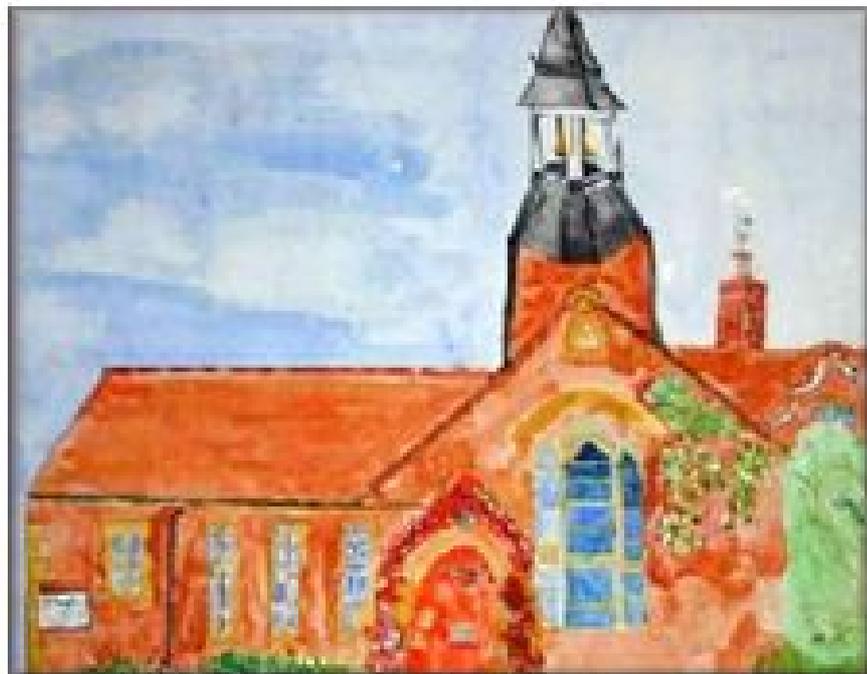


HORDLE PRIMARY SCHOOL



Half Term Family Project

Becoming a Scientist!

EXCELLENCE IN LEARNING

Science Week

To prepare for Science week after half-term, the children's exciting home learning project is to carry out a Science based experiment with their family.

This booklet includes a variety of Science experiments which you and your child can enjoy exploring together. However, if your child has their own Science experiment, book or idea, it is perfectly acceptable to do one of those instead.

During the first week back after half term, the children will be presenting and sharing their Scientific experiments to their teams. They may choose their own way to present their experiment such as:

- PowerPoint presentation
- Video
- Photographs and descriptions
- A diary entry
- Science experiment write up

As this is a family task, the outcome can also be shared. Therefore, a family with three children does not need to produce three separate pieces of work...unless of course they want to!

Safety

Many of these experiments will require adult supervision.

Please ensure children take note of adult supervision notes in this booklet.



Dancing Spaghetti

Time:

15 minutes

Resources:

- Dry spaghetti
- Vinegar
- Bicarbonate of Soda
- Glass jar or glass



1. Firstly, fill a glass with water approximately 5cm from the top.
2. Stir 1 teaspoon of bicarbonate of soda into the water.
3. Add broken dry spaghetti into the mixture.
4. Now, very carefully and slowly add vinegar and watch what happens!

Extension:

- Does this experiment only work with spaghetti?
- What if you repeated the experiment with 2 teaspoons of bicarbonate of soda?

Just an idea:

- You might like to present this experiment using a video or create a PowerPoint showing what happens if you replaced the spaghetti with other items.



Flying Mouse

Time:

