

Shadows



What is a Shadow?

A shadow is created when a solid object blocks light.

The light will continue past the object but will not go through it, creating a shadow.

The shadow will always be on the opposite side of the object to where the light is coming from.



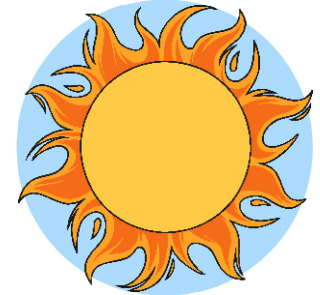
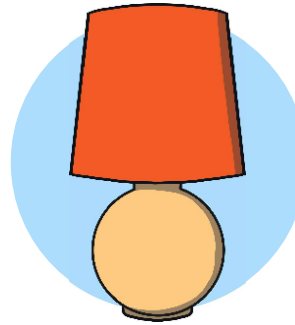
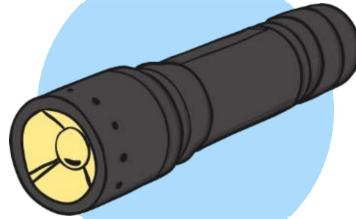
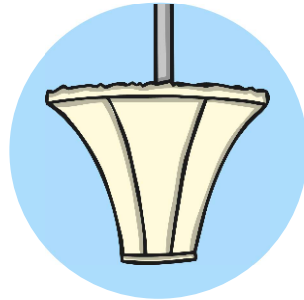
Have you seen your shadow? Share what it sometimes looks like.

What other shadows have you seen?

What Makes a Shadow?

Any kind of light can create shadows:

- a ceiling light;
- a torch;
- a lamp;
- the Sun;
- the Moon.



Can you think of other types of light that can create a shadow?

Did you know...
Light always travels in a straight line!

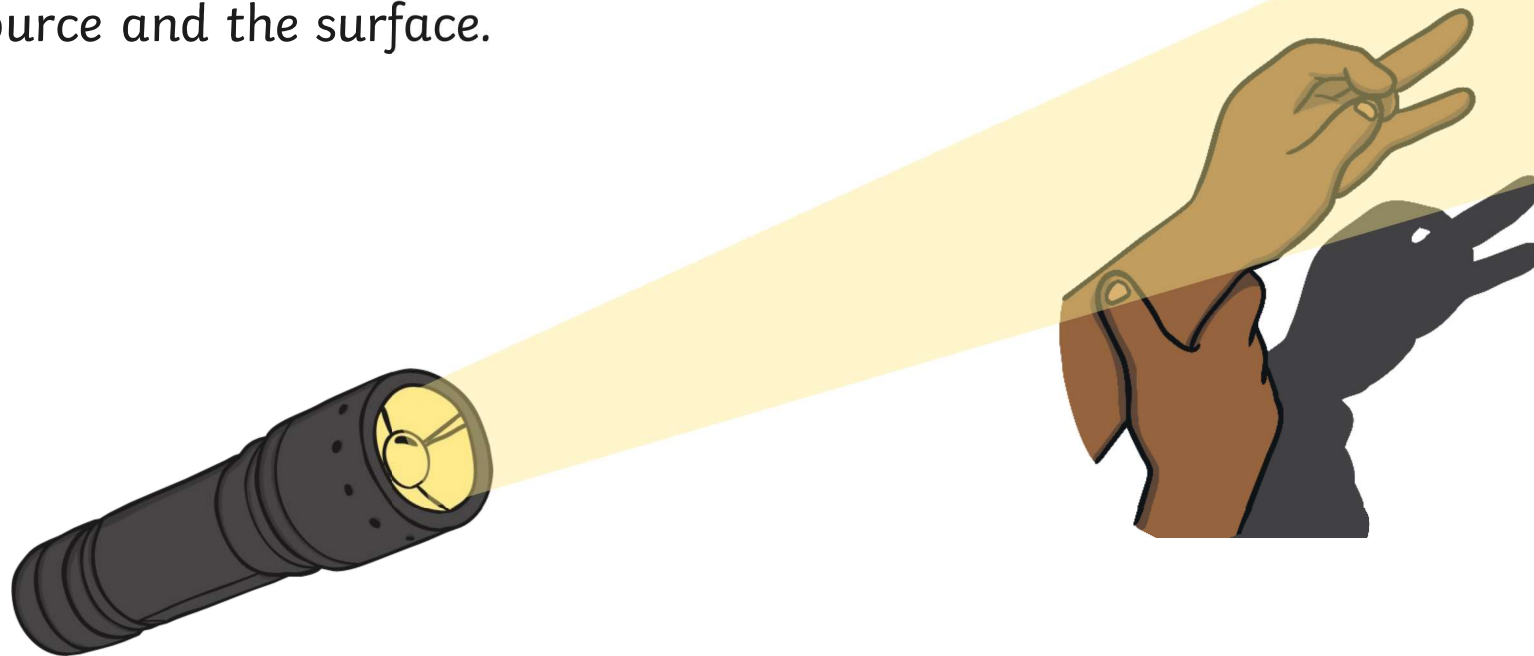
Try This!

