

# LOOKING at NATURE

G.O.E.S.  
SCIENCE

*Looking at Nature* has another brand new series of programmes for you this term. There are the usual mixture of exciting subjects and projects. We have organised the notes so you can quickly and easily find and follow the classwork ideas. Each frame illustrates a self-contained project which can be individually re-drawn or photocopied. You can add your own questions for group work.

*Looking at Nature Goes Science* is the name of the first unit. The series has always aimed to encourage good primary science practice, but here we are laying particular stress on the physical sciences. All the projects are fun to carry out, and have direct practical relevance to the broad topic covered.

#### Write in!

Children are encouraged to write in to the Natural Investigators' Office about their projects. This helps children learn to present their ideas clearly. Robin Robbins replies to all letters and queries and writes to children about their projects and suggests further experiments.

The address to write to is:  
The Natural Investigators' Office  
Looking at Nature  
BBC School Radio  
Broadcasting House  
London W1A 1AA

#### See back page

- 1 Details of items available from the Natural Investigators' Office
- 2 New ordering and distribution arrangements.

#### Recording school broadcasts

Schools and colleges may record any broadcasts described in the *Annual Programme* documents published by the BBC for the Educational Broadcasting Council. Individual schools and colleges may retain these programmes for use on the premises for up to three years after recording, subject to certain conditions. It is permissible for resource centres designated by LEAs to record, copy and circulate broadcasts to schools. Full details of these concessions are given in the leaflet *Recording BBC Educational Programmes*, available from BBC Education, Villiers House, London W5 2PA.

## Spring

A series provided for the BBC at the request of the Educational Broadcasting Council for the United Kingdom.

Age: Lower Junior

Radio 4 FM

For date and time of broadcasts see the current BBC Timetable or Radio Times.

Programmes written and produced by Michael Howarth.

Series Consultant and booklet author: Robin Robbins with assistance from the Lincolnshire Primary Science and Technology Group.



Presenter Jimmy Mallett



Consultant Robin Robbins

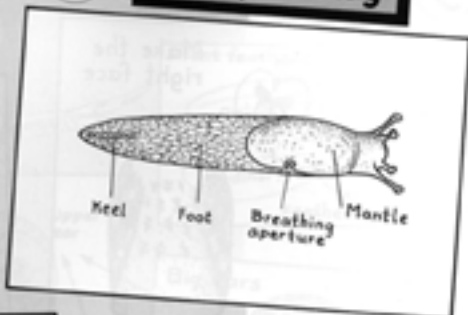


Now make a Coriolis exerciser of your own that works

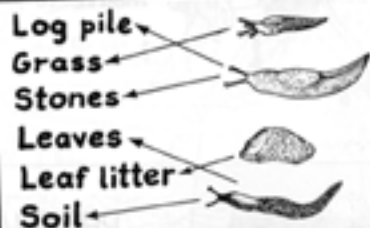
# 1 First find your slug



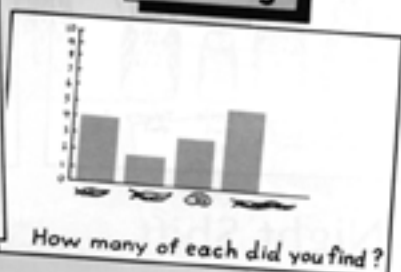
# 2 Know your slug



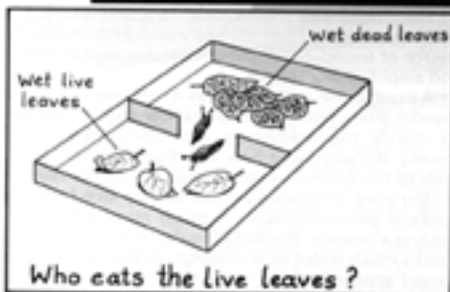
# 3 Where did you find them?



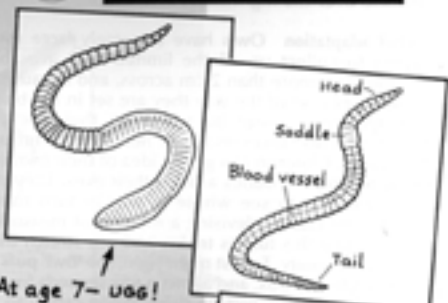
# Top slug



# 4 Good guys / Bad guys



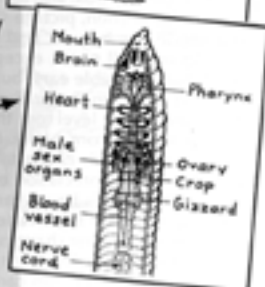
# 5 Worms are best



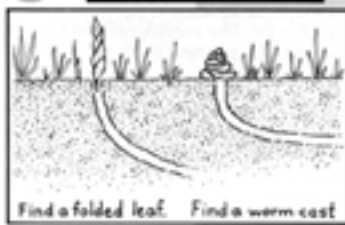
At age 7 - uog!

At age 7½ - OOH!

At age 10 - Mmm!



# 6 Worm watch



## 7 Worm charming

Watch for gulls foot plodding.....

