Grade Level	2	**School(s)**		**District**	*Chino Valley Unified School District*
Timeline:		**Topic: Landscape Shapes**		**NGSS PE(s)**	Instructional Segment 1: Landscape Shapes (Framework Chapter 3, page 80-85) ESS2-2 Develop a model to represent the shapes and kinds of land and bodies of water in an area.
CA Science Framework: https://www.cde.ca.gov/ci/sc/cf/cascienceframework2016.asp **(Look to Chapter 11 for information on 5E Lessons)**					
DCI focus(es)	ESS2.B- Plate Tectonics and Large-Scale System Interactions ESS2.C- The roles of Water in Earth's Surface Processes			**CCC focus(es)**	CCC-1: Patterns CCC-3: Scale, Proportion, Quantity CCC-4: System and System Models
CCSS Math				**SEP focus(es)**	SEP-2: Developing and Using Models SEP-8: Obtaining, Evaluating, and Communicating Information
Environmental Principles & Concepts				**History/Social Sciences**	
CCSS ELA / CA ELD				**Physical Education**	
VAPA: Visual & Performing Arts				**Social & Emotional Learning**	

LEARNING SEQUENCE PLAN
(bullets include some ideas to consider)

ENGAGE
• Phenomena
• Questioning
• Prior knowledge
	Chino Valley Pictures
	• Have students view the two pictures of Chino Valley landforms
	  ○ What do you notice? (evidence-based observations)
	  ○ What do you wonder? (ask questions)
	  ○ What do the shapes remind you of? (connect to past experiences)
	• Teacher facilitates a whole class discussion of the phenomena. Teacher charts student responses, including student names.

EXPLORE
• Build own meaning
• Tinker
• Modelsy
	Inquiry Walk
	Prepare Science journal/notebook for students to collect data
	Materials for inquiry walk: Clip boards, Science Notebooks/Journals, playground balls
	• Preview guiding questions prior to Inquiry Walk
	  ○ Do you see mountains?
	  ○ Do you see hills?
	  ○ Are some places higher or lower than others?
	  ○ Are there places where the landscape is flat? Bumpy?
	• Have students walk around the school and look at their environment keeping the guiding questions in mind
	• Quick Sketch observations and findings (data) in Science Notebook/Journal
	• Help students add labels to make data more descriptive.
	  ○ Build students' capacity to add data to Journal/Notebook by helping them

understand the components of good Journal.
    - How scientists journal (click link for a resource on journaling)

Explore Activity #1

- Find an area that is seemingly flat, but has a slope (“mini-hill”)
- Gather students in this location
- Have students explore what happens when they roll the ball from one side to the other
    - What do you notice?
    - What do you wonder?
- Have students test several other seemingly flat locations to see if “mini-hills” exist there
- Return to class and allow students to add additional observations, findings (data) sketches and labels in their Science Notebook

Explore Activity #2 Create a Model

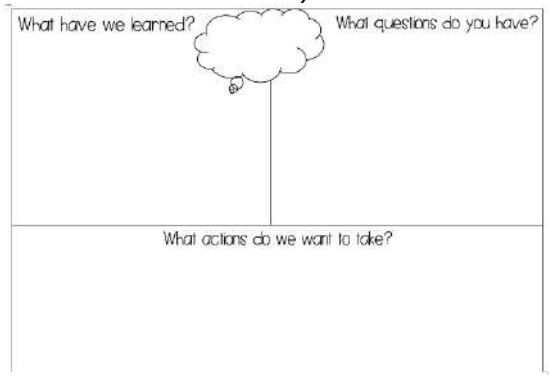
Materials: containers, sand, modeling clay or playdough and water
Landform Pictures (provided in link) for students to use as a model to replicate a landform.
Teacher chooses how many groups and how many pictures to use.

- In groups, have students build models of hills, valleys, mountains, bodies of water using materials provided
- Distribute Landform pictures: hill, valley, mountain, plain, island, ocean, river, lake, pond, desert, volcano, plateau (Landform pictures for this activity)
- In groups, students try to replicate the landform picture they received using materials provided
- Have students draw and label the landform(s) they created in their Science Journals/Notebooks
- Have groups visit other groups’ models
- Students then revisit and revise models in their Journals/Notebooks

Explore Activity #3 (Google Earth)

- Open Google Earth (Choose: Launch Earth in Chrome) Use the 3D option to view the landforms from different perspectives
    - Search local landforms and water sources (i.e. Prado Dam, San Bernardino Mountains, parks with lakes, etc.) and then search other notable landforms
    - Teacher may choose for students to sketch in Science Journals/Notebooks a landform from Google Earth
    - Teacher poses question: What types of shapes do we notice in the landforms that we have been studying?

Create a LQA Chart (What have we **L**earned so far?, What **Q**uestions do we have? What **A**ctions do we want to take)?



	• Have a class discussion to complete the chart

EXPLAIN
• Communicate understanding
• Apply vocabulary
• Research
• Models
	Readings
	• Wonders 2nd grade Unit 4 week 5, Leveled Reader *Rocky Mountain National Park* (paired reading *Yellowstone)*
	  ▪ Options: small group set (5 copies) or digitally assign in Wonders online (includes audio accessibility)
	• Resources and Readings provided from Gale Resource (InfoBits) found through ClassLink
	  ○ Share with the class the video below
	  ▪ Exploring Land Forms: hills and mountains video (duration 1:23)
	• Have students read the text *Landforms* Text
	• Demonstrate how water runs through valleys
	  ○ Take a marker (darker colors work best) and make a large circular mark in the middle of a piece of paper
	  ○ Crumple the paper so it represents different valleys
	  ○ Place the crumpled paper over a cup so that water can drip through the different valleys
	  ○ Spray the top with water and observe the color bleed through the lines
	• Based on new learning, students should be given time to revise any models already in their Science Journals/Notebooks by adding more data (labels and descriptions)

ELABORATE
• Apply to new contexts
• Make connections
• Models
• Engineer
• Build investigation
	Build a Collaborative Model:
	Materials: ingredients for salt maps, playdoh, modeling clay, etc.)
	  ○ Students will revisit their Science Journals and the sketches they have collected from the Inquiry Walk and the readings
	  ○ In groups, students will create a 3D model
	  ▪ The model will include two different landforms of their choosing
	  ▪ The model will include labels
	  ▪ Students can be creative and add color
	Revisit LQA Chart

EVALUATE • Notebooks • Models • Rubrics • Performance Task • Claim, Evidence, Reasoning	**Map Work** **Source for topographical maps** **Chino Valley Topographical map** **Various local topographical maps from Google Earth** • Students will look at various maps and circle different landforms and water sources using various symbols (circle the mountains, put a square around the hills, etc.) • Students will begin to find patterns relating to the shapes and locations of the landforms • Students can build a bubble map describing the features of each landform or body of water • Optional: Students can use a double bubble map to begin comparing different landforms **Making a claim** • Teachers will guide students through defining a **C**laim and providing **E**vidence to support a claim

	• Learning criteria: Students can choose the claim that is supported and provide evidence from models, readings, videos and discussions
	
	• Students review the following claims to see if they are supported by the knowledge that they have acquired in this lesson. The purpose is to see if the students can identify that the first claim is the only one backed up with evidence throughout this lesson.
	  ○ Landforms, such as mountains and lakes, consist of many different shapes
	  ○ The shape of mountains is all the same
	  ○ Water sources are always located by the ocean
	  ○ Water and land have similar shapes