Title:Oceans

Suggested Time: 5 days (45 minutes a day)

Common Core ELA Standards: RI.5.1, RI.5.2, RI.5.3, RI.5.4, RI.5.5, RI.5.7, RI.5.8, RI.5.10; RF.5.4; W.5.2, W.5.8, W.5.9; SL.5.1; L.5.1, L.5.2, L5.4, L.5.6.

Teacher Instructions

*Refer to the Introduction for further details.*

**Before Teaching**

1. Read the Big Ideas and Key Understandings and the Synopsis. Please do **not** read this to the students. This is a description for teachers, about the big ideas and key understanding that students should take away **after** completing this task.

Big Ideas and Key Understandings

The Earth is different from any other planet in the Solar System because it is mostly “liquid” water. Most of that is oceans. The oceans have patterns of movement that this piece explains clearly and beautifully.

Synopsis

In this text, the author – Seymour Simon, explains the ocean phenomena of tides, tsunamis, and waves.

More specifically, Simon goes on to explain how oceans work: the relationship between the phases of the moon and tides, and the dangers of deadly tidal waves called tsunamis. Simon explains clearly how and why waves form on a beach. The photographs, charts and illustrations help readers understand the concepts.

2. Prep for teaching this piece by reading the entire selection and reviewing these questions and tasks. This is a great piece to demonstrate the power of text structures and illustrations to support learning from reading

**During Teaching**

1. Teacher reads the main selection text aloud with students following along.
2. Students read the text independently, in section chunks or in its entirety – teachers should judge based on their class needs.

Note to teachers: this text is rich, and teachers should plan to reinforce students’ use of text structures by creating appropriate “chunks” of text for the students to focus on after the initial reading. For this same reason, we recommend the teacher read aloud first with the students following along to build fluency and make sure everyone has access to the general flow of the text.

1. Students and teacher re-read the text while stopping to respond to and discuss the questions and returning to the text. A variety of methods can be used to structure the reading and discussion (i.e.: whole class discussion, think-pair-share, independent written response, group work, etc.). The mantra can be thought of as “re-read, think, discuss, write” in various combinations.

Text Dependent Questions

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| **Text Dependent Questions** | **Answers** |
| What makes the earth different from any of the other planets in our solar system? What is “liquid water”? Pg. 300 | The earth is made up of much more water (70% of the surface) and is the only planet to have that water in liquid form. Liquid water is water that is not solid (ice) or gas (steam), but runny =liquid. We usually just call it plain old water when it’s in that form.  |
| Why are there two high tides and two low tides per day? Use the chart and the text to explain this in your own words (Pg. 301) | Since tides are formed by the gravitational pull of the moon and the sun, there are two large forces acting on the oceans. The moon has lots more influence because it so much closer than the sun, but both are factors. The moon causes the tides, and where the sun is compared to the moon influences how strong the tides are. Since the moon rotates the earth roughly once a day (24 hours and 50 minutes), it influences each part of the ocean on earth twice a day: once when it is near, and once when it is opposite. |
| What is a “Neap” tide and what causes it? Connect your answer to your explanation in #2. (pg. 301) | A Neap Tide is the smallest tide. It is caused when the sun is at right angles to the moon, so they pull on the water in opposite directions. The result is that the tide is smaller. The connection is that the sun and moon are both what cause tides. |
| What other factors make a tide bigger or smaller besides the sun and moon? (Pg. 302) | The shape of the coastline and the inlets like bays and gulfs also influence the size of the tides. |
| Why does the tide in the Gulf of Mexico only rise and fall by a few inches a day? Pg. 302 | The Gulf of Mexico covers a wide area; therefore the tide is able to spread out.  |
| How is a Tsunami generated? As part of your answer, explain why calling a Tsunami a “tidal wave” is not accurate. (Pg. 303) | A tsunami is formed when there is an earthquake or volcanic eruption underwater. It causes shock waves to form, even in the middle of the ocean. When it hits a shoreline, there can be enormous waves. Since they are not caused by the moon and sun, they are not really tides at all.  |
| Describe what a “Fetch” is in your own words. (pg. 305) | This word is defined when it is introduced on page 305. Student answers should vary as they paraphrase. They should not copy the exact phrase from the article.  |
| What is the connection between a wave and a swell? What factors determine how big and strong waves or swells are? (pg. 305) | A swell is a group of waves that form together because they are all heading in the same direction. The factors that influence the strength of a wave are how hard and long the wind blows and the length of the fetch.  |
| Explain what is moving within a wave if it is NOT the water. (page 306) | The wave is a wave of energy. The water doesn’t actually move along with the waves of energy. It swirls and stays in place. (If students have trouble figuring this odd and important idea out, draw them to the vivid example of a stick bobbing more or less in place that Simon offers). |
| Why do people say “the wave begins to feel the bottom” (pg. 308)? Why is that in quotations in the text? What effect does “feeling the bottom” have on the action of the waves? | When the waves near shore, the bottom becomes more shallow. This slows the wave down, which is what this expression refers to. This is what sets in motion the crashing of waves upon the shore. The crest is moving faster than the trough, and the waves coming in behind the front ones haven’t been slowed down by the bottom yet.  |
| Go through the whole article and make a list of the ways Simon has structured the text to make it easier to figure out all these ideas and facts about how the ocean works. | Answers will vary, but this will help students notice the charts and photographs, captions and section headers that clarify complicated ideas and chunk the ideas into different sections so they can be more easily absorbed. It is essential that students learn to take account of the support these structures provide, and to know that they are fairly consistent and reliable.  |

