

A Common Core & Next Generation
Science Standards Aligned
Discussion/Activity Guide for Grades PK-3

The Sea Knows

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Written by Alice McGinty & Alan Havis

Illustrated by Stephanie Laberis

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We are young. The sea is old. The sea has secrets to unfold. The sea knows.

In this playful, rhyming celebration of the marine world, readers can explore all of the wondrous things the sea knows. It knows huge whales and small krill; it knows short crabs and tall giant kelp; it knows brightly colored starfish in shallow pools; and in the inky depths it knows the alluring jewel of an anglerfish's glowing lure.

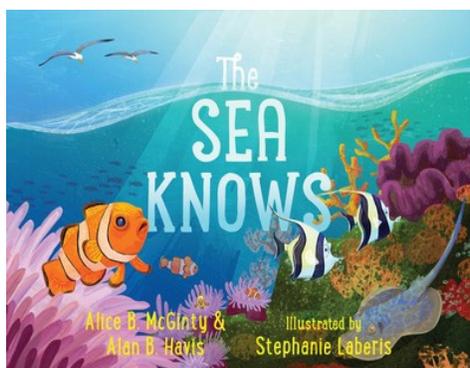
Discover all of the strange and magnificent underwater creatures in this accessible tribute to the power and mystery of the ocean.

Guide created by
Debbie Gonzales, MFA



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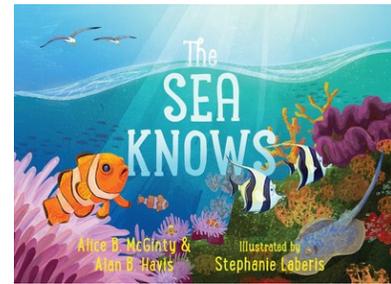
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Pre-Reading Discussion

Consider the illustration on the front cover:

- Identify the creatures featured in the illustration.
- What is the setting of this illustration? Describe the place where the story is set.
- How does the illustration make you feel? Identify the items that make you feel this way.
- The title of the book is THE SEA KNOWS. The word *know* means to understand, notice, and appreciate. What sorts of things do you think the sea would might understand, notice, or appreciate?
- Predict what this book is going to be about.



Meet the co-authors – Alice McGinty and Alan Havis:

- Alice has been an author of books for children for a very long time. She’s written over 50 books, many of which have won awards! She says that she loves to play with words. What does it mean to “play with words?”
- THE SEA KNOWS is Alan’s first book for children. He says that working on this book brought him a new-found feeling of happiness, a feeling that he had longed for. Discuss how working on a creative project such as this can create a sense of happiness and fulfillment.
- Alice and Alan have not only written a book together, they’ve created a website titled [News From the Happy Side](#). Inspired by their love for adventure and for each other, their blog posts celebrate all things happy! What do you think the sea knows about being happy? How about you? What places or things make you happy?



Meet the illustrator – Steph Laberis:

- As an illustrator, Steph’s work is known for a sense of *whimsy*, which means playful and fun. Study the illustration on the cover of THE SEA KNOWS. Observe her use of color and detail. Identify aspects of the illustration which reveal a sense of whimsy.
- Steph is a master of creating fascinating animals. Notice the fish depicted in the illustration. Point out details that represent her masterful artistic techniques. How do Steph’s illustrations make you feel?
- Similar to Alice’s publishing accomplishments, Steph has published many, many picture books. She also works with animation for companies such as Netflix and Disney. Imagine the joy she must feel knowing that her illustrations and animations make people happy. Look closely at the cover of THE SEA KNOWS. Point out the details that make you smile.
- Enjoy more of Steph’s whimsical work by accessing stephlaberis.squarespace.com.



Post-Reading Discussion

*We are young. The sea is old.
The sea has secrets to unfold.
The sea knows.*

- Define the word *old*. What does the word mean to you?
- What does the word *secrets* mean to you?
- Determine how something old, like the sea, might have secrets to tell. What kind of secrets do you think the sea might have?
- Oftentimes people who are old are considered to be very wise, meaning that they have wisdom to share. Consider how the sea might have secret knowledge and insight unlike any other.

