



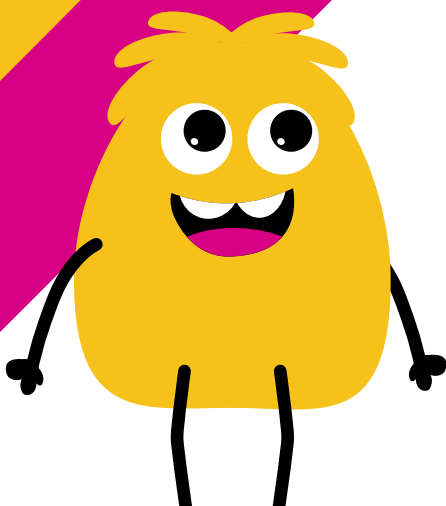
GROWTH

SNEAK PEEK EARLY YEARS ACTIVITY PACK

11-20 March 2022

britishscienceweek.org

A range of activities to be run
with pupils under the age of 5



Delivered by



Supported by



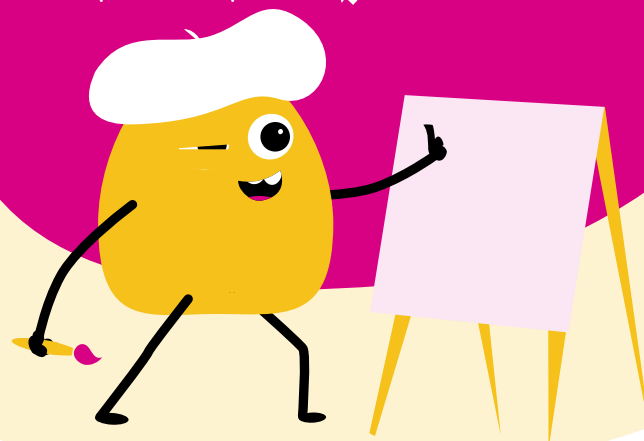
This teaser pack includes an exciting mix of activities and ideas to help teachers, parents, guardians or childminders prepare for British Science Week. It is designed to give you a taste of our full Early Years activity pack, which will be released in January 2022. Feel free to adapt or extend any of the activities to suit your children's needs or the curriculum you are delivering.

When developing this pack, we looked for activities which promote cross-curricular learning and break down the stereotypes surrounding science, technology, engineering and maths (STEM). We therefore encourage you to use British Science Week as an opportunity to link STEM to other curriculum subjects and to your children's own backgrounds, lives and interests.

This year, we have included activities for children to complete in any setting, whether that's their school, a club, an organisation or at home with their families.

Enter our poster competition

Why not ask children to design a poster based on any of the activities in this pack and enter it into our poster competition? Simply look out for the activities marked with the paintbrush symbol shown opposite! The theme for this year's poster competition is 'Growth', and you can find more information on how to enter on [page 12](#) and at britishscienceweek.org/plan-your-activities/poster-competition.





BRITISH
SCIENCE
WEEK
2022

CONTENTS

- 4 Introducing the theme
- 5 Making the most of volunteers
- 6 British Science Week at home
- 7 Gathering resources
- 8 Beyond the Week
- 9 Unlocking skills
- 10 Discovery bag
- 11 Take it home: Plant detectives
- 12 Poster competition



INTRODUCING THE THEME

The theme this year for British Science Week is 'Growth'! Introduce the theme to children in a fun, imaginative way to get them excited about the week ahead. Check out some ideas on how to do this below.

➤ **Share your brilliant activities, vlogs or images on social media!** Join the conversation or see what's happening during the Week by tagging the British Science Association (@ScienceWeekUK ✨) and using the hashtag #BSW22.

➤ **Try a game,** give an audio-visual presentation, explore a mystery or special object, or create a pop-up display which communicates the theme of 'Growth'. These are great to use as fun warm-up activities and are a fantastic way to start British Science Week.

➤ **Get children to dress up** to personify 'Growth'. They can come to school as their favourite scientist (and feel free to think outside the box – the costume can be more than a white laboratory coat!), or perhaps as an innovation

that drove positive growth. Invite them to share the story behind their costume with the class.

➤ **Encourage children to come up with an acrostic poem** for GROWTH by asking them what comes to mind when they hear it. You can even turn their acrostic poem into a jingle which you can sing with them throughout the Week to help them remember their ideas.

