

# Science Challenge



## Be bright, be seen – Reflective Materials

As the nights get longer and days get shorter during the Winter months it is important to ensure that you are visible on the journey to school.

One way of maximizing visibility is to wear something bright and reflective, or accessories that do the same.

### What you need:

- Torch (most smartphones have one built in)
- Materials/objects to test from around the house: e.g. tin foil, paper, wood, metal, fabric, CD.



Image from: hivis.co.uk

### What to do:

In a dimly lit room, shine the torch onto the surface of the different materials and objects to compare them.

Record your findings in a table like this.

Object	Describe what it looks like	How shiny is it? (score out of 5)
What do you notice about the objects that reflected the most light?		

### What's going on?

When light from an object is reflected by a surface, it changes direction. It bounces off the surface at the same angle as it hits it.

Smooth, shiny surfaces such as mirrors and polished metals reflect light well.

Dull and dark surfaces such as dark fabrics do not reflect light well.



# Technology Challenge



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## Be Bright, Be Seen online game

### Road Safety Week: 15-21 November 2021

#### Why is road safety important?

- Road crashes are the leading cause of death for children and young people worldwide.
- More than six children are killed or seriously injured on roads every day in the UK.
- Road crashes have a devastating effect on families and communities.
- Pollution from traffic causes respiratory illnesses and other diseases.
- Active travel such as walking and cycling is good for the nation's health and good for the planet.



Image from: [think.gov.uk](http://think.gov.uk)

#### Be bright be seen online game

In this game, you will decide whether a series of pedestrians walking during the day and at night are wearing the right clothes to make sure that they can be seen by other road users.

Access the game using the link below:

<https://www.think.gov.uk/resource/be-bright-be-seen-game/>

# Engineering Challenge



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## Improving Road Safety

As a school pupil, you will need to make a journey to and from school, Monday to Friday. You may be a cyclist, a pedestrian, a passenger in a vehicle, travelling on your own or as part of a group. There will be some road safety measures already in place to help keep you safe, but are they enough?

### Your task:

- Think about your route to school and how you travel.
- Make a list of all the road safety measures already in place to assist you.
- Can you pinpoint any area where the journey is particularly dangerous or where the road safety measures are not sufficient?
- Is there an area where there are accidents regularly or have occurred in the past?
- Any main roads?

Use the information you have collected from the questions above to help you design a road safety map for your journey to school.

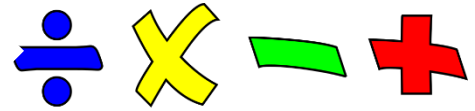


Draw a map like this of your journey to school.

Add on any road safety features that are already there, eg. Lollipop lady, lights, crossings.

Draw on any changes you would make to help keep pedestrians, cyclists and motorists safer.

