



EARLY YEARS RESOURCE PACK

British Science Week
10 - 19 March 2017
www.britishscienceweek.org



This resource pack aims to be your ‘one-stop-shop’ for supporting you during British Science Week (BSW), but can be used at any time. Feel free to adapt or extend the activities to suit your children’s needs!

In addition to the activities in this pack, there are lots of other ways to enthuse and engage children throughout the Week.

NDNA

The National Day Nurseries Association (NDNA) is the leading provider of specialist training, publications and advice for the early years, supporting nurseries across the UK to give children the best possible start in life. Their publications and guides, all written by their early years experts, will inspire you with new ideas and practical examples to try in your setting. Science has never been more important than it is today and we hope their brand new publication “Inspiring Your Little Scientists” will set your children on a journey of discovery to last a lifetime ndna.org.uk/little-scientists

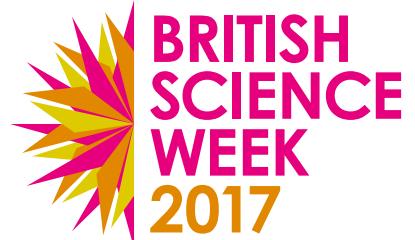
CREST Star Awards

CREST Star supports children in getting hands-on with practical investigations into science, technology, engineering and maths. All the challenges are available to download for free, so you can just select the ones you are interested in and get going!

Resources can be downloaded for free from
crestawards.org/crest-star

British Science Week events

You can either create your own event or search for things happening near you on our website. Last year, there were over 5,000 events reaching more than 1 million people. Help us make British Science Week 2017 even bigger and better! britishscienceweek.org



Poster competition

The theme for this year's competition links with this year's activity pack theme of 'change'. Some of the activities in this pack could be followed up by designing a poster, simply look for the paintbrush symbol above. For more info on the competition and how to enter, go to britishscienceweek.org/plan-your-activities/poster-competition or read on in our activity pack.

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The theme for this year's British Science Week activity pack is “**Change**”.

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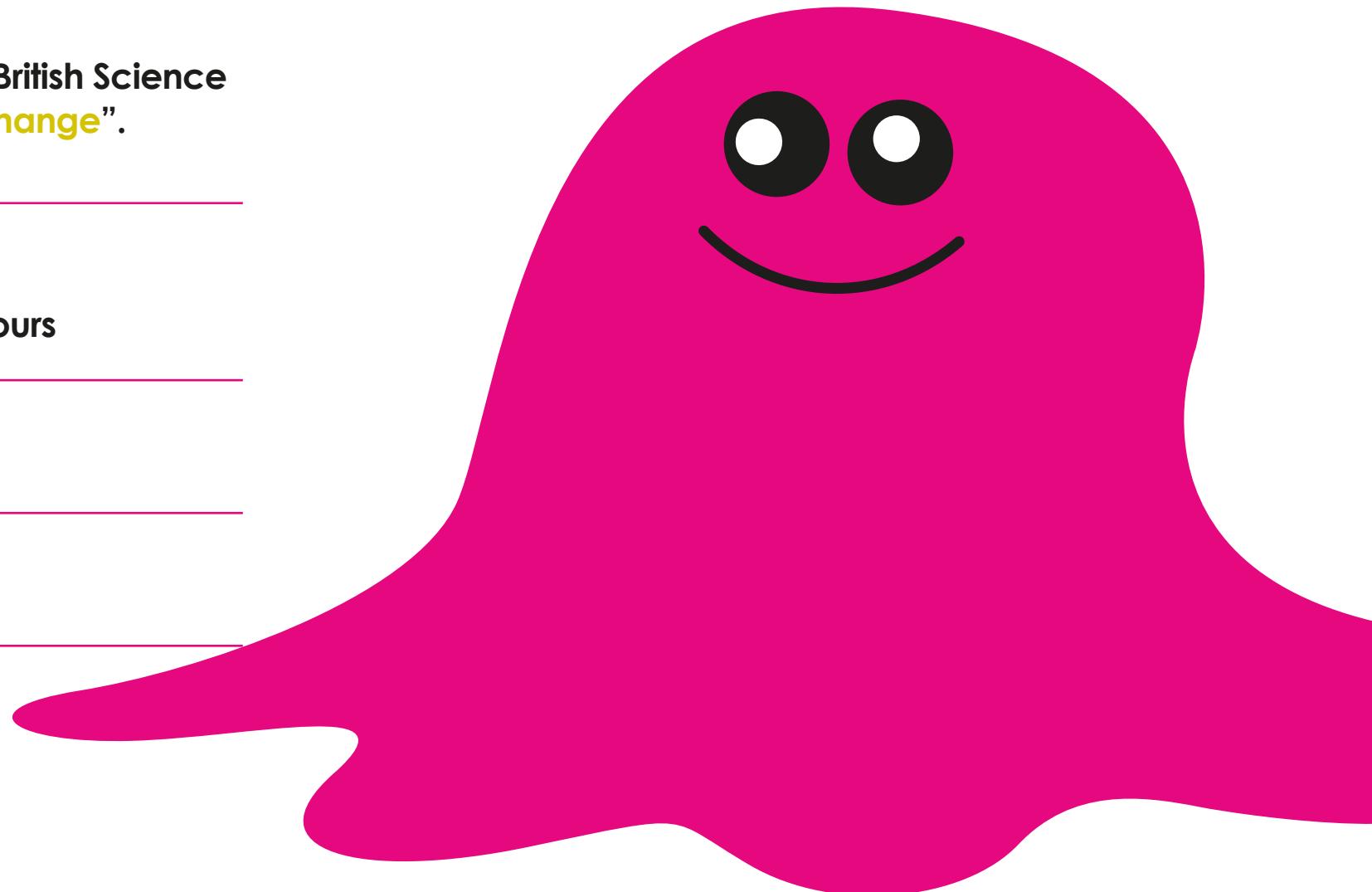
Oobleck slime

