

Science Challenge

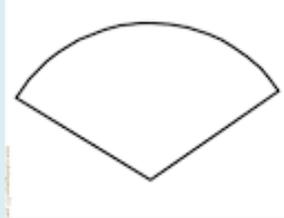


Rocket Mouse



For this challenge you will need an empty and clean milk carton. 2 litre size if great but any plastic bottle will do. You will need to make a paper cone that fits over the opening of the bottle and you can decorate the cone with eyes, ears and a tail to make it look like a mouse, or decorate it with any pattern you would like.

To make a cone you need to cut out a circle of paper and then cut away a "slice". Then roll the paper to form a cone and stick the two straight edges together with tape.



When you have made your cone, you will be able to fire it into the air by putting it on top of the milk bottle and pushing the air out of the bottle. This sends the rocket mouse high into the air. You can try out different sizes of cone, different materials such as card or foil and different sizes of milk bottle to see which works best.

There is a link to a template for your mouse here-

<https://learning.sciencemuseumgroup.org.uk/resources/rocket-mice/>

and a short video demonstration here- <https://www.youtube.com/watch?v=Q8w11WtGxG8>

Technology Challenge



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Princess and the Pea

In the story of [The Princess and the Pea](#), the princess can't sleep because she can feel a pea through many layers of mattresses. Your challenge is to build a bed for the princess and explore which materials make the best mattress so that she can't feel the pea.

MATERIALS

A bed – if you don't want to make your own this could be as simple as a thick piece of card, or a small dolls bed. You could make your own from Lego or any other construction toys you have. You could even use sticks from the garden or your daily walk.

A marble or similar ball shape

Mattress materials such as sponges, bubble wrap, felt or anything you have around your home.



Look at your materials and think about which would make the best mattress, remember your challenge is to not be able to feel the “pea” through the mattress. Construct your mattress.

Press down, can you feel the “pea”?

Ask a friend to feel the mattress without telling them there is a hidden marble, can they tell there is something there?

What's the thinnest mattress you can make and not feel the pea?

Does changing the object in the bed affect how thick your mattress needs to be? Try using a coin, or dice.

Engineering Challenge



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Famous landmarks

Do you know what a landmark is?

A landmark is an **object or feature** in a landscape or town which has **importance** or makes a place **easily recognisable**.

Talk about your local area, do you have any landmarks which are important? What are they? Could you go for a walk and visit them? Sometimes landmarks have information signs next to them which tell you more about them. Can you learn a new fact and tell someone about it when you get home?



Look back at photos of places you have visited or been to on holiday. Did you see any important landmarks? What were they?

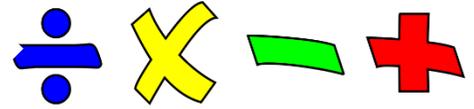
Watch [these clips from the BBC children's program 'Go Jettors'](#) about landmarks in the UK. Which did you find the most interesting, why?

Below are some pictures of **famous landmarks in Scotland**. Using toys or junk modelling materials, can you **construct a model of a famous landmark**? It might be one from the pictures below, one you have visited before or one in your local area.



Forth bridge; Edinburgh castle; Glenfinnan viaduct; The Kelpies

Maths & Numeracy Challenge



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Pattern

In the Week 3 Expressive Arts STEM Challenge you were tasked to create a pattern fish.

This week as a Maths task you are challenged to make patterns with things you can pick up and move to create patterns – things from your toy box, things from the garden, maybe even things that belong to an adult (but make sure you ask them!)

Can you make these patterns?

Leaf, Leaf, Stone, Stone, Leaf, Leaf, Stone, Stone.....



Grass, Stone, Leaf, Grass, Grass, Stone, Leaf, Grass.....



Toy car, pencil, lego brick, toy car, pencil, lego brick.....



What other Patterns can you make? There are lots of different patterns – can you make a pattern using 4 different things?

