

TEACHER NOTES

Science

Biology - Animals: Scientific Enquiry



Contextual Summary

This resource is a scientific enquiry where students are guided to observe, record and ask questions for which they will endeavor to find answers.

Ideally there should be two lessons before the visit: one to prepare pictures of imaginary animals which will then be used for the main pre-visit lesson which introduces asking appropriate questions.

Activities are designed to appeal to students of all abilities in upper and lower key stage 2 (years 3-6).

Task Implementation

The pre-visit lessons are intended to prepare the students for asking appropriate questions during the on-site task.

Whilst on-site students are asked to observe one animal for a period of time. For this reason it is suggested that they should look around the first part of the zoo to start with, before choosing an animal to study.

Teachers may decide to select an area specifically for this task. This would work well if it is used as part of a carousel, with one group at a time.

Ability Levels

This resource is suitable for key stage 2 students of all abilities. There are two variants of this resource to enable appropriate differentiation.

The main pre-visit lesson is for pairs or small groups which would work with mixed ability. There is a high and a low ability on-site worksheet with a little less content on the latter. However, non-readers will still need to be supported.

The actual content is such that it should be accessible to high and low ability students.

Key skills practised in this unit:

- Skills needed for scientific enquiry: observation, recording, questioning, research, reasoning, identifying and classifying.

Relationship to Curriculum

Closely linked to the National Curriculum programmes of study for science, this resource encourages students to work scientifically by asking questions and using different means to find answers, by recording observations in written and graphic notes, and by identifying and classifying living things in their habitats; it also links to the relevant BGE skills in Scotland.

SUBJECT

Science (Biology)

UNIT

Animals - Scientific Enquiry

OPPORTUNITIES FOR USE

- ✓ Pre-Visit
- ✓ On-Site Activity
- ✓ Post-Visit
- ✗ Peripheral Task



Variable

APPLICABILITY



Key Stage 2



P3-P6

CURRICULUM / SYLLABUS

- ✓ National Curriculum
- ✓ Curriculum for Excellence

Applies to Resources numbered:

1 1 9 0 8 1
1 1 9 0 8 2

Learning Opportunities

Before the Visit

- ▶ Ideally there should be two lessons before the visit: one to prepare pictures of imaginary animals which will then be used for the main pre-visit lesson which introduces asking appropriate questions. Lesson plans are provided.

During the Visit

- ▶ Students will learn to make observations and are encouraged to note what they see rather than what they think they see or expect. They will ask questions in a sequenced order based on Bloom's Taxonomy, and realize that there are different ways to find answers and some questions require different sorts of answers. A lesson plan is provided.
- ▶ Completion of the resource sheets indicated below:

Resource ID: **119081** (KS2L mixed ability)

119082 (KS2U mixed ability)

Post-Visit

- ▶ Although the task is mainly presented as an on site task, there are plenty of opportunities to follow it up afterwards at school. There is also a suggested lesson to practise asking relevant questions for before the visit. The task can be used as part of a carousel with other resources.

Enrichment Opportunities

- ▶ A lesson plan introducing questioning techniques based on the first stages of Bloom's Taxonomy is included in the resource and would make a suitable pre-visit lesson. These questions can be usefully adapted for other subjects and are a great foundation for planning. 'I wonder ...' scenarios using the question starters can be used in many different topics to initiate interest and further study.

Learning Outcomes

- ✓ Students will have studied an animal through careful observation with recorded drawings and written notes.
- ✓ They will also have come up with a number of questions most of which they will have answered from observation, reasoning or from the information boards.
- ✓ There should be discussion about any 'unanswerable' questions.

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