



Sound

SEQUENCE 1

Age group	6-9 y.o.
Prior knowledge	None
Material needed	The Soundbox, paper straws, scissors, glue, cardboard, ruler
Subjects	Music
Skills involved	Types of instruments Measuring Fine motor skills
Time to carry out the sequence	1-2h

Step 1: Introduction

Talk to your students about musical instruments. Tell them to name as many of them as they can. As they are naming them, write the instruments down. Talk to the students about the differences between them and about the different groups of instruments (string, wind, percussion, keyboard and electronic).

Have the students try to split the instruments that you have written down into groups.

Step 2: Discovering the content of the box

Show the students a flute from the story that you have made in advance and ask them to guess what it is. Now, read them the story and have them see if they were right. Distribute the material and give the students enough time to discover the content of the box. Let them follow instructions and have them try out the flutes.



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Step 3: Creating a Pan flute

Tell the students that now they are going to make another type of flue, a Pan's flute. Have them work in pairs. One person should hold the straw, while the other takes the ruler and marks the 5 cm length of the straw. Then they cut it on that spot, and each person takes one piece. They repeat this process 4 more times, cutting the straw at 7 cm, 10 cm, 12 cm, and 15 cm. Each student should now have 5 differently sized pieces.

These markings are meant for the 20cm straws. Depending on the length of the straws that you are using, the places where the students cut can change.

Now, the students should glue their straws to the piece of cardboard so that the tops of the straws are aligned, and they cross the edge of the cardboard by about 1 cm. After they have glued all the straws, the flute is done and ready to be played.

To experiment further, you can use several different widths of straws so that some students have one type and some have the other. Have the students hypothesise how the length and width of the straws will influence the sound that is created.

Expanding on the lesson.

To continue this lesson, you can make other types of instruments with your students. You can try making some percussion instruments with different types of containers or make string instruments using rubber bands.



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SEQUENCE 2

Age group	10-12 y.o.
Prior knowledge	None
Material needed	The Sound box, paper straws, scissors, glue, cardboard, ruler,
Subjects	Sound waves
Skills involved	Production of sound
Time to carry out the sequence	1h

Step 1: Introduction

Ask your students if they know how sound is produced. How can we hear each other? Encourage them to hypothesise.

To test out their hypothesis, tell them to put the tips of their fingers on their neck as they speak. What can they feel?

Have the students use the Internet to learn how vibrations and sound are connected and how our voices are produced.

Step 2: Discovering the content of the box

Show the students a flute from the story that you have made in advance and ask them to guess what it is. Now, read them the story and have them see if they were right. Distribute the material and give the students enough time to discover the content of the box. Let them follow instructions and have them try out the flutes.

Step 3: Creating a Pan flute

Tell the students that now they are going to make another type of flue, a Pan's flute. Have the students work in pairs. One person should hold the straw, while the other takes the ruler and marks the 5 cm length of the straw.



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Then they cut it on that spot, and each person takes one piece. They repeat this process 4 more times, cutting the straw at 7 cm, 10 cm, 12 cm, and 15 cm. Each student should now have 5 differently sized pieces.

These markings are meant for the 20cm straws. Depending on the length of the straws that you are using, the places where the students cut can change.

Now, the students should glue their straws to the piece of cardboard so that the tops of the straws are aligned, and they cross the edge of the cardboard by about 1 cm.

Step 4: Making a sound

After the students have glued all the straws, the flute is done, and they can start playing. Before they play the flute, ask the students to hypothesise about what will happen when they blow. Will there be a difference in the sound produced, and if so, which straws will produce higher and which lower tones. (You might want to give this instruction before they glue the straws because they will probably start blowing as soon as they are done)

Expanding on the lesson.

To continue the discussion about the spread of sound, you can discuss different mediums. Does sound spread better in the air, water, or through the ground? Can sound be transmitted in space?



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