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Poster competition



What you'll need

- White flowers (carnations, daises or chrysanthemums)
- Water
- Food colouring of various colours
- Jar/bottle/vase
- Scissors

About this activity

This colourful activity demonstrates how plants take water from their roots, up their stem and into the different parts of the plant such as the leaves and petals.

Watch out!

Ensure that you protect your workspace and children's clothes when handling the food colouring.

Changing colours

Colourful carnations

Get colourful

Talk to the children about what plants need to grow and survive:

- How do they think the plants drink water?
- Where do they think the water goes when the plant drinks it?
- How can we test this out?

Fill your jars, bottles or vases with water and add a few drops of food colouring, so you can see the brightly coloured water clearly. Cut the bottom off the stems of your flowers and place them in the water.

Leave your flowers in the coloured water for a few hours and observe what happens over the course of the day. Revisit them frequently and have the children share what changes they can see, and why they think the petals are the same colour as the water.





What you'll need

- Ready mix paint
- Zip lock bags
- Paper

About this activity

This activity gets children hands-on and artsy, whilst thinking about colours and the changes that occur when you mix them together.

Watch out!

Ensure that you protect your workspace and children's clothes when handling paint.

Changing colours

Sensory play: mixing colours

Get colourful

Place a piece of paper into the zip lock bag (cutting it to size if needed).

Next, have the children squirt in different colours of ready mix paint, starting with colours at opposite sides of the bag.

Then, zip it up and encourage the children to push the paint around with their hands and mix the colours up.

Think about the colours

Ask children to think about what colours there are and what happens when you mix them.



A small illustration of a pink cup containing several paintbrushes of different colors (yellow, pink, black). A yellow circle surrounds this illustration.

Take a photo of
your colourful
creation and enter
it into our poster
competition.

What you'll need

- ➊ Large mixing bowl/tray
- ➋ Cornflour
- ➌ Water
- ➍ Food colouring (optional)

About this activity

Fancy making a weird slimy concoction that acts like a liquid but behaves like a solid when you hit it? This activity is hands-on and rather messy, so make sure you're not wearing your best clothes!

Watch out!

When you've finished, do not pour the slime down the sink as this could clog the pipes. Instead spoon the mixture into a zip-lock bag, fasten it tightly and dispose of it in a bin.

Changing states

Oobleck slime

Make some slime

Place some cornflour into a large mixing bowl or tray and little by little, add some water. Get the children to use their hands to mix it altogether until they get a good consistency for the oobleck slime gloop. They may not need a lot of water, so add it slowly and carefully.

