

Week 3 - Science - Light



Watch this video to learn about light

<https://www.bbc.co.uk/bitesize/clips/zg6r82p>



<u>Keyword</u>	<u>Definition</u>	<u>Image</u>
<u>Transparent</u>	lets light through the object - window/ glass	
<u>Opaque</u>	blocks light to create a shadow - door/wood	
<u>Reflective</u>	shiny materials - reflects the light - spoon/shiny metal	

Can you find some around your house and put them into groups of transparent, opaque and reflective?

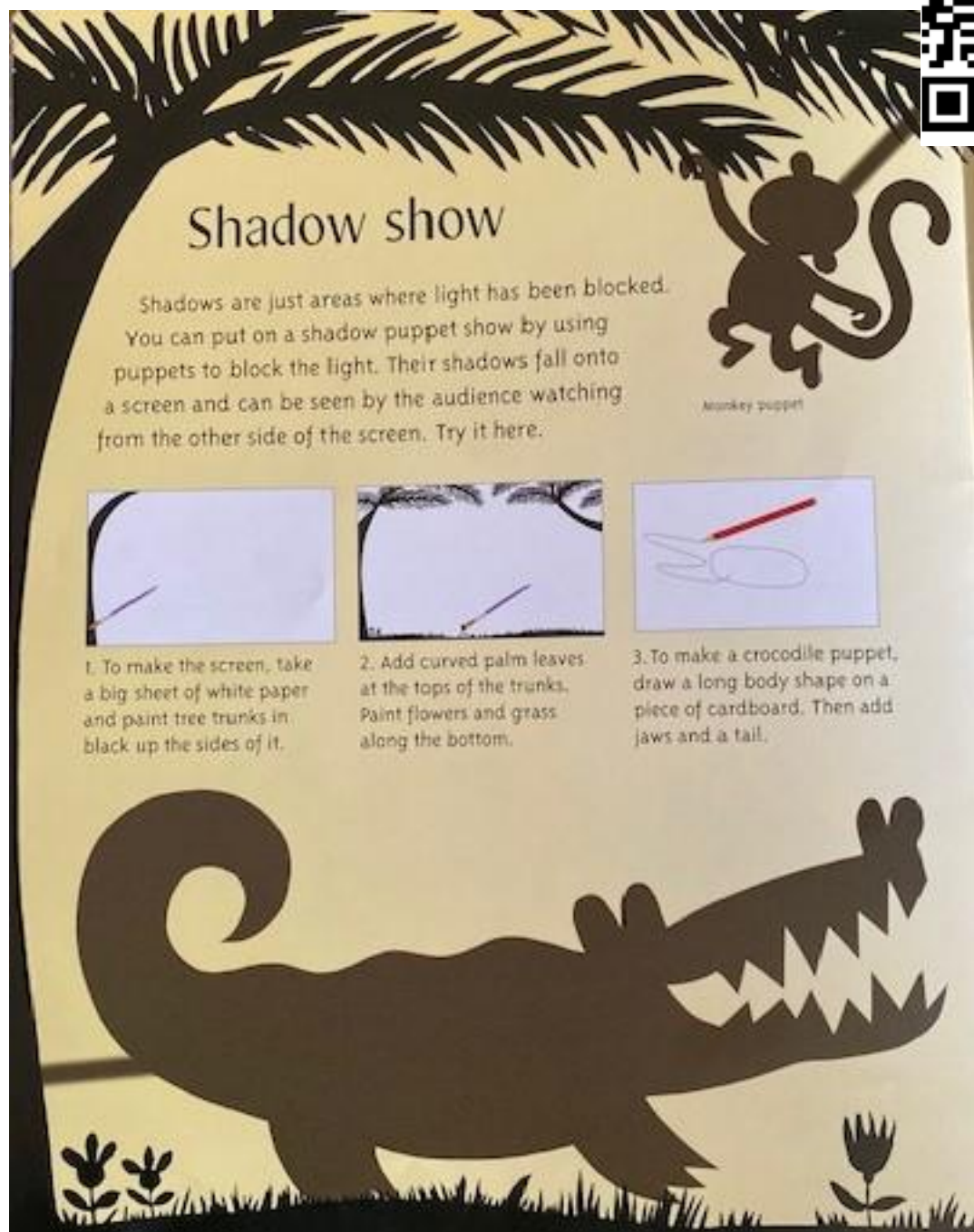
Activity 1 - Shadow puppets.

