Science Learning Packet
Grade 4, Week 2:
Waves, Energy, & Information

Suggested science learning activities for SPS students during the COVID-19 school closure.

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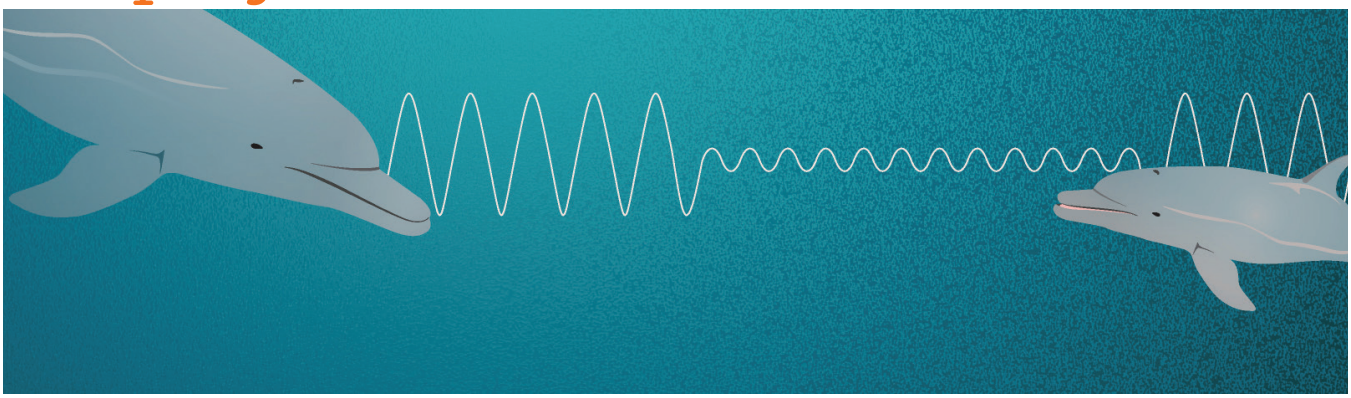
Due to the COVID-19 closure, teachers were asked to provide packets of home activities. This is not intended to take the place of regular classroom instruction but will help supplement student learning and provide opportunities for student learning while they are absent from school. Assignments are not required or graded. Because of the unprecedented nature of this health crisis and the District's swift closure, some home activities may not be accessible.

If you have difficulty accessing the material or have any questions, please contact your student's teacher.

AmplifyScience



Waves, Energy, and Information:

Investigating How Dolphins Communicate

Grade 4 - Lessons 1.3 and 1.4

Accompanying Videos and Books can be found at:
tinyurl.com/SciLessons

Other Amplify resources can be found at:
amplify.com/remotelearning/Science/resources

SEATTLE PUBLIC SCHOOLS

Investigation Notebook

Name: _____ Date: _____

Daily Written Reflection

Think about examples of different waves that you have seen. How are they similar, and how are they different?

Make a drawing if it helps you explain your thinking. Label your drawing, then take a photo of it and attach it below.

Name: _____ Date: _____

Getting Ready to Read: *Warning: Tsunami!*

1. Before reading the book *Warning: Tsunami!*, read the sentences below.
2. If you agree with the sentence, type an "A" on the line before the sentence.
3. If you disagree with the sentence, type a "D" on the line before the sentence.
4. After you read the book, see if your ideas have changed. Be ready to explain your thinking.

_____ Only some earthquakes cause tsunamis.

_____ Ocean waves are longer than tsunami waves.

_____ A tsunami can travel thousands of miles from its source in just a few hours.

_____ Tsunamis are only dangerous when they get close to land.

_____ There's no way to know when a tsunami is going to hit.

Name: _____ Date: _____

Visualizing While Reading *Warning: Tsunami!*

1. Visualizing means making a picture in your mind using information from different sources.
2. As you continue to read *Warning: Tsunami!*, visualize each of the measurements from the book, using what you know.
3. Write what you visualize in the third column of the table below.

Page number	**What the book says**	**What I think of when I visualize this measurement**
8	Tsunamis are often just **a few centimeters (a couple of inches)** high as they travel across the ocean.	
9	A wavelength is the distance between two peaks of a wave. For a tsunami wave, this distance can be **greater than 100 kilometers (about 60 miles)!**	
10	Tsunami waves can travel as fast as **800 kilometers per hour (about 500 miles per hour)** across huge distances.	
11	A tsunami wave reached here in **20 hours.**	
13	An earthquake near Alaska can cause a tsunami that devastates Hawaii, about **4,600 kilometers (almost 3,000 miles)** away.	

Name: _____ Date: _____

Multiple Meaning Words

Some words can mean more than one thing. For each word in the table:

1. Read the sentence from the book *Warning: Tsunami!* that uses the word.
2. Read the two meanings the word can have.
3. Decide which meaning the word has in the sentence from the book and click the checkbox of that meaning in the table.

Word	Sentence from the book	Meaning 1	Meaning 2
wave	Sound **waves**, on the other hand, happen as invisible movements of particles that are too small for us to see.	☐ a pattern of motion that travels away from a source	☐ a gesture to say hello
hit	They may cause floods and terrible destruction when they **hit** land.	☐ to come against with an impact or collision	☐ to strike something with your hand
model	They use computer **models** to figure out where and when the tsunami is likely to hit land.	☐ a person whose job is posing for artists or photographers	☐ something scientists make to answer questions about the real world

Name: _____ Date: _____

Reading Reflection: *Warning: Tsunami!*

1. Turn to page 16 in *Warning: Tsunami!*
2. Look at the visual representation. Explain in your own words how a tsunameter works.

Make a drawing to explain your ideas. Label your drawing, then take a photo of it and attach it in the box below.

Name: _____ Date: _____

Daily Written Reflection

We have explored up-and-down patterns of motion and back-and-forth patterns of motion. What patterns of motion do you see in your everyday life?

Make a drawing if it helps you explain your thinking. Label your drawing, then take a photo of it and attach it in the box below.

Name: _____ Date: _____

Exploring the Sound Waves Simulation

1. In the second column of the table, record what you notice about the Simulation.
2. As you explore the Simulation, record what you wonder about in the third column.

Observations	**What I notice**	**What I wonder**
What I see moving		
The pattern I see		
The sounds I hear		
The source of the sound		