

KS3 Activities

Canal Ecology



Introduction

Like many other canals in British cities, the Regent's Canal provides an important sanctuary for wildlife. There are two main habitats the water in the canal itself, and the grass and trees along the banks. Together, they provide a home for a variety of insects, birds and mammals that not only share the space but are interdependent on each other. This activity gives students practice in classification and sampling techniques, and an opportunity to consider the food chains that exist within the habitats.

National Curriculum & QCA Links

- NC KS3 Science Sc2 Life Processes and Living Things: Variation, Classification and Inheritance: Classification 4b, Living Things in Their Environment 5a&b, Feeding Relationships 5e
- QCA Unit 7c Environmental and Feeding Relationships
- Unit 8D Ecological Relationships

Learning Objectives

- To learn exactly what is meant by a habitat, and to distinguish between natural and man made ones. To develop skills in genus & species identification using keys and charts.
- To develop fieldwork skills of observation and recording.
- To introduce the use of the quadrat as a means of ecological sampling.
- To understand the interdependence of the species in the habitat, and to draw up a food chain or web from their observations.

Teachers' Note

This activity involves a visit to the side of the Regent's Canal to observe the wild life to be found there, and undertake some sampling activities. It will therefore require good adult supervision, and a risk assessment to be undertaken. Because the best spot for wild life watching is not accessible via the towpath from the rear of the Museum, there is also a short walk along the streets to reach it.

The observation spot has hard edges which make it particularly suitable for water dipping, as well as grassy banks and a good view of the canal. The canal is between 3 and 4 feet deep at the side in this area. Students should avoid putting their hands in the canal, and ensure that they wash them before eating afterwards.

The best place to observe canal wildlife near the Museum is a short walk away. To get there, walk out of the front door of the Museum and turn **left**. Walk up New Wharf Road, and then turn **right** into All Saint's Street. At the end, turn **left** into Caledonian Road, and walk over the canal bridge. Turn **left** into a very small garden just beside the bridge. This is your observation space.

Your class will need: 2 or 3 pond dipping nets, the same number of shallow inspection trays, insect and bird identification charts, 2 or 3 quadrats, enough activity sheets for each pair to have one, clipboards & pencils

Activities: Canal Ecology



Look carefully at the place in front of you. There are two main habitats for animals and plants here. What are they?

1.....

2.....

Write down three things that tell you the canal is a man made and not a natural habitat:

A.....

B.....

C.....

What animals and plants would you expect to see in each habitat?

| | |
|----------------------------|----------------------------|
| Habitat 1 is the..... | Habitat 2 is the..... |
| I would expect to see..... | I would expect to see..... |

Activities

Canal Ecology 2



Now split into three groups. Each group will look at a different aspect of the habitats beside the canal and report their findings back to the others at the end.

1. The first group will study the birds & mammals on & near the water.
2. The second group will study the species (mostly insects) in the water
3. The third group will study the species (mostly insects) on the grassy bank.

EVERYONE will need to work quietly to see the maximum number of animals. Don't frighten them away by shouting or running around.

Activities

The Bird Group



Find a comfortable place to sit or stand for fifteen minutes. Watch very carefully, and see how many different species of birds you can see in that time. Use a book or chart to identify them. Also check whether they are water birds with webbed feet, or land birds which happen to be near the water. Can you get any clues about what they eat? Record your results below. Keep a tally of how many of each species you see, to find out which is most common.

| Identity of bird | Webbed feet or separate toes? Water bird or land bird? | What does it eat? |
|------------------|--|-------------------|
| | | |

Which is the most numerous bird on the canal today? How many did you see?

.....

What is the temperature on the day of your visit?

.....

Is the weather wet or dry on the day of your visit?

.....

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Activities

Water Dip Group



Find a place beside the canal where the edge is hard, and you can kneel or crouch down without getting wet. Put your inspection trays down on the ground, and fill them with water. GENTLY dip your net into the canal, and move it in large sweeps from side to side before pulling it out. Don't splash & shout, or you will frighten many shy animals away. Turn your net inside out, into the tray, and look to see what you have caught. Carry on dipping for 15 minutes. Take turn with the nets.

