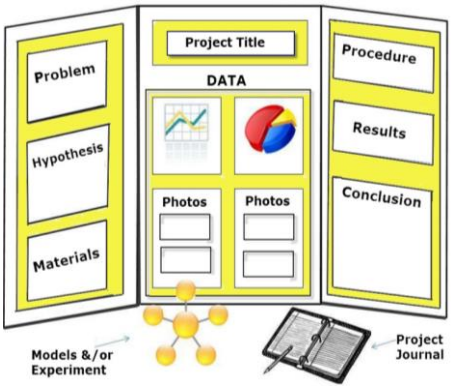
14th February 2023

Dear Parents and Carers,

We are delighted to advise you we will be holding a Science Project Fair in school this year as part of British Science Week. The children have been invited to participate by conducting their own science project at home and producing a display board of their findings.

Your child's project can be an enquiry to answer a question or a problem and its solution. There are some ideas for different enquiries you could do attached to this letter. You can also find interesting activities at https://www.britishscienceweek.org/activity-packs/ and https://www.science-sparks.com . Pinterest also have excellent ideas for science experiments you can do at home. It can be about any area of science that interests your child, for example 'How many stars can we see?', 'What would my family eat if we were polar explorers?' or 'What lives in my garden?'

When your child has carried out their enquiry, they need to make a display board to share their learning with others. This is normally made from a large cardboard box, opened out, painted or covered in wrapping paper. It needs to have three panels of information (as shown). This display board should show the project title/question/problem, what your child predicts the answer is, what they did to investigate their question, what they found and a conclusion. If they want, they can include a small model or experiment and/or project notes. Key stage 1 could do a simplified version with their predictions, findings and some photographs/ diagrams.




Please return your project by Wednesday 15th March ready to be judged in the Science Fair on Thursday 16th March. A panel of judges will choose the best projects. Every child who enters will receive a certificate and the top 3 winners will be get a special prize.

If you child would prefer to take part in the British Science Week poster competition, information is attached to this letter. We will also be doing lots of fun science enquiries in class so there will be plenty of things for the children to be involved in.

Yours Sincerely,

Mrs Jones

BRITISH SCIENCE WEEK 2023

# SUSTAINABLE SOAP

In this activity you will compare solid and liquid soaps. You will think about whether they are both as effective at washing hands, and whether one is more environmentally friendly.

1.5-2 hours, plus 4 weeks of observation

Skills unlocked: Curious, Patient

## Kit list

- Fresh white bread
- Clear new sealable bags
- Pen
- Liquid hand wash
- Bar of soap
- Access to hand washing facilities

INSPIRED? FIND OUT MORE CREST AWARDS

## Instructions

1. Get into a group of 3.
2. One person will wash their hands with the liquid soap, one person will use the bar of soap, and one person will not wash their hands.
3. Each group member should pick up and handle a piece of bread.
4. Next, seal your piece of bread in a clear plastic bag. Label your bag to show which type of soap was used.
5. Put the sealed bags of bread somewhere warm and dark. Make sure that they don't get too hot, or they will dry out.
6. Look at the bread through the bag every few days and record what happens. After a while you should see mould start to grow.
7. Do you notice any differences between the amount of mould growing on the bread? What does this tell you about the importance of handwashing? What does it tell you about how well different types of soap work?

## Watch out

- Mould spores can exacerbate lung conditions such as asthma. Once the bread is sealed in the bag do not open it again.
- Once the investigation is complete, seal all of the bags of bread in another sealed bag before disposing in the the non-recycling rubbish.
- Do not store bread beyond 4 weeks.
- Adults may need to warn colleagues that you are deliberately growing mould so that the investigations are not thrown away too soon. primary.cleapss.org.uk/Resource-File/P006-Growing-fungi-on-food.pdf

## Next steps

This activity is taken from CIEC's 'Sustainable stories and solutions for our planet' resource. CIEC would like to thank Innospec for adding new activities in 2022, and to Thomas Swan and Co. Ltd for funding the initial development of this publication, which can be downloaded free of charge at ciec.org.uk/sustainability.html.

## At home

Have you ever thought about how much more volume there is in a bottle of hand wash compared to a bar of soap?

What other liquid products do you have at home? How many of them do you think would work in a solid formulation?

## Career options

Companies like innospecsustainability.com are helping us to live more sustainably by developing a wider range of solid products, such as shampoo.