You can also add food colouring if you want to make your oobleck slime more colourful.

Ask the children to talk about their senses and what they are feeling and seeing.

Put your slime to the test

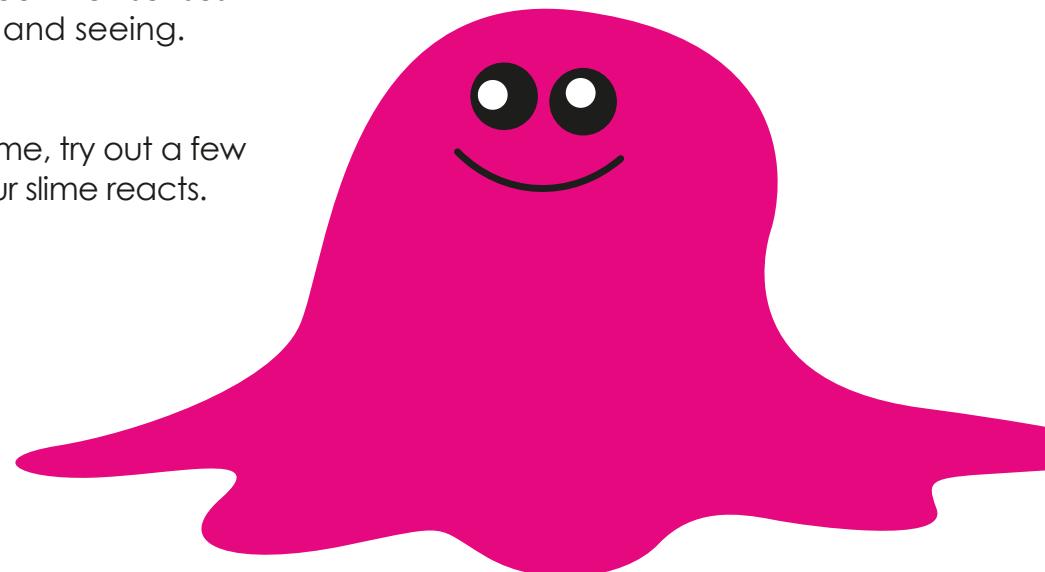
Once you've made your slime, try out a few experiments to see how your slime reacts.

Why not try the following? Test out:

- ➊ Touching the slime and drawing back your hand quickly
- ➋ Scooping some of the slime into your hand and rolling it into a ball between your palms

Next steps

Try setting your children a challenge by leaving the slime out over a few days or overnight and seeing if they can make it slimy again once it has dried out.



What you'll need

- ◎ Plastic drinks bottles, plastic cups and plates
- ◎ Thermometer and stopwatch/clock
- ◎ Waterproof pens and pencils with erasers on the ends
- ◎ Modelling clay, straws, card, glue and waterproof tape
- ◎ Hole punch, drawing pins and scissors
- ◎ Clipboards, weather recording book and camera
- ◎ Pictures of different types of weather

About this activity

This activity explores how our weather changes and allows children to examine a number of factors such as rain and wind over a period of time.

Changing weather

Wonderful weather

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What's the weather like today?

Talk to the children about what a weather station is, what weather they could measure and how they might go about setting one up. Use photos and pictures of different types of weather to give them some ideas.

It's raining, it's pouring

Use an old fizzy drink bottle (preferably a two litre one) and cut off the top and put it to one side. Use some tape to cover the rough edges on both pieces.

Support the children in using a ruler and a waterproof pen to make a scale on the main part of the bottle, starting from the bottom. Help them to use a hole punch to put a few holes in the other part of the bottle.



Have the children place the hole punched top of the bottle upside down resting on the bottom part.

Add the rain gauge to the weather station. Have them think about the best location for this bottle – under a tree or out in the open?

Watch out!

Ensure that you are aware of everyone's safety when working outdoors and that children are supervised at all times, especially when using pins and scissors.

