

Standards-Based Project WET Activity Pool – Grade 2

Pool Title: Landscape Shapes – (California Science Framework - Grade 2, IS1, p: 163)

California is known for its majestic mountains, sculpted glacial valleys, rolling coastal hills, and expansive central valley. This instructional segment is the first step on students' paths to understand how California came to look the way it does today. Many grade two students are not yet familiar with these broad features of the state, but can recognize the local landscape such as a slight tilt in sections of their schoolyard or mountains seen in the distance between buildings. In this instructional segment, students notice and describe different shapes in their local landscape. They use physical or pictorial models to represent these landscapes and use published maps and models to learn about landscape features in California and around the world. They ask questions about what causes these features to form and how quickly or slowly the change takes place. (CSF, p: 163)

Standards Pool:

2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.

2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.

Anchoring Phenomenon: Water shapes our community as it flows from land to ocean.

Guiding Questions:

- How can we describe the shape of land and water on Earth?

California Environmental Principles and Concepts:

Principle II The long-term functioning and health of terrestrial, freshwater, coastal and marine ecosystems are influenced by their relationships with human societies.

Principle III Natural systems proceed through cycles that humans depend upon, benefit from and can alter.

Performance Expectations <i>Investigative Phenomena</i>	Learning Targets by PE Dimensions	Learning Experience Connections	Common Core & Engineering/ Community Action Connections
<p>2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.</p> <p><i>Is there more water or land covering the surface of Earth?</i></p>	<p>SEP: Obtain, Evaluate, and Communicate Information Students use the visual features of a globe, text references and math to determine water dominates the surface of the Earth.</p> <p>DCI: ESS2.C: The Roles of Water in Earth’s Surface Processes Students can use a globe to show water is found in the ocean, rivers and lakes, and where it exists as solid ice and in liquid form.</p> <p>CCC: Patterns Students can use visual features to identify water and landforms on a globe.</p>	<p>‘Blue Planet’ (Project WET 2.0; p: 125) - Students engage in a sampling activity tossing around an inflatable globe <i>to demonstrate the vast majority of water on Earth is in the ocean.</i> - Students can tally up the number of times their index finger lands on ocean versus land <i>and make a bar graph illustrating the proportion of Earth’s surface covered by land and water.</i> (CSF, p: 165)</p>	<p>ELA: SL.2.5</p> <p>MATH: MP.2; MP.4; CA CCSSM 2 MD 10</p>
<p>2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.</p> <p><i>What causes water to move in some places, but not in others?</i></p> <p><i>What are the parts of a river system?</i></p>	<p>SEP: Develop and Use Models Students use models to simulate and observe how elevation and geography affect the movement of water.</p> <p>DCI: ESS2.B: Plate Tectonics and Large-Scale System Interactions Students can identify landscape features and water bodies on a map and trace a stream from its source(s) to end point.</p> <p>CCC: Patterns: Students can identify landscape features and water bodies on a map and trace a stream from source(s) to end.</p>	<p>‘Seeing Watersheds’ (Project WET 2.0; p: 187) - Use the activity Warm-Up and Part I of the activity at this grade level. - Activity complements and blends two PEs, thus both are shown in the pool. - See detailed NGSS correlation on Project WET Portal for additional suggestions for helping students elaborate on and apply the concepts and skills in this activity.</p>	<p>ELA: W.2.2; W.2.6; W.2.8; SL.2.2</p> <p>MATH:</p> <p><i>-Students use a map to trace the flow of water from mountains to the ocean or other end basin on a map of their watershed or state.</i> (CSF, p: 165)</p>
<p>2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid.</p> <p><i>How can the patterns and symbols on maps find water</i></p>	<p>SEP: Obtain, Evaluate, and Communicate Information Students can demonstrate the use of a map key to identify water and landscape features and describe differences in vocabulary used for each feature.</p> <p>8</p>	<p>‘Seeing Watersheds’ (Project WET 2.0; p: 187) - Students make a list of all the different words they know to describe land and water features (mountain, hill, valley, river, lake, pond, etc). Some words have very similar meaning (i e , stream and</p>	<p>ELA: W.2.2; W.2.6; W.2.8; SL.2.2</p> <p>MATH:</p> <p><i>-Students use a map to trace the flow of water from their school to local water body and to the ocean or</i></p>

