



SEEING WITH SOUND

This lesson plan developed by:



Overview:

Echolocation allows species to accurately locate food and other objects in the ocean by producing and channeling sound pulses that we hear as “clicks.” These “clicks” are channeled by fat deposits in the brain case of toothed whales, such as dolphins and belugas! This fat deposit is called a melon – the large bulge in the front of a dolphins’ head. There is another fat deposit in the lower jaw behind an area of the jaw where bone is very thin. The fat deposits help direct and receive the clicks.



Key Concepts:

- Dolphins and other toothed whales locate food and other objects through echolocation.
- Echolocating animals emit calls and listen to the echoes of those calls that bounce off of various objects near them.

Seeing with Sound (cont.)

Materials:

- Metal slinky
- Mouthwash cleaner

Duration:

10 minutes

Physical Activity:

Low

Activity:

Carefully and gently bite a few clean loops of the metal slinky near the end. Allow the rest of the slinky to drop down and hang in front of you. With the slinky hanging in front of you, gently run your hands up and down the part hanging to cause vibrations. Do you hear and feel the sound in your head transmitting through your jaw?

Discussion:

You are experiencing the closest thing to echolocation! The sound you hear is being transmitted by vibrations through your jaw and sending the equivalent of “clicks” to your brain. See if you can find other species that use echolocation. It is a cool way to navigate.



How does noise pollution impact echolocation or communication in the ocean? Ocean noise pollution comes from human activity such as commercial shipping, seismic surveys, oil exploration, and military sonar. All of these noises can prevent whales from hearing their prey or predators, finding their way, or connecting with mates, group members or their young.

This activity was contributed by Sailors for the Sea Skipper, D'amy Steward.

Additional Resources:

To learn more about the activity, check out our [Seeing with Sound “how to” video](#).

Ocean Literacy Principles:

Ocean literacy is an understanding of the ocean’s influence on us, and our impact on the ocean. There are seven [Ocean Literacy Essential Principles](#) that all people of our blue planet should have an opportunity to learn and understand. This activity touches upon the following Essential Principles:

5. The ocean supports a great diversity of life and ecosystems
6. The ocean and humans are inextricably interconnected

Seeing with Sound (cont.)

Further Your Impact with Sailors for the Sea Powered by Oceana:

As sailors and water-lovers, you are among the first to notice changes to our seas such as fewer marine animals, more pollution and damaged marine habitat. Through our Green Boating initiative, Sailors for the Sea Powered by Oceana provides opportunities for you and your community to address pressing ocean health issues. As a Green Boater, you will be provided with the information, resources and access to combat marine plastic pollution, prevent habitat destruction, source responsible seafood and protect marine animals. From demanding plastic-free alternatives to choosing sustainable seafood, your voice and actions are an important part of restoring the abundance of our oceans and protecting marine habitats. [Join our growing Green Boating Community today.](#)