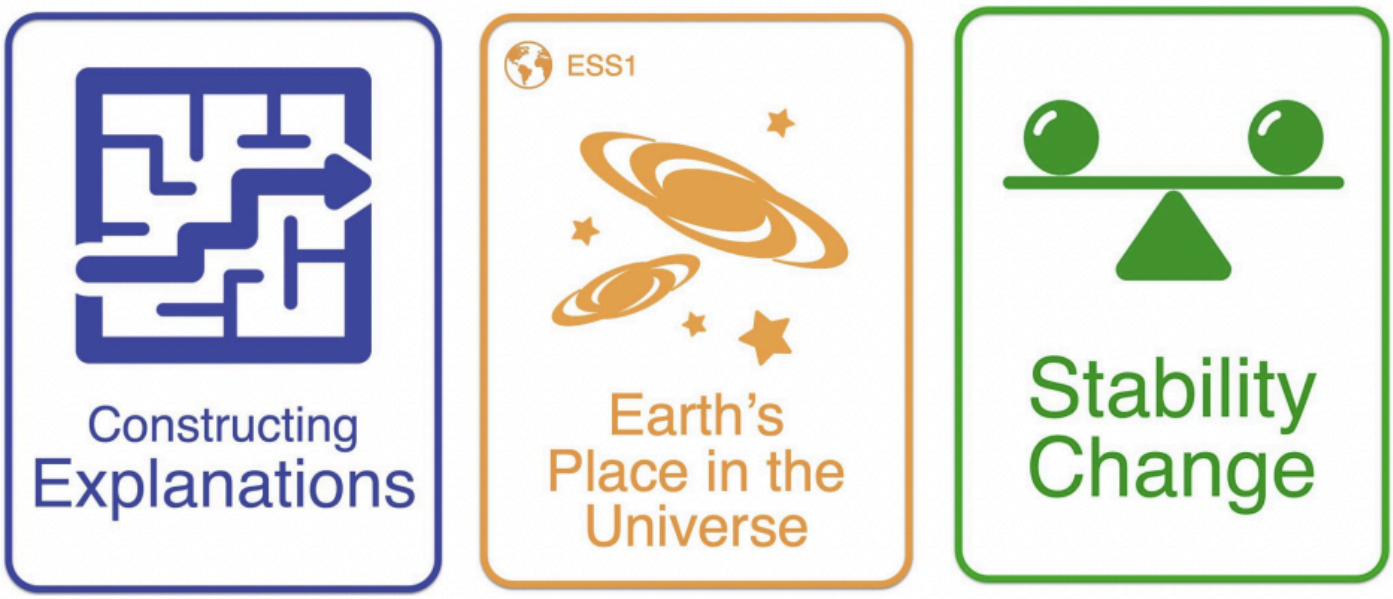
Storyline Unit Design

Understanding by Design (UbD) Template*

Unit		Course(s)	
Designed by		Time Frame	

Anchor Model



*UbD Unit Planner is from Wiggins, Grant and McTighe, Jay. Understanding by Design Guide to Creating High-Quality Units. Alexandria, VA: Association for Supervision and Curriculum Development. 2011.

Stage 1: Desired Results

Performance Expectations

HS-ESS1-5: Evidence of Plate Tectonics
Evaluate evidence of the past and current movements of continental and oceanic crust and the theory of plate tectonics to explain the ages of crustal rocks. (Patterns)

HS-ESS1-6: Evidence of the Earth's History
Apply scientific reasoning and evidence from ancient earth materials, meteorites, and other planetary surfaces to construct an account of earth's formation and early history. (Stability and Change)

Anchoring Phenomenon

Anchoring Phenomenon Worksheet

Enduring Understandings	Essential Questions
Type Here	*Type Here*

Stage 2: Assessments

HS-ESS1-5 - Updating Alfred's Argument
HS-ESS1-6 - Evidence of Earth's History

Assessment Screening Tool Slides

Backward Design Elements

What new skills (practices) will students need to learn?	What thinking concepts will students need to learn?	What science concepts will students need to learn?
Type Here	*Type Here*	*Type Here*

Stage 3: Learning Plan

 Phenomenon or Problem	 Learning Performance - What will they do? The three dimensions woven together into a single learning performance.	 Why is this important? How does this activity help build understanding of the anchoring phenomenon.	 Learning Experience - How will they do it? Graphic organizers, protocols, scaffolds, labs, mini-lesson, student discourse, etc.
Formative Assessment - What information are you collecting to know that they met the target?			
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Summative Assessment What information are you collecting to know that they met the target?			
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Summative Assessment What information are you collecting to know that they met the target?			

Materials / Resources

Vocabulary

HS-ESS1-5
Plate tectonics
Oceanic crust
Continental crust
Mid-ocean ridges
Plate boundaries
Age of rocks
Radiometric dating
Patterns

HS-ESS1-6
Earth's history
Solar system
Ancient materials (e.g. moon rocks, meteorites, Earth's oldest minerals)
Radiometric dating
Impact craters
Plate tectonic processes
Stability and Change

Mini Lessons

Graphic Organizers
Phenomena Observation Graphic Organizer
Questioning Graphic Organizer
Modeling Graphic Organizer
Planning an Investigation Organizer - Experimental
Planning an Investigation Organizer - Observational
Investigation Evidence Organizer
Engaging in Argumentation Organizer

Differentiation / Modifications

Phenomenon Worksheet

Back to **Stage 1**

◁ **HS-ESS1-5 - Evidence of Plate Tectonics**
◁ **HS-ESS1-6 - Evidence of the Earth's History**
◁ **Local**
◁ **Favorite**
◁
◁

Type Here

Screening Tools

Back to Stage 2

HS-ESS1-5: Evidence of Plate Tectonics

Evidence Statement

Assessment: Evidence of Earth's History (Google Template)

Reflections: *Type Here*

	No	Partial	Yes
1. The assessment contains a **phenomenon** (science) or a **problem** (engineering)			
2. The **prompts** match the Science and Engineering Practice (SEP) and engage students in sense making.			
3. The **stimuli** have multiple and sufficient information needed to utilize the SEP. (e.g. multiple data sets to analyze)			
4. The **prompts** elicit observable understanding of the Disciplinary Core Idea (DCI).			
5. The **prompts** explicitly mention the Crosscutting Concept (CCC).			
6. The **prompts** include language (i.e. bullets) from grade appropriate progressions. (SEP)(DCI)(CCC)			
7. The **graphic organizers** provide space for the observable features (e.g. 1, 2, 3...) in the evidence statement. (e.g. claim, evidence and reasoning)			
8. The **entire assessment** contains information that is scientifically accurate and properly attributed. (e.g. don't make up data and include the source)			
9. The **prompts** point in the direction of explaining a phenomenon (science) or designing a solution (engineering).			
10. The **phenomenon** or **problem** is authentic, interesting, and requires students to figure something out.			
11. The **phenomenon** or **problem** is novel to show the transfer of knowledge. (i.e. not in the unit)			

Screening Tools

Back to Stage 2

HS-ESS1-6: Cycling of Earth's Materials

Evidence Statement

Assessment: Evidence of Earth's History (Google Template)

Reflections:

	No	Partial	Yes
1. The assessment contains a **phenomenon** (science) or a **problem** (engineering)			
2. The **prompts** match the Science and Engineering Practice (SEP) and engage students in sense making.			
3. The **stimuli** have multiple and sufficient information needed to utilize the SEP. (e.g. multiple data sets to analyze)			
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