Blueprint** | | | | |
|  | **Total problems** | **Rate**  **(min/problem)** | **Readiness**  **(Count/ %)** | **Supporting**  **(Count/ %)** |
| **STAAR Assessment** |  |  |  |  |
| **Unit Assessment** |  |  |  |  |

Day-by-Day Outline

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| 1 Intro to understanding relative distances and sizes of objects. Short video on this theme. | 2 Students will practice gleaning information from regular charts and tables that they may see every day. They may also choose these diagrams from a newspaper or publication or the internet. | 3 Vocabulary practice using the relevant language describing the physical features of the objects to be observed and studied.  Quizlet Live  Interactive Word Wall | 4 Students will practice the correct use of Venn Diagrams and other comparative media. | 5 **PA 1**  Individual Project  Graphic organizer |
| 8 **PA 1 continued**  Students will create a model of the objects, using relative distances and sizes to describe some key differences among them. | 9 Students will create a working model of Earth to use for the rest of the unit  Styrofoam base and sphere | 10 Students will use various representations to understand and describe the difference between clockwise and counterclockwise  -They will post their descriptions on a poster using drawings of their objects (Earth, Sun, Moon) | 11Students will use their model created during the first PA (part 2) to demonstrate the relative motion of the Earth and Moon around their respective pathways around the Sun.  -Students will then use a light source to describe the day and night cycle using their models. | 12Students will begin to describe the relative motion they completed in the previous session to describe how and why the Sun appears to “rise” from the East and “set” in the West. |
| 15 Students will participate in an outdoor activity where they will place an object at a designated position. They will record the shadow produced at that position at that given time of the day. They will then record the position of the object’s shadow, the position of the Sun, and the corresponding time of day. | 16 The students will use the data collected to create a diagram indicating the position of the object’s shadow, the Sun, and the respective time during these collections.  Students will review their understanding and vocabulary. | 17 **PA 2**  The students will create a storyboard to illustrate and describe how Earth’s rotation causes the day / night cycle and the apparent movement of the Sun across the sky | 18 Review | 19 Review |
| 22 | 23 | 24 | 25 | 26 |