



Science Learning Packet

Grade 4, Week 8:

Waves, Energy, and Information

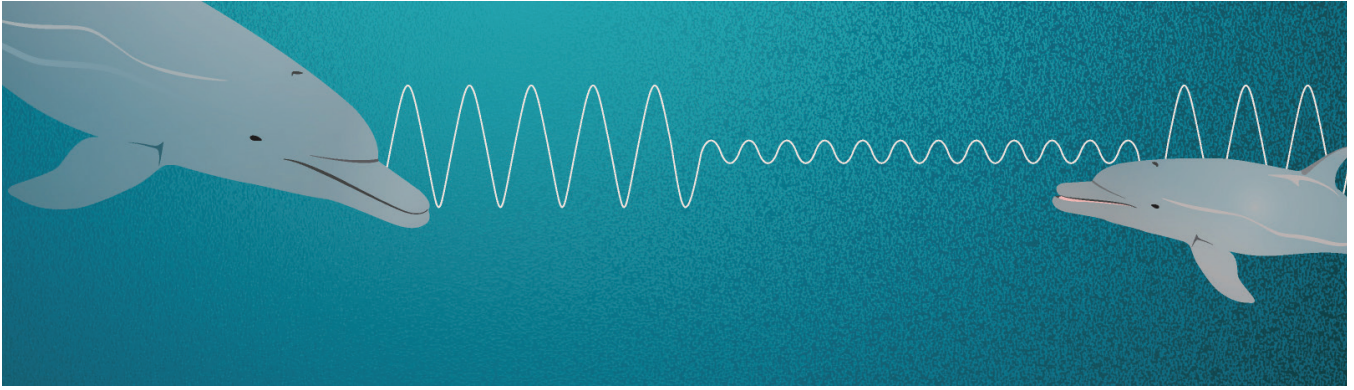
Suggested science learning activities for SPS students during the COVID-19 school closure.

Seattle Public Schools is committed to making its online information accessible and usable to all people, regardless of ability or technology. Meeting web accessibility guidelines and standards is an ongoing process that we are consistently working to improve.

While Seattle Public Schools endeavors to only post documents optimized for accessibility, due to the nature and complexity of some documents, an accessible version of the document may not be available. In these limited circumstances, the District will provide equally effective alternate access.

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.



Waves, Energy, and Information:

Investigating How Dolphins Communicate

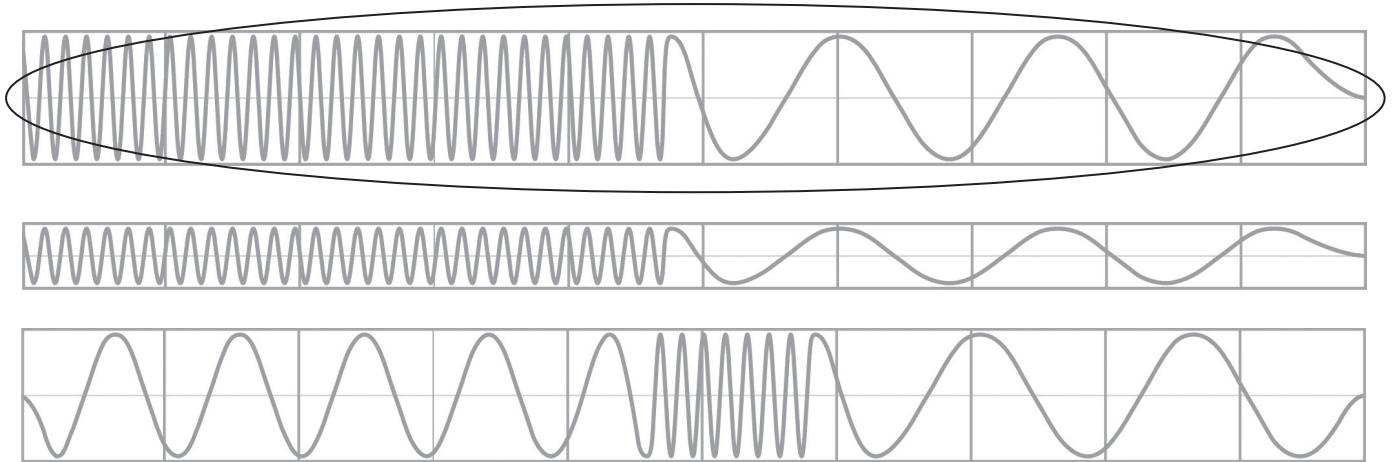
Grade 4 - Lessons 3.7 and 4.1

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

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

Scientific Explanation of How Dolphins Communicate

1. Look at the waveforms below and read the information about them.
2. Write a scientific explanation for the two questions below.



- Two of these waveforms show calls from the mother dolphin, and one waveform shows a call from another dolphin.
- The circled waveform is the call that the dolphin calf heard and responded to.

How was the dolphin calf able to hear his mother even though he was really far away?

Scientific Explanation of How Dolphins Communicate (continued)

How did the dolphin calf know that call was from his mother?

Scientific Language for Explanations

The mother dolphin's call gets to her calf because _____.

The calf knows which call is his mother's call because _____.

This means _____.

This happens because _____.

Chapter 3: Check Your Understanding

This is a chance for you to reflect on your learning so far. This is not a test. Be open and truthful when you respond.

Scientists investigate in order to explain how or why something happens. Am I getting closer to figuring out how a mother dolphin can communicate with her calf underwater?

I understand how sound gets from a mother dolphin to her calf. _____ Yes _____ Not yet

I understand what travels far in a sound wave and what moves only a little. _____ Yes _____ Not yet

I understand how sound energy travels through the particles of a material. _____ Yes _____ Not yet

I understand why some dolphin sounds are different from other dolphin sounds. _____ Yes _____ Not yet

I understand that science explanations describe how or why something happens. _____ Yes _____ Not yet

What are you still wondering about sound waves?

Sending an Image

On this page, you will create an image that you will send to a partner.

1. In the grid below, check some of the squares to make an image (for example, a letter, a number, or a shape).
2. Make sure your partner/family member doesn't see your image.
3. When you are finished, describe your image to your partner/family member so they can re-create it on the next page. (You may want to take a photo of your image on this page so you can describe it while they re-create it).
4. When you are "sending" your image, you may talk, but your partner/family member may not talk.

Your Image

Receiving an Image

On this page, you will re-create your partner's image.

1. Listen to your partner's description of the image.
2. In the grid below, check the squares to re-create your partner's image.
3. Do not look at your partner's image, and do not let your partner look at your image.
4. Do not talk while your partner describes the image.

Your Partner's Image

Name: _____ Date: _____

Patterns in Human Communication

As you read the sections about human communication in *Patterns in Communication*, record information about how each communication method uses patterns.

Communication method	What patterns does it use?
Language	
Talking drums	
Semaphore	
Telegraph	
Digital devices	