

# Earth's Spheres

Lesson Segment Focus: The Earth's spheres

Lesson 1 of 1

Course & topic addressed: Science, the interaction of Earth's spheres

Date: 2-4-19 Grade: 5th

## Student Outcomes

<p>Specific learning objectives for this lesson.</p>	<p>Students will learn about the Earth's spheres and their interactions.                  Students will write about interactions between two systems at a time in their science workbook.                  Students will demonstrate knowledge of these interactions in the different systems by connecting the spheres in a web model.</p>
<p>Describe the connection to previous lessons. (Prior knowledge of students this builds upon)</p>	<p>Students should know about things like erosion, weathering, the rock cycle, weather cycle, the definition of living, and what air is composed of.</p>
<p>Knowledge of students background (personal, cultural, or community assets)</p>	<p>Students should know of state parks that have waterfalls or some may have been to places where interactions were observed. Others may mention interactions they see in their home life such as the wind/rain killing a garden or rain washing away rocks from nearby mountains into the road.</p>

## State Academic Content Standards

<p>List the state academic content standards with which this lesson is aligned. Include state abbreviation and number &amp; text of the standard.</p>	<p><b>5-ESS2-1 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact. [Clarification Statement: Examples could include the influence of the ocean on ecosystems, landform shape, and climate; the influence of the atmosphere on landforms and ecosystems through weather and climate; or the influence of mountain ranges on winds and clouds in the atmosphere. The geosphere, hydrosphere, atmosphere, and biosphere are each a system.] [Assessment Boundary: Assessment is limited to the interactions of two systems at a time.]</b></p>
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## Academic Language Support

<p>What planned instructional supports might you use to assist students to understand key academic language to express and develop their content learning?          What will you do to provide varying supports for students at different levels of academic language development?</p>	<p>The teacher will instruct the students to do a thumb challenge to check for understanding of key vocabulary words if she notices that there seems to be a lack of understanding. Students will write vocabulary words on sentence strips for each pair of students. Students will stand, facing each other, with the sentence strips between them. Each student will hold the strip with their thumb on the first word on their side. The first student will read the first word and then state the definition, (if that student accurately defines the word) then the second student will read and define the word. If the first student wasn't able to define the word, he can go back and do so after the second student defines it. If both students cannot define a word, they must raise their hands and ask the teacher for help.</p>
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### Key Vocabulary

<p>What vocabulary terms/content specific terminology must be addressed for students to master the lesson?</p>	<p><b>Geosphere, Hydrosphere, atmosphere, biosphere, interaction, weathering, erosion, water cycle, magma, lava, carbon, system</b></p>
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### Materials

<p>Materials needed by teacher for <b>this lesson.</b></p>	<p>Teacher will need a smart board, computer, internet, YouTube videos, Inspiration 9, google classroom, and copies of Earth systems posters for each group of students.</p>
<p>Materials needed by students for <b>this lesson.</b></p>	<p>Students will need laptops, internet, Inspiration 9, google classroom, science notebooks, pens, string, tape, 4 posters, and foam board.</p>

### Lesson Timeline with Instructional Strategies & Learning Tasks (**This should be VERY DETAILED**)

Amount of Time	Teaching & Learning Activities	Describe what YOU (teacher) will be doing and/or what STUDENTS will be doing during this part of the lesson.
7 minutes	<b><u>Introduction:</u></b>	<ul style="list-style-type: none"><li>•The teacher will play a music video on YouTube explaining the definitions of the four systems. (<a href="https://youtu.be/HurK-1rrdb8">https://youtu.be/HurK-1rrdb8</a>) The class will then review the definitions of the prefixes mention in the video (i.e. bio- means life) and how that connects to what is included in the sphere.</li></ul>
6 minutes	<b><u>Instruction:</u></b>	<ul style="list-style-type: none"><li>•The students will watch a second YouTube video to prepare them for their lesson assignment. (<a href="https://youtu.be/BnpF0ndXk-8">https://youtu.be/BnpF0ndXk-8</a>)</li></ul>
20 minutes		<ul style="list-style-type: none"><li>•Students will then log onto Google Classroom and find the Inspiration link in assignments. There they will be invited to explore the different spheres by clicking on hyperlinks leading to a web of examples from that sphere and a hyperlink leading to an educational website on that sphere. Students can explore the information and web for several minutes. Students will then get out their science notebooks and select an example from each of the spheres that reacts with another sphere. Students should end up with two interactions written in their notebook that represents one example from each sphere (I.e. “Rivers in the hydrosphere change the shape of mountains in the geosphere by erosion.” represents one complete interaction. The second interaction should have examples from the atmosphere and biosphere interacting.).</li></ul>

