

Windy Ways (EYFS, KS1)

Find out about the wind, while having fun with bubbles! How could you use bubbles to find out about the wind? Use bubble-blowing to find out the direction and speed of the wind, with options to investigate based on children's observations.



Resources: - Bubble Solution – Bubble blowers
– Optional investigation tools (compass, timer, etc.)



Magnetic Painting (EYFS, KS1)

Learn about how magnets work, magnetic and non-magnetic materials, all while creating beautiful artwork in a different and innovative way!

Resources: - Paper/Card – Magnets – Paints
- Magnetic/Non-Magnetic material, e.g. paper clips, plastic

Odd ways to measure things (KS2) Live Talk

In this workshop we'll do some quite odd and fun measurements - using length to measure time and sugar to measure temperature. We'll do two experiments together, compare results, and ask why nobody got the same answer. Andrew Hanson who will lead the session works for a measurement organisation called NPL who develop clever ways to measure things accurately.



Resources: - 30cm ruler – string – pencil – clothes peg
– timer – teaspoon – sugar – a glass – water – paper towels

TO BOOK: 5th March at 11.00am: <https://bit.ly/oddwaystomeasure5march>

10th March at 1.30pm: <https://bit.ly/oddwaystomeasure10march>



Robo Kids (KS1, KS2) Live Talk

Go on a fun and inspiring journey into the future of space, programming, and robots. Take part in this online show and help programme our friendly robot "Nao" and her friends for a joint human and robotic Aurora mission to Mars.

TO BOOK: 5th March at 1.30pm: <https://bit.ly/robokids5march>

12th March at 1.30pm: <https://bit.ly/robokidsspaceshow12march>



Resources: 5ml thermochromic paint to 1L water, 5ml syringes, water of different temperatures (no warmer than 50C), beakers or cups, thermometer.

Thermochromic Paint

This workshop begins with a demonstration of thermochromic paint being mixed with water. The pupils then see what happens when thermochromic paint is added to two clear liquids: why does one change colour and the other does not? Investigate to find the temperature to the nearest degree Celsius that the thermochromic paint changes colour.

UV Beads

The workshop leads the pupils through pictorial activities where colour changing beads are used. It introduces the types of investigations and offers some matching activities. Conduct a comparative or fair test and take part in a series of tests - step by step which could be undertaken by Key Stage 2 children with little support. Younger children can play with the beads in different conditions and start to classify and group the changes. This workshop identifies the need to wear hats, sunglasses, and sun cream outside even on less sunny days.



Resources: 5 UV beads of different colours, elastic band, paint colour strips, sun cream of different factors, sunglasses, range of everyday materials, downloadable worksheet.



Resources: Types of soil of different textures/composition (please follow safe soil use), plastic gloves, paper and a range of vegetable matter – such as red cabbage, dandelions or daffodils.

Soil painting

Look at ancient images found in cave drawings: what did they use as paint? Nature provides a great deal of material that can be used in colour. This workshop uses soils to identify that they come from rocks, and their properties affect the way they act as paint. The greater the amount of clay, the thicker and more malleable the painting. Sand-based rocks are dry, and the colour is weaker and falls away. This workshop could be undertaken with children in an explorative way, older children could make solutions with materials and then evaporate the liquid to leave the coloured remains, Soil painting is easier and very effective in a safer way.

Coloured Bottles

Observe what happens over time when seedlings are grown in drinks bottles with coloured cellophane. Decide, does the colour influence the growth of the seedling? The ppt that is included with this activity challenges the students to think like a scientist. The results of the experiment are shared, and the focus is to question whether the results are valid and reliable. The same conditions were used, but results do not follow expected outcomes. This input is to question how scientific results are to be challenged and that not all results of experiments and investigations should be treated as valid.



Resources: Seedlings (we used Sweet Peas), empty drink bottles, compost, water, coloured cellophane, Sellotape and warm sunny position, ruler, pen and paper for results.



Resources: A container, water, a range of everyday materials and a freezer, somewhere to melt ice sculpture.

Ice sculptures

Make patterns using everyday materials and create an ice sculpture. Discover whether materials will sink or float, and only half-fill the container. Freeze for 1 day and then top it up so that the floating material is found in the middles of the sculpture. These will take days to melt in the winter, and most of the day in the summer. Record the changes with a camera or in a series of drawings, observing change over time.

Chocolate Structures

Create different structures, the time involved varied but most groups who tried out this activity were engaged for an hour or more.

Safety first: Ensure that chocolate is not too hot, wash hands and keep surfaces clean. Children should only eat building created by themselves. Be aware of allergies.



Resources: Different shaped biscuits, crackers, wafers, breadsticks, chocolate, chocolate spread, bowl, microwave – be careful that chocolate can burn.



How many plastics are in your home?

Different types of plastic are used to make everyday objects but do you know how many different types of plastic are in your home? As you try out these simple tests you will use how to use a classification chart to identify different plastics for recycling. The PowerPoint will demonstrate the different techniques that are needed and will support KS2 children even if they are not in school.

Resources: Shower gel bottle, clear packaging used for greeting cards, white foam container used for takeaway food, clear fizzy drinks bottle. Scissors and water to test whether the samples float or sink.

Incredible Oceans. Live TALK

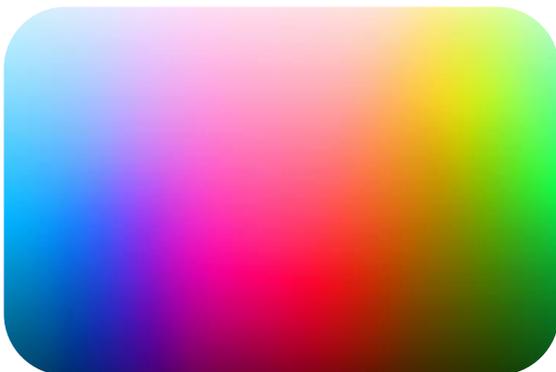
How to turn your mobile into a microscope and other amazing ocean-based activities. Join us for a 30-minute livestream interspersed with several different segments:

- Plastic Alternatives with Abi
- Deep Sea Mining and Electric Cars with Sophia
- Turn your phone in a microscope with Russell
- Marine careers with 10 people from the National Oceanography Centre.



Resources: Be ready with a mobile phone and some questions for the team!

To BOOK: 11th March at 11am: <https://bit.ly/incredibleoceans>



Colour Spinners Live Talk

Join professional engineer and STEM Ambassador Caroline Alliston in making your own-coloured spinner, linked to the topic of light.

Resources: Paper, pencil, small empty plastic bottle or tube about 5cm shorter than the pencil (e.g. drinks bottle, fizzy tablet tube, shampoo bottle), a shorter pencil, Blu Tack, 2 plastic milk bottle lids, An old CD or DVD, String
Tools: A ruler, A pair of scissors, felt tip pens, Sellotape, a beaker or drinking glass

NOTE: If you have a colour printer, pupils can download the 'Coloured discs' pdf and print it out ready to save a lot of colouring!

To BOOK: 9th March at 1.30pm: <https://bit.ly/colourspinner>

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Best Wishes!