Vocabulary

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|  | **KEY WORDS ESSENTIAL TO UNDERSTANDING** **BIG IDEAS OF TEXT** | **WORDS WORTH KNOWING** Words to be part of systematic vocabulary instruction, not essential for understanding the big ideas of the text  |
|  **TEACHER PROVIDES DEFINITION** not enough contextual clues provided in the text | Page 300: Solar system, planet continent , island,Pacific Ocean, Atlantic Ocean, Page 301: “liquid water”, gravity (gravitational pull) , wave, tides/tidal, right angles, Neap TidePage 302: gulf, bayPage 303: Tidal WavePage 306: swell, particles, crest, troughPage 307: tonsPage 308: breaker, surfPage 309: coastline, spires, platforms, dunes | Surface (pg. 300)Rotates/rotation, bulge (pg. 301)Sloshing (pg. 302)Community, generated, noticeable, approaches, ‘resulted in,’ property (pg. 303)Energy (pg. 306)Severe (pg. 307)‘topples over’ (pg. 308)Eventually (pg. 309) |
| **STUDENTS FIGURE OUT THE MEANING**sufficient context clues are provided in the text | Tsunami (pg. 303)Fetch (pg. 305)Surf (pg. 310)Wavelength (pg. 305)Oceangoing (pg. 307)Breaker (pg. 308) | Shallow (pg. 302)Incoming (pg. 309)Reshaping (pg. 309) |

Culminating Task

* In “Oceans”, the author divided the text into three topics related to the oceans – Tides, Tsunamis, and Waves. Each topic has a main idea and details. Look in the text to find the main idea and the details which support the main topic.

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| Topic | Main Idea | Details |
| *Tides* |  |  |
| *Tsunamis* |  |  |
| *Waves* |  |  |

Then, chose one of the three that you think you have the clearest sense of and write an explanatory paragraph where you show a third grader how that part of the ocean system works. Make sure you write simply and clearly, and that you are accurate in your details. If you chose, you can include your own picture or chart to help a younger student understand how the ocean activity you selected to explain really works.

Additional Tasks

* Create a glossary (a mini dictionary that specializes in the words from just this one article) of terms from all the words in this article that are ocean-connected words. Put the definitions in your own words. You can choose to organize your glossary in page order or in alphabetical order. Offer it to your teacher as a support for the next group of students who will read *Oceans* in the future.