30 minutes

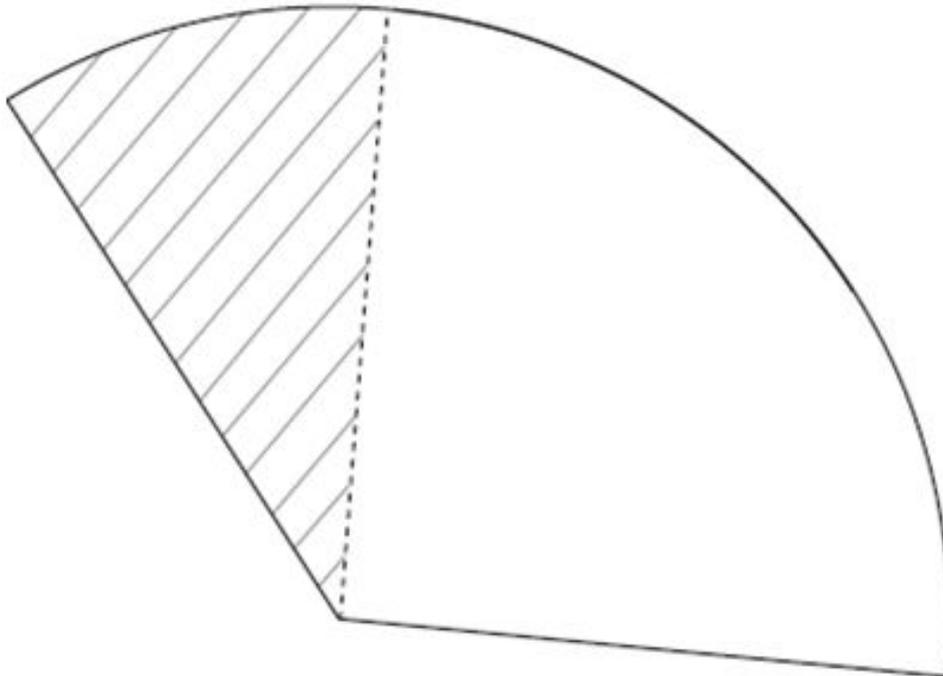
Resources:

- Thin coloured card
- Scissors
- Sellotape
- Empty milk bottle



1. Create a mouse shape by rolling up thin card and cutting (you might choose to use the template below). Add some ears and details to your mouse.
2. Now, place your cardboard mouse over the end of your empty milk bottle so that it is facing upwards.
3. Then, using both hands, squeeze the bottle and watch your mouse fly!

Use the template below to create your mouse



Extension:

- Does a bigger milk bottle make your mouse fly higher?
- Does it work with a different size/shape drinks bottle?

Just an idea:

- You might like to take an action-shot photo of your mouse in action!



Multicoloured Flower

Time:

1 hour

Resources:

- Two glasses
- Food colouring
- Flower with a long stem (white is best)
- Sticky tape
- Knife 
- Chopping board
- Water



Please check you are allowed to use a flower. Do not just pick one without getting permission.

1. Take a long stem flower. Place it on a chopping board and very carefully, with an adult, slice the flower's stem in half lengthways, ensuring you do not detach any of the flower.
2. The cut needs to run about halfway up the flower. Wrap a piece of tape around the flower to prevent the flower from splitting any more.
3. Fill two glasses with equal amounts of water. In one glass, add two drops of food colouring to turn the water a different colour.
4. Leave the flower in the glasses. Nothing will happen immediately, but check the flower every 15 minutes or so and you will notice something interesting has happened.



Adult Supervision needed.

Extension:

- Does this experiment work with other plants too?
- Does this work with vegetables or fruit?

Just an idea:

- You might like to keep a diary and describe what happens to your plant over time.



Slime

Time:

5 minutes

Resources:

- Cup
- Mixing bowl
- Spoon
- Cornflour
- Water
- Food colouring – green is particularly good



1. Fill a cup with cornflour and tip it into a bowl.
2. Slowly, add some water. Make sure you stir it all the time
3. Continue to add water, very slowly until the mixture turns into a sticky paste. **Be careful**, if you add too much you will spoil your mixture. It's very important to add the water slowly; you probably won't need any more than half a cup of water.
4. Add three drops of food colouring until your mixture changes colour.
5. Stir the mixture until it's blended it.
6. Pick the mixture up and see how it behaves.

Extension:

- What happens if you roll the slime up into a ball?

Just an idea:

- Create a science report recording your observations. You might like to add photos of your slime.



Balloon Hovercraft

Time:

20 minutes

Resources:

- Balloon
- Pop-up top from a drinks bottle
- Old CD
- Glue



1. Take the pop-up top from an old drinks bottle and glue it over the hole in an old CD.
2. Leave it until it has set. It's really important that the lid and the CD are securely attached with no holes.
3. Place the pop-up top into the closed position.
4. Blow up the balloon but don't tie the end.
5. Carefully, stretch it over the pop-up top. You have now made your hovercraft.
6. Next, place the hovercraft on a smooth surface (e.g. a table).
7. Open the pop-up top.
8. Give the CD a little push and watch it glide!