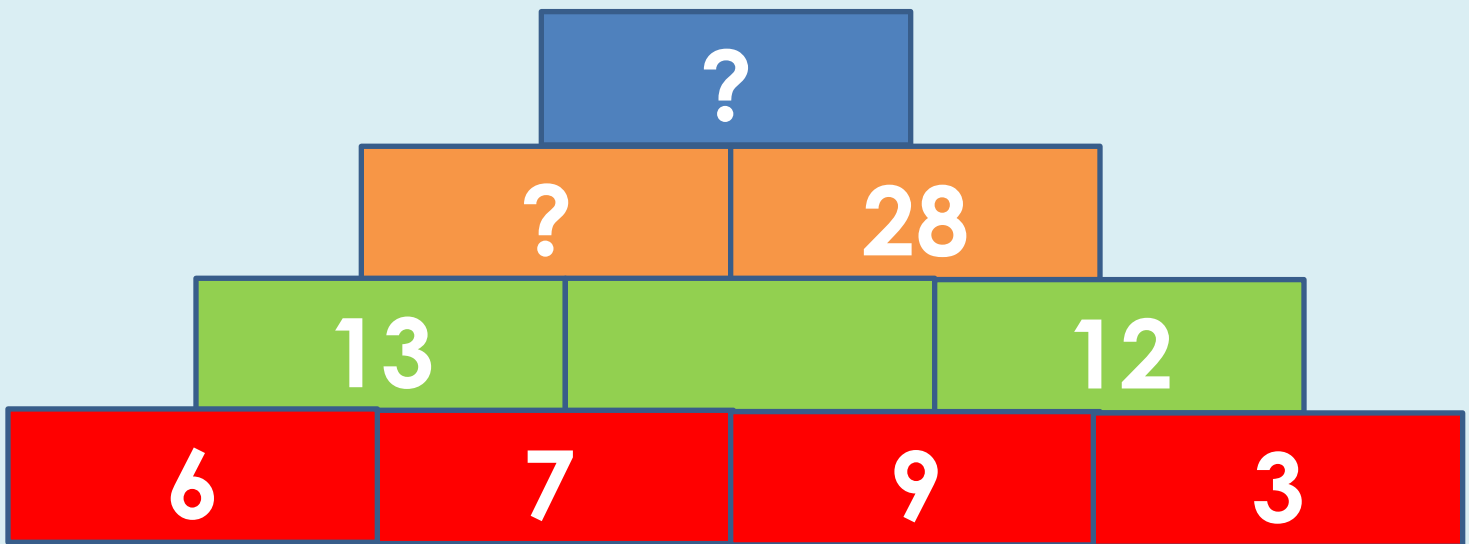
# Maths & Numeracy Challenge



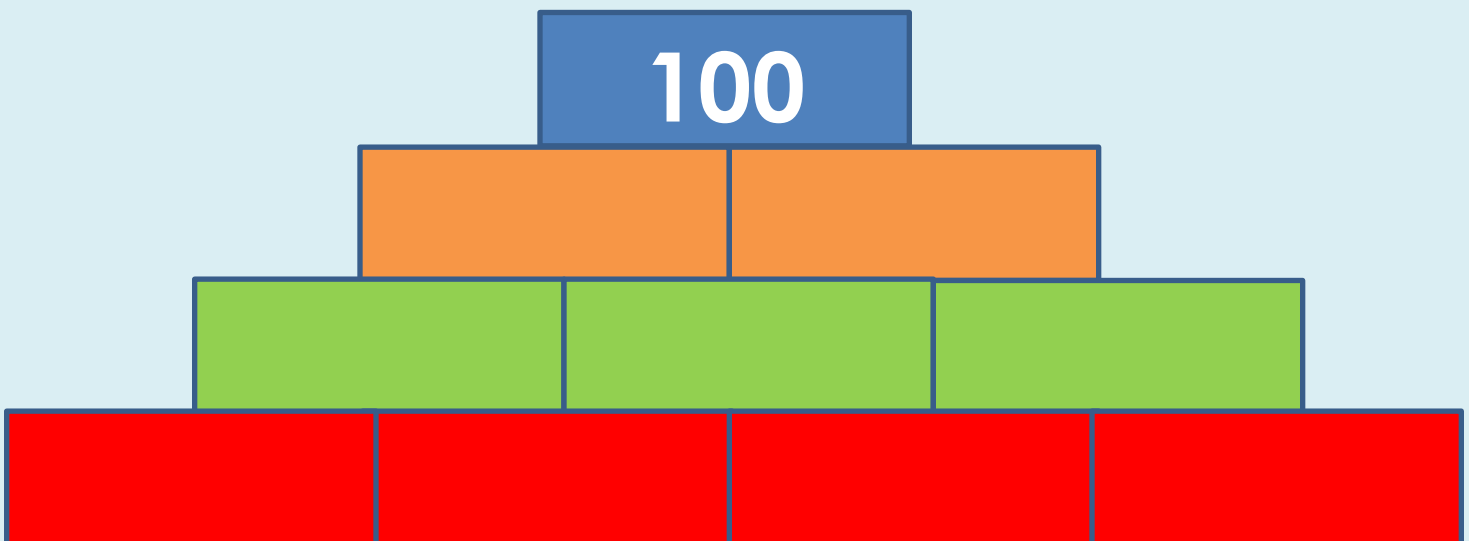
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## Magic Tower

Can you work out what numbers are missing at the top of the pyramid?



