

Global Precipitation Measurement Mission

2nd Grade – Models of Land and Water Identifying Landforms and Bodies of Water on a Map

Lesson Overview:

The purpose of this lesson is to expose students to the practice of “developing and using models” as students explore and identify landforms and bodies of water on a map of the world. It is anticipated that this lesson will take about one hour.

The students will be able to:

- Identify a map as a type of model
- Name several landforms and bodies of water
- Describe several landforms and bodies of water
- Locate landforms and bodies of water on a map

National Standards Introduced and Reinforced (not assessed)

NGSS:

2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area. [Assessment Boundary: Assessment does not include quantitative scaling in models.]

Developing and Using Models

Modeling in K–2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, or storyboard) that represent concrete events or design solutions.

CC:

CCSS.ELA-LITERACY.L.2.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.

CCSS.ELA-LITERACY.L.2.4.A Use sentence-level context as a clue to the meaning of a word or phrase.

CCSS.ELA-LITERACY.L.2.6 Use words and phrases acquired through conversations, reading and being read to, and responding to texts, including using adjectives and adverbs to describe (e.g., When other kids are happy that makes me happy).

CCSS.ELA-LITERACY.SL.2.6 Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.

Background Information:

In this lesson, students will be learning about landforms and bodies of water as well as reinforcing their understanding of models. Landforms are simply natural features on Earth’s surface; things like mountains, valleys, hills, etc. To learn more about landforms

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and how they were created, go to

<http://education.nationalgeographic.com/education/encyclopedia/landform/?ar a=1>

Bodies of water generally refer to both natural and human-made areas that have water; including oceans, lakes, rivers, streams, and so on. To learn about the different types of bodies of water, go to http://en.wikipedia.org/wiki/Body_of_water.

The Next Generation Science Standards help guide teachers to know what types of information and skills are developmentally appropriate for students at different age levels. In addition to the performance expectations, the NGSS offers advice to assist teachers as they instruct their students. To learn about how to teach students about models, go to http://www.nap.edu/openbook.php?record_id=13165&page=56. There is information for teaching the “Roles of Water on Earth’s Surface Processes” at http://www.nap.edu/openbook.php?record_id=13165&page=184, and “Plate Tectonics and Large-scale System Interactions” at http://www.nap.edu/openbook.php?record_id=13165&page=182

Materials:

- [Landforms and Bodies of Water PowerPoint](#)
- [Student Capture Sheet](#)
- [Landforms and clues for game](#)

Engage (15 min.): Schoolyard Walk: Slides 3-5

Before starting this lesson, ask students to name some landforms and/or bodies of water. Make a list of these to use to compare and contrast what they can name and describe at the conclusion of this lesson. [Slide 3](#)

[Slide 4 Take](#) the students around the schoolyard to look for examples of landforms. The purpose of this walk is to observe various landforms and their features, rather than identifying them by name.

Option: Virtual Tour- [Slide 5](#) If your school is in an urban environment or the weather is not cooperating, you can take them on a virtual tour of the West Virginia University Campus by following the link: <http://bit.ly/1r3dyeH> and selecting the following panoramas- Downtown Library (some hills), Life Sciences Building (more hills), Roof of Brooks Hall (hills, river). You could also use Google Maps at <http://bit.ly/13DCxeA> and enter your school address, and then get the street view and use it in panorama mode to virtually walk around the school.

Explore (15 min.): Maps and Globes as Models, Building on Background Experience, Reading to be Informed- Slides 6 and 7

Show the students the world map on [slide 6](#). Ask them what a map is, and help lead them to understanding that a map is a type of model- it represents the real thing, and serves a purpose. Have them identify the purposes of maps-, which will vary depending on the type

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of map. If you also have a globe, it is nice to use the globe and map to compare and contrast these two models of Earth and to discuss the purposes of each and the limitations as well. For example, a globe helps us to visualize the shape of Earth and to see bodies of water, continents, and to identify countries. However, we couldn't use a globe to find a small lake or to get directions to a friend's house.