➤ **Engage children** by discussing how growth is part of people, plants, animals, materials, countries and other things in their everyday lives. What are good examples of growth?

➤ **Invite a special guest** or someone from the school community to share with children their own experience of growth (for example, how they started their career and gained their expertise), showing how great things can start from small beginnings. **See page 5** for information on how to get volunteers.

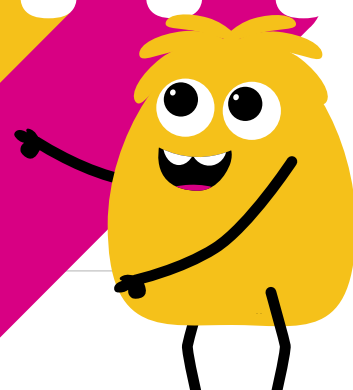
Here are some other ideas to include at the beginning of British Science Week.

➤ **Tell children about the plan for the Week** and give them a challenge related to the theme. If you are sending home a family experiment, maybe you could introduce or demo it at your setting first.

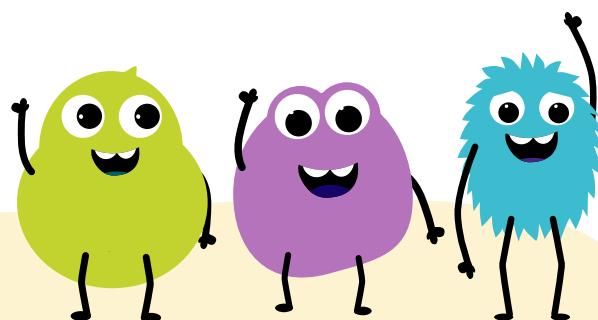
➤ **Growth is all around us.** What are examples of good and bad growth? Is there any way you can encourage conversations about this with children?

➤ **Launch the poster competition** and let parents know about this. **See page 12** ✨ of this pack for more details.

GROWTH



MAKING THE MOST OF VOLUNTEERS



While face-to-face engagement with external visitors is now possible, don't forget that there are still opportunities to get volunteers and presenters to engage with children online.



STEM Ambassadors are volunteers who offer their time and enthusiasm to help bring science and technology subjects to life, and to demonstrate their value to young people. It is now possible to request both in-person and remote STEM Ambassador support, meaning that Ambassadors from across the UK can inspire young people wherever they are.

Find out more and make a request for STEM Ambassador support at stem.org.uk/stem-ambassadors/find-a-stem-ambassador ✎.

You can also look for presenters and volunteers via *Science Live* (sciencelive.net ✎) or ask parents if they work in STEM-related jobs to describe what they do in more detail.

You could also try some of the following things.

➤ **Kick off British Science Week with a career talk** or demo from from an inspiring volunteer to engage the children. The volunteer could highlight how they grew to be an expert in their field, or what significant contributions they have made to bring about that growth.

➤ **Schedule two or three different guests** for careers talks during the Week, if possible, to get children anticipating who the next guest will be and what they do. These sorts of experiences can inspire children to think about what they want to be in the future. Remember, they are never too young to explore their career options!

➤ **Where available, choose volunteers/ambassadors** who challenge stereotypes the children might have absorbed and promote positive attitude towards science, like female engineers. Let the volunteers/ambassadors

share how their job is making a difference in the world, or an anecdote of what science activity they loved to do as a child.

➤ **Book your visitors early** (as many speakers get booked up during British Science Week). Have a clear idea of what you want them to do and communicate this with them ahead of time.

Volunteers come from a range of careers and experiences, from engineers, designers and architects to scientists and technicians, so get children looking forward to inspirational career talks which broaden their choices and develop their job interests!

Visit the *Inspiring the Future* website (inspiringthefuture.org ✎) for some helpful ideas for using volunteers, some of which may be transferable when using remote engagement.

