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Earth & Life Science Series

Animals

Science activities for 6-9 year olds

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Teacher Information

The Earth and Life Sciences Series is designed to provide teachers of children in the 6 - 9 age range with a set of materials that will give students a more rounded and scientific understanding of their world and their place in it.

Student activities are directed towards meeting the requirements related to Science education as set down in the UK National Curriculum document. This book, **Animals**, relates in particular to the concepts of **Life Processes and Living Things (Sc2)**, at Key Stage 1 and 2 level as indicated in the programme of study. In addition, the activities in the book enable children to utilise some cognitive processes which are incorporated in the **Scientific Enquiry** section of the curriculum.

These include:

Ideas and evidence in science

- collecting evidence by making observations;

Investigative skills

- exploring using the senses of sight, sounds, hearing, smell, touch and taste and make and record observations and measurements;
- communicating what happened in a variety of ways, including using ICT;

Considering evidence and evaluating

- making simple comparisons and identifies simple patterns.

LIFE PROCESSES AND LIVING THINGS

KNOWLEDGE, SKILLS AND UNDERSTANDING

Life Processes

Students will:

- relate life processes to animals and plants found in the local environment; **(KS 1 - 1. c)**
- understand that animals move, feed, grow, use their senses and reproduce; **(KS 1 - 1. b)**
- realise the life processes common to animals include nutrition, movement, growth and reproduction; **(KS 2 - 1. a)**
- make links between life processes in familiar animals and plants and the environments in which they are found. **(KS 2 - 1. c)**

Humans and Other Animals

Students will:

- recognise and compare the main external parts of the bodies of animals; **(KS 1 - 2. a)**
- learn that humans and other animals can produce offspring and that these offspring grow into adults; **(KS 1 - 2. f)**
- understand that the senses enable humans and other animals to be aware of the world around them. **(KS 1 - 2. g)**

Variation and Classification

Students will:

- group living things according to observable similarities and differences; **(KS 1 - 4. b)**
- understand how locally occurring animals and plants can be identified and assigned to groups. **(KS 2 - 4. b)**

Living Things in Their Environment

Students will:

- find out about the different kinds of plants and animals in the local environment; **(KS 1 - 5. a)**
- learn ways in which living things and the environment need protection; **(KS 2 - 5. a)**
- understand that different plants and animals are found in different habitats; **(KS 2 - 5. b)**
- understand how animals and plants in two different habitats are suited to their environment. **(KS 2 - 5. c)**

Food Chains:

- use food chains to show feeding relationships in a habitat. **(KS 2 - 5. d)**

STRUCTURE OF THIS BOOK

Books in this series are divided into two sections - the section which includes the **“Using Information”** activity pages and that containing **“General Activity”** pages.

Both sections include **Teachers’ Notes** which focus on aspects of subsequent activity pages such as:

- learning outcomes of the relevant pages;
- materials required to complete the activity page;
- teaching suggestions for each page in the section.

“USING INFORMATION” SECTION

All student activity pages in this section are preceded by an **“Information Page”** - a set of notes that provides background knowledge to the activities presented on the worksheet. It is intended that these sheets are also photocopied for students and used by them as they attempt the activity page. It is envisaged that this approach will allow teachers to relate the class Science program to the Language program, through using these Information Pages as opportunities for Reading and Viewing activities. They are ideal for these purposes in that they require students to retell meanings and make simple interpretations for the purposes of completing the accompanying worksheets.

The text in these pages may be at a slightly more difficult level than that presented on the worksheets and further assistance is given by defining some key words or phrases. These are underlined and link to the **Explanations** section at the base of the page, which contains further definitive statements and explanations about the text.

It should be noted that not all the information that is required to complete worksheets is contained in these notes. In fact, children will benefit greatly from introductory discussions and idea sharing sessions about the worksheet in conjunction with the use of the Information Page.

GENERAL ACTIVITIES SECTION

The activity pages in this section (headed ACTIVITY PAGE) utilize traditional print related reference materials for children to complete the set tasks on the sheets. It would be useful for a collection of appropriate books and materials to be assembled before commencing the unit so these can be accessed and used with as little disruption as possible. It is imperative, too, that these sheets are discussed thoroughly before children are set to work.

Lesson Notes

Pages 7 to 10

CONTENT AREA(S):

- life science

ATTAINMENT TARGETS:

In this section students:

- understand that not all birds are able to fly.
- identify some common flightless birds.
- discuss special features of penguins.
- describe some of the physical features of animals that hunt.

MATERIALS REQUIRED:

- pencil or pen
- Information Sheet

TIME:

- approximately 20-35 minutes.

TEACHING SUGGESTIONS:**Pages 7/8: Flightless Birds**

- Brainstorm with the class to devise a list of all known flightless birds. Ask students why they think these birds can't fly.
- Discuss the location of penguins by using a world map. Note that many people do not realize that there are penguins living near the equator.
- Students can research some other flightless birds using the Internet or reference books.

Pages 9/10: Hunting Animals

- Explain that some animals hunt other animals for food and that these animals are known as predators.
- Introduce children to food webs and show how animals depend on other animals. Construct a food web on a large piece of card. Allocate each student with an animal for research. Tell them that they need to find the name of an animal that their animal eats and one that it hunts. For example, a lizard feeds on a grasshopper and then an eagle feeds on the lizard and so on.

Information Page: Flightless Birds

Although most birds are able to fly, there are some like the penguin and the ostrich that are flightless.

PENGUINS

Penguins are very strange looking birds that have very short legs and webbed feet. They stand up straight and when they walk they waddle from side to side in a very clumsy way.

Penguins cannot fly but they are excellent swimmers and divers.

