



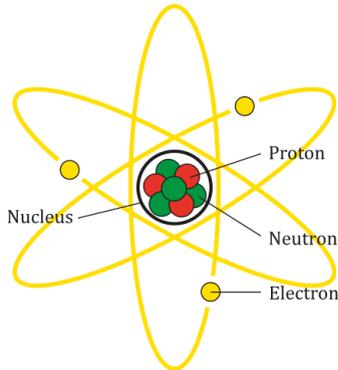
Materials and Sound



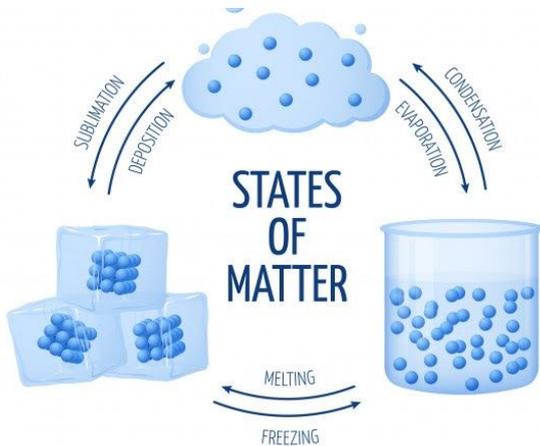
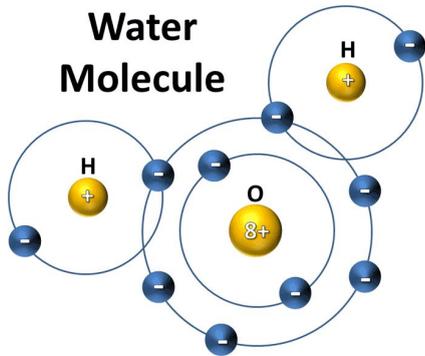
Pupils will learn

- How sound are made and how the travel through matter.
- How pitch changes depending on the shape and size of the object that makes them.
- Compare solids, liquids and gases
- Observe how materials change state when heated and cooled.

Important info



Water Molecule



Local links

- Strumpshaw Steam Museum
- Norwich Science Festival
- Sainsbury's Centre for Visual Arts

Home learning ideas

- <https://www.exploratorium.edu/snacks/subject/sound>
- <http://kidsacademy.mobi/storytime/sound-science-experiments/>

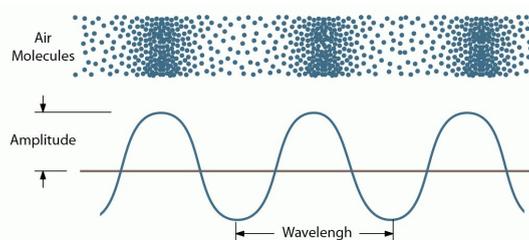
Books to read at home

- Horrid Henry Rocks [F. Simon]
- The BFG [R. Dahl]

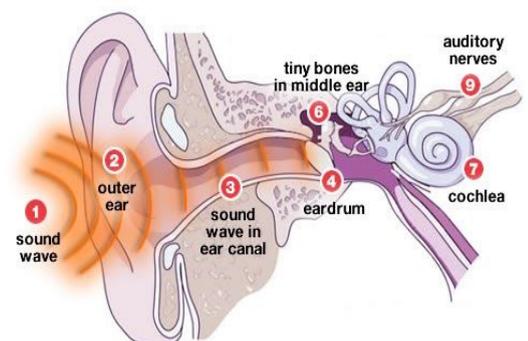
Inquiry Questions

- How are sounds made?
- What is sound?
- What happens to a sound wave when the sound gets louder?
- If a tree falls in the woods, and no-one is there to hear it, does it make a sound?
- How does the water cycle affect my life?
- Do states of matter matter?

Further Information



An object (e.g. lyre) **vibrates** and makes a sound which passes through air **molecules** in **waves** and enters the ear. It is then turned into signals in the cochlea, which the brain can **interpret**.



Key Vocabulary

Atoms	Basic building blocks of ordinary matter and can join together to form molecules. They are composed of particles called protons, electrons and neutrons.	Malleability	The quality of something that can be shaped into something else without breaking
Amplitude	The height of a wave from its rest position	Metals	A solid material which is typically hard, shiny, malleable, fusible, and ductile, with good electrical and thermal conductivity
Celsius	A measurement of temperature in which 0 degrees represents the freezing point of water, and 100 degrees represents water's boiling point (°C).	Molecules	A group of atoms bonded together, representing the smallest fundamental unit of a chemical compound that can take part in a chemical reaction.
Condensation	The change of water from its gaseous form into liquid.	Pitch	The property of a sound and especially a musical tone that is determined by the frequency of the waves producing it
Composites	A material made from two or more materials with different physical or chemical properties.	Plastics	A synthetic material made from a wide range of organic polymers, that can be moulded into shape while soft, and then set into a rigid or slightly elastic form.
Elasticity	The ability of an object or material to resume its normal shape after being stretched or compressed; stretchiness	Solid	Firm and stable in structure; a fixed volume and shape unlike a liquid or fluid.
Evaporation	The process of a liquid turning into a gas.	Toughness	The ability of a material to absorb energy and plastically deform without fracturing
Frequency	The number of waves that pass over a period of time.	Waves	A disturbance that travels through a medium, transporting energy from one location (its source) to another location without transporting matter.
Gas	A state of matter where the particles have no fixed shape or volume.	Wavelength	The distance between successive crests of a wave, especially points in a sound wave or electromagnetic wave
Intensity	The measurable amount of a property, such as force, brightness, or a magnetic field	Wood	The hard fibrous material that forms the main substance of the trunk or branches of a tree or shrub, used for fuel or timber.
Liquid	A substance that flows freely but is of constant volume	Vibration	Continuous quick, slight shaking movement back and forth
Manipulate	Handle or control in a skillful manner.	Source	Place from where things originate
Interpret	Explain the meaning of information or actions.	Duration	The length of time that something lasts

* Words in grey are Tier 2 (non-topic specific) vocabulary