BRITISH SCIENCE WEEK AT HOME

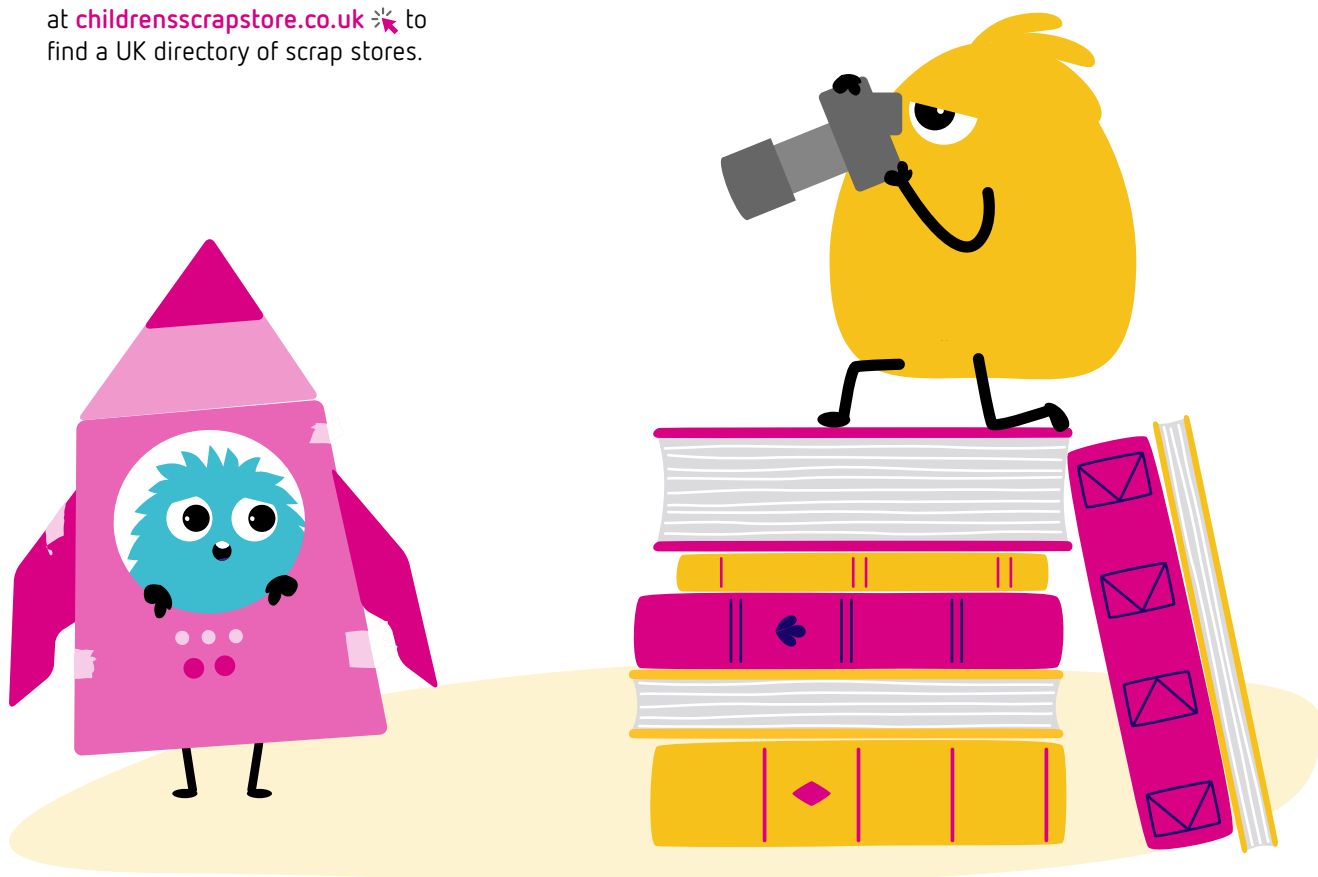
Do you want to help children carry on participating in British Science Week at home, but are not sure how? Here are our **top tips for engaging parents and carers with the Week.**

- **Make the most of parent newsletters**, the Parent-Teacher Association (PTA) and chat group and text messaging services if you have them. Let all the parents know at least a month in advance of the Week what you have planned, and how you'd like them to be involved. They might be able to collect or donate materials for use during the Week, and if you want them to get involved in any experiments at home they may need time to plan and collect materials themselves. The PTA may be able to support you financially to run activities during the Week or help to drum up parent volunteers.
 - **Get parents thinking** about how their own jobs might link to STEM subjects and encourage them to chat with their children about this. You could do this via a newsletter or send students home with activities they can do with their parents, which may then lead onto further conversations. (See page 11 ✨ for a great take-home activity.)
 - **Encourage exploring outdoors**, in the community or in local cultural spots. This could be anything from going on a nature walk around local parks to spotting STEM in action on the streets around children's houses. Many of our CREST activities are quick and easy to do as fun outdoor challenges too. Check out the CREST Star challenges collection: primarylibrary.crestawards.org/all-star-challenges/61746949 ✨
 - **Send an experiment idea home** during the Week to perhaps spark mealtimes discussions around science. Try to make it as low-resource as possible. It can help if it's something the children have tried or seen at school first so that they feel like the 'experts' when they do it at home with family, allowing them to lead the learning. We have a range of science-based home activities requiring few resources in the CREST at home collection (collectionslibrary.crestawards.org/#tab_ethICKF5NwsMjQq8 ✨).
- In addition to this pack**, there are lots of other useful ideas for take-home activities from series such as this one from *The Royal Institution*: rigb.org/families/experimental ✨.



