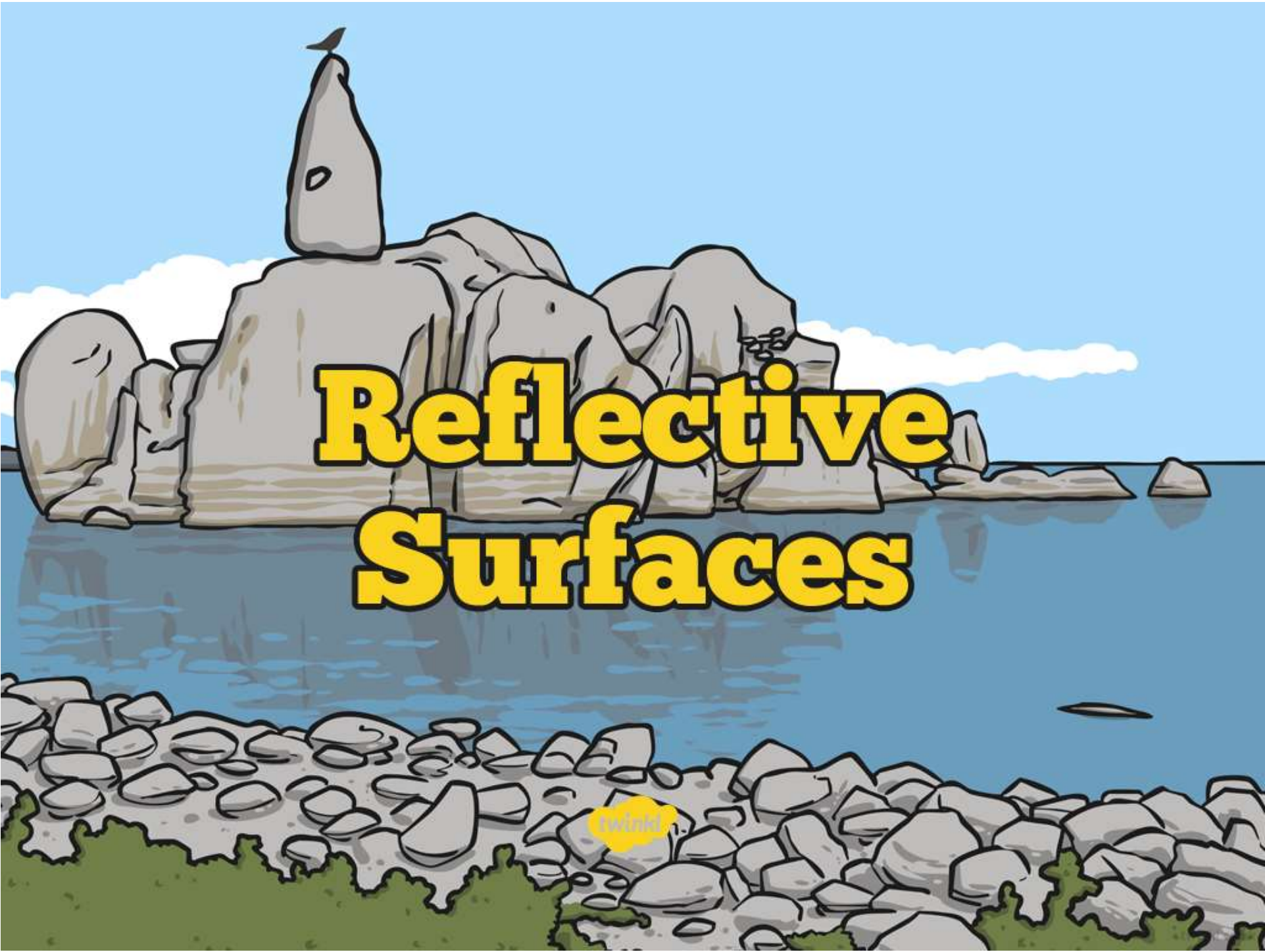




# Reflective Surfaces

# Reflective Materials



Type in this link to watch a short clip.

<https://www.bbc.co.uk/bitesize/clips/ztcg9jb>

It is all about materials that reflect light.



While you are watching, think about:

What does it look like if a material reflects light well?

Which colours do you think reflect most light?

What are reflective materials useful for?