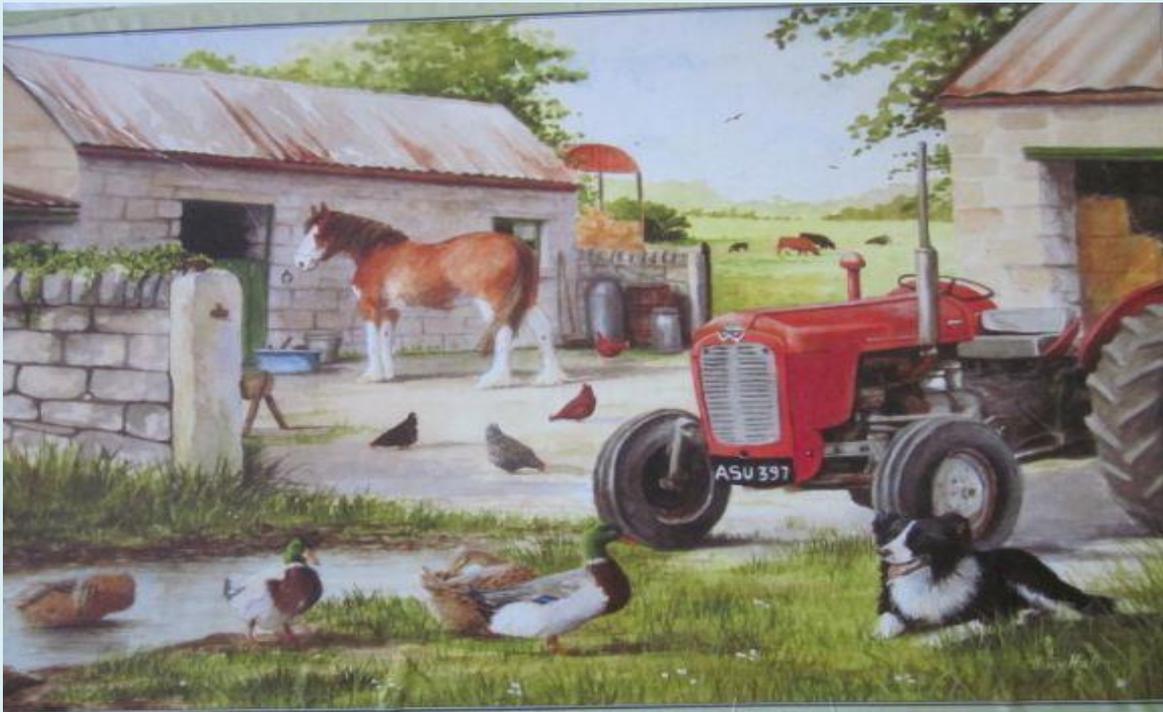
Literacy Challenge



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The Dog and the Ducks

Talk about the picture- (You can choose a different picture!)



Some ideas for things to talk about-

Count how many animals you can see.

How many birds?

Can you describe the horse?

Where is this picture set?

What is the weather like in the picture?

What sounds might you hear if you were in this scene?

What might happen next?



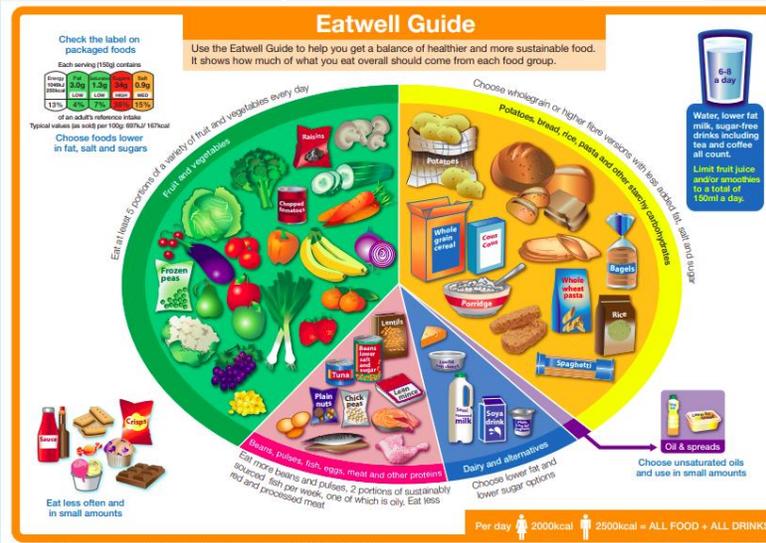
Health & Wellbeing Challenge

Eatwell Plate

What foods do you like to eat? What do you like about them? Is there any foods that you really don't like? Why?

Eating a balanced diet is important for our body to grow and stay healthy and strong. The eatwell plate shows us what we need to eat to be 'well' and healthy over a day. It helps us remember that we need different foods and drinks to be healthy.

Have a look at the picture of the **eatwell plate** below or with [this pdf](#).



Which are the two biggest groups on the plate?
 Which foods can you see in these groups?
 Which is the smallest group?
 Which foods can you see in this group?
 Which are the middle sized groups?
 What foods can you see in them?
 Where is the egg? Tomato? Bread? Fish? Cake? Milk? Etc

Gather together different kinds of food from your kitchen. Use chalk, string or masking tape to make the outline of the eatwell plate. **Sort the different foods** from your kitchen into the correct section of the eatwell plate. If you'd rather, you can draw the outline of the eatwell plate on a piece of paper and practice your [cutting and sticking skills with these food cards](#) and sort them into the correct food groups.

Play this [online game sorting foods](#) into the correct groups of the eatwell plate.

Social Studies Challenge



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Cloud Shapes



Yes, we think this photo must be a fake too!! But it is still a lot of fun spotting shapes in the clouds (and even better when you spot something). Can you spot what shape the clouds in the pictures might be making? Don't worry if you see something different to everyone else, they might not have as good an imagination as you!



Now you can have a go at finding your own cloud shapes. You can look out of your window, lay on the grass in your garden or keep your eyes peeled when you're on your daily walk. You could draw what you see in the clouds.

Expressive Arts Challenge



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Paper Plate Animals

Using paper plates can you create some animals to display in and decorate your house?

What about a Snake?

CBeebies instructions can be found here:- <https://youtu.be/hFSsQSQap4M>

What about a Fox?

Instructions can be found here:- <https://www.craftymorning.com/paper-plate-fox-craft/>

What about a Frog?

Instructions can be found here:- <https://easykidscraft.com/how-to-make-a-paper-plate-frog/>

