

## FIFTH AND SIXTH - SOUND

**Teacher Guidelines:**

- Pp. 92-95

**Linkage:**

- Living Things - Plants and animals, Myself
- Environmental awareness and care
- Materials - Properties and characteristics of materials

**Integration:**

- Music
- Oral Language Development – English and Gaeilge
- SPHE

**Content Objective:**

**LEARN THAT SOUND IS A FORM OF ENERGY.**

**Some suggested activities:**

- Suspend a ping pong ball from a piece of string. Strike a tuning fork and bring it close to the ping-pong ball but not touching. What happens to the ball? (It should quiver slightly)
- Listen to a CD player with a graphic equaliser. Adjust the bass and ask a child to place their hand beside speaker. What can you feel? Or place a metre stick against a speaker – it can be seen to vibrate.
- Sound Cannon (cardboard tube covered at one end by greaseproof paper and covered at other end by kitchen foil with a small hole in centre).

**Some suggested design and make:**

- Does it work for a tennis ball (or another type of ball)?

**Content Objective:**

**RECOGNISE AND IDENTIFY A VARIETY OF SOUNDS IN THE ENVIRONMENT  
AND APPRECIATE THE IMPORTANCE OF NOISE CONTROL**

**Some suggested activities:**

- Play a bird song CD and ask the children to describe the sounds and if possible, identify.
- Brainstorm – what is noise?
- Do mental arithmetic with the radio turned up loudly in classroom, and in quiet classroom. What do children notice?
- Child reads page of book to friend. Turn on tape recorder in background. After minute stop recorder and ask listener what they have heard. Do they remember any other sounds? Play back tape. Other sounds will be heard in background. Recorder cannot filter out sounds the way humans can.

**Some suggested design and make:**

- Ear muffs (see below)
- A recording of common sounds from the home/school/environment. Can other children guess what the sounds are?

**Content Objective:****UNDERSTAND AND EXPLORE HOW DIFFERENT SOUNDS MAY BE MADE BY MAKING A VARIETY OF MATERIALS VIBRATE**

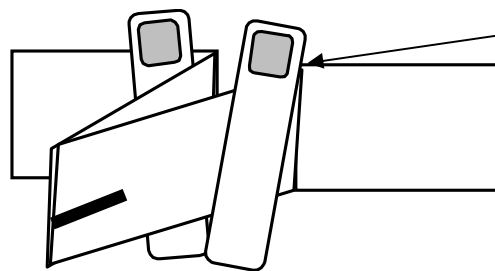
*Skin of drum, plastic ruler on table, string of an instrument.*

**Some suggested activities:**

- Clamp one end of a long ruler to edge of table. Fix a felt pen to end of ruler. Make ruler vibrate. Play a CD with bass adjusted fully beside the pen (Eurotrash dance music is particularly good music for this activity as it has a loud bass rhythm). As it vibrates, hold sheet of paper so that pen touches it. Move pad carefully sideways. Observe the wavy line on the paper. Vary the length of the ruler. What do you notice?
- Blowing through sheet of paper between thumbs.
- Collect about 5 or 6 identical glass bottles. How could we make the bottles produce a sound (e.g. tap them or blow across the top)? How could we produce a different sound/note (add varying amounts of water)? Tap the bottles and identify which produces the highest/lowest notes. Blow over the tops and identify which produces the highest/lowest notes. Does the same bottle produce the highest note each time? Why do you think this is so?

**Some suggested investigations:**

- What effect does the length of a slit in a piece of paper have on the sound made:



Blow in here

- What effect do different water levels in the bottles have on the sound produced?

**Some suggested designing and making:**

- A glass bottle xylophone

**Content Objective:**

**DESIGN AND MAKE SIMPLE WOODWIND INSTRUMENTS**

*Investigate how the length, thickness, diameter and type of materials used will influence the sound produced.*

**Some suggested activities:**

- Make straw oboes. Use drinking or art straws. Flatten about 2cm at the end with your teeth and use a scissors to cut off the flattened corners to make a point. Put about 2cm of the cut straw end in your mouth, with your lips closed but a little loose. Blow hard into the straw. If there is no sound, blow less hard until a sound is made.
- Make pan pipes

**Some suggested investigations:**

- Does the length/diameter of the straw make a difference to the sound?
- Does the material (paper/plastic) make a difference to the sound of the straw oboe?

**Content Objective:**

**EXPLORE HOW SOUND TRAVELS THROUGH MATERIALS**

*Air, water and solids.*

*Identify materials that muffle sound.*

*Design and make a pair of ear muffs.*

**Some suggested activities:**

- Revise activities for third and fourth class.

- Strike a tuning fork and listen to the soft musical note it produces. Repeat but place the handle on a desk after it has been struck. What do you notice about the sound it produces the second time?
- Which materials are good insulators of sound? Exemplar 24 p.95
- Does placing the tuning fork on different surfaces produce different sounds? Investigate and describe

**Some suggested design and make:**

- Ear muff

**Content Objective:**

**APPRECIATE THE IMPORTANCE OF HEARING.**

**Some suggested activities:**

- Place a child in the centre of a group of children with their eyes covered.
- Members of the group must clap and the child in the centre must point to the direction of the clap. Record the accuracy of the child's guesses. Then repeat but with the child covering one or other of his/her ears. Has the accuracy levels changed? In what way and why?
- Listening to sounds with one ear covered. Close eyes and cover one ear.
- Can you identify direction sound is coming from

**Some suggested investigations:**

- Design an investigation to find which ear do I hear best with.

**Some suggested design and make:**

- A model of how the ear works: Make a hole in the bottom of a plastic bucket and connect to one end of a length (approx 1 m) of plastic tubing (e.g. hosepipe), cover the opposite end with plastic pulled tight (e.g. a balloon). Suspend three ping pong balls side by side so they are all in contact with each other and one is in contact with the balloon. Shout loudly into the bucket and observe what happens to the ping pong balls.
- What parts of the ear do you think each piece represents?