

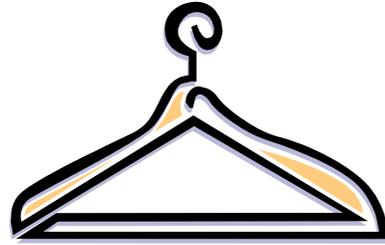
Coat Hanger Walkman

What you need:

One coat hanger per child

$\frac{1}{2}$ metre length of string per child

Metal object (i.e. spoon, fork)



What To Do:

- Wind one end of a $\frac{1}{2}$ metre long piece of string around one finger several times.
- Wind the other end several times around a finger on your other hand.
- Loop the string under the hook of a wire coat hanger.
- Pick the coat hanger up by raising your hands. Place the fingers with the string on them into your ears.
- Have another person hit the coat hanger with your metal object, or lean over and bang the coat hanger against a table. Notice the sound.
- Remove your fingers from your ears and bang the coat hanger again.
- How has the sound changed? Why has it changed?

What's happening:

The tone of the metal object banging on the coat hanger is produced by the vibrations of the hanger. The sound waves are then transmitted to your eardrums by the string and your fingers. The sound is louder through the string than listening to the sound traveling through the air to your ears because the solid string transmits sound better than air.

Explore the science of sound further by filling three or more glasses with different quantities of water. Try playing 'Mary Had A Little Lamb' or 'Twinkle Twinkle Little Star' by tapping a spoon against the side of different glasses. A sound is produced because of the vibrations of the glass; water thickens the glass so that it vibrates slower. The change in pitch is due to the amount of water in each glass - a glass that is almost full of water produces lower pitched sounds, less water produces higher sounds.