WHALE OF A VIEW

This lesson plan developed by:

NEW BEDFORD WHALING MUSEUM

Overview:
Whales have monocular vision, meaning their eyes are on either side of their head. Monocular vision allows both eyes to be used separately, which increases the field of view, but limits depth perception. Students will learn how to view their surroundings from the perspective of a whale and understand the difficulty of finding things.

Materials:
- Scissors
- Tape
- Paper towel tube
- 2 small mirrors that fit in paper towel tube (found at craft store)

Duration:
30 minutes

Physical Activity:
Moderate

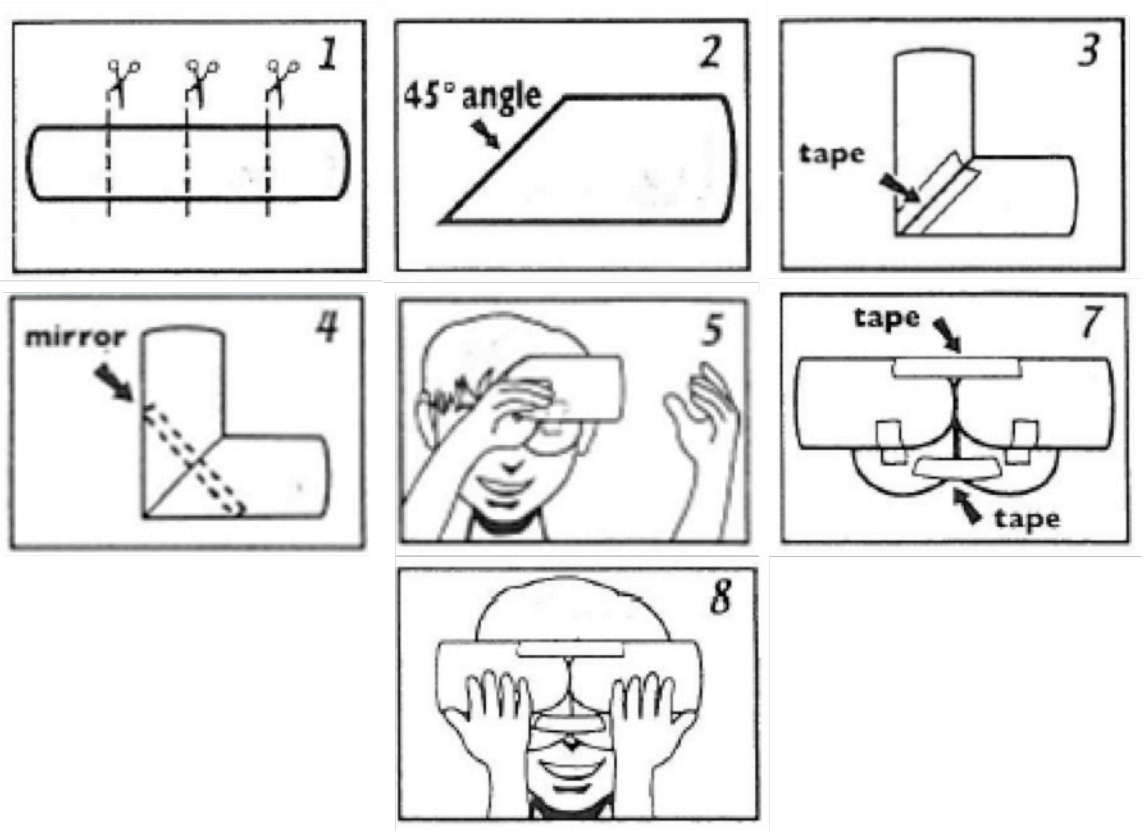
Background:
Your eyes are in front of your head, so you see what is in front of you and some of what is on either side. With both your eyes you see one view, which is called binocular vision. But whales' eyes are on the sides of their heads. Each eye sees a separate view. This type of vision is called monocular vision. In this experiment, you'll find out what it's like to have monocular vision.

Whale of a View (cont.)

Activity:

Follow along with the pictures:

1. Have an adult cut the paper towel tube into four equal pieces.
2. Have the adult cut one end of each piece at a 45-degree angle.
3. Tape the angled ends together as shown. Repeat with the other two pieces.
4. Have the adult insert the mirror into a tube at a 45-degree angle, as shown.
5. Hold your left hand up at eye level slightly to the left under and in front of you. Look into the tube with your left eye as shown. If you can't see a reflection of your hand at first, adjust the mirror until you can.
6. Repeat steps 4 and 5 with the other mirror and tube as shown.
7. Tape the pieces together.
8. Hold the "monoculars" up to your eyes.



Discussion:

Point your "monoculars" towards different points in the room. Place objects in different locations and take turns trying to walk over to them. Pose the following questions:

- Are you able to see what's in front of you?
- Can you simultaneously focus on everything you are seeing?

Whale of a View (cont.)

- Of all your senses, would you rely most on your sight if this is how well you were able to see?
- How is this helpful or harmful to whales? For instance, whales are often unable to see rope from fishing gear that is in front of them and may become entangled. However, having eyes on the side of the head enables whales to have a wider range of vision.

Additional Resources:

To learn more about the activity, check out our Whale of a View "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
7. The ocean is largely unexplored

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