Congruence with the NGSS

Unit Title: The Solar System

Science and Engineering Practices (SEPs)

SEPS	Activities
Asking Questions and Defining Problems	• Evolution of Our Solar System: Time Lineup • NASA Moon Impact Crater Lab
Developing and Using Models	• Evolution of Our Solar System: Time Lineup • How Planets Form • Modeling Planetary Interiors and Differentiation • The Voyage Scale Model of Solar System • Asteroids and Kuiper Belt Objects – Resonance • NASA Moon Impact Crater Lab
Planning and Carrying Out Investigations	• Evolution of Our Solar System: Time Lineup • Modeling Planetary Interiors and Differentiation • The Voyage Scale Model of Solar System • The Planetary Bodies of Our Solar System Debate • Asteroids and Kuiper Belt Objects – Resonance • NASA Moon Impact Crater Lab
Analyzing and Interpreting Data	• Modeling Planetary Interiors and Differentiation • The Voyage Scale Model of Solar System • The Planetary Bodies of Our Solar System Debate • Asteroids and Kuiper Belt Objects – Resonance • NASA Moon Impact Crater Lab
Using Mathematics and Computational Thinking	• Modeling Planetary Interiors and Differentiation • The Voyage Scale Model of Solar System • The Planetary Bodies of Our Solar System Debate • NASA Moon Impact Crater Lab
Constructing Explanations and Designing Solutions	• Evolution of Our Solar System: Time Lineup • Modeling Planetary Interiors and Differentiation • The Planetary Bodies of Our Solar System Debate • NASA Moon Impact Crater Lab
Engaging in Argument from Evidence	• The Planetary Bodies of Our Solar System Debate
Obtaining, Evaluating and Communicating Information	• Modeling Planetary Interiors and Differentiation • The Planetary Bodies of Our Solar System Debate

Scientific Knowledge is based on Empirical Evidence	• The Voyage Scale Model of Solar System • Asteroids and Kuiper Belt Objects – Resonance • Origin of the Earth and Moon • NASA Moon Impact Crater Lab

Disciplinary Core Ideas (DCIs)

DCIs	Activities
ESS1A: The Universe and its Stars	• Evolution of Our Solar System: Time Lineup
ESS1B: Earth and the Solar System	• Evolution of Our Solar System: Time Lineup • How Planets Form • Modeling Planetary Interiors and Differentiation • The Voyage Scale Model of Solar System • Carol Raymond on Asteroid Vesta • Kuiper Belt and Oort Cloud • Teaching Tools: Comets and Asteroids • Asteroids and Kuiper Belt Objects – Resonance • Origin of the Earth and Moon • NASA Moon Impact Crater Lab
ESS1C: The History of Planet Earth	• Evolution of Our Solar System: Time Lineup • NASA Moon Impact Crater Lab

Cross Cutting Concepts (CCCs)

CCCs	Activities
Patterns	• Modeling Planetary Interiors and Differentiation • Asteroids and Kuiper Belt Objects – Resonance • NASA Moon Impact Crater Lab
Cause and Effect	• Origin of the Earth and Moon • NASA Moon Impact Crater Lab
Scale, Proportion, and Quantity	• Evolution of Our Solar System: Time Lineup • Modeling Planetary Interiors and Differentiation • The Voyage Scale Model of Solar System • NASA Moon Impact Crater Lab
Systems and System Models	• How Planets Form • Modeling Planetary Interiors and Differentiation • The Voyage Scale Model of Solar System • Asteroids and Kuiper Belt Objects – Resonance • NASA Moon Impact Crater Lab

Energy and Matter	• NASA Moon Impact Crater Lab
Structure and Function	• How Planets Form • NASA Moon Impact Crater Lab
Stability and Change	• Modeling Planetary Interiors and Differentiation
Interdependence of Science, Engineering and Technology	• Asteroids and Kuiper Belt Objects – Resonance • NASA Moon Impact Crater Lab