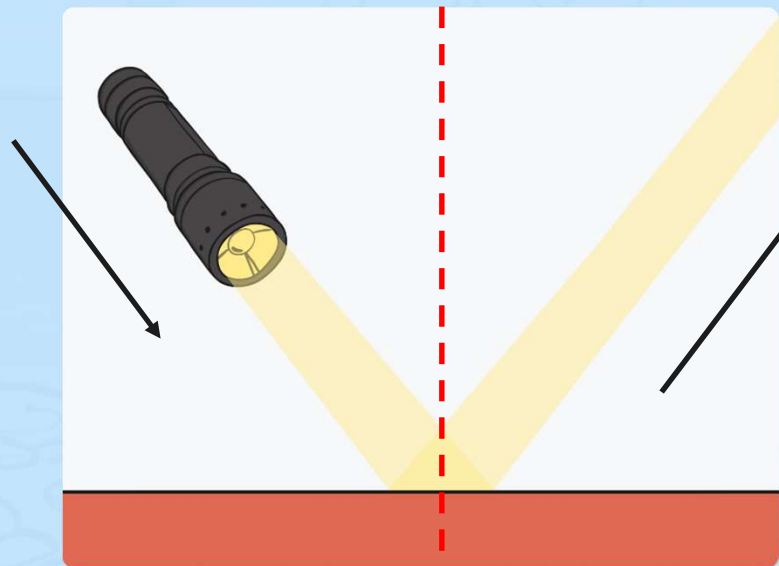
# Reflective Light

Light travels in a straight line.

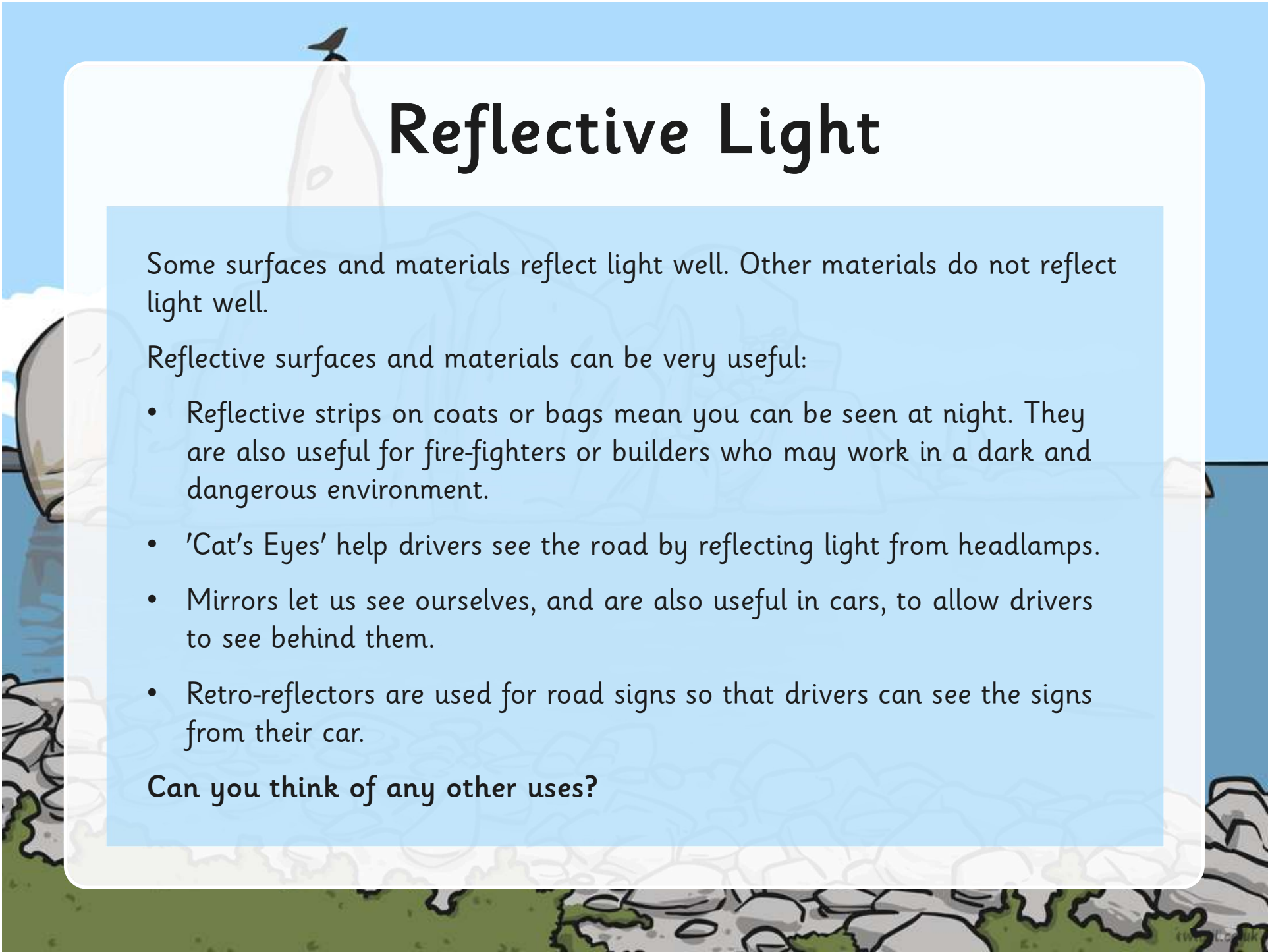
When light hits an object, it is reflected (bounces off).