Can you do it too!



## 8 Make a wormery

Gravel  
Damp soil  
Leaves



Black paper

## 9 Worm walk



Hear the  
worm walk



Watch  
the worm  
walk

# Worms and Slugs

# PROGRAMME

**1 First find your slug** What kind of weather does a slug prefer? Think about choosing a good slug-hunting day and about the best places to find them.

**2 Know your slug** Getting familiar with the slug, and with its body-parts will do much to reduce prejudice against slime.

**3 Where did you find them?** Use mapping techniques to match the slugs to their habitats. Not all slugs choose exactly the same kinds of places to live. Find your top slug by using a slug identification chart to graph the most common kinds at school. Children might enjoy drawing end-to-end slugs instead of columns on the graph.

**4 Good guys/Bad guys** Make a choice chamber in a box with a plastic lid. At one end put live leaves, and at the other end dead leaves. Both kinds should be damp. Do all slugs choose to eat our living plants?

**5 Worms are best** Children's initial reactions to worms and slugs are unlikely to be positive, but as they become familiar with them, curiosity and scientific fascination will replace the earlier revulsion.

**6 Worm watch** Go out and look for signs of worms in the school grounds. First, look for leaves, folded roughly into a cylinder, which stick out of a worm hole, revealing its whereabouts. Worms hold onto the rim of

the worm hole with their flat tails, and move round in a circle, drawing favourite dead leaves back into the hole. Some leaves are too big to fit, and the worms tug at them until they form a plug to the hole. Worms tunnel by eating the earth as they go, and passing it through their bodies. All species of worms make casts, but only in some cases does this soil appear on the surface as a wormcast. A collection of wormcasts make an excellent nutritious seed compost, and it's already sieved!

**7 Worm charming** Birds draw worms out of the soil on damp days by pattering on the grass with their feet. The worms respond as if it were raining.

**8 Make a wormery** Gather a collection of about half a dozen worms, and make a wormery for them. Punch a few holes in the bottom of a big sweet jar begged from the sweet shop. Put some gravel in the bottom, and then a deep layer of damp soil. Put the worms on top, and wrap black paper around the jar, so that the worms will not be deterred from tunnelling close to the sides. Keep the soil damp but not waterlogged. Even a worm can drown. Put five or six fallen leaves from different plant and tree species on the surface. Record what they were, and see which ones the worms choose to pull down the hole to eat. Out-of-doors, collect as many leaves from wormholes you can find, and try to check if your experiment in the wormery really proved which was the favourite kind of leaf.

**Available from the Natural Investigators' Office.**

Natural Investigators' Badge (free)

Conker fact sheet (free)

Bird Spy software pack information sheet (free)

Make a Nature Garden Competition information sheet (free)

Timmy Mallett Natural Investigators' Garden Plaque (£2)

Database Project ideas booklet (£2)

Fox Food web Mobile (£2)

Looking at Nature Bird Spy software pack is available from BBC Soft, c/o Vector, 13 Dennington Road, Wellesborough, Northants, NN8 2RL (Tel 0933 79300) price £14.95

**New**

Illustrated pattern sheets for making the following out of cloth material (materials not included), 50p each.

- 1 Hedgehog Treasure Bag
- 2 Hover-fly and wasp
- 3 Fly agaric (gill) bracket (pore)
- 4 Puffing puff ball
- 5 Shaggy ink cap

To obtain these items send a cheque, payable to the BBC, with a large sae to the Natural Investigators' Office (see front page for the address).

**Emergency service for radio cassettes**

If you have tried to record a particular school broadcast and failed for some reason, a cassette of the programme can be purchased from: BBC School Radio, Broadcasting House, London, W1A 1AA (Telephone 01-927 5821). A recording sold under these circumstances is governed by the recording concessions described in the *Annual Programme*.

**New ordering and distribution arrangements**

From May 1988 BBC Education will be using a new distributor for all publications. The new address is: PO Box 234, BBC Education, Wetherby, West Yorkshire, LS23 7EU (Telephone 0937 541001)

Schools will still receive the *Annual Programme* and order form in spring, then supplementary order forms at the beginning of each term. Any item may be ordered on these, though we cannot guarantee availability after the closing dates. Please direct all queries about orders to our distributors.

**Additional copies of order forms can be obtained from:** Educational Broadcasting Information, Villiers House, LONDON, W5 2PA (Telephone 01-991 8031).

Illustrated by John Gilkes and Martin Rigg

This publication contains only BBC copyright material: its contents may be copied or reproduced in schools and colleges without further permission.



LOOKING AT NATURE

ISBN: 0 563 34197 1

Spring 1988

Published at the request of the Educational Broadcasting Council for the United Kingdom by BBC Books, a division of BBC Enterprises Limited, Woodlands, 80 Wood Lane, London, W12 7PT. First published 1988. © BBC Enterprises Limited 1988.

Printed in England by George Orr Limited, London and Rugby

## AT2: Life and living processes

Pupils should be introduced to the main parts of flowering plants and investigate what plants need to grow and reproduce.