*The sea knows worlds of red and gold.
The sea knows bright. The sea knows bold*

- Identify events in the story that happen quickly, without warning.
- Give examples of moments or creatures that move slowly and carefully.
- Notice the smaller fish featured in the book. Identify ways that they protect themselves against natural predators in the sea.
- Point out incidents that seem intriguing or dangerous.
- Show places where water and land meet. Describe the action taking place in those scenes.
- Examine illustrations that feature strong winds. Explain the effect the wind has upon the water.
- Define the terms *sink* and *float*. Show places in the story that demonstrate what it means to sink and float. Explore reasons why some objects or creatures sink and others do not.
- The word *inspire* means excitement, encourage, and inform. List ways that the sea has inspired you. Identify things you've learned about the sea and topics you want to know more about.

*The sea knows when the storms should cease
The sea knows calm.
The sea knows peace.*

- The word *peace* means silence, stillness, and rest. The phrase above suggests that, because the sea is old and wise, it knows when it is time to create a sense of calm. How do you think the sea knows when to bring about peace? Why do you think the sea would want to do so?
- The phrase also suggests that, in its wisdom, the sea knows the importance of being calm and peaceful. How about you? Are there moments when your life feels a bit stormy? When do you feel most calm and peaceful? Remember that the sea knows and cares for you, too.



Rhyming Match

*The sea knows huge. The sea knows small.
The sea knows short. The sea knows tall.*

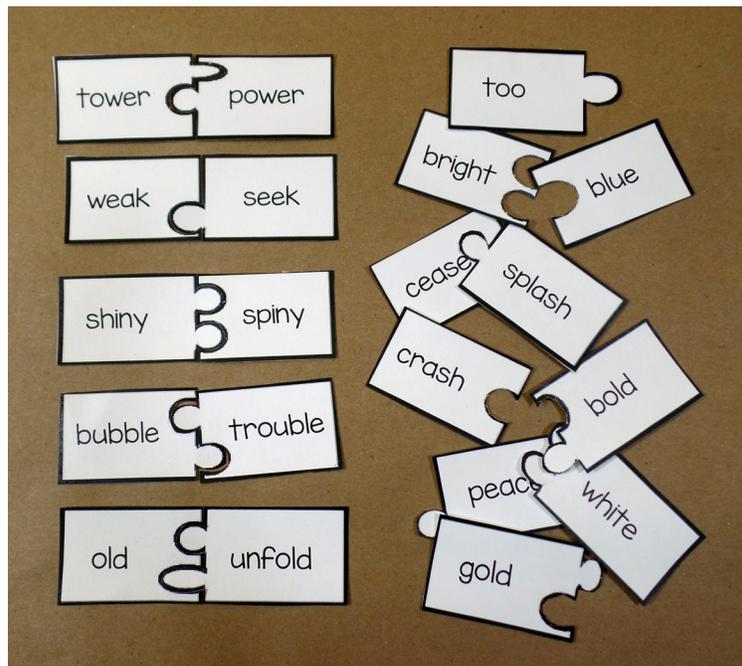
Objective: To recognize and match rhyming words.

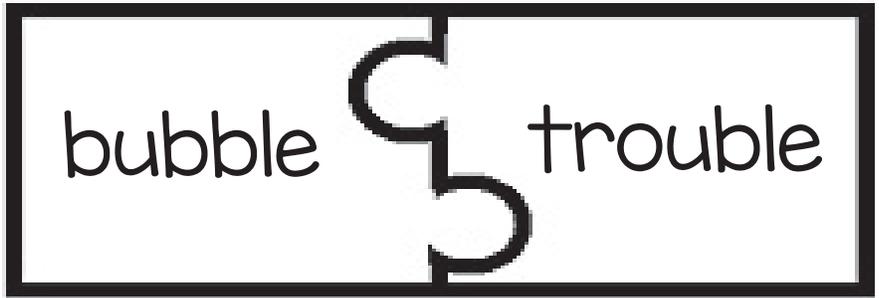
Materials:

- *The Sea Knows*, the book
- Rhyming Match Puzzle Pieces (Guide pgs. 6-7)
- Cardstock
- Scissors

Procedure:

- Print Rhyming Match Puzzle Pieces on cardstock.
- Use scissors to trim around the borders of the puzzle pieces.
- Mix up the stack of puzzle pieces.
- Match rhyming words. Connect self-correcting puzzle pieces.
- Instruct students to locate the rhyming word pairs in the book.