GATHERING RESOURCES FOR THE CLASSROOM OR HOME

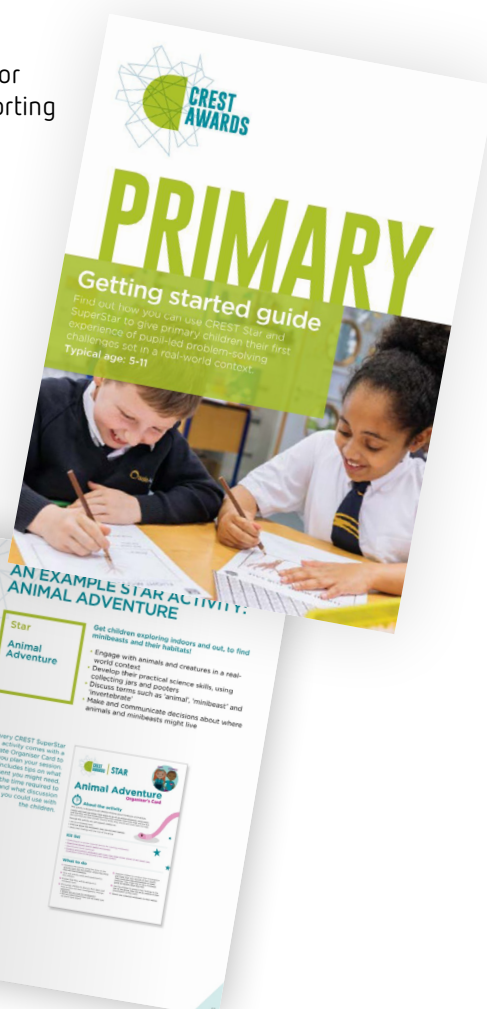
- **If you can, try to collect materials all year round** that can be cleaned for use during British Science Week. Alternatively, check to see whether there is a scrap shop/store/club open in your local area. These places are often membership based and can be a brilliant, inexpensive or free resource for card, fabric and other bits of material. These things can be turned into rockets, cars, spaceships and more. You name it – the kids will think of it! Look at childrensscrapstore.co.uk ✨ to find a UK directory of scrap stores.
- **Take photographs** when out and about and share these with the children to foster discussion and raise their level of understanding about the growth of plants, building structures and so on. The more colourful, the better! You can also use these photographs for the guessing game 'I spy', where you can describe your observation of growth and the children can attempt to guess it.
- **Collect story books** and reference books around the theme of 'Growth' to create a themed library. You can even organise a read-aloud session of a story book for circle or carpet time.



The exploration and curiosity don't have to end once British Science Week is over! Some of the following ideas could help you to expand the learning beyond the Week.

Get children to take part in a CREST Award. CREST is a scheme that encourages young people to think and act like scientists and engineers. Children can complete eight activities to achieve a Star Award, which will see them receive a certificate and badge. Older children could also work towards a higher-level CREST Award. Take a look at the different CREST Star challenges here: primarylibrary.crestawards.org.

If you have the opportunity, consider running a STEM club or curiosity lab. You can find supporting resources at stem.org.uk/stem-clubs.

