

The House on the Hill (KS 2)

PREPARATION GUIDE

This interactive show explores the wonders of sound and light through a story of suspense and surprise. The audience will be able to play with rainbows, make thunder, mix beautiful colours, and have their shadow stolen.

Our shows are designed to work flexibly as introductions to a topic or to revise a topic depending on what approach teachers would like us to adopt with particular audiences. Teachers may wish to use this overview to help to prepare their classes before the show. Introducing or revising key vocabulary and concepts in advance of the show tends to increase the learning outcomes from the presentation.



Key concepts and vocabulary

- All sounds are made by something **vibrating** or shaking. The vibrating object sends a series of invisible squashes and stretches through the **molecules** of the gas (or liquid or solid) that surrounds it.
- Sounds can be loud or quiet. The **volume** of the sound in air depends on the amount of energy that the sound waves carry – how much the air molecules move backwards and forwards as the wave passes.
- Objects that vibrate very quickly produce high-pitched sounds; objects vibrating slowly make low notes.
- **Music** is really just “organised sound” – playing a sequence of notes each with a **pitch**, volume and timbre (quality of the sound) to create tunes and rhythms that sound pleasing to our brains.
- Some objects make their own light – **sources of light** (eg fire, torch, glow stick, Sun). Most objects are only seen because they **reflect** light from sources towards our eyes eg trees, the Moon.
- Light always travels in straight lines. When an object blocks out some light rays from a light source it leaves a dark outline of the object on a screen behind it – a **shadow**.
- When the object is moved closer to the light source the shadow gets larger; and as the object is moved away from the light the shadow gets smaller.
- The **primary (or basic) colours of light** are red, blue and green. You can make any other colour by mixing these three primary colours in different amounts (colour addition). White light is made from an equal mix of each of these three colours.
- Differences between **translucent, opaque, and transparent** objects.
- In the sky, when the sunlight shines through each raindrop, it gets spilt up into six main colours that we can see – red, orange, yellow, green, blue and violet – making a beautiful rainbow.

Further information explaining the demonstrations and concepts used in the show, with some suggested follow-up activities, can be found in the support notes for this show at www.think-differently.co.uk