



Sample Lesson Plan

The Big Bus Module: Animals & Plants - Habitats & Classifying



Title

Using *The Big Bus Animals & Plants - Habitats & Classifying* to match animals and plants to habitats and consider what they eat.

Introduction

The *Big Bus Science Module "Habitats"* is designed to introduce and review the basic concepts behind **Classification techniques, matching an animal with a habitat and basic food chains** at the KS 2 level. "**Habitats**" is composed of four e-learning objects:

1. Sorting things out
2. Scientific classification
3. Who lives where?
4. Who eats who?

Objects 1 & 2 can be used together to introduce the concept of classification and then use a scientific classification technique prepared by scientists.

Object 3 matches animals to suitable habitats.

Object 4 allows the student to prepare a series of "Food Chains".

All the objects can be prepared with a final printed report of the child's activities and answers. This can either be directly printed or printed to PDF, if the school has the full Adobe Acrobat installed.

In this lesson

Age Range: 7 – 11 years

Lesson Plan

Learning objectives

Sorting things out

Children should learn:

To understand the term 'organism' as a general term for all living things.
To use pictures of e.g. vertebrates, invertebrates, humans, small flowering plants, trees and challenge children to sort them according to their own criteria and then into plants and animals.

Scientific Classification

Children should learn:

To understand the term 'organism' as a general term for all living things.

To use pictures of e.g. vertebrates, invertebrates, humans, small flowering plants, trees and challenge children to sort them according to their own criteria and then into plants and animals.
To explain how they sort organisms.

Who lives where?

Children should learn:

That different animals are found in different habitats

To make predictions of organisms that will be found in a habitat.

To observe the conditions in a local habitat and make a record of the animals found

That animals are suited to the environment in which they are found

Who eats who?

Children should learn:

To identify the structure of a food chain in a specific habitat .

That animals are suited to the habitat in which they are found.

That most food chains start with a green plant

Technical preparation

Install the CD-ROM on to the computer.

If you are presented with a choice of Worlds to visit select Bo Bear's World, Adventurers' World or Explorers' World as appropriate.

If you are in Adventurers' World or Explorers' World, open the Information Booklet index and scroll through the available modules to find the module. Select **Letter Matching**.

Previous experience

Introducing the module

Gather the children around a large computer monitor or interactive whiteboard.

"**Sorting things out**" is an exercise in setting useable simple criteria and classification.

The child is asked to classify 17 organisms according to their

characteristics.

The child is presented with a screen with the 17 organisms displayed along the left the screen, a short description of each and two "Radio Buttons" "Plant" or "Animal" for each organism.

Upon selecting an organism by clicking on it and deciding if the organism is a plant or animal they can then create their own classification system by placing the pictures together in groups and using flow chart components to describe the similarities.

Instructions: Any living thing is called an "organism". Organisms are usually called plants or animals. Scientists like to further classify organisms by other characteristics by asking questions such as

- Does a plant have flowers or not?
- How many legs or wings does an animal have?

First classify each of these organisms as a plant or an animal then use your own ideas on how to organise them into smaller groups. See the notes if you need some help with using the software.

Scientific classification is an exercise in classification using agreed scientific criteria.

The child is asked to classify the same 17 organisms used in "Sorting things out" according to their scientific characteristics. Clicking on the picture of the organism provides some details on its characteristics and habitat.

The child is presented with a screen with a simple classification tree. Individual organisms are displayed with information describing the organism.

They are asked to answer two "yes/no" questions that allow them to classify the organism as plant (vascular or non-vascular) or animal (vertebrate or non-vertebrate). As they answer each question the respective branch of the tree is ticked and they move down the tree until they reach a choice of classifications that are both described and illustrated.

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- Does a plant have flowers or not?
- How many legs and wings does an animal have?

Answer the questions to move the organism down the tree.

See the notes if you need some help with using the software.

Who Lives Where?

In "Who lives where", 10 animals are described by an illustration/animation and five descriptions that portray their adaptations to the habitat they live in and the food they eat.

Similarly five habitats are described in terms of *light, water, soil, shade and temperature*.

The child selects an animal, the animal moves to the centre of a new screen with the five habitats around it. The child is asked to match the animal with a suitable habitat, by dragging the animal to the habitat and provide a simple reason for their choice.

This is not a "right or wrong" exercise. Some habitats are equally as good for the same animal. All habitats have been given a provisional score out of five and that score is given when the student makes their choice.

If they score 5/5 a happy animal is shown in its chosen habitat, if incorrect a score out of five is provided and they can have another go.

Outcomes: Children will:-

Make and justify a prediction e.g. the woodlice will be under the stones because it's damp there

Describe a habitat in terms of the conditions e.g. leaf litter is cool, damp and dark.

State that animals and plants are found in some places and not in others and explain why e.g. worms are found in the soil not in tarmac because they cannot find food or burrow through tarmac

Who eats who?

Who eats who investigates food chains building up different food chains (not webs) for different animals and habitats. The exercise builds up a simple chain by placing animals and plants in a food chain from descriptions and pictures of "who eats who".

Instructions: A food chain shows what animals eat. In the example food chain the grass is eaten by a caterpillar, which is eaten by a swallow which in turn is eaten by a hawk.

Complete these food chains by placing the pictures of each of the animals and plants in their own food chain.

- **An English Oak Forest**
- **An African Grassland**
- **A Pond**
- **Extension – Antarctica**

Outcomes: Children will:-

Identify food of a specific animal *eg the privet hawk moth prefers privet*
 State that predators eat other animals
 Identify animals which are predators and their prey *eg birds feed on insects, foxes feed on rabbits, herons feed on fish*
 State that many animals which are prey live on green plants
 Sequence valid food chains relating to the local habitats using the arrow convention correctly

Technical preparation

Install the CD-ROM on to the computer. If you are presented with a choice of Worlds to visit, select Bo Bear's World, Adventurers' World or Explorers' World as appropriate.

After the initial demonstration, and if more than one computer is available, the children could now break into working groups and undertake the module for themselves.

Allow the children about 20 minutes to complete each section, and then gather them back together to discuss how they got on.

Classroom management

A single classroom computer running *The Big Bus*, using a large monitor or interactive whiteboard, is an effective whole-class teaching resource. Introduce the module to the whole-class before pupils break into their groups.

If you have access to a computer suite this module can be completed as a whole-class lesson.

If you have access to only one or two computers, pupils will need to complete the module on a rotational basis.

Duration

All objects are designed to be somewhat open ended with the child provided with the option to review their work by going over the animations again after completing the exercise and even preparing a report of their work for the more advanced users. Each group of children will require approximately 20 minutes of computer time per section. The teacher introduction and follow-up time will take approximately 10 minutes and 10 minutes respectively, again for each title.

Differentiation

This module can be differentiated to suit all pupils, irrespective of reading ability, as all text can be fully narrated.

Extending the module

Pupils can investigate different habitats around the school to find organisms and name and classify them. They can investigate the food chains involved in the habitat. Extension material is also provided in Object 4: Who eats who?

Curriculum information

The National Curriculum in England for Science (KS2)

SC2 Life Processes and Living Things
QCA Scheme of Work for Science –
 Unit 4B Habitats, Unit 6A

Interdependence and adaptation

The Scotland 5-14 Guidelines for Environmental Studies

Science – Living Things and the Processes of Life: Level B, C, D, E

The Northern Ireland Curriculum for Science and Technology (KS2)

Living Things; Animals and plants: b, e, i

The National Curriculum in Wales for Science

Life processes and living things: 4.1, 4.3, 4.4, 4.5

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