

# Investigating pitch

Outstanding Science Year 4 - Sound - OS4D003

## Learning Objective



I can place different sounds in order of pitch.

Me:   

Teacher:   

## Scientific play

Play with a piano keyboard. Start at one end, and run your finger along the keys to the other end. What is different about each sound?



## Pitch

Pitch is a property of sounds. It is **not** the same as how loud something is. Some sounds are **high in pitch**, such as a mouse's squeak. Some sounds are **low in pitch**, such as a lion's roar. A sound can have any combination of **loudness** and **pitch**.

High pitch



Mouse's squeak  
High pitch  
Low loudness



Girl's scream  
High pitch  
High loudness



Faraway thunder  
Low pitch  
Low loudness



Nearby thunder  
Low pitch  
High loudness

High loudness

## National Curriculum Statutory Requirements

4D3 - find patterns between the pitch of a sound and features of the object that produced it; LKS2W2 - setting up simple practical enquiries, comparative and fair tests; LKS2W8 - identifying differences, similarities or changes related to simple scientific ideas and processes;

## Scientific question

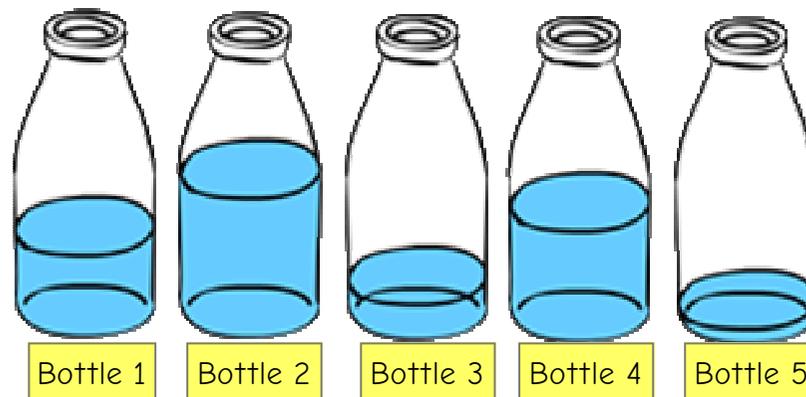
How does the amount of water in a bottle affect the pitch of the sound it makes?

## You will need:

- 5 identical containers (e.g. bottles, thin measuring cylinders, test tubes in a rack)

## Method

Place different amounts of water in each container as shown in the diagram. Predict and then test the pitch of the sound made by each container when the top is gently blown across. Compare the pitch made by each container and use this to place them in order of pitch, from lowest pitch to highest pitch.



## Discussion

How does the amount of water in the container affect the pitch of the sound it makes? Why do you think this is?