Use a book or chart to help you identify them. Are they all insects? If so, have you caught adults, larvae, or eggs? Record your results below. Keep a tally of how many of each species you see, to find out which is most common.

| Identity of animal | Insect, reptile, or amphibian? | Which Stage in the Life Cycle? (Adult/larvae/egg) | Was it on the water or under it? |
|--------------------|--------------------------------|--|----------------------------------|
| | | | |

MAKE SURE YOU RETURN ALL THE ANIMALS YOU FIND TO THE CANAL. DON'T POUR THEM BACK IN LOWER THE TRAY GENTLY INTO THE WATER

Which was the most numerous animal on the canal today? How many did you see?

.....

Did you see any of them being eaten by other animals?

.....

Activities

Grassy Bank Group



Most of the animals living on the bank are very small. You can't possibly count them all! Instead, you are going to take a sample, by laying a quadrat on the ground, and looking very closely inside it to see what small animals you can find. Many of them will be on or just below the surface of the ground. If the grass is long, you may need to part it carefully with your hands, like parting hair, to see what is crawling at the bottom of the stalks. Use a book or chart to help you identify them. Are they all insects? Record your results below. Keep a tally of how many of each species you see, to find out which is most common.

| Identity of animal | Insect or other? | How does it move? |
|--------------------|------------------|-------------------|
| | | |

Which was the most numerous animal on the bank today? How many did you see?

.....

Was the grass growing long or cut short?

.....

Why might this be important?

.....

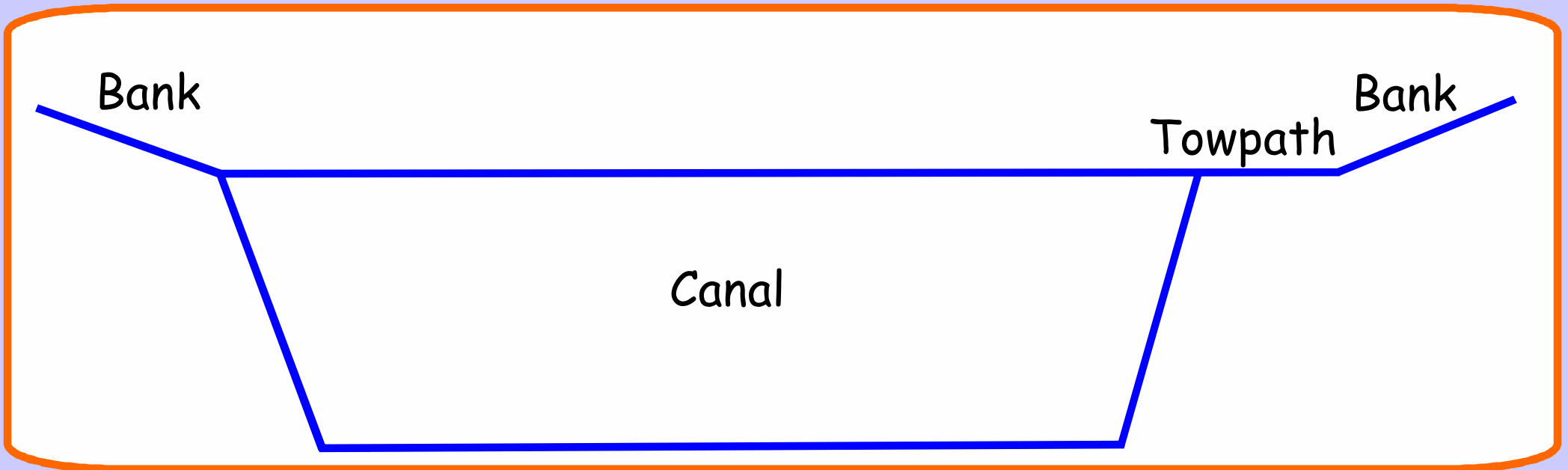
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Canal Ecology



Now, get back together, and tell the other groups what you found.

Here is a cross section diagram of the canal. Write or draw all the species that you found, in the correct area of the diagram.



How many species did you find all together?.....

How many were vertebrates?.....Invertebrates?.....

How many were insects? (Remember that not all mini-beasts are insects).....

Did you see any of the animals eat each other? Which of your species are predators, and which prey?

Predators.....

Prey.....

When you get back to school, draw a food chain or web to show how the animals you have seen by the canal depend on each other for food.