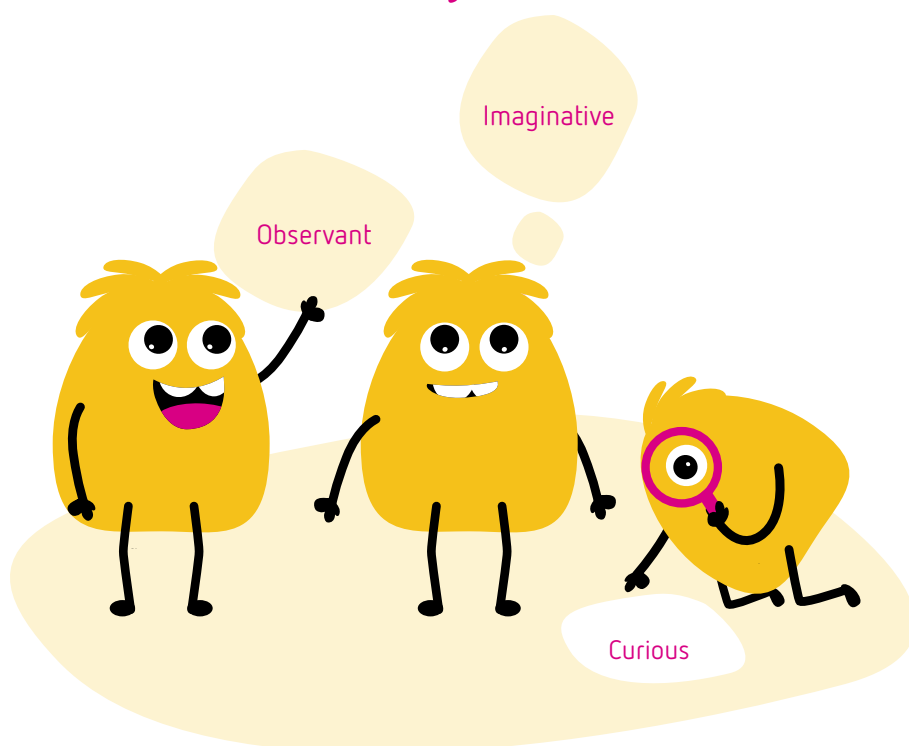


UNLOCKING SKILLS

A fantastic way to encourage children to take an interest in STEM is to introduce transferable skills used by those working in STEM-related jobs.

You could, for example, engage students in this STEM Person of the Week (nustem.uk/stem-person-of-the-week ✨) activity from NUSTEM at Northumbria University. Ask children to identify what attributes people working in STEM need. These might include being observant, creative, patient, good at communication, or curious. Look out for the skills set tags for each activity in this pack.

See the table below for the complete list of skills developed by NUSTEM to use as a talking point or to share with other teachers. Or, as a little bit of motivation, why not award each of the children with a sticker or certificate for a STEM skill which they demonstrate very well during the Week? You can download and print the stickers from britishscienceweek.org/british-science-week-marketing-pack ✨.



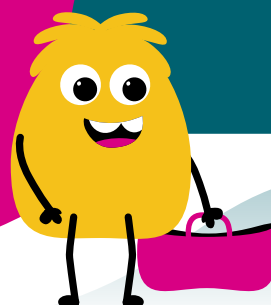
Observant	Open-minded	Committed	Tenacious
Creative	Imaginative	Patient	Collaborative
Resilient	Communicator	Passionate	Organised
Curious	Self-motivated	Hard-working	Logical

DISCOVERY BAG

In this activity, children will be thinking about trees, where they grow and the life that they support. This activity will also help them to be aware of the differences between trees and identify natural and man-made objects.

🕒 30 mins

Skills set: Communicator, curious, observant



Kit list

Pencils, crayons,
paper and glue

Magnifying glasses

Photographs of trees
and/or tree guides

Large cloth or
paper bag*

containing parts
from a minimum of
two different trees
(e.g., twigs with
leaves, bare twigs,
bark, fruits, cones, or
things such as galls)
and other interesting
items not from trees

*Include enough
materials to fill the
bag – it doesn't
matter if parts of
the same tree are
repeated

Instructions

- 1 Explain to the children that they will be exploring their own discovery bag. Give out equipment to the children.
- 2 Encourage children to discuss their ideas and how to carry out their investigations. Talk about how each different type of tree has unique parts. Show them how to use the magnifying glass to make close observations. Discuss sorting, grouping and matching the tree parts, using prompt questions.
 - How can you tell if something is part of a tree?
 - Which item is not a part of a tree?
 - How many types of trees do you know?
 - Does everything come from trees?
- 3 Help children to conduct their tests and record their results.
- 4 Ask the children to present their findings to the rest of the group – they can be as creative in their presentation as they want.

Think and talk about

- How will you find out whether all the things have come from trees?
- Have you seen trees growing? Where have you seen them?
- Do trees all look the same?
- What else can you find on a tree?

