

# Eco Science

A series of eight activities related to recent research about the environment and climate science. Ideal for use in a weekly club with children aged 7-11 years.

Each activity is based on PSTT's [I bet you didn't know...](#) resources.

## A TYPICAL SESSION

In each session, the children carry out an investigation or activity based on recent science research. There are a mix of topics including the impact of environmental and climate change on plants and animals, issues of sustainability and new technologies developed to address climate change.

Format of a session:

- The activity leader shares the environmental research that is being explored this week.

*A simple **fact sheet** is provided to facilitate this, (and may be displayed on an interactive board), including: key facts, what is happening, how we know this and why it is important. Questions/Website links/QR codes are also given for future learning and activities that can be completed at home. We suggest that these fact sheets are taken home by the children each week to encourage them to share their findings with their family and take their learning further where possible.*

- The leader sets the children a challenge linked to the eco science.

*The **activity sheet** provides a resource list, details on how to set up the activity, key facts/science and questions for discussion after the activity. At any point during the session, children can ask the activity leader to help them but activity leaders are to try to keep this support to a minimum, to allow children to explore and find things out for themselves.*

- Activity leader brings the groups together at the end of the activity to discuss the challenges the children faced, to share their successes and to discuss what they have discovered.

## SETTING UP THE CLUB

- Children's University.

*These club activities are validated by the [Children's University](#) and as such count towards accredited learning for any children taking part in the scheme. The stamp code a child will need to add this to their online passport is **Green 1543** This can be shared with the child after each of the 8 sessions and written in their Passport to Learning.*

- Select the children.

*Group leaders should aim for a mix of race, gender and ability.*

- Number of children: up to 12, to allow for different groups sizes.

*Lollipop sticks could be used to determine groupings and allow children to work in different groups each time. Numbers written on the bottom of lollipop sticks, selected at random by each child, determine group.*

## RESOURCES AND PREPARATION

SESSION	ECO SCIENCE	LINKED ACTIVITY	EQUIPMENT
<a href="#">Bamboo cricket bats*</a>	<b>Sustainability of using natural resources</b> - there is a shortage of willow used to make cricket bats	<a href="#">Compare how a hard ball bounces off different surfaces</a>	a cricket ball (or similar hard ball), a ramp, measuring tape, chalk, a variety of surfaces - wood, cardboard, plastic
<a href="#">Biodiversity</a>	<b>Biodiversity</b> and interactions between living things	<a href="#">Identify plants and animals in a local site and create a web to show how they are connected</a>	safe outdoor site, pencils, sticky notes, nature identification guides or Apps on mobile devices, soap & water for handwashing, optional - camera, magnifiers, spoons, trowels
<a href="#">Extreme weather</a>	The strength and number of <b>extreme weather events</b> is increasing	<a href="#">Measure the wind direction and wind speed</a>	container, washing-up liquid, water, glycerine (optional), empty plastic bottle, scissors, socks, elastic bands, pipecleaners, compass or compass app, metre ruler or tape measure, stopwatch or stopwatch App
<a href="#">Microplastics in soil</a>	<b>Microplastics</b> affect plant and animal growth	Two possible activities (choose one): <a href="#">1. Plastic survey</a> <a href="#">2. Looking for earthworms in soil</a>	safe outdoor site, trays/containers, gloves/spoons/trowels, magnifiers, camera or pencils & paper, soap & water for handwashing
<a href="#">Termite tunnels</a>	<b>Effects of droughts in rainforests</b>	<a href="#">Find out about termites and compare the strength of termite tunnels in wet and dry conditions</a>	sticky notes, jug or beaker, water, 1p or 5p coins
<a href="#">Tree restoration</a>	<b>Global warming</b> may be reduced by reforestation	Two possible activities (choose one): <a href="#">1. Survey trees in your local area</a> <a href="#">2. Play 'Tree Trumps' game and create similar fact cards</a>	tree identification guides or Apps on mobile devices, pencils, paper, cameras (optional), soap & water for handwashing, Tree Trumps cards (printed for second activity)
<a href="#">Water harvesting</a>	<b>New technology</b> has been developed to harvest water in deserts	<a href="#">Compare a variety of materials to see which hold most water</a>	access to water, a variety of cloths and sponges, beakers, jugs, syringes, measuring cylinders, optional - nappies, scissors, spoons, weighing scales
<a href="#">Whale song</a>	<b>Environmental changes in the oceans</b> may have changed whale song	<a href="#">Four activities to investigate how the pitch of different sounds can change</a>	1) wire coat hanger, wool or string, scissors, 2) glass bottles, jug of water, pencil, 3) 30cm plastic ruler, table, 4) plastic straws, scissors

\* This session involves group work. We suggest you try this session once the children have got to know each other.