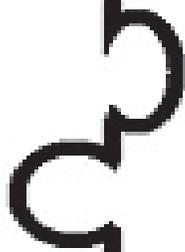


tower



power

gold



bold

crash



splash

cease



peace

bright



white

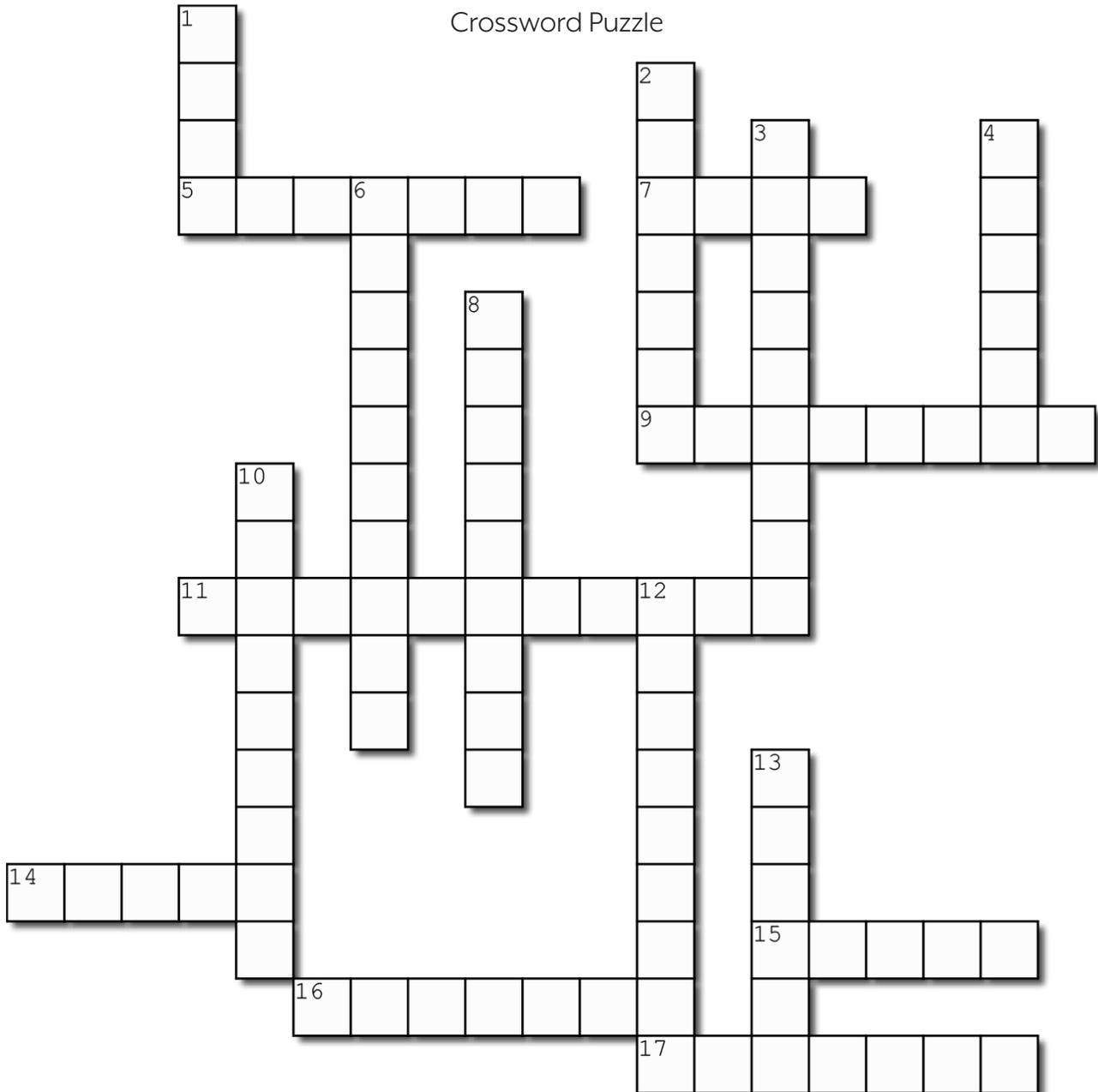
too



blue



Crossword Puzzle

**Across**

5. Fish with a very strong bite
7. Color created in water by sun's rays
9. Suctions itself to the ocean floor with tiny tubes on its undersides
11. Sea slugs
14. Tiny, shrimp-like animals
15. Things less dense than water _____
16. The simplest kind of animals
17. Zip and flash through the water like a mass of shooting stars

Down

1. The largest kind of seaweed
2. Humpback whales create a net of _____ to trap fish
3. Whales that splash the water with their massive fish to scare fish
4. Created when warm, wet air rises from the earth's surface
6. Preys on other fish by tempting them with light
8. Built from the shells of tiny corals that lived before
10. Creature that grows to be 100 feet long
12. Lives within the poisonous tenacles of the sea anemome
13. Fish with sharp spines that shoot up when in danger



Sink & Float

*The sea knows float.
The sea knows sink.*

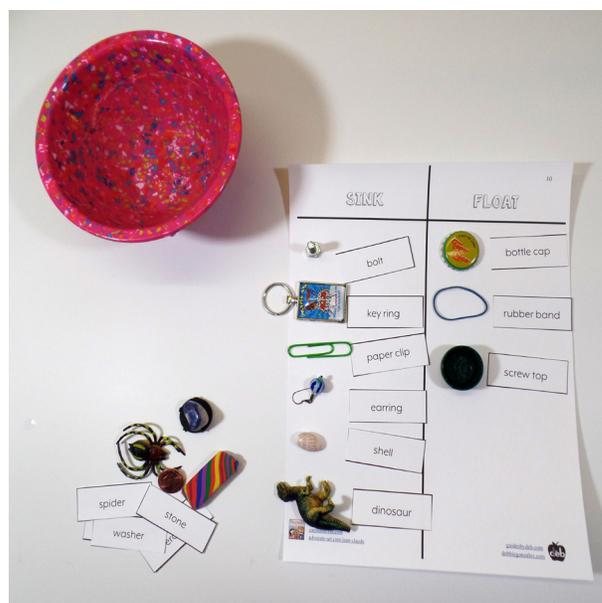
Objective: Predict, analyze, and distinguish between objects that float and/or sink using the scientific method as the basis of reason.

Materials:

- Bowl of water
- A collection of small objects
- Sponge or hand towel
- Word Labels (Guide, pg. 11)
- Sink and Float Chart (Guide, pg. 12)
- Cardstock
- Scissors
- Pencil
- Markers

Procedure:

- Print the Sink & Float Chart and Word Labels on cardstock. Use scissors to trim around the borders of the Word Labels.
- Write the name of every object on a Word Label.
- Observe – Instruct students to observe each object. Name each object and describe its consistency. What is it made of? How big is it?
- Make a Hypothesis – Instruct students to make a prediction regarding which items will float or sink. Have them to state the reason why they think their prediction will be proven correct.
- Experiment – Using the Sink and Float Chart as a guide, place an item in the bowl of water. Sort them accordingly on the chart. Place associating label beside the object. Explore reasons why some objects float while other sink.
- Analyze Results – Explain reasons why some objects float while others sink. Instruct students to compare results to their hypothesis.
- Instruct students to write and illustrate an informative essay describing all aspects of the experiment. Have them share and discuss their findings with the class.



Word Labels



SINK

FLOAT

Ocean in a Bottle

*The sea knows wind,
and waves that tower.*

Objective: To develop a model of waves to describe patterns using applicable terminology.