You will need a torch or a lamp that you can use to shine on something.

Find a darker area of a room or a dark wall.

Place the lamp or hold the torch so it is shining on a wall or floor surface.

Another person puts their hands between the light source and the surface.



Try This!

What does the shadow look like?

What happens if the person wiggles their fingers?

What happens if the person moves their hands closer to the light source?

What happens if they move their hands further away from it?

What happens if you move the light source higher?

What if you move it to the side?



The Sun

Our most important source of light is the Sun. Have you seen shadows when you have been outside?

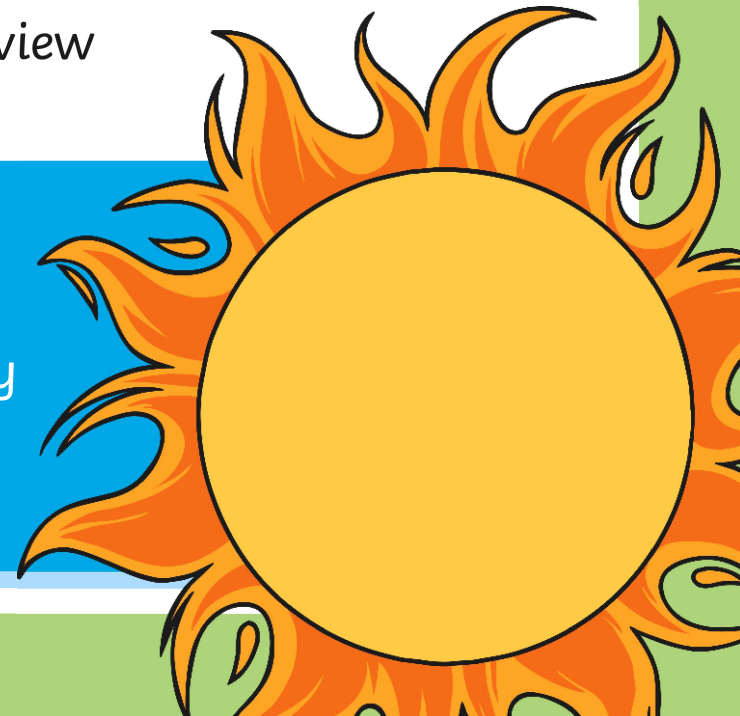
Objects that are outside block the Sun's light from reaching every part of the surface.

The size, shape and placement of the shadow depends on where the Sun is shining from and where the object is sitting.

Throughout the day the Sun appears to move as the day goes on.