Penguins live on ice but spend a lot of time in the water catching fish. They only live in the southern part of the world. They could live in the cold waters of the Arctic in the north, but they will not swim across the warm waters to get there.

Penguins have thick feathers on their bodies which act like a waterproof coat. The feathers are usually white on their bellies and black on their wings. Their wings are more like flippers which they use to paddle through the water.

OSTRICHES

Ostriches are the largest living birds and are unique because they only have two toes on each foot. They may stand nearly 2 meters tall and weigh as much as 156 kilograms. Even though they can't fly they can run very fast.

Ostriches live in some parts of the continent of Africa. Most ostriches live and run in flocks in the dry savannah of Africa.

The male ostrich has black and white feathers on its large body. The white feathers on the tail of an ostrich are called plumes. The female ostrich's feathers are a dull brown. The ostrich has very long thin legs and a small head that has very few feathers on it.

Ostriches mostly eat plants but will eat small animals like lizards.



EXPLANATIONS

Continent of Africa: Ostriches live in the desert and plains area of the African continent.

Flightless: Not able to fly.

Southern part of the world: Although penguins prefer really cold conditions there are some that live in New Zealand, Australia, South Africa, and as far north as the Galapagos Islands, which lie almost on the equator. There are no penguins north of the equator.

Unique: The ostrich is unique because it is the only bird that has two toes on each foot.

Unique means "only one".

Waterproof: The feathers of a penguin are short and thick which keeps the penguin dry or waterproofed.

Flightless Birds

Use the Information Page on Flightless Birds to help you complete this page.

THE PENGUIN

Read the information about the penguin.

1. Why do you think the penguin walks in such a clumsy way?

.....

2. How do these special features help penguins?

❖ webbed feet

❖ thick feathers

❖ wings like flippers

THE OSTRICH

Why is an ostrich unique?

.....

Describe the differences between a male and female ostrich's feathers.

male

.....

female

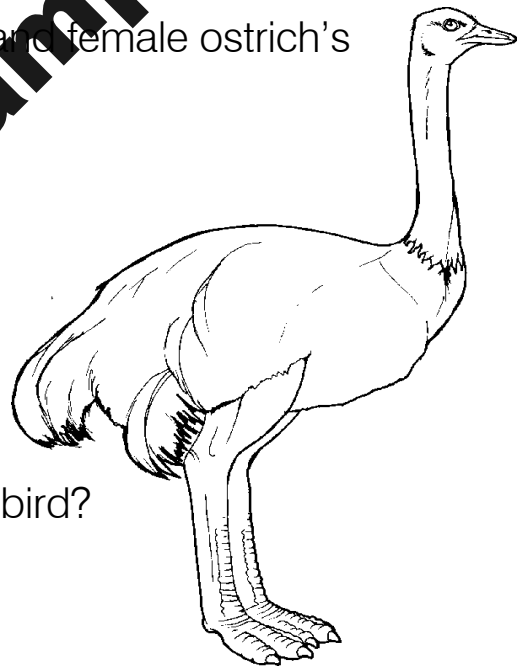
.....

Why do you think the ostrich is a flightless bird?

.....

.....

.....



Sample
Sample
Sample

Information Page: Hunting Animals

Animals like tigers, the great white shark and owls have special features that make them very good hunters.

TIGERS

The tiger is found in the forests of Asia where there is plenty of cover for it to hide in. It has very long, strong back legs that helps it leap onto its prey.

The tiger's teeth are large and its jaws are powerful. The tiger uses its teeth to grip its prey and to crush bones. The huge paws of the tiger are long and sharp. They are used to drag the prey to the ground.

The tiger has a very good sense of hearing so even if it can't see its prey in the thick forest, it can still hear it.

The marking on the tiger's coat helps it to hide in the vegetation as it stalks its prey.

GREAT WHITE SHARK

The Great White Shark is found in warm ocean waters. It feeds on seals, otters and fish. It has many features that make it a powerful hunter. The shark's body is shaped like a torpedo and this helps it swim quickly through the water.

The jaw of the shark has rows of very sharp teeth. As the teeth drop out they grow again.

The shark has an excellent sense of smell especially if an animal is injured and bleeding. The skin of the shark is covered in tiny sharp "teeth" that help to protect the shark.

A shark has a very special feature which allows it to pick up electrical impulses (small waves of energy given off when things move) made by other animals in the sea. These make it easier for the shark to find its prey.



OWLS

Owls are nocturnal animals that are very good hunters. They have hooked beaks that they use to tear their prey apart with. Their talons are sharp and can kill an animal as it grips it to fly away. Owls have eyes that point forward so that can see their prey better. The opening to an owl's ear is quite large and point forwards so that they are able to hear any movement that their prey makes. An owl can almost turn its head in a complete circle to hear any sounds and even the shape of its head helps to direct sounds into the ears.

EXPLANATIONS

Nocturnal: Feeds at night.

Prey: The animal that the hunter catches for food.

Talons: This is what the claws of eagles, hawks and owls are called.

Torpedo: A torpedo is a long and narrow missile used as an underwater weapon.

Vegetation: The plants and trees of an area.

Hunting Animals

Use the Information Page on Hunting Animals to help you complete this page.

THE TIGER

Describe the body parts of the tiger that makes it such a good hunter.

❖ legs.....

.....

❖ teeth and jaws

.....

❖ paws

.....

THE GREAT WHITE SHARK

Draw lines to label this diagram of a shark.

torpedo shaped body

rows of sharp teeth

tiny sharp 'teeth' on skin



OWLS

Describe these special features of owls.

beaks.....

talons.....

eyes.....

head