What is a shadow? (Use the link below to find out)

<http://kinooze.com/what-is-a-shadow/>

Why not make your very own shadow puppets? You can use these to make your own shadow puppet show. All you need is some black paper/card and a torch.

Follow the instructions below...





It would be lovely to see all your wonderful designs and even to see some of your amazing shadow puppet shows. Make a video of your puppets and upload it onto twitter or email us at: homelearning@thornton.bham.sch.uk



KEY Vocabulary:

Shadow - shadow is a dark (real image) area where light from a light source is blocked by an opaque object.

Activity 2 - Make your own sundial

As the sun is coming out a lot more now, it would be the right time to do this. A sun dial is used to tell the time. Follow the instructions below and see how accurate your sun dial is at telling the time.

Make a Sun circle



1. Draw around a plate on some card to make a circle. Cut it out. Then paint it and draw a Sun shape on it.



2. Press a lump of poster tack into the middle of the circle. Cut a straw in half and push it into the poster tack.



3. Now put the circle in a sunny place outside, where it won't be overshadowed by buildings or trees.



4. Use a ruler to draw a line where the straw's shadow falls. Check the time and mark it on the line.



5. Mark the new position of the shadow each hour. What do you notice about the length of the lines?

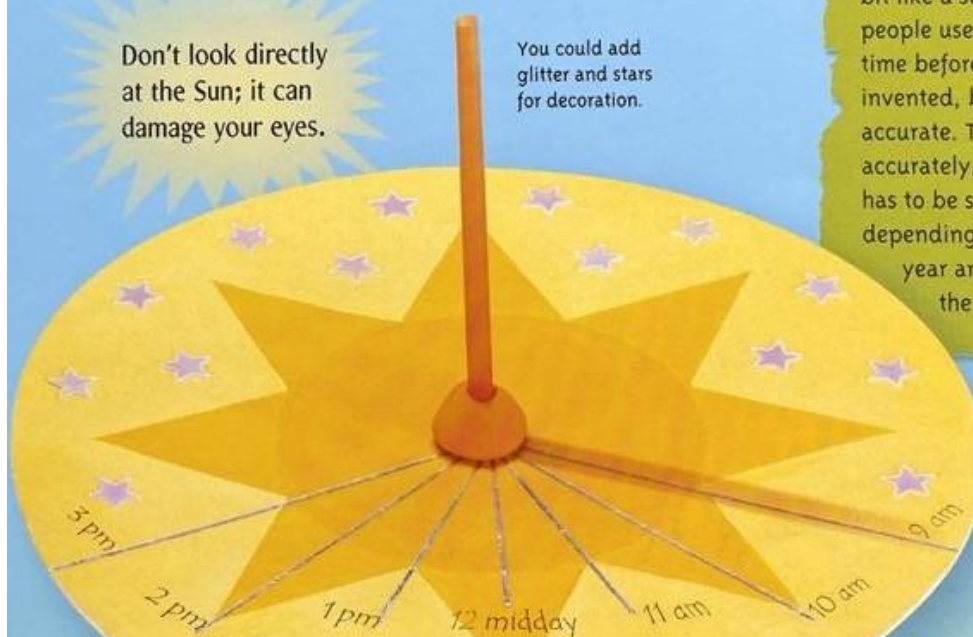
What's going on?

As the Earth spins during the day, the Sun appears to move in the sky. The shadows are longer before and after midday, because the Sun is lower in the sky. At midday the Sun is at its highest point, so it casts the shortest shadow.

The Sun circle works a bit like a sundial, which people used for telling the time before clocks were invented, but it's not as accurate. To show the time accurately, the straw part has to be set at an angle, depending on the time of year and what part of the world you live in.

Don't look directly at the Sun; it can damage your eyes.

You could add glitter and stars for decoration.



You could try using the Sun circle to track the Sun at a different time of year. Does it change its pattern?

Use the link below to find out more about shadows. Play around with times to identify which angle the shadow goes throughout the day!