Extension:

- What surface does your hovercraft work best on? Try 2 or 3 to compare?
- What happens if you change the shape and size of the balloon you use?

Just an idea:

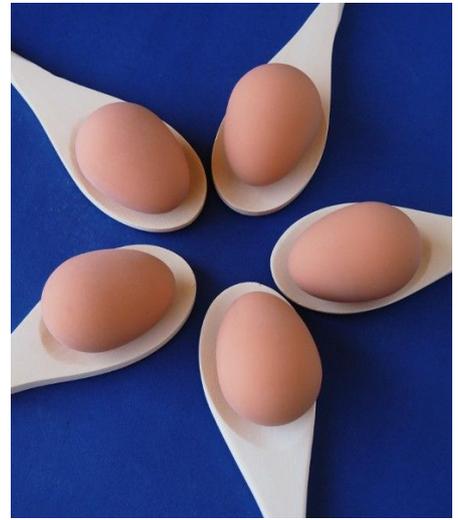
- If you've tried a variety of surfaces, you could always prepare a graph to show your findings.



Bouncy eggs

You will need:

- Half a cup of white vinegar
- 1 drinking glass
- 1 egg



1. Pour the vinegar into the glass.
2. Put the egg into the vinegar (whole).
3. Leave it for two days and observe how it changes.
4. After two days take it out of the vinegar. What has happened to the shell?
5. Carefully bounce it from a low height.

Warning: Do not bounce from a great height, it is still an egg!

Just an idea

- Why not create a table and record how the egg changes over the two diaries.
- Take a picture of the egg before and after it has been in the vinegar. Are the changes clearly visible?



Invisible Ink

Time:

10 minutes

Resources:

- Baking soda
- Water
- Glass
- Grape juice/ Lemon Juice
- Cotton buds
- Paint brush



1. Mix equal parts of baking soda and water together.
2. Dip a cotton bud into this liquid and use it to write your message on a piece of paper.
3. Allow your writing to dry and become invisible.
4. Use a paintbrush to spread the grape juice over your message and watch as the writing reappears.

Extension:

- Write a message for a member of your family to discover. Can they write one back to you?



Tornado in a Bottle

Time:

15 mins



Resources:

- Water
- A clear plastic bottle with a cap (that won't leak)
- Glitter
- Dish washing liquid

1. Fill the plastic bottle with water until it reaches around three quarters full.
2. Add a few drops of dishwashing liquid.
3. Sprinkle in a few pinches of glitter (this will make your tornado easier to see).
4. Put the cap on tightly.
5. Turn the bottle upside down and hold it by the neck. Quickly spin the bottle in a circular motion for a few seconds, stop and look inside to see if you can see a mini tornado forming in the water. You might need to try it a few times before you get it working properly.

Extension:

- What happens if I use more washing up liquid?



Pierce a Potato with a Straw

Time:
10mins

Resources:

- Stiff plastic drinking straws
- A raw potato



1. Hold a plastic drinking straw by its sides (without covering the hole at the top) and try quickly piercing the potato, what happens?
2. Repeat the experiment with a new straw but this time place your thumb over the top, covering the hole.

Extension:

- Does it work with different types of straws?
- What if you change the vegetable?



**Adult
Supervision
needed.**

Just an idea:

- Do you think you can hypothesise how this works?



Crawling Colours

Time:
10 minutes



Resources:

- 5 clear containers/ plastic cups
- Primary colour food dye (red, yellow, blue)
- Kitchen paper
- Water

1. Fill all five cups with clear water and line up in a row.
2. Drop red food colouring into the first cup, yellow food colouring into third cup and blue into the fifth.
3. Roll up a sheet of kitchen paper and put one end in the red water and the other in the clear water.
4. Roll up a second piece of kitchen paper and put one end in the clear water and the other in the yellow water.
5. Repeat with the yellow and clear and clear and blue (see picture).
6. Watch the colours crawl!

Extension

- Does it work with secondary colours?

Just an idea

- Why not let the paper towels dry. What do they look like? Do you notice anything?