Watch out

- Some plant parts can be toxic, such as Laburnum seeds, or have sap that can irritate the skin. Check that your tree parts are safe to use.
- Remind children not to eat anything and to wash their hands afterwards.

Next steps

- Get children to draw a picture of what they think one of the trees may look like.
- Encourage them to make a leaf or bark rubbing.

At home

- Ask children to discuss with their parents which animals make their homes in the trees.
- See if the children can find and name any of the trees growing nearby.

Take it home:



PLANT DETECTIVES

In this activity, children will become plant detectives and think about where plants grow. This activity has been specifically designed for home settings, using equipment most parents should be able to source easily and cheaply. Why not print this sheet and send children home with it to encourage parents to get involved during British Science Week?

🕒 30 mins

Skills set: Observant, open-minded, patient



Kit list

An outdoor environment

Access to a safe outdoor environment, ideally with a variety of surfaces such as brick walls, paving, concrete and grass

Magnifying glass or digital microscope (optional)

Identification guide (can be found on the internet, an app or in a book)

Phone camera(s) or drawing equipment



Instructions

- 1 Talk with the children about where they can search for plants, encouraging them to think of unusual places to look. Warn children not to eat any part of the plants that they find.
- 2 Encourage children to think about how the plants they find have got there.
- 3 When the children finish hunting, let them share their clues about what they have discovered. Can they decide how the plants got to their locations?



Think and talk about

- Where is the strangest place you can find a plant growing?
- Do you notice anything about where you find plants growing?
- How are plants dispersed in different locations?



Watch out

- Follow the organisation's guidelines for outdoor work.
- Children must not put any plants in their mouths.
- Ensure children wash their hands when they have finished.

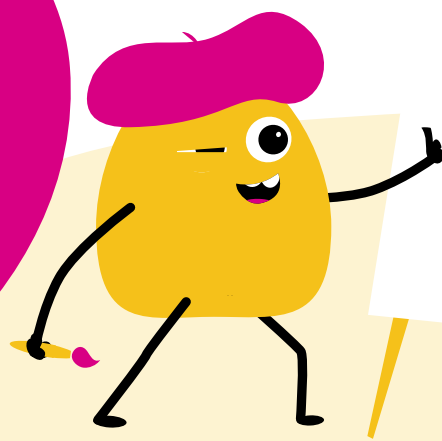


Next steps

- The plants that children find during the hunt will vary depending on the time of year. You can repeat this activity in different seasons so they can find out how the plants change.
- Encourage children to try to discover the names of the plants that they found.
- Ask children to try to find out if plants always need soil to grow.

POSTER COMPETITION

Children can get creative and enter the British Science Association's annual, UK-wide poster competition! They can make a poster about any version of 'Growth' that they like and be in with the chance of winning an array of prizes. The activities found in this pack, marked with a paintbrush symbol, could all be used as a source of inspiration to get children started.



Kit list

Paper (A4 or A3)

Creative materials

such as:

pens
pencils
scissors
glue
watercolours
paints
crayons
pipe cleaners
felt
thread
wool
foil
clay
string
beads
stamps
foam
pompoms



Instructions

Encourage children to think about different areas of growth so they can come up with ideas to include in their poster. Here are some points and questions to get you going.

- **Get children to think about their personal experience of growth** – from growing their own cress plants to overcoming a challenge that they thought they could not do! How has it helped them to become stronger, braver, kinder, or more accomplished?
- **How do children think the world has grown?** You could help them to consider population growth, plant growth, economic growth or even the growth of cities and society. What is an example of good growth?
- **Can children think of people who have helped or inspired them to grow?** Perhaps they could create a portrait of them to show this?

From the learning of new skills to the development of places and ideas that enable us to do things more efficiently in our everyday lives, growth is everywhere!

Making the poster

Once they've done the thinking, it's time for children to get creative! Posters must be A4 or A3 in size and you'll need to be able to take a photograph of each one so it can be sent to us online for judging. Children can use pop-up pictures, pull out tabs or use materials such as pencils, paints, crayons and paper to create their posters.

Submitting the poster

Posters will be judged on creativity, how well they fit the theme and how well they have been made or drawn. Once a child's poster is complete, take a photo of it and complete the online form to submit it as an entry.



Next steps

Celebrate! For more details, along with the full set of poster competition rules and tips, check out our website: britishscienceweek.org/plan-your-activities/poster-competition ✨