Materials:

- A clear plastic bottle
- Water
- Cooking oil
- Blue food coloring

Procedure:

- Fill bottle half way with water.
- Add drops of blue food coloring to the water.
- Fill the remainder of the bottle with oil.
- Secure lid tightly.
- Allow water and oil to separate.
- Gently move bottle side to side to create waves in the bottle.
- Closely observe the wave motion. Enjoy!



Wave Research

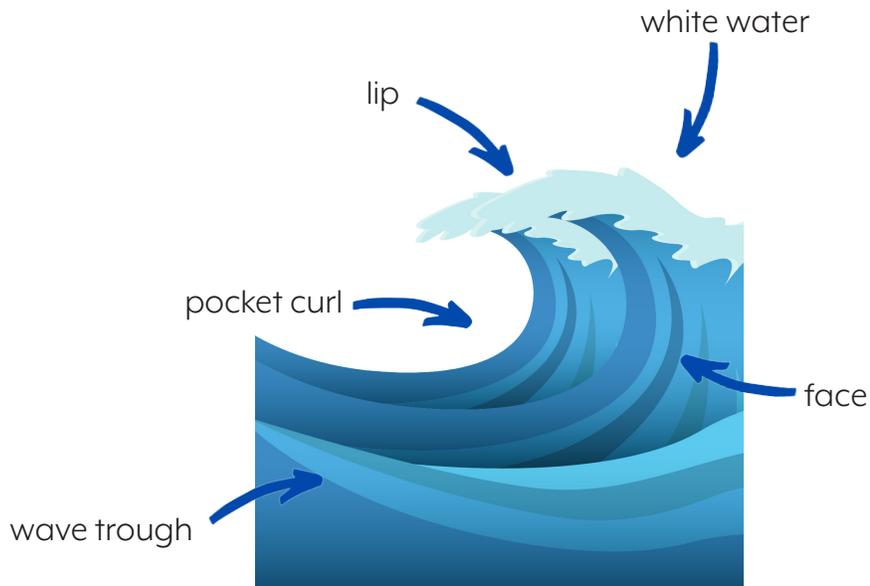
Objective: To develop a model of waves to describe patterns using applicable terminology.

Materials:

- Ocean in a Bottle (Guide, pg. 13)
- Research materials
- Paper
- Pencil
- Markers

Procedure:

- Observe the motion of the waves as they move about in the Ocean in a Bottle. Notice that, according to the velocity of motion, the waves transfer in regular patterns.
- Using the graphic below as reference, attempt to identify aspects of the waves moving in the bottle.
- Discover movement patterns in the wave motion. Analyze how different rates of movements create various types of waves.
- Using online and/or offline references, conduct research on wave patterns. Create a poster identifying and defining each aspect of wave motion. Share your work with the class.



Online references to consider:

Surfing 101: How to Read a Wave - BookSurfCamps.com

<https://www.booksurfcamps.com/news/how-to-read-waves>

Waves Breaking Through The Rocks · Free Stock Video

<https://www.pexels.com/video/waves-breaking-through-the-rocks-1409881>



alicebmcginty.com

newsfromthehappyside.com

guidesbydeb.com
debbiegonzales.com



Common Core State Standards Alignment

Common Core State Standards Alignment		Discussion	Rhyming Match	Crossword	Sink & Float	Ocean in a Bottle
English Language Arts Standards » Reading: Informational Text						
CCSS.ELA-Literacy.RI.K.1	With prompting and support, ask and answer questions about key details in a text.	●	●	●	●	●
CCSS.ELA-Literacy.RI.K.2	With prompting and support, identify the main topic and retell key details of a text.	●		●		
CCSS.ELA-Literacy.RI.K.3	With prompting and support, describe the connection between two individuals, events, ideas, or pieces of information in a text.	●	●		●	
CCSS.ELA-Literacy.RI.K.4	With prompting and support, ask and answer questions about unknown words in a text.	●	●	●		
CCSS.ELA-Literacy.RI.K.5	Identify the front cover, back cover, and title page of a book.	●				
CCSS.ELA-Literacy.RI.K.6	Name the author and illustrator of a text and define the role of each in presenting the ideas or information in a text.	●				
CCSS.ELA-Literacy.RI.K.10	Actively engage in group reading activities with purpose and understanding.	●	●	●	●	●
CCSS.ELA-Literacy.RI.1.1	Ask and answer questions about key details in a text.	●	●	●		
CCSS.ELA-Literacy.RI.1.2	Identify the main topic and retell key details of a text.	●	●	●		
CCSS.ELA-Literacy.RI.1.3	Describe the connection between two individuals, events, ideas, or pieces of information in a text.	●	●	●	●	
CCSS.ELA-Literacy.RI.1.6	Distinguish between information provided by pictures or other illustrations and information provided by the words in a text.	●	●		●	
CCSS.ELA-Literacy.RI.1.7	Use the illustrations and details in a text to describe its key ideas.	●	●	●	●	●
CCSS.ELA-Literacy.RI.1.10	With prompting and support, read informational texts appropriately complex for grade 1.	●	●	●	●	●
CCSS.ELA-Literacy.RI.2.1	Ask and answer such questions as <i>who</i> , <i>what</i> , <i>where</i> , <i>when</i> , <i>why</i> , and <i>how</i> to demonstrate understanding of key details in a text.	●			●	●
CCSS.ELA-Literacy.RI.2.3	Describe the connection between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text.	●	●		●	●
CCSS.ELA-Literacy.RI.2.4	Determine the meaning of words and phrases in a text relevant to a <i>grade 2 topic or subject area</i> .	●	●	●	●	●
CCSS.ELA-Literacy.RI.3.1	Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers.	●	●	●	●	●
CCSS.ELA-Literacy.RI.3.2	Determine the main idea of a text; recount the key details and explain how they support the main idea	●	●	●	●	●
CCSS.ELA-Literacy.RI.3.3	Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect.	●	●		●	●
English Language Arts Standards » Reading: Foundational Skills						
CCSS.ELA-Literacy.RF.K.1	Demonstrate understanding of the organization and basic features of print.	●	●	●	●	●
CCSS.ELA-Literacy.RF.K.2	Demonstrate understanding of spoken words, syllables, and sounds (phonemes).	●	●	●	●	●
CCSS.ELA-Literacy.RF.K.3	Know and apply grade-level phonics and word analysis skills in decoding words.	●	●	●	●	●
CCSS.ELA-Literacy.RF.1.1	Demonstrate understanding of the organization and basic features of print.	●	●	●	●	●
CCSS.ELA-Literacy.RF.1.2	Demonstrate understanding of spoken words, syllables, and sounds (phonemes).	●	●	●	●	●