Elicit observations from them about the different landforms and bodies of water they see on the map. Ask them if they think there is more water or more land on Earth's surface. Your students may begin to notice some specific landforms that they recognize from previous experiences such as: mountains, plains, islands, rivers, lakes, and oceans. Help them to take note of these familiar features by drawing attention to them in the map.

Tell the students that they will be taking a closer look at different landforms and bodies of water. As they read the articles and view the slideshow below, the class will be taking notes on [slide 7](#). You may choose to have students read together as a whole class, in pairs, or independently depending on the needs of your students. You might even choose to have the students work in small groups to learn about one type of landform or body of water, and then have them share in with the rest of the class as you elicit their responses for the class notes.

Articles about landforms and bodies of water will be found at <http://bit.ly/1v49lnl> and there is a slide show that also reviews several landforms and a few bodies of water at <http://bit.ly/1sDQ6Af>.

For the class notes, have students identify different landforms/bodies of water and give a short descriptions of them as you write them on the slide. Sweep around the room until they run out of these to share.

Explain (15 min.): Group Game- [Slide 8](#)

Next you will have your students practice using the information they learned by playing a game. Give each student a [picture of a landform or body of water or a clue](#) that describes a landform or body of water. Tell the students they will walk around the room looking to find their match. Once they have found their match they will sit together. Then you will come to check their work. Once everyone has found their match they will go around the room and share our each landform and their corresponding description.

Evaluate (10 min.): Group and Individual Responses- [Slides 9 to 11](#)

Tell the students that they will look at some works of art to demonstrate what they learned. Show them the painting on [slide 8](#). Ask them to take to look carefully and identify as many landforms/bodies of water as they can. Have them write a list of each landform/body of water they can identify. Have students share out, using the format- "I see a _____. I know because _____."

The link for this painting is <http://1.usa.gov/1xsZ8vk>.

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Repeat this with the next picture on [slide 10](#). The link for this picture is <http://on.mo.gov/1AvmKbU>.

Ask the students to participate in a post-assessment activity. Using the [student capture sheet](#), the students will list five different types of landforms or bodies of water they can name and draw a picture for each. ([Slide 11](#))

Elaborate/Extend: [slide 12](#)

Students could further explore the idea of landforms and bodies of water would be to conduct research on common landforms/bodies of water in their neighborhood, county, state or region.

One way to involve families in this experience would be to ask the students to go home and interview their families about major landforms or bodies of water they have visited and gather additional information about the characteristics of these landforms/bodies of water. For example, maybe a family has visited on of the islands of Hawaii or gone hiking on the Rocky Mountains.

Students could create an art project depicting one of the landforms or bodies of water studied. This is often done using paper Mache, but they could expand their engineering capacities by having different materials to work with as they developed a model. They might consider making a museum display, which would include a label and a short description that explains the landform or body of water being modeled.

Teacher Notes:

Before the lesson, you will want to cut the [landformsTR1](#) into pictures and descriptions to have them ready for the matching game. You may want to make an extra copy and have it for students to compare once they believe they have the right matches.

This is a vocabulary rich lesson. Depending on your students' level of background knowledge in this area, your student may require several more encounters with the landform and body of water vocabulary in this lesson. One way to further support your students' vocabulary development would be to read informational books on this topic and focus on the glossary and bold print as text features. An additional vocabulary lesson would be to provide the students with the landform and body of water vocabulary and ask them to sort the words into groups. They can sort them any way they see fit. Then you can have a discussion about the groups they created and why. To assist you with vocabulary and concept development, we have also included a pdf that only has the pictures of the landforms/bodies of water- [landformsTR2](#).

Additional Resources:

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“How Can We Compare Maps with Images from Space?” lesson plan:

<http://nasawavelength.org/resource/nw-000-000-003-252/>

“What are Physical and Human-made Features?” lesson plan:

<http://nasawavelength.org/resource/nw-000-000-003-274/>

“What is There to See from Sea to Shining Sea?” lesson plan:

<http://nasawavelength.org/resource/nw-000-000-003-275/>

“Blue Marble Matches: Using Earth for Planetary Comparisons” lesson plan:

<http://nasawavelength.org/resource-search?educationalLevel=Elementary+school&qq=landforms&facetSort=1&page=2>