

What's the Big Idea?

The Science of Sound

A Fine Arts Performance Task using
Understanding by Design© by Kelly Crawford



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The Science of Sound Performance Task

Submitted by: Kelly Crawford
School District: Jackson R2 Schools
For: Kindergarten Science & Music

What's the Big Idea?

1. Topic that Leads to the Big Idea: Cause / Effect
2. The Big Idea: Students will understand sounds can be low or high.
3. Knowledge, Skills and Abilities Addressed as Learner Objectives.
Students will demonstrate active listening skills.
4. The Essential Question: Why are some sounds low and some high? How can we manipulate simple tools to create our own high or low sound?

How Will You Know What They Are Learning?

5. Identify the performance tasks that will produce evidence of learning.
Students will create their own instruments using wood planks, nails, and rubber bands.

What Do Students Need to Learn?

6. Show-Me Standards and Grade-Level Expectations:

Science

SC 1: Properties and Principles of Matter and Energy

2. Energy has a source, can be stored, and can be transferred but is conserved within a system
 - A. Forms of energy have a source, a means of transfer (work and heat), and a receiverGrade K: Scope and Sequence – Investigating Sound
 - a. Identify the sounds and their source of vibrations in everyday life (e.g., alarms, car horns, animals, machines, musical instruments)
 - b. Compare different sounds (i.e., loudness, pitch, rhythm)
 - c. Identify the ear as a receiver of vibrations that produce sound

Music

FA 3: Artistic Perceptions

1. Develop and apply the knowledge and skills to listen to, analyze, and describe music and musical performance
 - A. Musical Forms

Grade K: Distinguish between same and different

Grade 1: Distinguish between music opposites

-same/different

-high/low

-fast/slow

-long/short

-smooth/ separated

-soft/loud

-up/down

How Are You Going to Make it Happen?

Describe what **the teacher** will do; describe what **students** will do.

The teacher will:

- present various instruments that create high or low sounds
- lead a discussion of the differences in the look, feel and sound of each instrument
- facilitate understanding by students that small things make high sounds and bigger things make low sounds

Describe what the **students** will do:

- observe various instruments that create high or low sounds
- participate in a discussion of the differences in the look, feel and sound of each instrument
- select a wooden board that has 4 nails placed at either side in various places
- place rubber bands around nails to produce a sound
- place blue rubber bands to show their understanding of low sounds and red rubber bands for high sounds

Scoring Guide

Criteria	Advanced-4	Proficient-3	Basic-2	Below Basic-1
The instrument can create both High and Low sounds.	The instrument has 2 low and 2 high sounds.	The instrument has low and high sounds.	The instrument has only high or only low sounds.	The instrument does not create sound.
Blue rubber bands are placed in the areas that create a low sound; red rubber bands are placed in the areas that create a high sound.	The student placed the correct color rubber bands for the high and low sounds of their instrument.	The student placed mostly the correct color rubber bands for the high and low sounds of their instrument.	The student placed some of the correct color rubber bands for the high and low sounds of their instrument.	The student did not place any of the correct color rubber bands for the high and low sounds of their instrument.
Students can explain why each rubber band creates different sound.	The student clearly explained how high and low sounds are created.	The student clearly explained how either high or low sounds are created.	The student attempted to explain how either high or low sounds are created.	The student did not attempt to explain how either high or low sounds are created.