

**Subject:**

Perception of sound

**Activity:**

The sound boxes

**Type:**

Individual

**Age:**

3 ½ years: (Presentation1)

4 years onwards: (Presentation 2 and 3)

**Material:****Presentation1**

One wooden box with six identical cylinders which make different sounds.

**Presentation 2 and 3**

Two wooden sound boxes one in blue and other in red. Each with six identical cylinders that have the same color as the box but different materials within the box and have a corresponding sound cylinder in the other box. Thus each box had six cylinders identical in dimension and color but not in the sound they produce. The opposite color cylinder in the other box has the same sound. The same sound boxes in each cylinder have same mark at the bottom of the cylinder and this mark is different and distinct from that in other pairs.

**Procedure:****Presentation1:** Listening

- Bring the material to the work area.
- Open the box and place the lid under it.
- Follow the rules of directionality. Take out all the cylinders.
- Hold each cylinder from the top with all fingers of the right hand and take them out and place them in a vertical column below the box.
- Using all five fingers and following the rules of directionality, pick one cylinder, shake it to make some sound.
- Bring it first to the left ear and move the wrist up and down twice so that the cylinder shakes and make sounds
- Repeat the same for the right ear
- Place the cylinder in front of the child and invite him to repeat the exercise.
- Place the cylinders in vertical column on the top right corner of the mat from top to bottom
- With the help of child ,following the rules of directionality, replace cylinders holding them as before back in the box

**Presentation 2:** Pairing

- Ask the child to bring the material to the working area.

- Open the box and place the lid under it.
- Remove the sound boxes. Place them in a vertical column below their respective boxes.
- Using all five fingers and following the rules of directionality, pick one cylinder from the right column of cylinders.
- Hold it from the center with all five fingers of the right hand, and as in the earlier exercise hear the sound of the cylinders
- Place it in the center between the two columns in front.
- Now following the rules of directionality, take one cylinder at a time, holding it as above, from the right column and hear the sound as before trying to compare the sounds with that of the selected cylinder.
- If the sound is same then
  - a. Place this cylinder to the right of the selected cylinder
  - b. Hear the sound of the selected cylinder again to ensure that the sound is the same and then replace this back to its place
  - c. Hold each cylinder in its respective hand and place both of them together at the center top of the mat between the two existing columns of cylinders.
  - d. Eventually a vertical column will be formed.
- If the sound is not the same
  - a. Replace this cylinder back to its place in the right column.
  - b. Continue the process till the right selection is made.
- When all the cylinders have been matched and are in vertical column of pairs in the center ,check if the pairing was correct
- Invert the cylinders so that the child can see that same sounding cylinders of opposite colour have the same marks under them.
- Repeat this step for all the pairs in the column. Arrange the cylinders in a column below the boxes in a random order.
- Ask the child to do the activity.

### **Presentation 3: Grading**

- Introduce the activity to the child .With the help of the child take out the cylinders from each box and place them in vertical column below their respective boxes.
- Start the activity with the box in front of the adult.
- Using all five fingers and following the rules of directionality pick one cylinder from the right column of cylinders, holding it from the center with right hand all five fingers, and as in earlier exercise hear the sound of the cylinder and then place it in the center between the two columns in front.
- Now following the rules of directionality take one cylinder at a time from the right column.
- Hear the sound as before trying to compare the sounds with that of the selected cylinder.
- If the sound is louder than that of selected cylinder
  - a. Place this cylinder to the right of the selected cylinder
  - b. Hear the sound of the selected cylinder again to ensure that it is softer and then replace this in the right column.
  - c. Continue selecting and comparing till all the boxes in the right column are checked.
  - d. In the end you have the loudest cylinder in front.

- e. Place this cylinder in a vertical column in the center top between the previous.
- If the sound is softer than that of the selected cylinder
  - a. Replace this cylinder back to its place in the right column.
  - b. Now hear the succeeding cylinder in the right cylinder column and repeat.
- When all the cylinders have been graded from loud to soft invite the child to grade the left cylinder column
- After the child has done the activity place the graded cylinders of the pair being checked in the respective hands. Invert the cylinders so that child can see that same sounding cylinders of opposite colour have the same marks under them
- Repeat this step for all the pairs in the column
- Now with the help of child put the cylinders in their respective boxes.

### **Control of error:**

- Auditory sense (presentation 2 and 3).
- The marks at the bottom of the cylinders in the pair are the same (presentation 2 and 3).
- Teacher's grading matches the child (presentation 3).

### **Points of interest:**

- Each cylinder is heard twice in each ear and each hearing involves shaking the cylinder twice.
- Only the wrist is moved for shaking and not the arm.
- Hold the cylinder from the center of its length so that easy to give a substantial shake.
- Following the principles of isolation, comparison, rejection and selection (presentation 2 and 3).

### **Direct aim:**

- Development of auditory perception.

### **Indirect aims:**

- To strengthen wrist muscles.
- Enhances concentration and leads to an increase in the attention span of the child.
- Develops listening skills; a basis for language development, reading and comprehension.
- Indirect preparation for music; sound being the foundation of music.
- The child learns to match same sounds and compare different sounds (presentations 2 and 3).
- Future mathematics lesson; one to one correspondence (presentations 2 and 3).
- Diagnosing and correcting hearing defects in children, if any (presentations 2 and 3).

### **Extension:**

- Take the first three boxes and put it on the table. Place the matching boxes on another table. The child shakes one of the boxes from one table and tries to match it to the one lying on the other table.

### **Applications:**

- Silence game, where each child with his eyes closed listens to the teacher whispering his name and standing next to her.
- One child may be blindfolded. He has to identify the voices of his classmates one by one.
- Listening to classical music with the child, draw attention when the music changes from loud to soft or vice versa.
- Pick out instruments that are soft and loud sounding E.g. Violin, drums.