

FIRST GRADE FEBRUARY SOUND

TOTAL TIME: 60 Minutes

STATION 1 - How is sound produced?

Activity - Ear Drum Model

Materials:

Ear Drum Model (popcorn tin)

Plastic wrap

Rice

Wooden Spoon

Begin by explaining that sound produces waves but they are invisible. But we can prove it by watching what happens to the rice when we bang a wooden spoon on the bottom of the popcorn tin. Sound waves are actually changes in air pressure that we cannot see but we can hear.

Open the lid of the popcorn tin and place plastic wrap on it to create a little "trampoline". Place about 20 pieces of rice on the plastic wrap. Bang the bottom of the popcorn tin near the rice and watch the rice move.

This model represents the eardrum (also called the tympanic membrane). We can see how these invisible waves travel through the air by the way they make the rice dance on the plastic wrap. It is the change in air pressure that makes the rice move.

Sounds are very necessary for us. For instance a loud siren makes us take notice and look around for the emergency. The morning school bell lets us know when school starts. Ms Shelton's voice on the loud speaker makes us stop and listen.

Recognizing sounds begins when we are infants. For instance Sea lion mothers recognize their pup's sounds (and smell) when they are first born. If they ever get lost they bark their unique bark to help their mothers find them.

Activity 2 - Find your Pup

Materials (included):

Filled Film Canisters with numbers on the bottom

Laminated Guessing Cards

Dry Erase Marker

Eye covers

"Sounds Goodie Bag"

Choose a child to be the "Mother" who is looking for her pup. Hand that child a canister (look on the bottom for the number). Hand the same numbered canister to another child (do not show them the numbers on the bottom). Then hand the other children canisters with different numbers on them. See if the "mother" can find her pup!

Select another "mother" and play until each child gets a chance to be the Mother.

Activity 3 - Guess the Contents

After each child has a chance to be the mother ask the children to guess what is inside of each of the canisters. Begin with a canister and ask them if they can guess, if they need help, read the choices from the laminated "Guess the contents" sheet. Write the number from the bottom of the canister next to the contents. See how many they get right.

If there is time place eye covers over each child then ask them to identify the sounds from the "Sound Goodie Bag"

Station 2 - What does sound travel through?

Activity 1: Does Sound Travel Through Water?

Make a Hydrophone

Materials:

2 Plastic 2 liter bottles with bottom cut off

A Basin filled 2/3 full of water

2 Rocks

2 Coins

Let 2 children put their ears against the top of the bottle. Drop two stones on the desk. Now ask the children to place the bottom of the plastic bottle into the water and put their ear against the top again. Drop the rocks into the basin. How is the sound different?

Repeat this with each child. Then repeat it with Coins.

Activity 2: Does Sound Travel Through Objects?

Materials:

Baggie of dirt

Baggie of water

Baggie of air

Wooden spoon

Place the baggie of dirt, water and air in front of 3 students and ask them to gently put their ears on the bags and put their finger in their other ear. Lightly tap or rub the table with the wooden stick from about an arm's length away. Ask how well can they hear the sound? Ask them to lift their ear off the bag and tap or rub the stick again. Can they hear it better with or without the bag?

Repeat until each student gets a turn.

Activity 3: Does Sound Travel Through you?

Material:
Pre-built Stethoscope

Doctors use stethoscopes to listen to people's heartbeats. As the heart beats, it causes the stethoscope to vibrate. These vibrations are transmitted as sound to the doctor's ear. A stethoscope amplifies the sound (makes it louder) so the doctor can hear your faint heartbeat.

Give the stethoscope to one of the children and ask them to listen to a friend's heart. Then let them listen to another child's tummy. Repeat until each child has a turn.

STATION 3 - How is sound produced?

Activity 1: Sound Travels with Vibrations

Material:
Plastic Straw pipes

Playing Plastic Pipes

Many musical instruments have pipes. When air inside a pipe is vibrated, it produces a sound. The organ is probably the best-known instrument that consists of columns of air, but other examples are found throughout the orchestra. They include wind instruments, such as recorders, oboes, and clarinets, and brass instruments, such as trumpets and trombones.

In an organ, there are a number of hollow pipes; each one has a different length. When air is blown across the bottom end of a pipe, the air inside the pipe vibrates.

The length of the pipe determines the note produced by the vibrating column of air. The shorter the pipe, the less air there is to vibrate and the higher the note. A long pipe contains a greater volume of air and vibrates more slowly, producing a lower note.

Give each student a plastic pipe. Instruct them NOT to put their mouth on the straws (have disinfectant wipes on hand in case they forget). Ask them

to blow into the straws to produce a sound. Then have them blow across the straws to play an "octave". Then ask them to blow even harder across them.

Does the sound change when you blow harder or softer?

Which straw makes the lowest sound?

Which straw makes the highest sound?

Activity 2: Making a Telephone

Materials:

String cut into 3 feet sections

Plastic cups

Scissors

Paper clips

Give a plastic cup to each child. Help them make a small hole in the bottom of each plastic cup. Tie the paper clip to one end of the string. Thread the other end of the string through the hole in one cup so the paper clip is on the inside of the cup. The paper clip keeps the string from pulling through the hole. Then thread the string through the hole in the second cup from the outside of the cup. Tie the second paper clip to the other end of the string. The paper clip should be on the inside of the cup. Then pull the cups so that the string is tight and have one child talk into the cup while the other child holds the cup to their ear.

It only works if the string is tight. You may want to have enough made up before you come in so each child can take one home.

Guess the Contents

Canister Number	Contents
	Shells
	Legos
	Coins
	Beads
	Marbles
	Goldfish
	Salt
	Rice
	Oatmeal
	Water
	Bird Seed
	Dry Beans
	Dry Pasta
	Paper Clips