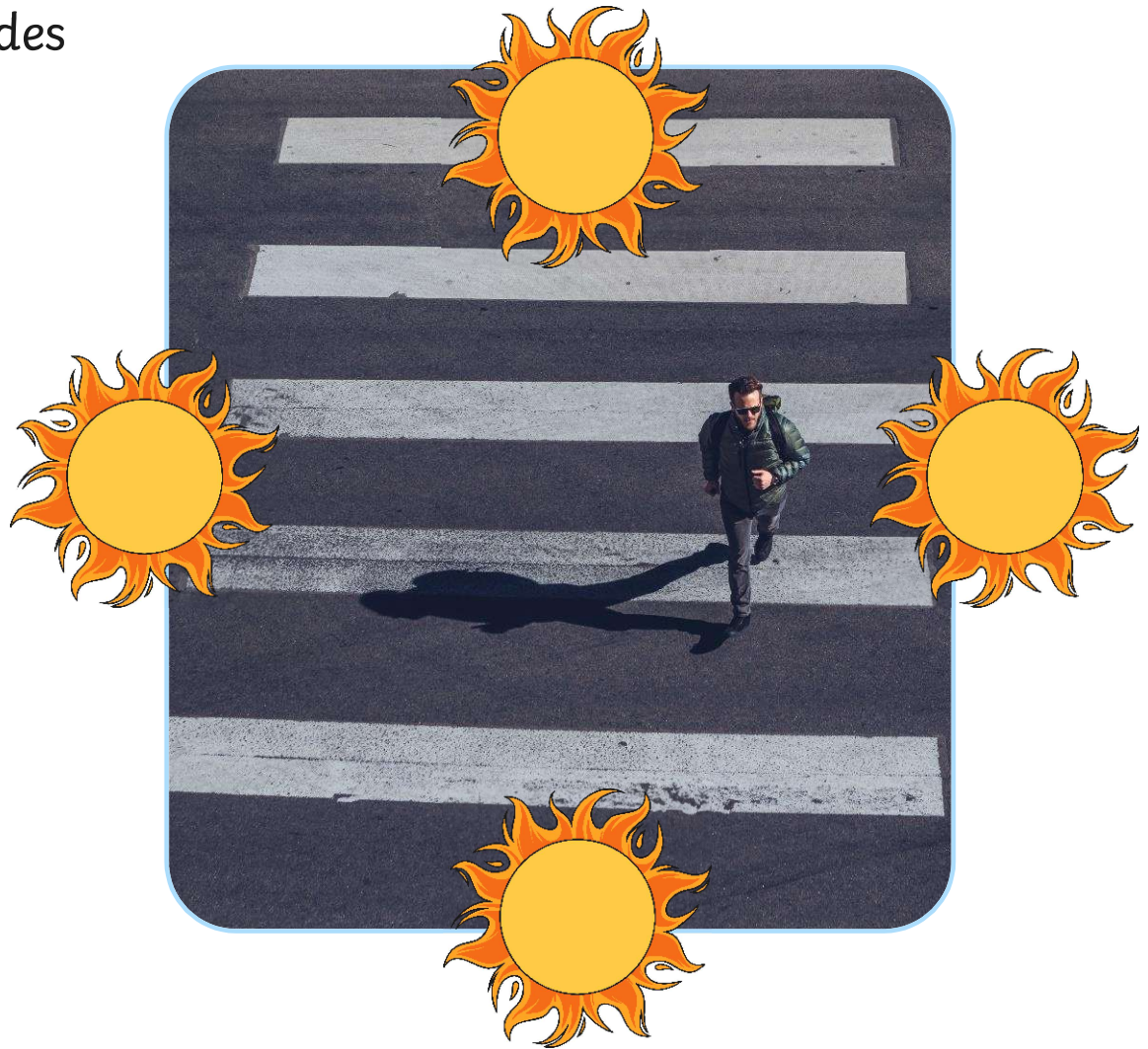
But it is actually Earth spinning which makes our view of the Sun change.

It takes 24 hours for the Earth to spin (rotate) around, which is one day and night for us. Different parts of the planet face the Sun or away from it, which is why the Sun seems to come up and go down each day.

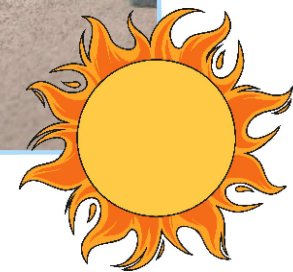
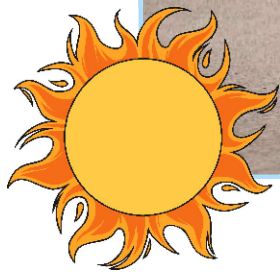
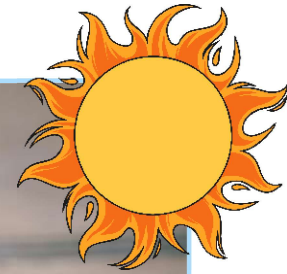
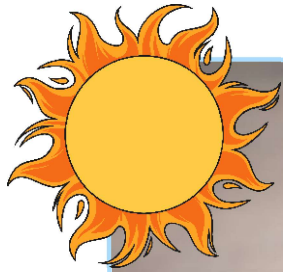


Where is the Sun?

Have a look at the next slides and decide where the sun might be coming from.



