**The Eclipse Unit**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period \_\_\_\_\_\_\_\_\_\_\_

**Due Date: November 6, 2013**

**The Big Idea: Motion and Forces**

**What effects are caused by the motion of Earth and the moon?**

|  |  |
| --- | --- |
| Directions | Examine the activities you can do to learn the unit objectives. All of the activities and the dates we are doing them are listed below. They are due at the latest on **November 6**. No work will be accepted after **November 6** unless you are absent that day.  **The activities in bold are required for every student to do**. These will help you learn the basics of the unit. After you have mastered the basics, move to section B and then section A for more challenging activities. You must demonstrate knowledge for each level before moving on to the next section.  When you complete an activity, you must turn it in to receive feedback. **YOU MAY NOT TURN IN MORE THAN TWO LATE ACTIVITIES PER DAY. Including the last day of the unit.**  As always, if you have questions ask or email. |
| Objectives | * Model shadows cast by the Moon and Earth. * Analyze the conditions under which the Moon and earth’s shadows cause eclipse. * Describe the phases during which lunar and solar eclipse occur. * Analyze solar and lunar eclipse data and compare it to phase data. |
| State Standards  Addressed | INQC Investigate  Collecting, analyzing, and displaying data are essential aspects of all investigations.  INQE Model  Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations.  INQF Explain  It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.  ES1A  The Moon’s monthly cycle of phases can be explained by its changing relative position as it orbits Earth. An eclipse of the Moon occurs when the Moon enters Earth’s shadow. An eclipse of the Sun occurs when the Moon is between the Earth and Sun, and the Moon’s shadow falls on the Earth.  ES1C  Most objects in the solar System are in regular and predictable motion. These motions explain such phenomena as the day, the year, phases of the moon, and eclipses. |

Use the calendar to document your progress each day.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
|  |  |  | **10/17** | **10/18**  Introduce Unit  \*Video: *Sun, Earth, Moon*  w/notes |
| **10/21**  \*Investigating Lunar and Solar Eclipse | **10/22**  Read Eclipses (Article located in file cabinet) | **10/23**  Discuss Investigating Lunar and Solar Eclipse | **10/24**  **S.L.A.M.**  Textbook Page 668  Gravity and Distance Graph questions 1-4 | **10/25**  **No**  **School** |
| **10/28**  \*Analyzing the Geometry of Eclipses | **10/29**  \*Analyzing the Geometry of Eclipse | **10/30**  Discuss Analyzing the Geometry of Eclipse | **10/31**  \*Video: Gravity w/  video notes  \*What are Your Ideas about the Earth? Worksheet | **11/1**  Casting Shadows worksheet |
| **11/4**  Comparing and Contrasting Solar and Lunar Eclipses | **11/5**  Discuss Comparing and Contrasting Solar and Lunar Eclipses  Draw a Lunar and Solar Eclipse | **11/6**  Go over Review Guide  **ALL ‘C’, ‘B’ AND ‘A’ WORK DUE** | **11/7**  **Unit Test**  **S.L.A.M.** |  |

**“C” Activities**

**All assignments marked \* need teacher instruction before you may begin.**

|  |  |  |  |
| --- | --- | --- | --- |
| Description | **Points**  **Possible** | **Due Date** | **Completed** |
| **\*Video: *Sun, Earth, Moon* w/notes** | 5 | 10/18 |  |
| **\*LAB: Investigating Lunar and Solar Eclipse** | 10 | 10/22 |  |
| **Gravity and Distance Graph (Textbook)** | 10 | 10/28 |  |
| **\*LAB: Analyzing the Geometry of Eclipses** | 10 | 10/30 |  |
| **\*Video: *Gravity* w/ notes** | 5 | 10/31 |  |
| **\*What Are Your Ideas About Earth?** | 10 | 11/4 |  |
| **Casting Shadows Worksheet** | 10 | 11/1 |  |
| **Comparing and Contrasting Solar and Lunar Eclipses** | 20 | 11/4 |  |
| **Review Guide** | 10 | 11/6 |  |

**All “B” and “A” work must be typed (unless noted) to receive a score**

**“B” Activities(Choose ONE)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | **Points**  **Possible** | **Due Date** | **Completed** |
| Making Models | 10 | 11/6 |  |
| History of Eclipse | 10 | 11/6 |  |
| Using Solar Eclipse to Study Solar Wind (may be handwritten) | 10 | 11/6 |  |

**“A” Activities (Choose ONE)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Description** | **Points**  **Possible** | **Due Date** | **Completed** |
| Eclipse Poster | 15 | 11/6 |  |
| Weightlessness | 15 | 11/6 |  |
| Writing a Proposal Letter to Attend Reduced Gravity Education Flight Program | 15 | 11/6 |  |