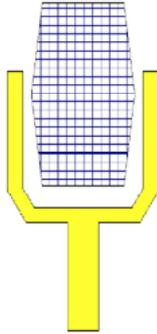# Using IT in... sound

Does sound fade the further you are from it?

The children can use a sound sensor to see how the sound level changes with distance. They might use an electronic organ or a tape recorder to make a sound. Can they be sure that this sound is the same each time? Over what distances will they measure the sound? Some children will be able to use a **spreadsheet** to record, and produce a bar graph of their results: what does the graph tell them about sound and distance? Why do they think that sounds fade with distance? Where does the sound go?

IT: Measuring

How do our ears help us collect sound?

The children can listen to a sound with and without an ear trumpet. They can use a **sound sensor**, in place of their ear, and measure how the trumpet affects the sound level. You can ask: does the trumpet increase the sound level? Would a larger trumpet help more? Which animals do you think should be able to hear well? See if some ear shapes work better than others.

IT: Measuring

How do our ears work?

A **sound sensor** is a good 'model' of how the ear works. It is a microphone with a membrane that vibrates in a similar way to the ear drum. Then there are wires, like nerves, to carry a message to the computer (or brain).

IT: Measuring

Where is that noise coming from?

The children can do a noise survey with the **sound sensor**. They can measure the noise level in school over the day. With a sensor extension lead or a portable computer they can go outside. Which is the noisiest part of the classroom? Which room is the noisiest? When is the noise worst?

IT: Measuring

Which material would make the best ear muffs for the teacher?

The children can test sound proofing materials by wrapping them round a **sound sensor** to see if they can lower the sound level. You might ask: which material is the better sound proofer? Do extra layers of material help reduce the sound? Where does the sound go? Are high sounds easier to stop than low sounds? Note: They will need a very quiet testing area.

IT: Measuring