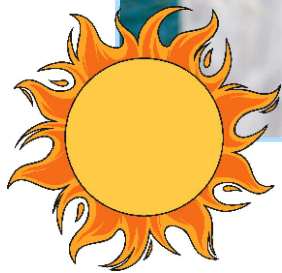
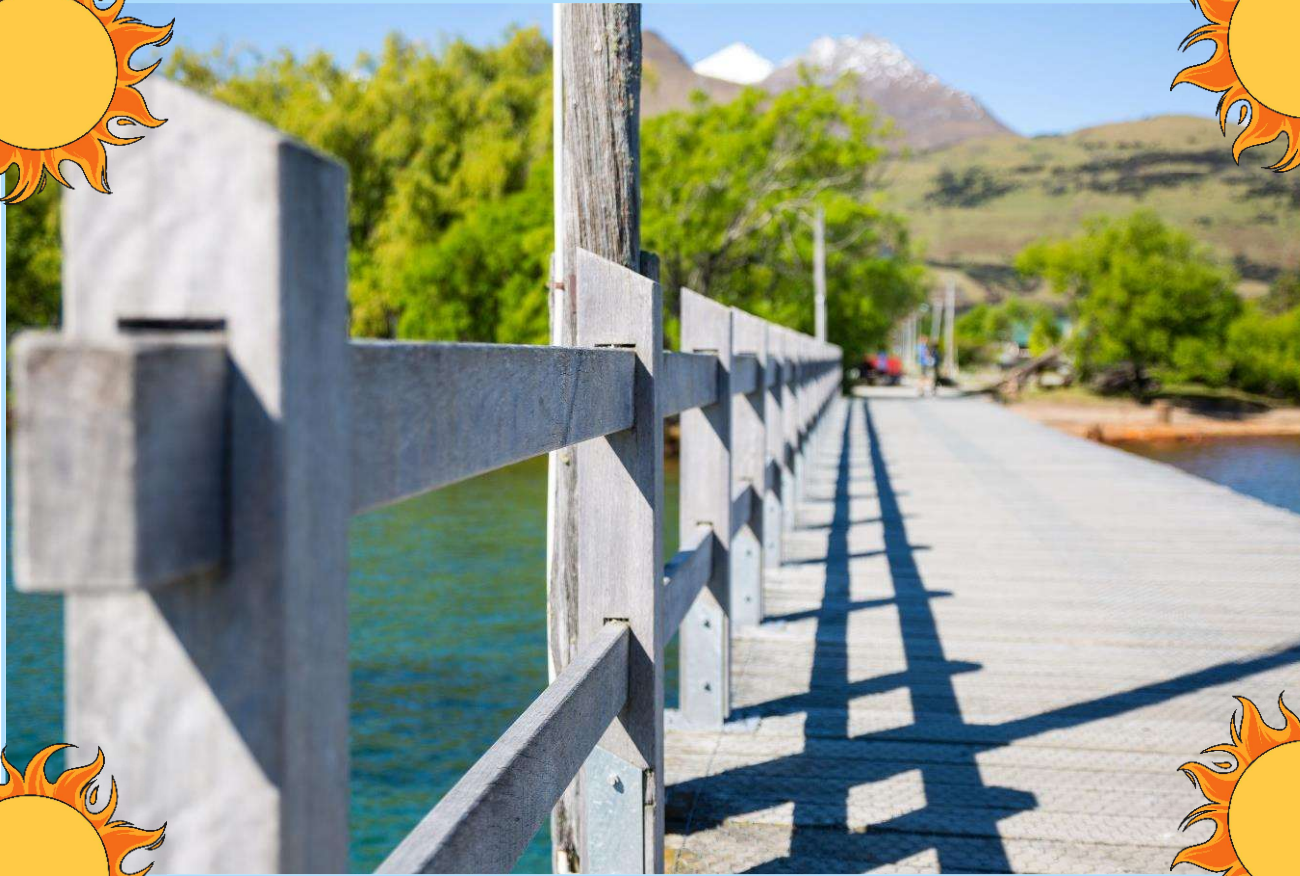
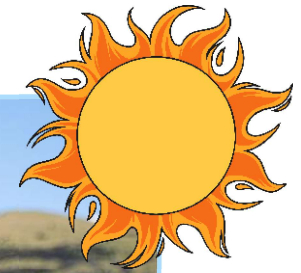
Where is the Sun?



Where is the Sun?



Where is the Sun?



Now It's Your Turn

You Will Need:

- a table or desk that can be taken outside;
- a large piece of paper;
- sticky tape;
- markers - lots of different colours;
- a toy or object that is the size of your hand or little bit bigger.



Now It's Your Turn

1. Find an area outside where your table or desk can be placed. It will need to be a sunny spot.
2. Tape the piece of paper down onto the table or desk.
3. Look to see where the Sun is and place your object in the middle of the paper.
4. Trace around the outside of the shadow that is made. Leave your object in the exact same spot.
5. Come back in an hour and see where the shadow is now. Trace around the new shadow placement. Make sure your object stays in the exact same spot!
6. Come back each hour and continue to trace around the new shadow placement.



Discussion

What happened to your shadow?

Did they look the same each time?

Why do you think they changed?

This explains why we need to move our umbrellas around at the beach or park throughout the day.

It also explains why you might sit on one side of a tree in the shade at morning tea time then need to sit in a different spot at lunch time.