If the reflected light hits our eyes, we can see the object.

Light from the torch hits the object.



The light is reflected from the object.



# Reflective Light

Some surfaces and materials reflect light well. Other materials do not reflect light well.

Reflective surfaces and materials can be very useful:

- Reflective strips on coats or bags mean you can be seen at night. They are also useful for fire-fighters or builders who may work in a dark and dangerous environment.
- 'Cat's Eyes' help drivers see the road by reflecting light from headlamps.
- Mirrors let us see ourselves, and are also useful in cars, to allow drivers to see behind them.
- Retro-reflectors are used for road signs so that drivers can see the signs from their car.

**Can you think of any other uses?**

# Design a Reflective Book Bag

The Brilliant Bags Company want to make a new book bag for children to use to carry their things to and from school.

They want to make sure the bag helps children stay safe while walking near roads on dark mornings or evenings.

They have decided to put a reflective strip on the book bag, so that drivers can see the book bag easily when their car headlights shine on it.



# Design a Reflective Book Bag

The Brilliant Bags Company want you to help them choose the best material for the reflective strip.

Choose 5 materials to test at home. Below is a list of suggestions to test, if you do not have these feel free to swap them for something else.

- Tinfoil
- Paper
- Plastic
- Velcro
- elastic

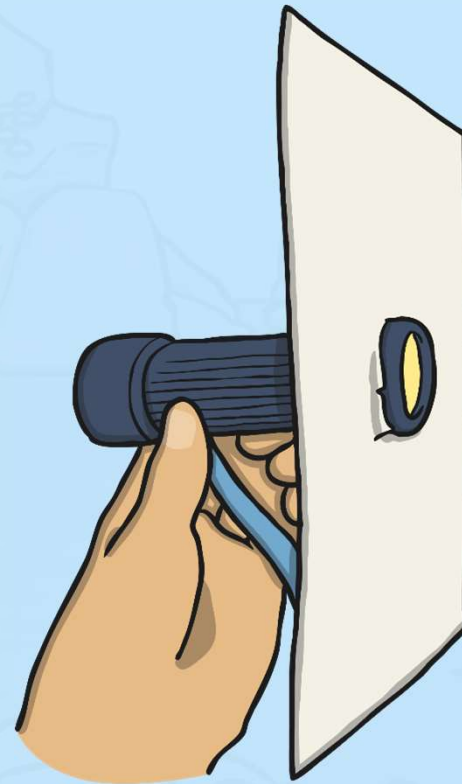
# Testing Reflective Materials



In order to test the materials, you will need to make a reflection tester.

Attach a piece of white card to a torch:

1. Cut a hole in the centre of the card and push the torch through so that the card fits snugly around the torch without you having to hold it.
2. Shine the torch at the material you are testing.
3. If the material reflects light well, you will see the reflected light shine through the white card and light it up.





# Which Material Is Most Reflective?

You need to decide which material is best for the Brilliant Bag Company to use on their book bag.

Choose the most reflective material from the ones you tested. (This is the one that bounced back the most light.)

Use your Choosing a Material Activity Sheet to draw your chosen material on the book bag in the place you think it should go, and label it.

Write an explanation to the Brilliant Bag Company so they know why you have chosen this material.