

Science Challenge



Parachutes

You will need:

- An old handkerchief or similar sized piece of material – even part of a plastic bag
- String
- A hole punch or adult help to pierce the holes
- Scissors
- 2 small figures toys of (roughly) the same weight

What you do:

1. Cut the string into four equal lengths.
2. Punch a hole in each corner of the handkerchief and tie a piece of string through each hole.
3. Tie the other ends of the string to one of the toys.
4. Drop both toys from a height. Which of them hits the ground first?



You should find:

The toy with the parachute fell more slowly.

Gravity pulled both toys down to earth, but because the parachute is in contact with more air than the toy alone, there is more Air Resistance slowing it down.

How big a parachute can you make? How long does it take the toy/figure to fall to the ground?

Technology Challenge



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Torches and Light

Part 1

What you will need:

1. A torch – If you don't have a torch then you could use the torch on a smartphone.
2. A clear wall.
3. A range of different objects – keys, banana, bottle etc.
4. Imagination.

What to do:

- **Combine shadows and language learning.** Use a torch to create the shadow of an object onto a clear bit of wall. Can someone guess what the object is from the shadow image and name it? Which shapes make the clearest shadows? Can you make shadow shapes with your hands?

Part 2

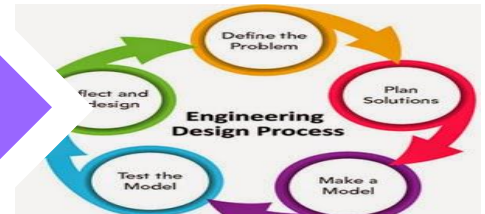
What you will need:

1. Cardboard boxes or containers which you can't see through (made from Opaque material).
2. A range of objects you find around the house – keys, remote control, cereal etc.
3. A torch or use the torch on a smartphone.

What to do:

- **Why not make some sensory boxes?** Collect some cardboard boxes and cut a small hole on one side just big enough for a small hand to get through. Place objects in the box and ask the children to feel inside the box and guess the object. Now, use a torch and peek inside – What can you see? Were you correct?

Engineering Challenge



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Paper Planes

What you will need:

- Paper/card
- Lots of tape!
- Handfuls of coins
- Doorway.

What to do:

First, draw a line on the floor about ten steps in front of your doorway. Use tape to make a “target” across the upper part of an open doorway. You are going to make a Cargo Plane - To prove it can fly, it will need to glide through that “target” successfully.

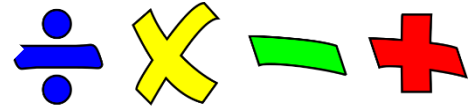
Next, fold your paper to make a paper plane. There are lots of ways to make a paper plane but if you are not sure then follow this link and it will show you how to do it.

[Paper Planes](#)

Finally, experiment to see which paper plane can carry the most cargos (coins) and fly towards your target on the door. The coins have to stay on the plane so you may want to attach them with some tape. If you need more space to experiment then take your plane outside and see how far it will fly.



Maths & Numeracy Challenge



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Outdoor Maths

- Find four sticks and place them on the ground to make a shape like this



Dreamstime.com

Collect natural objects to use. Put different amount of objects in each row and column. Can you make each row and column total ten?

- Give your partner a magic number (eg 50). Estimate how far you will walk if you walk 50 steps. Count it out and find where you finish. Were you right? Did you end up further than you thought you would? Is it possible to go 100 steps in every direction from where you are standing? Why?
- Collect a variety of different natural materials. Using chalk, make a tally chart of the materials you have found. Which object did you find most of? Which object was hardest to find? Could you show your findings in another way?



Literacy Challenge



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Characters in a Story

Did you know that we can learn a lot about birds by birdwatching? In a few weeks, the RSPB is having a 'Big Garden Birdwatch' where you can learn more about different species (types) of birds and count how many you can see from your garden. Today we are going to read and listen to 'The Owl Who Was Afraid of the Dark' by Jill Tomlinson. Can you guess what species of bird the story is about?



Click the link below to read and listen to the story. You may need an adult to help you –

<https://www.youtube.com/watch?v=y1iST5Bdir8>

Once you have listened to the story, think about the following questions. You can discuss them with an adult or sibling.

- **What Owl facts do we learn in story?**
- **How does Plop change throughout the story?**

Since Plop is the main character in the story, have a go at illustrating (drawing) him on a piece of paper. Once you have drawn your picture, have a think about how we can describe Plop at different points in the story. Use adjectives (describing words) to describe Plop's emotions and his appearance. Write your adjectives around your illustration.

Extension – Pick another character from the story, perhaps the old lady or the young boy. Illustrate them and use adjectives to describe them



Health & Wellbeing Challenge

Crazy Circuits!