Amount of Time	Teaching & Learning Activities	Describe what YOU (teacher) will be doing and/or what STUDENTS will be doing during this part of the lesson.
15 minutes	<u>Closure:</u>	<ul style="list-style-type: none"> <li>• Students will make a connection web. With copies of four posters of the Earth's systems on a foam board, groups of four students will collaborate on coming up with different interactions between two spheres at a time (like the hydrosphere interacted with the geosphere to create weathering). Students will write the interaction on a strip of paper and tape it to a string. This string will be attached to each sphere's poster. The student will physically and visually connect the sphere's together using their interactions. Students will then be able to see a web of the many interactions between all four spheres.</li> <li>• These boards can be hung on the wall, giving students a visual representation of how Earth's systems interact. Students will see interactions that other groups thought of that they didn't previously consider.</li> </ul>

**Accommodations/Modifications**

<p>How might I modify instruction for:</p> <p>Remediation? Intervention? IEP/504? LEP/ESL?</p>	<p>There will be adjustments made for IEPs. Students can draw interactions in their notebooks instead of writing them. Students can read lower level books on Earth's systems if their reading isn't up to grade level and comprehension of the websites would be too difficult. ESL students can have a different Inspiration web that includes cognates for the systems and the examples. There can also be a set of instructions in Inspiration that is written in their language depending on their need of language scaffolding.</p>
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**Differentiation:**

How might you provide a variety of instructional methods/tasks/instructional strategies to ensure all student needs are met?	The thumb challenge will help with understanding and comprehension. Exploring the web and interaction with the videos will help visual learners. Also, making the physical web of interactions will be a kinetic and visual way to connect with the knowledge that they've just gained.
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**Assessments: Formative and/or Summative**

Describe the tools/procedures that will be used in this lesson to monitor students' learning of the lesson objective/s (include type of assessment & what is assessed).	<input type="checkbox"/> Formative / <input type="checkbox"/> Summative	
	<input type="checkbox"/> Formative / <input type="checkbox"/> Summative	
	<input type="checkbox"/> Formative / <input type="checkbox"/> Summative	

**Research/Theory**

Identify theories or research that supports the approach you used.	
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**Lesson Reflection/Evaluation**

What went well? What changes should be made? How will I use assessment data for next steps?	<i>TO BE FILLED IN AFTER TEACHING</i>
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Include supporting material such as slides, pictures, copy of textbook, and handouts for any activities students will be using as part of your lesson.

\*adapted from: <http://webcache.googleusercontent.com/search?q=cache:EsQcNWuG1ZoJ:web.mnstate.edu/harms/StudentTeachers/edTPA-LessonPlan.doc+&cd=2&hl=en&ct=clnk&gl=us>; <http://www.moreheadstate.edu/getmedia/ed3fd026-939f-4a47-a938-29c06d74ca01/Lesson-Plan-and-Reflections.aspx>; <http://www.mcneese.edu/f/c/9cb690d2/Lesson%20Plan%20Rubric%20Aligned%20with%20InTASC.docx>; <https://www.uwsp.edu/education/Documents/edTPA/Resource12.pdf>; <https://www.uwsp.edu/education/Documents/edTPA/Resource11.pdf>; <https://www.uwsp.edu/education/Documents/edTPA/Resource11a.pdf>; <https://www.uwsp.edu/education/Documents/edTPA/LessonPlanTemplateSOE.docx>; <https://www.uwsp.edu/education/Documents/edTPA/SpecEdLessonPlanGuide.docx>; <https://www.uwsp.edu/education/Documents/edTPA/SpecEdLessonPlanTemplate.docx>

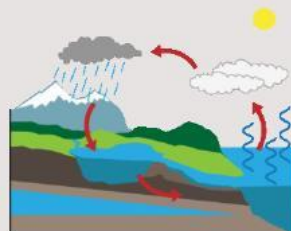


**FOR THIS LESSON, WE ARE STUDYING THE DIFFERENT SYSTEMS OF EARTH AND THEIR INTERACTIONS. PLEASE EXPLORE THESE DIFFERENT SPHERES BY CLICKING ON THE HYPERLINKS. IN EACH SECTION, THERE WILL A HYPERLINK WITH A WEBSITE CONTAINING MORE INFORMATION ON THE SPHERE AND SOME EXAMPLES OF THINGS IN THAT SPHERE. PLEASE SELECT AN EXAMPLE FROM EACH SPHERE AND WRITE AN INTERACTION THAT EXAMPLE HAS WITH ANOTHER SPHERE (I.E. RIVERS IN THE HYDROSPHERE CHANGE THE SHAPE OF MOUNTAINS IN THE GEOSPHERE BY EROSION.) WRITE THESE INTERACTIONS DOWN IN YOUR SCIENCE NOTEBOOK. YOU SHOULD HAVE 2 INTERACTIONS, REPRESENTING ONE EXAMPLE FROM EACH SPHERE (I.E. RIVERS/HYDROSPHERE AND MOUNTAINS/GEOSPHERE; PLANTS/BIOSPHERE AND OXYGEN/ATMOSPHERE).**



**EARTH'S SYSTEMS**

**HYDROSPHERE**



**BIOSPHERE**



**GEOSPHERE**



**ATMOSPHERE**

