The Universe and Solar System

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| **Directions** | Examine the activities you can do to learn the unit objectives. All of the activities and the dates we are doing them are on the unit calendar. The due dates are listed under ‘Activities’. The unit ends on 2/2, no work will be accepted after that date. The test is on 2/3. \*\***The Review Guide and Independent Work are due on 2/2 and will not be accepted late.\*\***  The activities in bold are required for every student to do. These will help you learn the basics. After you have mastered the basics, move to the Independent Work section for a more challenging activity.  **\*\*It is your responsibility to complete assignments on time according to the due dates listed. By not turning in assignments you will receive a ZERO for that assignment. You have three school days to turn in late assignments. Late assignments will receive a 25% penalty for every school day they are late. \*\*** |
| **Objectives** | Explain the Big Bang Theory  Describe how stars are classified  Explain the life cycle of a star  Explain how the solar system was formed  Use scaled models to explore the relative sizes and distances between the eight planets and the sun  Describe the characteristics and locations objects in the universe, our galaxy and solar system.  Identify the main characteristic of the eight planets in our solar system  Design an alien based on a planets environment |
| **State Standards A**  **Addressed** | **INCQ Investigate**  Collecting, analyzing an displaying data are essential aspects of all investigations  **INQ Models**  Models are used to represent objects, events, systems, and processes. Models can be used to test hypothesis and better understand phenomena, but they have limitations.  **INQ Explain**  It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.  **ES1B**  Earth is the third planet from the sun in a system that includes the Moon, the Sun, and six other planets and their moons and smaller objects such as asteroids, plutoids and comets. These bodies differ in many characteristics (e.g. size, composition, relative position.  **ES1D**  Gravity is the force that keeps planets in orbit around the Sun and governs the rest of the motion of the Solar System. Gravity alone holds us to Earths surface.  **ES1E**  Our Sun is one of hundreds of billions of stars in the Milky Way galaxy. Many of these stars have planets orbiting around them. The Milky Way galaxy is onr of hundreds of billsion of galaxies in the universe. |

Use the calendar to document your progress each day. The suggested dates are for a letter grade of a C. If you chose to earn a B or an A, you must adjust your schedule to allow extra time to complete B grade and A grade assignments.

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| **1/5**  Introduce Unit  Create Flip Book | **1/6**  The Big Bang  Galaxies | **1/7**  Galaxies  Black Holes | **1/8**  Characteristics of Stars | **1/9**  The Universe Video |
| **1/12**  Life Cycle of Stars | **1/13**  The  H-R Diagram | **1/14**  How the Solar System Formed  Black Holes | **1/15**  SLAM  Our Solar System Model Activity | **1/16**  Our Solar System Model Activity |
| **1/19**  No School | **1/20**  Scale Worksheet | **1/21**  SSR Week  The Earth as a Peppercorn Activity  Bring outside shoes and a coat! | **1/22**  Planets PPT and Notes | **1/23**  Early Release |
| **1/26**  Planets PPT and Notes | **1/27**  Introduce Alien Project  In the Computer Lab | **1/28**  Alien Project Work Day | **1/29**  Alien Project Work Day | **1/30**  Solar System Objects |
| **2/2**  Solar System Objects | **2/3**  Bill Nye  Alien Project Due | **2/4**  Review Guide and Independent Work Due  Flip Book Due | **2/5**  **TEST** |  |

**Activities**

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| **Description** | **Points Possible** | **Due Date** | **Completed** |
| Stars Process Grid | 10 | 1/12 |  |
| Stars H-R Diagram | 10 | 1/14 |  |
| Scale Worksheet | 10 | 1/21 |  |
| The Earth as a Peppercorn Questions | 10 | 1/23 |  |
| Planets Process Grid | 10 | 1/27 |  |
| Alien Project | 20 | 2/3 |  |
| Flip Book | 30 | 2/4 |  |
| Review Guide | 10 | 2/4 |  |
| Test |  | **2/5** |  |

**Independent Work \*\*CHOOSE ONE\*\*** (Must be typed unless stated otherwise)

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| **Description** | **Points Possible** | **Due Date** | **Completed** |
| Stormy Sunspots | 15 | 2/4 |  |
| Create a Travel Brochure | 15 | 2/4 |  |
| Life Cycle of Our Sun | 15 | 2/4 |  |
| Scaling the Size of the Outer Planets (May be handwritten) | 15 | 2/4 |  |
| Planetary Nebulas | 15 | 2/4 |  |
| The Orbits of Neptune and Pluto | 15 | 2/4 |  |
| The Apparent Magnitude Scale | 15 | 2/4 |  |
| Planets for Human Settlement | 15 | 2/4 |  |
| Evidence of a Large Meteorite | 15 | 2/4 |  |
| Mathematics: Using a Model (May be handwritten) | 15 | 2/4 |  |
| Distances to Galaxies (May be handwritten) | 15 | 2/4 |  |
| How Far and How Fast? (May be handwritten) | 15 | 2/4 |  |
| Black Hole Next Door? | 15 | 2/4 |  |