BRITISH SCIENCE WEEK 2023

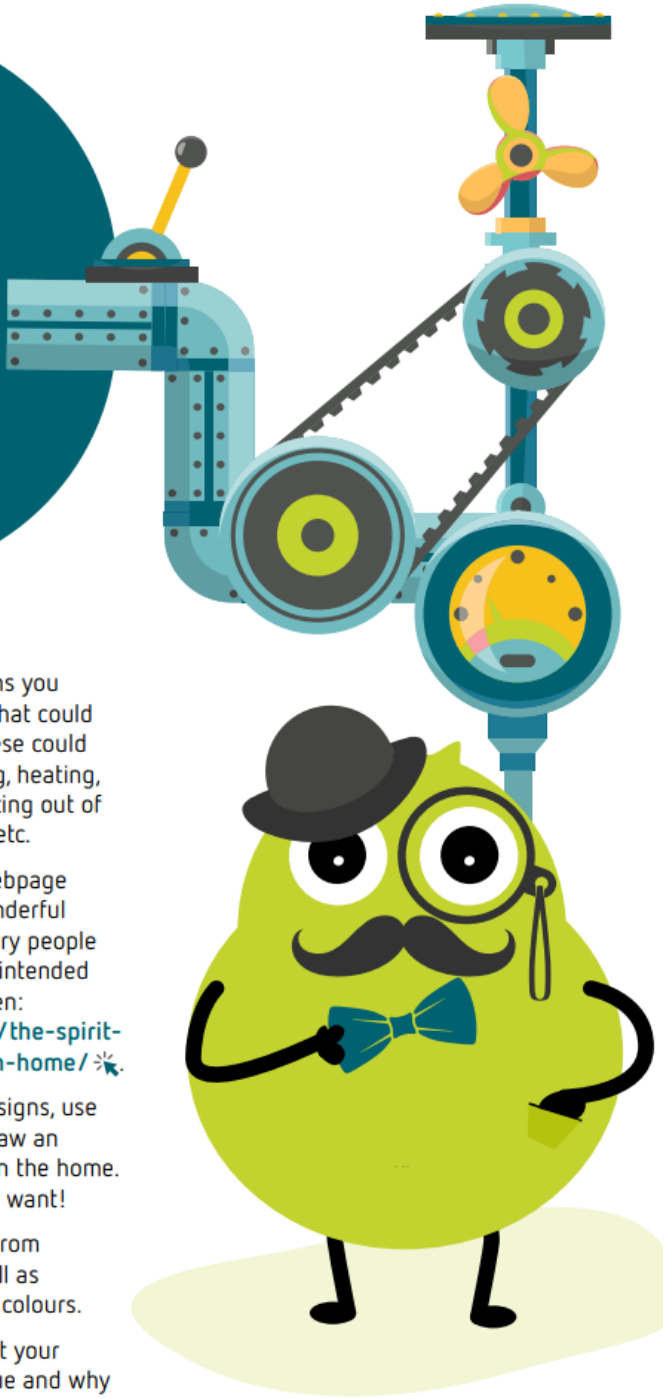
THE NATIONAL ARCHIVES

# INVENT LIKE A VICTORIAN

The Victorians were keen inventors. Everyday people used their own life experiences to design new inventions. Connect to these inventors and ideas from the past and develop your creativity and problem-solving skills. Channel your inner inventor and design something to make life at home easier.

1 hour

Skills unlocked: Creative, Observant, Imaginative



## Kit list

- Coloured pencils or pens
- Paper

INSPIRED? FIND OUT MORE CREST AWARDS

## Instructions

1. Create a mind map of problems you may have in your own home that could be solved by an invention. These could be related to cooking, cleaning, heating, sleeping, getting dressed, getting out of bed, gardening, losing things etc.
2. Visit The National Archives' webpage on some of the weird and wonderful inventions designed by ordinary people in the Victorian era that were intended for use in the home and garden: blog.nationalarchives.gov.uk/the-spirit-of-invention-in-the-victorian-home/.
3. Inspired by these Victorian designs, use coloured pencils or pens to draw an invention to solve a problem in the home. Draw in as much detail as you want!
4. Don't forget to include views from the front, rear and side, as well as measurements, materials and colours.
5. Include a sentence about what your invention does, why it is unique and why you decided to design it.

## Next steps

Submit your design online for the chance to have your design displayed in 'The Spirit of Invention' exhibition at The National Archives, or even brought to life by a talented maker! www.smartsurvey.co.uk/s/SubmitInvention.

## Career options

- The inventors whose ideas are captured in the design registers used their imaginations to solve problems in their own lives and work.
- They were surgeons, gardeners, farmers, tailors and veterinarians. Lots of STEM careers require the creativity and problem-solving skills used in this activity, not just inventing and engineering!

BRITISH SCIENCE WEEK 2023

# POSTER COMPETITION

Pupils can get creative and enter British Science Week's annual, UK-wide poster competition! They can make a poster about any 'Connections' that appear in the world of science they like, and be in with the chance of winning an array of prizes. Each school can enter the 5 best posters!

## Kit list

Paper (A4 or A3)

Creative materials, such as:
pens
pencils
scissors
glue
watercolours
paints
crayons
felt
thread
wool
foil
clay
string
beads
stamps
foam
pompoms

## Instructions

### Research your poster

Get the pupils thinking about ideas to include in their poster. They could investigate and imagine 'Connections' and everything that makes them special. Here are some topic ideas to help you get the inspiration started:

- Ask them to think about their personal experiences of connections - from learning about how their body parts are connected, to connecting with their classmates, teachers and family members to help them learn more about science. Has it helped them become stronger, braver, kinder or more accomplished?
- Is the world built on connections? Why not think about connections in terms of the ancient family tree that connects all animals, how atoms connect or bond to make up our surroundings and connections in construction. What are examples of good connections?
- Is there someone pupils have connected with who inspired or helped them? It doesn't have to be someone they know, it can be any role model! Why not have them create a portrait that demonstrates this? Connections are everywhere. From the friends we make who share new ideas, to the connection between eco-friendly behaviour and a better future, there is so much to see all around us.

### Make your poster

Once the children have done their research, it's time to get creative! The poster must be:

- A4 or A3 size and you need to be able to take a photo of it to send to us online for judging.
- Pupils can use pop up pictures, pull out tabs or use materials such as paint, drawing pencils, crayons and paper.

### Send us your poster

- Posters will be judged on creativity, how well they fit the theme, how well the poster has been made or drawn, and how engaging they are. Once the poster is complete, take a photo and complete the online form with your entry details.

## Next steps

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

Look out for the activities in this pack marked with a paintbrush symbol, they can be a source of inspiration for the poster!