Note to Teacher

* This article is chock-full of great vocabulary words. Please try to make every effort to expose your students to these words so they can claim them as their own for the rest of their lives. So many of them are science content words, this piece would be a logical one to build an extension science unit from. If you chose to do the Glossary extension outlined just above, it would be great scaffolding to offer the students the Vocabulary Quadrant prepared for you above.
* The other strength of this piece, coming as early in the year as it does, is it is a great piece to reinforce or teach elements of text structure from. We tried to weave questions in that would draw students’ attention to features of the text designed to support them in building understanding, but much of this will come from your discussion. Text structure is something you should hold your students accountable for noticing and using every time they are working with informational text.

Supports for English Language Learners (ELLs)

to use with Basal Alignment Project Lessons

When teaching any lesson, it is important to make sure you are including supports to help all students. We have prepared some examples of different types of supports that you can use in conjunction with our Basal Alignment Project Lessons to help support your ELLs. They are grouped by when they would best fit in a lesson. While these supports reflect research in how to support ELLs, these activities can help ALL students engage more deeply with these lessons. Note that some strategies should be used at multiple points within a lesson; we’ll point these out. It is also important to understand that these scaffolds represent options for teachers to select based on students’ needs; it is not the intention that teachers should do *all* of these things at every lesson.

**Before the reading:**

* Read passages, sing songs, watch videos, view photographs, discuss topics (e.g., using the [four corners strategy](http://www.theteachertoolkit.com/index.php/tool/four-corners)), or research topics that help provide context for what your students will be reading. This is especially true if the setting (e.g., 18th Century England) or topic (e.g., boats) is one that is unfamiliar to the students.
* Provide instruction, using multiple modalities, on selected vocabulary words that are *central to understanding the text*. When looking at the lesson plan, you should note the Tier 2 words, particularly those words with high conceptual complexity (i.e., they are difficult to visualize, learn from context clues, or are abstract), and consider introducing them ahead of reading. For more information on selecting such words, go [here](https://achievethecore.org/page/3167/selecting-and-using-academic-vocabulary-in-instruction). **You should plan to continue to reinforce these words, and additional vocabulary, in the context of reading and working with the text. (See additional activities in the During Reading and After Reading sections.)**

**Examples of Activities:**

* Provide students with the definition of the words and then have students work together to create [Frayer models](http://www.theteachertoolkit.com/index.php/tool/frayer-model) or other kinds of word maps for the words.
* When a word contains a prefix or suffix that has been introduced before, highlight how the word part can be used to help determine word meaning.
* Keep a word wall or word bank where these new words can be added and that students can access later.
* Have students create visual glossaries for whenever they encounter new words. Then have your students add these words to their visual glossaries.
* Create pictures using the word. These can even be added to your word wall!
* Create lists of synonyms and antonyms for the word.
* Have students practice using the words in conversation. For newcomers, consider providing them with [sentence frames](https://achievethecore.org/page/3159/ell-supports-for-writing-and-discussion) to ensure they can participate in the conversation.
	+ Practice spelling the words using different spelling practice strategies and decoding strategies. Students could take turns spelling with a partner.
* Use graphic organizers to help introduce content.

**Examples of Activities:**

* Have students fill in a [KWL chart](http://www.nea.org/tools/k-w-l-know-want-to-know-learned.html) about what they will be reading about.
* Have students research setting or topic using a pre-approved website and fill in a chart about it. You could even have students work in groups where each group is assigned part of the topic.
* Have students fill in a bubble map where they write down anything that they find interesting about the topic while watching a video or reading a short passage about the topic. Then students can discuss why they picked the information.