<https://www.childrensuniversity.manchester.ac.uk/learning-activities/science/the-earth-and-beyond/shadows/>

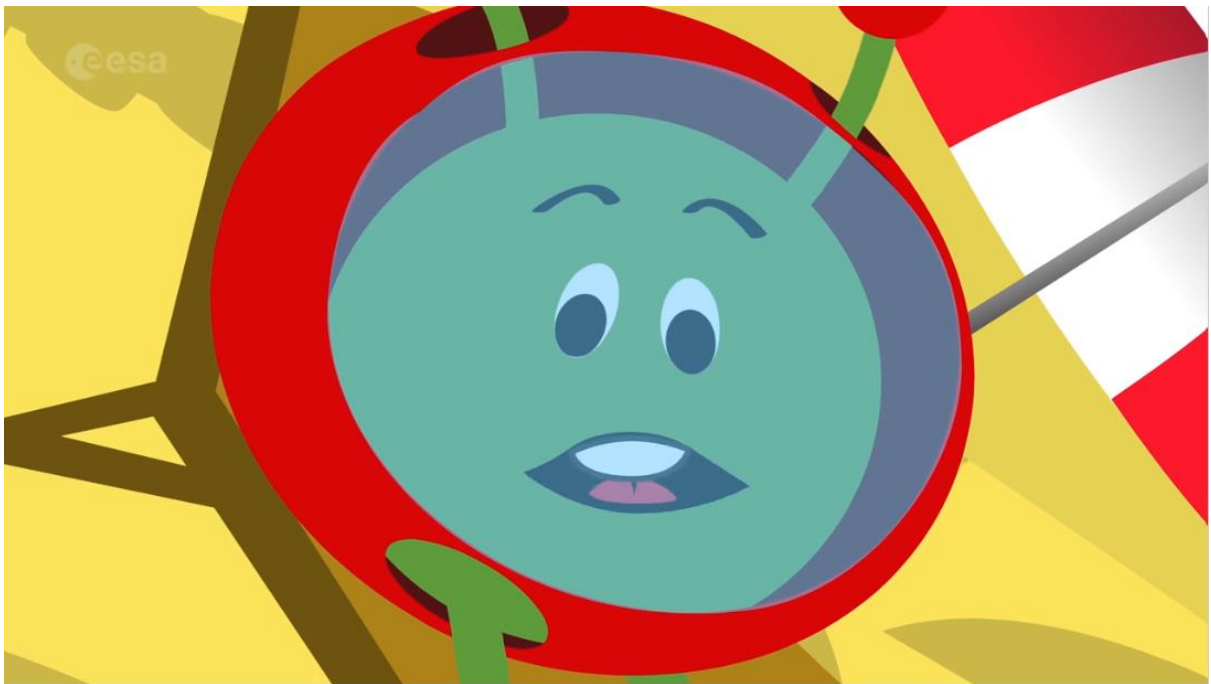


Use the link below to find out more about night and day and the seasons with Paxi the alien

<https://watchkin.com/62377c37d0>



Once you have watched the clip, can you summarise what you have watched in a short paragraph.



Extra Activity - Light - grow your own Rainbow

Follow the rainbows popping up in your local area and find out how rainbows are made at:

<http://sciencekids.co.nz/sciencefacts/weather/rainbows.html...>



How to Grow a Rainbow

You will need:

- Kitchen roll/paper towel
- Felt tip pens
- Two small bowls of water
- Paper clip
- Thread



1. Cut your kitchen roll into the shape of a rainbow.
2. Colour a rainbow with felt tips about 2 cm up on both sides.
3. Attach your paper clip to the top and tie a piece of thread to it. This will give you something to hold your rainbow with.
4. Fill each small container with water.
5. Hold your rainbow with the ends slightly submerged in the water then watch your rainbow grow!



THE SCIENCE

A brief introduction to 'capillary action'! Water molecules like to stick to things - including themselves. Sticking to things is called *adhesion* and sticking to itself is called *cohesion*. The fibres in kitchen roll make lots of little holes. Water is 'sucked' through the holes because of adhesion (liking to stick to other things) and cohesion (liking to stick to itself) means the rest of the water follows. The water pressure will eventually slow down and the pressure of gravity will mean it stops moving.

@MrsBpriSTEM

If you want to do some more rainbow related experiments click on the link below:

<https://thekidshouldseethis.com/post/skittles-candy-dissolves-into-rainbows>

You can make more rainbows using things you have from around your house...

- A rainbow in a glass
- Make a rainbow with Skittles
- Colourful cabbages
- Find out even more about rainbows.

Hope you have fun and take some pictures

We look forward to seeing your amazing experiments

Miss Garnett



More links for experiments to do at home

Here are some more web links of experiments that you can do at home.
Remember to always ask permission from an adult before doing any scientific investigation.

<https://watchkin.com/cfb4e5fe3d> - fruit and vegetable alarm clock



<https://watchkin.com/db6af30cc8> - lava lamps



<https://watchkin.com/2f02bfde2d> - skittles experiment

