ADAPTATION ACTIVITY

Hearing is Believing

Echolocation is a very useful adaptation for animals that live in areas where sight is limited, such as murky water or in dark deep water. Toothed whales produce a series of sounds and listen for the echoes to help them communicate and navigate. The high frequency sounds that are sent out from the whale bounce off objects in their path and send back an echo. The whale can receive valuable information based on how loud the echo is and how long it takes to come back. If an echo is very loud, the object is large. The further away an object is, the longer it takes the echo to return.

Allow students to "see" with their ears by trying this activity below.

Materials:
- blindfolds (for half of class)
- noise makers, such as pots and pans, party whistles etc.
- large, open area

National Science Education Standards Correlations:
K-4: Strand C, Characteristics of Organisms
5-8: Strand C, Regulation and Behavior
5-8: Strand C, Diversity and Adaptations of Organisms

Procedure:
1. Divide the students into two teams. The first team will be blindfolded and will try to navigate around objects they encounter. The second team will stand in clusters of three around the open area and make various noises. If you are unsure of the safety of the area, divide the students into three groups and have the third group be responsible for carefully navigating the blindfolded students.

2. The blindfolded students should try to maneuver around the other students without hitting them. They should carefully listen to determine how close they are to them before turning away.

3. Have the students rotate roles.

Discussion Questions:
- Did students improve after playing awhile?
- What types of sounds were easier to hear and avoid?
- What other animals echolocate? In what type of environments do they live?

Extensions
- Increase or decrease the number of students making noise.
- Have students create noises that are at different levels volumes.