NEW BEDFORD WHALING MUSEUM

How Do Whales Hear?

Materials:

Metal coat hanger
Two 12-inch lengths of string

Objective:

Gain an understanding of how whales receive sound that travels through the ocean.

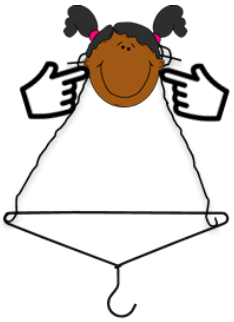
Understand that sound is a form of energy associated with vibrations of matter.

Guiding Questions:

How does a whale receive sounds that travel through the ocean?

How does the property of a sound source affect the sound it produces?

Sound travels four times faster through water than it does through air, because water is a denser medium. This also means that light will not travel as well. So, whales, dolphins and porpoises (cetaceans) rely a great deal on their hearing to communicate, find food and make sense of their surroundings. Toothed whales echolocate, baleen whales do not. All cetaceans make sounds to communicate. This simple activity will give you a sense of what it is like to receive sound in a way similar to these marine mammals.



Procedure

1. Tie the two pieces of string onto the metal coat hanger.
2. Twist the strings a few times around your index fingers
3. Swing the hanger so it taps against the side of a table or other hard surface and listen to the sound.
4. Keeping the strings wrapped around your index fingers, place your fingers in your ears and rap the hanger against the table again. Listen to the sound. Do you notice a difference?
5. You could also have someone tap on the coat hanger with a pencil while you have your fingers in your ears.
6. Try changing the amount of string you wrap around your finger. Does this change the sound?