

Topic

Week beginning 22.06.2020

Hi Longboats,

This week in Topic we are going to link our History learning into some Science. Follow the activities to find out more.

Activity 1 – Science

Look at this picture :



I put three pieces of card in line behind each other, but with some space in between. Each card has a little hole in it. The hole is in a different place on each card. I turn the torch on and shine it at the first piece of card.

Will the light shine through the hole in the final card? Why do you think so / think not?

Well done, now watch this video

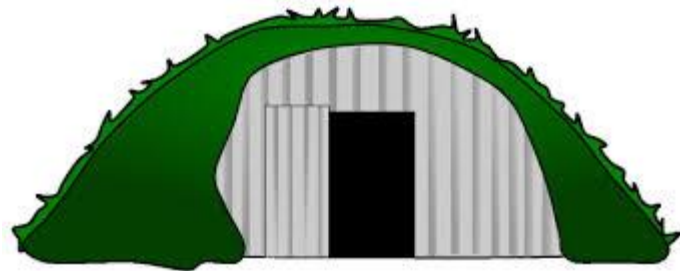
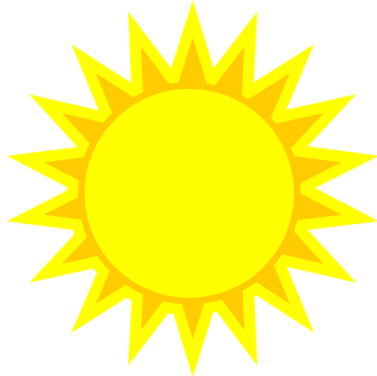
<http://www.bbc.co.uk/education/clips/zyntsbk>

Were you surprised by what you found out?

Draw two diagrams, one where all the holes on the card are lined up and one where they are spread out. Draw the torchlight to show what would happen each time.

Activity 2

Today, we are going to think about how eyes work. Here is a picture of a person looking at their new air raid shelter, which they have just built in their back garden. Can you draw 2 arrows on the picture to show **how** light is working to help make the Anderson shelter visible?



Now, watch this video about how we see objects to find out if you were right!

https://www.youtube.com/watch?v=i3_n3lbf1c

If you were correct, you can tick your arrows. If not, that's okay! Just draw new arrows on in a different colour to show correctly what is happening.

Activity 3

How much key vocabulary can you remember about the eye. Can you think of 6 pieces of key vocabulary? Watch this video again and see if it can help you to match up the correct definition to each word.

https://www.youtube.com/watch?v=i3_n3lbf1c

cornea
iris
pupil
lens
retina
optic nerve

the part that gives you your eye colour. It can expand and contract in different lights.
This can bend and flatten to help you see things that are far away or nearby. It focuses the light more sharply.
the clear layer on the very front of your eye, it begins to focus the light.
This carries the information from the retina to your brain so that your brain can interpret the information and tell you exactly what you are seeing.
the little dark hole in the middle of your eye – it lets the light into your eye
This is where all the sensors are at the back of your eye. It collects all the information from the reflected light that bounces into both eyes to create one clear, detailed image

Once you are happy that you have got these all correct, you can draw your own diagram of an eye. Make sure you label all the parts clearly! Try to write a mini-explanation of what each part does in your own words.

Activity 4

What did you learn about the pupil and the iris? How do they work together to help you see in different levels of light?

Your retina needs lots of information to create a clear image to send to your brain. When you are in a dark room, or outside in the late evening or at night, there's not very much light so it's hard to see.

To help you see in darker places, your iris contracts and your pupil **dilates** (this means it gets bigger). That way, more light can get in through the pupil and your retina gets more information to send to your brain.

You can actually see this happening! It will help if you have a parent or sibling to investigate with. You both need to go somewhere quite dark – maybe a room in your house with thick blinds or windows or a room without a window at all where you can turn the light out. You will also need a mirror and a bright torch, the one on a phone will work well.

1. Stay in the dark place until your eyes are used to the dark and you can see a little bit. This might take 1 or 2 minutes. When I did it, I counted to 100 and that worked.
2. After you have counted to 100, ask your helper to turn the torch on and shine it from the side onto your face. **Don't look at the beam from the torch. It will be too bright and it could hurt your eyes.** That's why you need to ask someone to shine it from the side of you.
3. Make sure you're already looking at the mirror while it's still dark. As soon as the light goes on, look right into the middle of your eyes.

Did you see you pupils shrink??

Activity 5

This is where the History link comes in.



Can you understand what it is showing better now?

Why does the cat's eye change in the blackout outside?

At the beginning of the blackout, with no streetlamps or lights from houses, lots of people got injured! They walked into walls and lamp posts, they walked into each other! Some people even got knocked down by cars or bicycles!

These posters were there to remind people that their pupils needed time to dilate so they could see better in the dark. it was better to take a moment to get used to it when you first went outside, instead of rushing and getting hurt!

Think of another animal or bird that is good at seeing in the dark (it might be a nocturnal animal) or you could even use a human face. Design another blackout poster like this one but with a different animal, bird or human. You could use an owl, a fox, a rabbit – there a lots of possibilities! Think of a slogan that will get everyone's attention!

Have fun!