Unit 6/Week 3

Title: Beneath Blue Waters

Suggested Time: 5 days (45 minutes per day)

Common Core ELA Standards: RI.6.1, RI.6.3, RI.6.5, SL.6.1, SL.6.3, SL.6.4\*, W.6.1, W.6.9

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 deepest zone of the ocean, the ocean floor and up is considered a new frontier. This selection is written as a *voyage* in the submersible, Alvin, to give readers a feeling of how rare event this is. Each paragraph contributes to this understanding and builds a sense of awe for the event.

Synopsis

Beneath Blue Waters comes from the trade book with the same title. It focuses on the layers of the ocean. This selection takes students to the deepest zone in a three crew member, submersible called Alvin. It reviews the history of Alvin, explores sea life at the deepest depths and returns from the five hour mission.

1. Read entire main selection text, keeping in mind the Big Ideas and Key Understandings.
2. Re-read the main selection text while noting the stopping points for the Text Dependent Questions and teaching Vocabulary.

**During Teaching**

1. Students read the entire main selection text independently.
2. Teacher reads the main selection text aloud with students following along. (Depending on how complex the text is and the amount of support needed by students, the teacher may choose to reverse the order of steps 1 and 2.)
3. 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.)

Text Dependent Questions

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| **Text Dependent Questions** | **Answers** |
| A “harsh place” describes a place where it is difficult to live. (p. 598 paragraph 1) Why does the author describe the deep sea as harsh? | It is totally dark and the water is near freezing. Creatures have to spend most of their time looking for food. |
| Why is the crew “thrilled” to be on the submersible *Alvin*? | Very few people have ever had a chance to explore where Alvin is capable of going—the deepest parts of the sea. Only three or four people have ever seen a Benthocodon in its natural environment. |
| Re-read the first four paragraphs. What is the main idea of these paragraphs? (Pages 598-600)Preserve means to keep from changing or being lost. How do the conditions of the deep sea preserve the *Alvin* and the bologna sandwich? (page 600) | The main idea is explaining the history of Alvin and the uniqueness of the *submersible*.The high pressure and cold temperatures. |
| Scientists believed nothing could live by an hydrothermal vent. Why would they conclude this? (page 600) | The temperature was quite high at 650 degrees. There are clouds of poisonous chemicals. The poison is highly toxic. |
| How does the author use the illustration on page 601 to explain the idea of water pressure? | The author uses a before and after picture of a Styrofoam cup that has been taken to the seafloor outside the submarine. “the water pressure the sub endures is so great that it forces every molecule of air our, miniaturizing the cup” |
| Why are the dives into the deep sea described as “tantalizing?” | Each dive is an opportunity to learn something new and learn about the unknown. Dives are short and rare. If life can exists in these harsh conditions, what else will scientists discover? |
| Paragraph 7 -10 describe the job of each of the crew members. Use evidence to describe each member’s job. What tools does each member use to make the most of this rare voyage? | Biologist uses a tape recorder to record observations, still camera and video camera to record, reading light a flashlight, monitor displaying depth and time: he records observations of creatures. Chemist: same setup as the biologist to record her observations from another angle, sediment traps to collect samples, Pilot twelve lights on the outside of Alvin, a panoramic camera, video camera for lowlight, color camera for close up views, monitors to view all camera shots, robot arm to position traps,  |
| How many sea creatures do the scientists see during their voyage? List the animals. Using evidence from the text, how does the author let the reader know how rare and unique each creature is? | Ctenophore, deep sea cucumber, octopus Opisthoteuthis agassizii, siphonophore, large jelly fish Deepstaria engmatica, vampyroteuthis infernalis |
| How well does the author’s choice of words match the picture of the sea creature? Would they be hard to picture with the words alone and why?  | PG 602 Ctenophore: size and shape of a football, appears bright red, would appear black to any predator, using bioluminescence, entangles prey with a sticky substance secreted by its tentacles, jelly like animals of the deep sea are so large in comparison to shallow-water relatives, PG 603 deep-sea cucumber: flying over the seafloor, propelled by a waving collar of fluttering fused tube feet, PG 604 octopus Opisthoteuthis agassizii: nicknames Dumbo, little octopus, tentacle’s curved around it like spit curlsPG 605 Deepstaria engimatica: so large it takes several moments for it body to move past the small window, never gets a look at the whole animal, a wave of contracting muscle bands travel up through the animal’s body, looks and operates like a trash bag, contracts a sort of living drawstring around its mouth, PG 607 Stephalia corona: creature looks like a fried egg, yolk is probably a gas filled float that the creature uses to raise and lower itself body ringed by gelatinous bells, body looks like petals around a yellow-centered flowerThe pictures assist the reader because of the uniqueness of them they would be hard to picture with words alone because we may not have anything to reference from our own experience when we try to picture them. |
| Look back at the introduction paragraph. What clues did the author give to let the reader know about the environment of the sea creatures you have identified? | One mile below the surface, total darkness, near freezing temperatures, spends most of its time looking for food, harsh place,  |

Vocabulary

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| --- | --- | --- |
|  | **KEY WORDS ESSENTIAL TO UNDERSTANDING** | **WORDS WORTH KNOWING** General teaching suggestions are provided in the Introduction  |
| **TEACHER PROVIDES DEFINITION** not enough contextual clues provided in the text | Harsh p. 598TantalizingPanoramicBioluminescenceIlluminate/illuminatedVibration-detectionSpit curlsUndulatesunfathomable | MenageriePlexiglasChemistBiologist |
| **STUDENTS FIGURE OUT THE MEANING**sufficient context clues are provided in the text | submersibleOceanographerUnmatchedUnimaginableGlimpseGelatinous bellsManeuversUnreachableRemotely operated | DiameterSparseActivelyFlutteringdebates |

Culminating Task

* Re-Read, Think, Discuss, and Write
* *In the introduction of the text, the author states: “For most oceanographers, a day on Alvin is a once-in-a-lifetime experience,” using evidence from the text, support this claim using clear reason and supporting evidence.*

Answers should have paragraphs for these major points: Alvin has gone where no has gone before, the trip was four years in the making, the scientist discovered never seen before creatures, five hours of total concentration, the scientist are very tired.

Additional Tasks

* This story was written in 1996. Conduct a short research project to see what new scientific findings have occurred since the use of the self-propelled submarines and remotely operated vehicles. “What creatures did they discover at these unfathomable depths?”
* \* Each scientist had a tape recorder. With a partner record the observations the scientist may have made based on the evidence found in the book.

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.