

Creating Musical Sound

Teaching Objective

Students will learn how various pitches are created by making and playing a nail rasp.

Vocabulary

Pitch- The relative highness or lowness of a sound.

Rasp- An instrument designed to scrape or rub to create sound.

Resources

Sufficient materials to make eight to ten nail rasps.

Each rasp requires the following materials:

- Nail Rasp diagram and building instructions (on page 27)
- 1 block of wood 10" x 2" x 2"
- Three groups of nails of different sizes and lengths; 9 nails
- 1 large, blunt end nail for strumming
- hammer
- marking pens

Pre-Assessment

Encourage students to engage in a discussion of how they have used ordinary household items and created sound. List their creations. Examples: rubbing the rim of a glass, blowing through a paper towel tube, banging on metal pots with metal or wooden cooking utensils, drumming on a box, etc..

Teaching Sequence

1. On the overhead projector, show the students the diagram of a nail rasp.
2. Ask the students to identify, discuss and list the critical attributes of the rasp that allow it to be called a musical instrument, (constructed of wood and metal; metal nails, grouped according to size and length produce different sounds (pitches); nail rasp is played by rubbing (strumming) a blunt end nail across the groups of nails; the nail rasp makes a bell-like sound)
3. Divide the students into groups of two or three; issue the construction instructions and materials, except the strumming nail.
4. Monitor the construction process and allow approximately 15 minutes for completion of the project.
5. Issue one strumming nail to each group of students with instructions to play their nail rasps.
6. Tell the students that they will be expected to demonstrate their nail rasps and should be able to respond to the following questions:
 - a. Why can the rasp be called a musical instrument?
 - b. What causes the different sounds that it makes?

Culminating Activities

1. Randomly call each group to demonstrate their musical instrument, allowing time for

questions and discussion.

2. Encourage students to write a story, in the first person, from the perspective of the instrument.

Evaluation

As the students played their nail rasps, did they demonstrate an understanding of how and why various pitches were produced?

Extension Activities

1. Introduce to the class another simple instrument, such as the mbira (thumb piano) to the students. (See illustration below.) The mbira is similar to the nail rasp in that is a handmade instrument of wood and metal. The mbira is a culturally significant musical instrument of the Shona people of Zimbabwe, Africa, much like the violin is to Europe and the guitar is to Mexico.

2. Encourage students to compose and rehearse short tunes on their nail rasps and plan for a nail rasp recital.

Co-Curricular Connections/TEKS

Fine Arts- Music: 117.12 3.1A,B, 3.2A, 3.4A,B, 3.5A,C, 3.6A,B; 117.15 4.1 A,B, 4.2A, 4.4A,B, 4.5A,D, 4.6A,B,C; 117.18 5.1A,B, 5.2C, 5.4A,B, 5.5A,E, 5.6A,B,C; 117.33 6.1A,B, 6.2C, 6.4A,B, 6.5A,D, 6.6A,B,C

Social Studies: 113.5 12B, 17A,B,C; 113.6 20B, 22B, 23B,C,E; 113.7 22A,B, 23B,C, 25B, 26B,C,E; 113.22 15A,B,C, 16A, 17A,C,D,E,F, 18A,B,C,D, 21B, 22B,C,E

NAIL RASP BUILDING INSTRUCTIONS:

1) Place your wood block flat on a firm surface like a table

2) Hammer the 3 smallest sized nails half-way into the block, beginning about a half inch from the right end of the wood (each nail should be about 1/2 inch apart from the next.

3) Hammer the 3 middle sized nails about a fourth of the way into the block immediately to the left of the small nail group.

Hammer the 3 largest sized nails only a small bit (enough to keep them in place) into the block immediately to the left of the middle sized nail group.