

Storyline Unit Design

Understanding by Design (UbD) Template*

Unit		Course(s)	
Designed by		Time Frame	

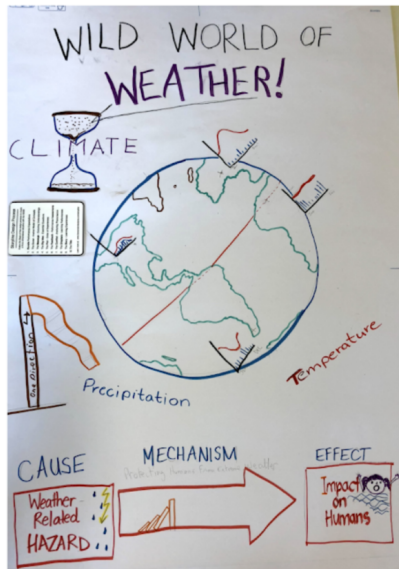
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Anchor Model

Weather and Climate



Grade 3



Stage 1: Desired Results

Performance Expectations

3-ESS2-1: Seasonal Weather Conditions

Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. (Patterns)

3-ESS2-2: World Climates

Obtain and combine information to describe climates in different regions of the world. (Patterns)

3-ESS3-1: Weather-Related Hazard Solution

Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard. (Cause and Effect)

Anchoring Phenomenon

Anchoring Phenomenal [Worksheet](#)

Enduring Understandings

Essential Questions



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Stage 2: Assessments

3-ESS2-1 - [Finding a Field Day](#)
 3-ESS2-2 - [Comparing Climate Graphs](#)
 3-ESS3-1 - [The Amphibious House](#)

[Assessment Screening Tools](#)

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?
Students will gather information from books, media and databases about weather and climate. Students will Interpret data about climate and weather to summarize knowledge about climates of the world. Students will carry out an investigation about climate and data to determine its impact on our lives and on the world.	Students will analyze and compare patterns in weather. Students will make predictions based on data and investigations.	Students will understand climate and weather conditions around the world. Students will compare climate and weather over time. Students will read and interpret a graphs to construct an argument about weather and data.

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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<u>Summative Assessment</u> What information are you collecting to know that they met the target?	

Materials / Resources

Vocabulary

3-ESS2-1

Weather conditions (e.g. average temperature, precipitation and wind direction)
Seasons
Areas
Patterns

3-ESS2-2

Climates
Regions
Patterns

3-ESS3-1

Weather-related hazard (e.g. heavy rain or snow, strong winds, lightning, etc.)
Impact (e.g. flooding, fires)
Cause and effect
Design solution

Mini Lessons

Patterns Level 2 - [Patterns of Change Mini-Lesson](#)
Patterns Level 2 Thinking Slides - [Patterns of Change Thinking Slides](#)
Causation Level 3 - [Causal Relationships Mini-Lesson](#)
Causation Level 3 Thinking Slides - [Causal Relationships Thinking Slides](#)

Graphic Organizers

3-ESS2-1 - [Seasonal Weather Graphic Organizer \(Student Version\)](#)
3-ESS2-1 - [Seasonal Weather Graphic Organizer \(Teacher Version\)](#)



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3-ESS2-2 - [Climate Patterns Graphic Organizer \(Student Version\)](#)
3-ESS2-2 - [Climate Patterns Graphic Organizer \(Teacher Version\)](#)
3-ESS3-1 - [Weather Related Hazard Design Solution Graphic Organizer \(Student Version\)](#)
3-ESS3-1 - [Weather Related Hazard Design Solution Graphic Organizer \(Teacher Version\)](#)
[Phenomena Observation Graphic Organizer](#)
[Questioning Graphic Organizer](#)
[Modeling Graphic Organizer](#)
[Planning an Investigation Organizer](#)
[Investigation Evidence Organizer](#)
[Engaging in Argumentation Organizer](#)

Differentiation / Modifications



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[Stage 1](#)

◀ **3-ESS2-1 - Seasonal Weather Conditions**

◀ **3-ESS2-2 - World Climates**

◀ **3-ESS3-1 - Weather-Related Hazard Solution**

◀ **Local**

◀ **Favorite**

◀

◀

Local weather patterns ◀◀

Why does the wind blow? ◀

UAE building mountain to make it rain ◀◀◀

Climographs ◀◀

Seasonal weather changes ◀◀

Monsoons ◀◀

Windy seasons ◀◀

Same latitude / different weather (e.g. San Francisco, Wichita, Virginia Beach) ◀◀

Climate regions (equatorial, polar, coastal, mid-continental) ◀◀

Weather vs. climate ◀◀

Lightning strikes the same place (e.g. Empire State Building) ◀

Lightning rods ◀

Flood prevention (e.g. dams, levees) ◀◀

Severe weather ◀◀

Storm Chasers ◀◀

Windchill ◀

The driest place on Earth ◀◀

Hurricane shutters ◀◀

Rain shadows ◀◀

Snow fences ◀◀

Thunderstorms ◀

Stilt houses ◀

Wind turning house ◀



3-ESS2-1: Seasonal Weather Conditions

[Evidence Statement](#)Assessment: Finding a Field Day ([PDF](#)) ([Google Template](#))

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



3-ESS2-2: World Climates

[Evidence Statement](#)Assessment: Comparing Climate Graphs ([PDF](#)) ([Google Template](#))Reflections: [Type Here](#)

	No	Partial	Yes
1. The assessment contains a phenomenon (science) or a problem (engineering)			x
2. The prompts match the Science and Engineering Practice (SEP) and engage students in sense making.			x
3. The stimuli have multiple and sufficient information needed to utilize the SEP . (e.g. multiple data sets to analyze)			x
4. The prompts elicit observable understanding of the Disciplinary Core Idea (DCI) .			x
5. The prompts explicitly mention the Crosscutting Concept (CCC) .			x
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9. The prompts point in the direction of explaining a phenomenon (science) or designing a solution (engineering).			x
10. The phenomenon or problem is authentic, interesting, and requires students to figure something out.			x
11. The phenomenon or problem is novel to show the transfer of knowledge. (i.e. not in the unit)			x



3-ESS3-1: Weather-Related Hazard Solution[Evidence Statement](#)Assessment: The Amphibious House ([PDF](#)) ([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) .			
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