It is time for some exercise! Today we are going to do some circuit training. When you do circuits, you complete several short exercises in a certain order. These exercises may include star jumps, running on the spot and many more! We spend a certain amount of time on each exercise or set a number for the amount of times we will do an exercise, such as 20 star jumps. To make it more fun, we can listen to music while doing these activities.

How do these exercises impact our health and wellbeing? Discuss this question with an adult or sibling.

Here are some exercises you can do as part of your circuit. It is up to you to decide which order you do the activities, as well as the number of activities you do! For example, you could decide to do 32 star jumps or 10 star jumps. It is up to you!

1. High knee runs
2. Throwing and catching a ball
3. Star jumps
4. Press ups



Have a go at adding up each exercise you do, such as 35 star jumps and 20 press ups, which is 55 in total. What number did you make?

Now it is time for you to make up your OWN circuit! You can use some of the exercises we have already done as well as making up your own ones. If you have more items at home such as a skipping rope or football, you could use those in your activities. Remember to set a number for each activity and count it when completing your circuit.

Once you have completed your own circuit, have a think about how this exercise has affected your body. Are you feeling warmer? Is your heart beating faster? How is this good for our body?

Now that you're an expert at creating your own circuit, it is time to teach it to someone else. You will have to talk through each activity and even give examples of exercises so they know exactly what to do! When they are completing your circuit, you could increase their motivation by cheering them on!

Social Studies Challenge



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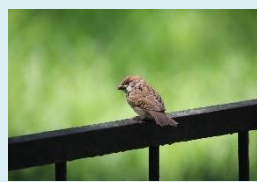
Big Garden Birdwatch

There are lots of different species (types) of bird that you might see in your garden for the RSPB Big Garden Birdwatch. Can you think of any types of birds you have seen in and around your garden before? Or maybe when you have been out for a walk?

Bird watching has lots of benefits. It can help lift our moods and spirits! It is a good way to get fresh air outdoors and spend time with family while getting to explore our local area.

To prepare for the Big Garden Birdwatch, you can have a go at completing the activities below. These will help to improve your knowledge of birds and birdwatching!

1. Head outside to do some birdwatching. Pay close attention to the birds. What do they look like? What colour are they? Are they big or small? Have a go at drawing them on a piece of paper. You could also label the parts of the bird, ie. wing. Click the link to see a template for bird labelling.
<https://www.rspb.org.uk/globalassets/downloads/kids--schools/big-schools-birdwatch-downloads/parts-of-a-bird-activity.pdf>
2. Think of a bird you saw when birdwatching. Let's find out the species of it! Click the link to head to the RSPB website and answer questions to identify the bird.
<https://www.rspb.org.uk/birds-and-wildlife/wildlife-guides/identify-a-bird/>
3. Have you ever wondered what type of bird you would be if you were a bird? Take a quick quiz to find out!
<https://www.rspb.org.uk/get-involved/activities/birdwatch/which-garden-bird-are-you/>
4. Let's learn some more facts about a bird you have seen. Research by typing the name of the bird in Google. You may need an adult to help you with this activity.



Expressive Arts Challenge



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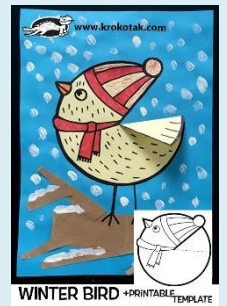
Winter Birds

To help us prepare for the RSPB 'Big Garden Birdwatch', complete the art activity below-

Winter Bird Art

Click the link below to open up a video and instructions from Krokotac.com on how to make a winter bird. There is also a template for you to use to make the bird. If you don't have access to a printer, have a go at drawing the template on a piece of paper.

<http://krokotak.com/2019/01/winter-bird/>



Practice your cutting skills by cutting out the template, but make sure an adult is there to supervise! Be careful when around scissors.

When creating our winter bird art, we can consider the **visual element** of **colour**. How might colour affect a piece of art work that we are creating? Discuss this with an adult or sibling. Before colouring in your art, have a think about what colours we could use that are best for our winter bird picture. What colours are best to show what kind of temperature it is? Colder colours can include blue, purple and green.

Click the link to watch a video which tells us more about the colour wheel. Information about colour temperature can be found 2 minutes and 40 seconds into the video.

<https://www.youtube.com/watch?v=4jnvDCR41Pw>



If you don't have any colouring pens or pencils at home, that's okay!

Instead, we can consider the **visual element** of **texture**. We may have never held a bird before, but we can take a guess as to how it feels. Texture is the name for how an object or thing may feel if we are holding it. To add texture to our winter bird, we can use our pencil to create soft lines and patterns to replicate its feathers.

Click the link below to watch and listen to a song about **texture**.

<https://www.youtube.com/watch?v=tDVS9XSqt90>

