

Welcome to OpenUpScience, the weekly magazine from Cambridge Science Centre. This issue is all about Biodiversity. But, what does that mean? Biodiversity is all about the different types of living things that you find in an environment, from fungi to teeny tiny bugs to huge trees, and even humans.



If an area has lots of different types of living things (species) then it has lots of biodiversity. So an area with birds and humans and trees and grass is more biodiverse than an area with just birds and grass. Similarly, an area with lots of different types of birds is more biodiverse than an area with just one type of bird. There are over 70,000 species living in the UK, so let's go and find some...

Spark, Ignite, Fuel, Illuminate

Biodiversity in your garden

Become a back garden biologist by making your own quadrat and seeing what plants you can find.



What you'll need

- 8 Bendy straws
- String or wool
- Scissors
- Tape
- Quadrat Record Sheet
- Pen or pencil
- Patches of grass in a garden, park or field

What to do

1. Join four sets of two straws together.
2. On each 'double straw', fold one straw at the bendy bit. Lay the straws out as a square.
3. Join the square together with tape.
4. Tie four pieces of string across the square, from left to right, and top to bottom, to split the square into 9 smaller squares. Your quadrat is now finished!
5. In a garden, park or field, place the quadrat on the ground and use the record sheet to mark down what types of plants are inside each square of the quadrat.
7. Move the quadrat around to see which areas are more biodiverse. Are there more species in the sun or the shade? Near the edge of the grass or in the middle?



Quadrat record sheet

Copy this sheet for each area of the garden, park or field you choose to examine

Put a tick in each of the 9 boxes, for each square of the quadrat where that plant is present. Add any other plants or living things that you find!

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Place in the garden: (e.g. under a tree, in sun, in shade)	9									
	8									
	7									
	6									
	5									
	4									
	3									
	2									
	1									
	Quadrat square/ Type of plant	Grass	Clover	Daisy	Buttercup	Dandelion	Mud (Bacteria)			

Fantastic Fenlands

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Did you know..?

There are over 9000 species in Wicken Fen!

Q. Which insect breathes fire?

A. A dragon-fly

Q. What do you call an owl with a deep voice?

A. A Gr-owl

Hundreds of years ago Cambridgeshire was covered in marshes. Humans drained the water from these wetlands and these areas are now known as The Fens. Lots of plants and animals live in this fertile, flat, drained land.

Out and About

Wicken Fen Nature Reserve, near Ely, is a great place to see dragonflies and damselflies. It is also home to herds of Konik Ponies, introduced as a sustainable way of conserving the Fenland. Lots of different types of owl can be seen on the fens including barn owls, tawny owls, and short eared owls and Strumpshaw Fen in the Norfolk Broads is now home to the previously endangered fen raft spider.

Fantastic Fenlands

Can you identify the close-ups of some of our Fenland species



Fen Raft spider



Barn Owl



Dragonfly



Konik Pony

Fabulous Fungi



Fungi come in all shapes, sizes and colours. They do a fantastic job in ecosystems, breaking down dead materials and recycling the nutrients for plants to use again. Most of a fungus is found underground. The mushrooms that we see growing are the fruiting bodies of the fungus.

What you'll need

- Play dough, plasticine or modelling clay
- Cocktail stick
- Small piece of wood or bark

What to do

1. Use your imagination (and maybe the pictures above) to mould your own fungus.
2. You could use different colours to create an interesting shape.
3. Push a cocktail stick into your fungus to give it support
4. You could mould your fungus on to a piece of bark to display it
5. Why not increase the biodiversity and make lots of different species!



Q. Why did the fungi leave the party?
A. There wasn't mushroom!

Biodiversity Quiz

(Answers on back page.)

1. What does biodiversity refer to?
A. Plants B. Animals
C. Fungi D. All of these and more
2. What does the term biodiversity mean?
A. The number of plants in your garden
B. The types of animals in the zoo
C. The number of animals and plants in England
D. The variety of living things in an area
3. What is the practice of looking after wildlife called?
A. Conservation B. Preservation
C. Observation D. Reservation
4. What tool can be used to measure biodiversity in fields and meadows?
A. Quadrangle B. Quadrat
C. Quadrilateral D. Quadrant



Puzzle Solution



Barn Owl

Konik Pony



Dragonfly

Fen Raft spider

Next Issue:

Engineering hard hats on, as we explore all kinds of Structures

Send us your work! OpenUpScience@cambridgesciencecentre.org

Send us your questions! Look out for the answers on:
[Science@6 - YouTube, Monday, 6pm](#)

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<https://link.cambridgesciencecentre.org/feedbackissue11>

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Quiz Answers: Q1 – D, Q2 – D, Q3 – A, Q4 – B

This Week's Challenge

Build a bug hotel!

Get creative with the natural materials you use:



- small stones
- twigs
- bamboo canes
- slate
- wood
- bark
- rolled paper
- straw
- moss
- dry leaves
- grass