		Discussion	Rhyming Match	Crossword	Sink & Float	Ocean in a Bottle
English Language Arts Standards » Reading: Foundational Skills						
CCSS.ELA-Literacy.RF.1.3	Know and apply grade-level phonics and word analysis skills in decoding words.	●	●	●	●	●
CCSS.ELA-Literacy.RF.1.4	Read with sufficient accuracy and fluency to support comprehension.	●	●	●	●	●
CCSS.ELA-Literacy.RF.2.3	Know and apply grade-level phonics and word analysis skills in decoding words.	●	●	●	●	●
CCSS.ELA-Literacy.RF.2.4	Read with sufficient accuracy and fluency to support comprehension.	●	●	●	●	●
CCSS.ELA-Literacy.RF.3.3	Know and apply grade-level phonics and word analysis skills in decoding words.	●	●	●	●	●
CCSS.ELA-Literacy.RF.3.4	Read with sufficient accuracy and fluency to support comprehension.	●	●	●	●	●
English Language Arts Standards » Writing						
CCSS.ELA-Literacy.W.K.2	Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.				●	●
CCSS.ELA-Literacy.W.K.8	With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.				●	●
CCSS.ELA-Literacy.W.1.2	Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure.				●	●
CCSS.ELA-Literacy.W.1.8	With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.				●	●
CCSS.ELA-Literacy.W.2.2	Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section.				●	●
CCSS.ELA-Literacy.W.3.2	Write informative/explanatory texts to examine a topic and convey ideas and information clearly.				●	●
English Language Arts Standards » Speaking & Listening						
CCSS.ELA-Literacy.SL.K.1	Participate in collaborative conversations with diverse partners about <i>kindergarten topics and texts</i> with peers and adults in small and larger groups.	●	●	●	●	●
CCSS.ELA-Literacy.SL.K.2	Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.	●	●	●	●	●
CCSS.ELA-Literacy.SL.K.3	Ask and answer questions in order to seek help, get information, or clarify something that is not understood.	●	●	●	●	●
CCSS.ELA-Literacy.SL.K.4	Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.	●	●	●	●	●
CCSS.ELA-Literacy.SL.K.5	Add drawings or other visual displays to descriptions as desired to provide additional detail				●	
CCSS.ELA-Literacy.SL.K.6	Speak audibly and express thoughts, feelings, and ideas clearly.	●	●	●	●	●
CCSS.ELA-Literacy.SL.1.1	Participate in collaborative conversations with diverse partners about <i>grade 1 topics and texts</i> with peers and adults in small and larger groups.	●	●	●	●	●
CCSS.ELA-Literacy.SL.1.2	Ask and answer questions about key details in a text read aloud or information presented orally or through other media.	●	●	●	●	●
CCSS.ELA-Literacy.SL.1.4	Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.	●	●	●	●	●



English Language Arts Standards » Speaking & Listening		Discussion	Rhyming Match	Crossword	Sink & Float	Ocean in a Bottle
CCSS.ELA-Literacy.SL.1.5	Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.				●	
CCSS.ELA-Literacy.SL.2.1	Participate in collaborative conversations with diverse partners about <i>grade 2 topics and texts</i> with peers and adults in small and larger groups.	●	●	●	●	●
CCSS.ELA-Literacy.SL.2.2	Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.	●	●	●	●	●
CCSS.ELA-Literacy.SL.2.4	Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.	●	●	●	●	●
CCSS.ELA-Literacy.SL.3.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 3 topics and texts</i> , building on others' ideas and expressing their own clearly.	●	●	●	●	●
CCSS.ELA-Literacy.SL.3.2	Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.	●	●	●	●	●



Next Generation Science Standards Alignment

		Discussion	Rhyming Match	Crossword	Sink & Float	Ocean in a Bottle
2.Earth's Systems: Processes that Shape the Earth						
2-ESS1-1	Use information from several sources to provide evidence that Earth events can occur quickly or slowly.	•				
2-ESS2-1.	Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land	•				
2-ESS2-2	Develop a model to represent the shapes and kinds of land and bodies of water in an area.				•	•
Disciplinary Core Ideas						
ESS1.C:	The History of Planet Earth - Some events happen very quickly; others occur very slowly, over a time period much longer than one can observe.	•				•
ESS2.A:	Earth Materials and Systems - Wind and water can change the shape of the land.	•				•
ESS2.C:	The Roles of Water in Earth's Surface Processes - Water is found in the ocean, rivers, lakes, and ponds. Water exists as solid ice and in liquid form.	•				•
4-PS4-1 Waves and Their Applications in Technologies for Information Transfer						
4-PS4-1.	Develop a model of waves to describe patterns in terms of amplitude and wavelength and that waves can cause objects to move.					•
Disciplinary Core Ideas						
PS4.A:	Wave Properties - Waves, which are regular patterns of motion, can be made in water by disturbing the surface. When waves move across the surface of deep water, the water goes up and down in place; there is no net motion in the direction of the wave except when the water meets a beach.					•
PS4.A:	Wave Properties - Waves of the same type can differ in amplitude (height of the wave) and wavelength (spacing between wave peaks).					•
Crosscutting Concepts						
	Patterns - Similarities and differences in patterns can be used to sort, classify, and analyze simple rates of change for natural phenomena.					•

