P2G WEEKLY UNIT PLANNING TEMPLATE

Course: _____ Teacher: _____ Dates of Unit: _____

STAGE 1: DESIRED RESULTS

UNIT GOAL/FOCUS:

This unit focuses on the study of the Universe and it stars and build understanding of Earths position in the Solar system.

COMMON CORE LEARNING STANDARDS:

HS ESS1: Develop a model based on evidence to illustrate the life span of the sun and the role of nuclear fusion in the sun's core to release energy that eventually reaches Earth in the form of radiation

HS ESS1-3 Communicate scientific ideas about the way stars, over their life cycle produce elements HS. ESS1-4. Use mathematical or computa representation to predict the motion of orbiting objects in the Sol. Syster

ESSENTIAL/FOCUS QUESTION(S):

What is the life-span of an average star?
How does the sun's energy reach Earth?
How can we identify compositional elements of stars, their movement and distance from Earth.
What are the ways that the suns radiation varies due to solar flares

CONTENT OBJECTIVES:

Students will know… The life-span of our star.
Compositional elements of stars, their movements and their distance from Earth. Nuclear fusion within stars release ~~By studie~~ energy that ultimately reaches Earth as radiation.
Keplers law describing common features of orbiting objects.
E: Elliptical pathes around the sun

SKILLS/STRATEGIES OBJECTIVES:

Students will be able to…
Identify compositional elements of stars
Explain the nuclear fusion
Describe common features of orbiting objects in the solar system

LANGUAGE OBJECTIVES & VOCABULARY:

Students will read, write, speak, or listen…
Energy, star, nuclear fusion, gravitational force Universe, light years. atom, solar nebula, astroid, comet helio-centric, geo centric, solar flares, radiation, Vocabulary will be displayed, defined, & depicted on a class wordwall and the teacher will create interactive opportunities, daily, for students to work with the vocabulary in writing and verbally.

1 eccentricity. Interplanetary, atmosphere. Aphelion Spectrum

STAGE 2: ASSESSMENT EVIDENCE

END OF UNIT ASSESSMENT/ PERFORMANCE TASK:	END OF UNIT STUDENT SELF-ASSESSMENT/REFLECTION:
Problem solving lab. Using numbers test Kepler's third law for the 6 Planets closest to the Sun. Kepler observed that P^2 a^2 Where P is the Orbital Period in years and a' is the Semimajor axis in au.	Students will complete a self-Assessment form Does Kepler's third law fit each of the planets? Pluto and Neptune's Orbits are arranged in such a way that Pluto is sometimes within Neptune's Orbit. • What I still don't understand • What I have mastered.

STAGE 3: LEARNING PLAN

TEXTS:
Mc Graw Hill Glencoe, Earth Science (Pg 774 - 793)

RESOURCES & MATERIALS:
• Bill Nye video library • Discovery channel • National Geographic hive "Solar System • Earth Solar System

TECHNOLOGY INTEGRATION:
ELMO for projection of texts during whole class reading and/or discussion • ELMO Bill Nye video library for viewing content on planets, outerspace, comet and meteors, • Brainpop resources on secrets and Laws of the Universe. • SmartBoard for lesson content

DIFFERENTIATION:
To create entry-points daily for students who are new or have been absent, • At the end of each lesson, students who are present will recap the most important concepts and skills learned in each lesson on a ShareOut wall. Students who are new or have been absent can be asked to study the ShareOut Wall and the Word Wall during the Do Now

STAGE 3: LEARNING PLAN (CONTINUED)—OUTLINE OF LESSONS FOR UNIT

DAY	AIM	OBJECTIVES	INSTRUCTIONAL SEQUENCE/PLAN	DAILY ASSESSMENT
Monday	What is a Star?	Define Star Compare the sun to another star in the universe (Venn Diagram)	Do now: KWL "stars" Video: Best 2013: Planets & Star Size Comparison (on YouTube) mini lesson: On the study of star's light spectra to identify compositional elements of stars.	How does a new star form? Is the lifetime of a massive star shorter or longer than a star like the sun. Why? Explain
Tuesday	What properties are used to observe and measure stars?	- Explore the structure. - Describe the solar activity cycle and how the sun affects Earth. - Compare the different types of Spectra.		
Wednesday	How are gravity and orbits related?	• Relate gravity to the motions of celestial bodies • Describe how the planets formed from a disk surrounding the sun		
Thursday	What theory is used to described the formation of the solar system?	• Explore remnants of solar system formation • Summarize the properties of the Solar system that support the theory of the solar system formation		Do now Scaling the Solar System How can the size of the Solar system be converted to a scale that will easily demonstrate relative distance between objects in the Solar System?
Friday	The characteristics of planets and interplanetary bodies			