

Sound chimes

Approach: Station

Level: Year 8 & year 4

Resources: Bolt chimes: 4 bolts of different sizes, suspended on a string from a wire frame mounted on a wooden base. Bolts decreasing in size from bolt A to bolt D. Large nail to use as a striker.

Questions/instructions

In this activity you will be making sounds with the bolt chimes.

Think first. Do not touch the chimes yet. Before you touch anything, think about which bolt will have the highest note when you hit it.

1. I think bolt _____ will have the highest note.

		% responses	
		year 8	year 4
Prediction:	Bolt D	58	37
	A	33	48
	other	9	15

Now try it.

Hit each bolt on the chime with the striker.

2. Which bolt has the highest note?

Observed high:	D	52	30
	A	35	49
	other	13	21

3. Which bolt has the lowest note?

Observed low:	A	52	30
	D	41	59
	other	7	11

4. Explain why the bolt in question 3 gives the lowest note.

Good explanation		12	4
	Because larger	40	23
	Because smaller	33	44

5. Do the notes change if you hit the bolts harder than before? What happens?

Volume change	53	58
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6. Hold the longest bolt while you hit it. What do you notice?

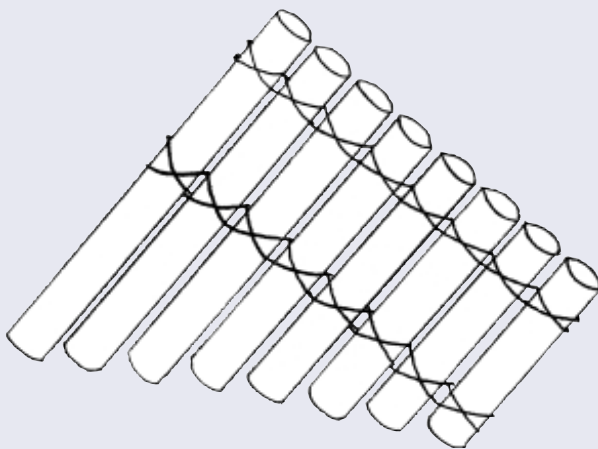
Duller, less vibration, shorter sound	41	26
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Why does this happen?

Stops vibration	53	19
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Here is a picture of a pan flute. It is made of hollow tubes. When a tube is blown, it makes a sound.

7. Draw a circle around the tube you think will make the lowest note.



longest tube	60	36
shortest tube	38	56
other	2	8

Commentary

Many students seemed to have difficulty hearing pitch differences accurately.