Changing weather

Wonderful weather

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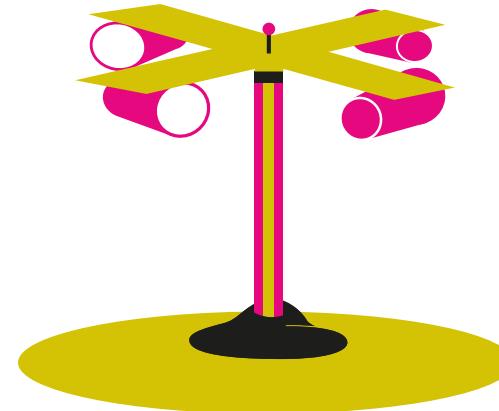
Will it be windy?

Cut two triangles out of strong cardboard. Using waterproof tape, stick a triangle to either end of a drinking straw - this will form the arrow of the weather vane. Put a drawing pin through the centre of the straw and into the eraser on the end of the pencil, and ensure it balances nicely. Use modelling clay to stick the pencil upright in the centre of a plastic plate, and make sure the arrow can move freely around in a circle.

Draw a N, E, S and W letter on the plastic plate to represent north, east, south and west and so you know which way the

arrow is pointing. What do the children think the N, E, S and W stand for?

Add the wind vane to the weather station. Have them think about the best location for it – sheltered or out in the open?

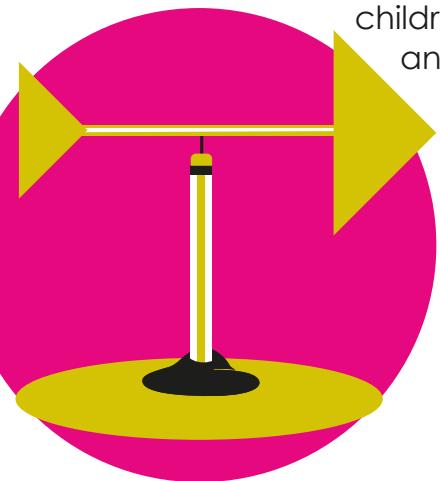


Speedy wind

Cut two equal length strips of strong cardboard. Next, glue or tape the plastic cups onto the cardboard strips on each of the ends.

Pin the two pieces of card in a cross with the cups on the underside of the strips. Put the drawing pin into the top of the eraser on the end of a pencil.

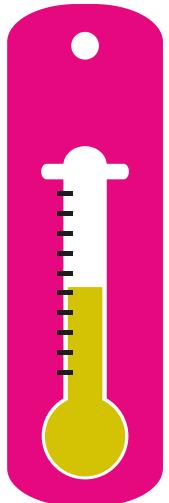
Use modelling clay to stick the pencil upright in the centre of a plastic plate and make sure the cups can move freely around in a circle.



Add your wind speed measuring tool next to the vane in the weather station.

Feeling hot, hot, hot

For a finishing touch, add a thermometer to the weather station.



Next steps

Using a weather recording book, each day:

- ➊ Use the rain gauge to see how much water has collected
- ➋ Use the wind vane to see which direction the wind is blowing in
- ➌ Use the wind speed measuring tool, and a stopwatch/clock to see how many times the tool turns in a certain amount of time (how many turns per minute)
- ➍ Use the thermometer to measure the temperature

What you'll need

- Paper (A4 or A3)
- Creative materials such as pens, pencils, scissors, glue, watercolours, paint, colouring crayons, glitter, pipe cleaners, felt, thread, wool, foil, clay, straws, string, beads, stamps, googly eyes, foam, sequins, pom poms

About this activity

Get creative and enter our annual poster competition. Your children can make their poster about whatever type of change they want, and enter into our UK-wide competition with the chance to win an array of prizes!



Challenge

Poster competition

Plan the poster

Ask your children to think about the different types of changes occurring in the natural world around them.

Explore ideas such as:

- Leaves on trees changing from green to brown
- Weather changing from sunny to rainy
- Daytime changing to night

Make the poster

It's time to get creative! The poster must be:

- 2D (flat) – if you make a model, you need to just send us a photo of it
- On A4 or A3 paper

Your children can use materials such as paint, drawing pencils, crayons and paper.

Part 3

Send us the poster

Posters will be judged on how creative the ideas are and how well the poster has been made or drawn.

Once your poster is complete, write all your children's information on the back, fill in the online registration form and then post your entry to us.

Next steps

For more details, along with the full set of rules and handy hints and tips, check out britishscienceweek.org/plan-your-activities/poster-competition/





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