

Does My Dog See What I see?

LIFE SCIENCES

Get curious

Puzzle/quiz

Students work out whose eyes are shown in the photographs.

Show the quiz slide (or alternatively give out a printed color photograph to each pair of students). Students work in pairs, consulting each other and writing down their answers. Next – all together – check your answers against the correct ones. Ask: What effect does the different structure of the eyes of the various animals have on how they see the world? Do they all see the world in the same way?

Movement game

In the movement game, find out what we gain by having two eyes.

Before the game ask students whether they would see in the same way if they only had one eye.

Conclusions

Summarize the game.

Ask:

Did you see your friend on the right side as clearly as your friend on the left side?

What determined how well you caught and threw the ball?

Did observations from the movement game help you to answer why we have two eyes?

If people see better with two eyes, then why don't we have more of them? Why not four, for example? Or why don't we have an eye in the back of our head?

Get going

Video/ Slide show

Watch a film showing how different animals see.

Tell students to try to remember as many examples as possible.

Talk

After watching the film, you can ask:

Which fact – presented in the film – was most surprising? Did you find anything strange?

What is amazing about a chameleon's eyes?

How do animals see at night?

In what conditions does an owl see best?

How and why does an owl's neck help it in seeing?

Who sees better: an eagle or a person?

How does an eagle's vision help it to hunt?

Experiment

Students build a model of a bee's eye and find out how insects see by means of an experiment.

Tell students that a bee's eye is made up of lots of tiny eye units – as many as 5000. Ask them how they think a bee sees the world with the help of so many eyes. Students put forward hypotheses, which they will test by performing the experiment.

Discussion

Discuss why insects see the world as a mosaic composed of many small pictures. Explain the advantages of having complex eyes.

Before the talk show students photographs – beautiful close-ups of insects and their eyes taken by a British photographer.

<http://www.dailymail.co.uk/news/article-2733678/Eyes-Incredible-close-shots-British-insects-reveal-fascinating-faces-features.html>

Then watch the first two minutes of a video:

Next ask students to share their ideas: why do insects have complex eyes?

Movement game

In the movement game, students find out which dog sees better: a little Yorkshire Terrier or a large Dalmatian?

Before the game, watch a video demonstrating how a dog sees. Screen the film starting at 0:38 seconds. Ask which color dogs can't see.

OPTIONAL Experiment

If you can, experience how a dog sees – this experiment can be conducted outside on a sunny day.

Instructions in the film.

Get practicing

Conclusions

Students draw conclusions about the life of a hedgehog on the basis of information on how it sees.
