

## Activity 2

# What do bat calls sound like

Light and Sound

Explain that bat echolocation calls are outside the range of our hearing (you can branch off nicely into sound here). Show them a bat detector and explain what it does (ask the teacher to jangle some keys). Ask the pupils what they imagine bat calls may sound like if we were able to hear them. After a few suggested imitations play them a selection of calls from a CD of bat echolocation calls. (10 minutes)

Play sounds using the website below:

[http://www.bats.org.uk/pages/listen\\_to\\_and\\_watch\\_bats.html](http://www.bats.org.uk/pages/listen_to_and_watch_bats.html)

Bat detectors can be borrowed from the Jersey Bat Group and the Department of the Environment

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## Activity 3

# Bat and moth game

Adaptation, Physical Education

**Resources needed: only a blind fold.**

*However bats are not blind but use echolocation to navigate and catch their prey in the dark.*

Get the class to form a circle and play 'bat and moth' to illustrate echolocation. If space is tight then you may wish to wait until you head outside. (10 minutes)

This game only requires a blind fold and a large group of enthusiastic children (and/or adults!). The group stands in a circle, arms outstretched, touching fingertips. Someone is chosen to be the Bat and one or more Moths are chosen, depending on the size of the group.

The Bat is blindfolded, to mimic a real life bat that doesn't use sight to find its prey. The Bat and the Moths enter the circle and the aim of the game is for the Bat to tag the Moths to get them out. The Bat calls

to the Moths to mimic the sonar used by a Bat. The Bat shouts 'Bat' and immediately (like an echo) the Moths must respond 'Moth'. This way, the Bat walks towards the 'Moth' call and tries to tag the Moth who tries to avoid being tagged. Both the Bat and the Moth must stay within the circle. The children forming the circle are the trees in the forest and must gently steer the Bat back into the circle if they come close. They can also call "tree" if the bat is about to bump into them. When a Moth is tagged out, they become a tree until all the Moths are caught and then the game begins again. If it is taking a long time for the Bat to tag the Moth then suggest that the Bat shouts "Bat" every couple of seconds so that they can more easily track the moth. This mirrors the rapid calling of real bats. If this still doesn't work then you can have all the trees take a step in towards the centre of the circle to make it smaller.

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## Activity 4

# Does design, shape and size matter?

In this activity you will design and test your own ear-like 'hearing aids', looking at animal ears for clues about what helps improve the auditory sense.

Use this weblink for instructions

<https://www.scientificamerican.com/article/ears-do-their-design-size-and-shape-matter/>

## Activity 5

# Make your own bat ears

### Resources needed:

- Paper
- Card
- Tissue paper
- Nylon tights
- Sellotape
- Scissors
- Alice bands to attach ears to

### Method:

In pairs ask the children to choose a selection of resources to use to design the ultimate set of bats ears to aid the capture of sound.

Children draw designs – based on information from looking at different ears, they make the ears using appropriate materials and then explain the choices they have made and why they feel the materials they used, shape and size were chosen.

Evaluate the work of all the groups and agree which seems the best design in terms of materials and also which gives a better chance of the sounds hitting the ear lobe.

Alternatively student may choose to use previously designed mask of different species with different shaped ears.

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## Activity 6

# Bat masks

### Resources needed:

- Card
- Scissors
- Hole punch
- Shirring elastic (about 25 cm per mask) to go round back of head) or elastic bands to hitch round ears
- Colouring materials

### Method:

Photocopy one per child – they colour carefully, and cut around edges of mask. Help may be needed to cut out eyes and punch holes for elastic

Thread & tie elastic to fit child's head (or send mask & elastic home for adults to complete there!)