<p><i>and land features on Earth?</i></p> <p><i>What river or stream is near our school and where does it begin and end?</i></p>	<p>DCI: ESS2.C: The Roles of Water in Earth’s Surface Processes Students can identify water bodies and where water exists as ice or in liquid form on a map.</p> <p>CCC: Patterns: Students can identify and describe water and landscape patterns on a map.</p>	<p>creek) while others depict differences in scale (i.e, stream versus river or hill versus mountain) (CSF, p: 165)</p>	<p>basin.</p>
<p>2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.</p> <p><i>How can maps help us better understand how water flows in our community?</i></p>	<p>SEP: Develop and Use Models Students can create a simple map of an area and show how water moves within the area.</p> <p>DCI: ESS2.B: Plate Tectonics and Large-Scale System Interactions Students can use a map to show higher vs. lower points and where water flows in an area.</p> <p>CCC: Patterns: Students can create a map key to identify water and landscape features on a map.</p>	<p>‘Rainy Day Hike’ (Project WET 2.0; p: 169)</p> <ul style="list-style-type: none"> - Students develop a simple map of a schoolyard or other area <i>to show variations in topography</i> and where water flows or pools in a storm. - Maps in grade two do not need to include a precise scale. (CSF, p: 164) 	<p>ELA: SL.2.5</p> <p>MATH: MP.2; MP.4</p> <ul style="list-style-type: none"> - Students map the flow of water to the nearest storm drain(s) and find out where water in the storm drain goes.
<p>2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.</p> <p><i>How does water get from the mountains to the ocean?</i></p> <p><i>Does water in rivers flow at the same rate all year?</i></p>	<p>SEP: Develop and Use Models Students can describe and explain the effect of seasonal variations and elevation on water flow in a river system.</p> <p>DCI: ESS2.C: The Roles of Water in Earth’s Surface Processes Students can describe changes in seasonal water flow affect human and natural communities near and at the end of the river.</p> <p>CCC: Patterns Students can identify map features and location of a local stream system on a map.</p>	<p>‘Blue River’ (Project WET 2.0; p: 135)</p> <ul style="list-style-type: none"> - Activity also supports 2-ESS2-3, thus dimensions listed here are a blend of each. - Students simulate the annual movement of water in a river system. - See detailed NGSS correlation on Project WET Portal for additional suggestions for helping students elaborate on and apply the concepts and skills in this activity. 	<p>ELA: W.2.6; W.2.8; SL.2.5</p> <p>MATH: MP.2; MP.4</p> <ul style="list-style-type: none"> - By tracing the paths of rivers on maps, students notice that most of California’s rivers flow into and out of lakes and eventually make their way to the ocean. (CSF, p: 165)
<p><i>The California Science Framework describes scenarios for additional activities to integrate 2nd Grade science and ELD Standards (CSF, p: 166) and mathematics (CSF, p: 167) in the classroom that are consistent with the Project WET detailed NGSS correlation and realignments for the activities below.</i></p>			

<p>2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.</p> <p><i>How can maps help us better understand connections between land uses and water flow through human communities?</i></p>	<p>SEP: Develop and Use Models Students can create and use a simple grid system to estimate map area covered by any given water or landscape feature.</p> <p>DCI: ESS2.B: Plate Tectonics and Large-Scale System Interactions Students can describe the area covered by specific landscape and water features on a map.</p> <p>CCC: Patterns Students can use charts or graphs to compare the area covered by landscape types and water features on a map.</p>	<p>‘Color Me a Watershed’ (Project WET 2.0; p: 239) -Students develop a color key to highlight and differentiate patterns or features on a map grid. - Students create a grid system on an area map to compare the area covered by different features or patterns to apply what they learn. (CSF; p: 167)</p>	<p>ELA: SL.2.5</p> <p>MATH: MP.2; MP.4; CA CCSSM.2.G.2; 2 MD.10</p>
<p>2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area.</p> <p><i>How can maps and images of locations on the map help us better understand where water is found in our state?</i></p>	<p>SEP: Develop and Use Models Students can explain in writing why they built the model the way they did.</p> <p>DCI: ESS2.B: Plate Tectonics and Large-Scale System Interactions Students create a model of a park area representing the shapes and kinds of land and bodies of water found in the park area.</p> <p>CCC: Patterns Students can use image and text evidence to support choices for materials, size, and process used to develop their models.</p>	<p>‘Discover the Waters of Our National Parks’ (Project WET 2.0; p: 500) - Students to identify and describe living things, water and landform features and different forms of water in images of National Park areas. - To support students at the Emerging level of English proficiency, the teacher can work with a small group and co-construct an explanation with them, recasting student ideas and asking probing questions to strengthen the writing (CSF, p: 166)</p>	<p>CA ELD Standards: ELD PI 2 11</p> <p>ELA: W.2.6; W.2.7; W.2.8</p>