Can you make a pyramid that has the number 100 at the top?



Can you make another, different one?

# Literacy Challenge



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## Little Acorns

### Activity 1 – Listen to the story

'Little Acorns' follows the life cycle of an oak tree through the different seasons of the year. It all begins when a little brown acorn falls to the ground and decides to stay there! It describes how each season affects the acorn and chronicles its development into an oak tree.

- Follow this link to watch and listen: [https://www.youtube.com/watch?v=CbeGN\\_B-FGQ](https://www.youtube.com/watch?v=CbeGN_B-FGQ)
- **Have a chat with an adult about these questions:**
  - What did the acorn snuggle down to sleep in?
  - Can you name some of the creatures that live in the oak tree?
  - What did the acorn need to help it grow?
  - How long does it take for an oak tree to grow to full height?
  - What is your favourite season? Why?



Image from: <https://pixabay.com/images/id-3682386/>

### Activity 2 – Create a Storyboard

Make a Storyboard for Little Acorns by drawing pictures and writing a few sentences about your favourite parts of the story.

**Remember to use capital letters and full stops!**

An adult could help by drawing boxes and lines on a piece of paper like in this picture.

A **downloadable** blank storyboard like this can also be found [here](#).

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# Health & Wellbeing Challenge



## Traffic Light Biscuits

Learn about baking by having a go at making these biscuits inspired by Road Safety Week.

**This activity requires adult supervision!**

### You will need:

- 175g/6oz Plain flour
- 100g/4oz Butter or margarine
- 50g/2oz Caster sugar
- A tube of Smarties



### What to do:

1. Mix butter or margarine and caster sugar together until light and fluffy. Mix in some flour and knead the dough together until it forms a ball. Add a sprinkle of flour if the dough is too sticky.
2. Roll out the dough on a lightly floured surface until it is about 5mm thick.
3. Cut the dough into 'traffic light' rectangular strips. Place red, yellow and green Smarties in a row down the strip.
4. Place the biscuits on a floured or lined baking tray and bake in the centre of a pre-heated oven at 150°C/300°F/Gas Mark 2 oven for 10 minutes or until golden brown. Let the biscuits cool on a wire tray.
5. Eat and enjoy!

**Makes approx. 15 biscuits.**

Recipe from: [brake.org.uk](http://brake.org.uk)

# Social Studies Challenge



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## Road Safety Heroes

Road safety heroes are all the people who help to keep us safe when travel on the roads around our local community and further afield. Watch the video in the link below to see all of the people who can help you. You probably didn't realise that there were so many!

### [Road Safety Heroes](#)

#### Your task:

Now you have watched the video of all the road safety heroes, can you think who your own road safety hero is?

Is it a parent or relative or is it someone from school or the emergency services?

How do they help you?

Do you see them every time you go on a journey?

Draw your road safety hero on a piece of paper or on the computer if you can. Have a go at telling us why this person is your road safety hero and what it is that they do.

#### Extension:

Try to write a list of all the road safety heroes that you can remember in the video. Now watch the video back and see how many you managed to get.



# Expressive Arts Challenge



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## Road Safety Clothes Design

At this time of year, it can be dark when you walk to school in the morning and then dark again at night when you walk home. It is really important to make sure that when you are out walking in the dark that you are easy to see for motorists and other road users.

### Your task:

Can you design the best clothes you could wear to make sure that you can easily be seen?

Think about what colours would work best.

Will you have reflective strips on your design?

Will your design have any other special features to help keep you safe?

Try to be as imaginative as you can!