**During reading:**

* Read the text aloud first so that ELLs can hear the passage read by a fluent reader before working with the text themselves.
* Allow ELLs to collaborate in their home languages to process content before participating in whole class discussions in English. Consider giving them the discussion questions to look over in advance (perhaps during the first read) and having them work with a partner to prepare.
* Encourage students to create sketch-notes or to storyboard the passage when they are reading it individually or with a partner. This will help show if they understand what they are reading as they are reading it.
* Ask questions related to the who, what, when, why, and how of the passage. For students that may need a little more help, provide them with [sentence stems](https://achievethecore.org/page/3159/ell-supports-for-writing-and-discussion).
* Continue to draw attention to and discuss the words that you introduced before the reading.

**Examples of Activities:**

* Have students include the example from the text in their glossary that they created.
* Create or find pictures that represent how the word was used in the passage.
* Practice creating sentences using the word in the way it was using in the passage.
* Have students discuss the author’s word choice.
* Use graphic organizers to help organize content and thinking.

**Examples of Activities:**

* Have students fill in a chart to keep track of their 5ws while they read to help them summarize later and figure out the central idea of a passage.
* It may again be beneficial to have somewhere for students to store new words that they encounter while reading the text. Students could use a chart to keep track of these new words and their meanings as they read.
* If you had students fill in a KWL, have them fill in the “L” section as they read the passage.
* Utilize any illustrations or text features that come with the story or passage to better understand the reading.
* Compare/contrast the passage with what the illustrations convey about the passage. Have students consider if the illustrations look the way they visualized the passage in their own minds or if the passage matches their predictions based on the illustrations.
* Identify any text features such as captions and discuss how they contribute to meaning.

**After reading:**

* Present directions for any post-reading assignments orally and visually; repeat often; and ask English Language Learners to rephrase.
* Allow ELLs to use English language that is still under development. Students should not be scored lower because of incorrect spelling or grammar (unless the goal of the assignment is to assess spelling or grammar skills specifically). When grading, be sure to focus on scoring your students only for the objective(s) that were shared with students.
* Scaffold questions for discussions so that questioning sequences include a mix of factual and inferential questions and a mix of shorter and more extended responses. Questions should build on each other and toward inferential and higher-order-thinking questions. There are not many factual questions already listed in the lesson instructions, so you will need to build some in as you see fit. More information on this strategy can be found [here](https://achievethecore.org/aligned/creating-sequencing-text-dependent-questions-support-english-language-learners/).
* Reinforce new vocabulary using multiple modalities

**Examples of activities:**

* Using the words that you had students work with before reading, have students write sentences in reference to the passage that you just finished reading.
* Require students to include the words introduced before reading in the culminating writing task.
* For newcomers, print out pictures that represent the words that you focused on and have students match the words to the pictures.
* Based on different features of the words, have the students sort them into different categories and explain their choices. For example, the students could sort the words by prefixes, suffixes, connotation, etc.
* After reading the passage, continue to examine important sentences (1–2) in the text that contribute to the overall meaning of the text. Guide students to break apart these sentences, analyze different elements, and determine meaning. More information on how to do this, including models of sentence deconstruction, can be found [here](https://achievethecore.org/page/3160/juicy-sentence-protocol).
* Provide differentiated scaffolds for writing assignments based on students’ English language proficiency levels.

**Examples of Activities:**

* For all students, go over the prompt in detail, making sure to break down what the prompt means before having the students get to work. Then have the students explain the directions back to you.
* Have students create an evidence tracking chart during reading, then direct them to look back over their evidence chart and work with a group to see if their evidence matches what the rest of the class wrote down. If some of the chart does not match, students should have a discussion about why.
* For students who need more support, model the proper writing format for your students and provide them with a properly formatted example for reference.
* For newcomers, you may consider creating sentence or paragraph frames to help them to write out their ideas.
* To further discussion about the passage, have students create their own who, what, when, where, why, and how questions related to the passage to ask each other and have students pair up and practice asking each other the questions. If available, pair students of the same home language to support the use of language still under development.