They should have opportunities, when possible through first-hand observation, to find out about a variety of plant life.

They should sort living things into broad groups according to similarities and differences using observable features.

Over a period of time, pupils should take responsibility for the care of living things, maintaining their welfare by knowing about their needs and understanding the care required.

## Statements of attainment

**2/1b:** Know that there is a wide variety of living things ...

**2/2a:** Know that plants need certain conditions to sustain life.

**2/2b:** Be able to sort familiar living things into broad groups according to easily observable features.

**2/3c:** Know that green plants need light to stay alive and healthy.

**Themes:** Plants, Spring, Growing things.

## The story: Joseph's Yard

Joseph exchanged all the junk in his back yard for a plant. When the plant blossomed he cut off the flower and then became very sad. When the plant flowered he selfishly covered it up which again made him sad. So when it flowered in the third year he behaved quite differently.

## Expected learning outcomes

Children should

- ▶ know that plants are living things
- ▶ be able to recognise a variety of different plants and their different parts
- ▶ be able to make a record of changes in plants
- ▶ be able to explain what a plant needs to stay healthy
- ▶ be able to explain what happens to seeds when planted
- ▶ know that other parts of a plant can make new plants
- ▶ be able to carry out investigations.

## Activity

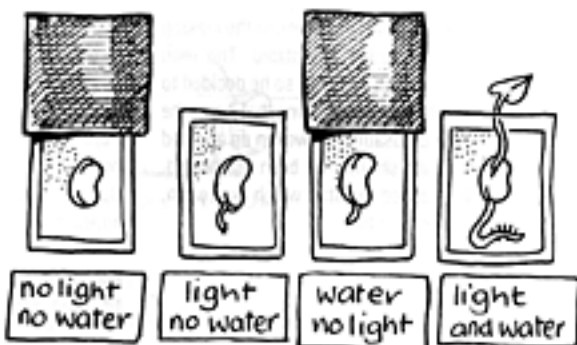
## Experiments with flowers

- A** Make a survey of flowers around your school.
- B** Locate three similar flowers.
- C** Pick one flower and put it in water.
- D** Cover one flower leaving it on the plant.
- E** Put a label next to the third.
- F** Keep a diary over the period of the investigation.
- G** Discuss what you notice. What happens to the flowers?



## More ideas to try:

### Grow a bean



Q: Which grows best?

### Draw a flower



Q: Can you name the parts?

### Sort a collection of flowers



AT2: Life and living processes

Children should:

- ▶ become aware that some life-forms became extinct a long time ago and others more recently.

AT3: Materials and their properties

Children should:

- ▶ observe and compare natural materials.
- ▶ collect and find similarities and differences in a variety of everyday materials. These should include natural materials, such as rocks.

**The story: Stories in the rocks**

Sarah and Abigail live in Lyme Regis. One day they notice a man picking through a pile of rocks on the beach. What can he be up to? They ask if he has lost something and he says he has. He has lost a story. But how can he lose a story? He explains that the story is in one of the rocks. Suddenly he finds it and shows them. They can only see some strange lines and patterns in the stone, not a story. Then the magic begins.

**Expected learning outcomes**

Children should:

- 1 Know that we have found out about past life-forms by looking at rocks.
- 2 Know that the shapes found in rocks are called fossils.
- 3 Know that some rocks contain fossils and others do not.
- 4 Know that scientists can test the fossils to find out when the animal or plant died.

**Statements of attainment**

There are none for this part of the programme of study.

**Themes:** Rocks; Under the ground; Our environment.

**Activity**

**Be a fossil detective**

- A Closely observe a rock with a fossil. Use a hand lens if it helps.
- B Describe it to a friend or your teacher.
- C Draw a picture. Was it a plant or an animal? How do you know?
- D Make a model of how you think it would have looked when it was alive. What materials will you use?
- E Find pictures of it in books. Are they like your model?
- F What is the name of your fossil?

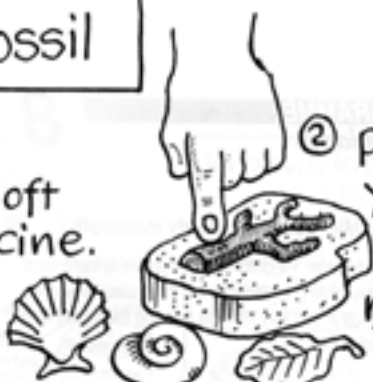


# Make your own fossil

① Roll out thick soft plasticine.



② Press in your twig shell etc. and remove.



③ Put a cardboard wall around.



cardboard strip wall



④ Pour on Plaster of Paris and leave to set.



⑤ When it's dry, turn it upside down and remove the plasticine.



⑥ Paint.



You will need:—

Plaster of Paris

Plasticine

Card strips

Rolling pin

Twigs, shells and leaves

Paints

Q: How do you think a real fossil got into the rock?

FREE CD-ROM FOR SCHOOLS



# riverside explorer

*Investigating rivers and their habitats  
in England & Wales*



Riverside Explorer is an interactive CD-ROM based on the Environment Agency's database of habitat features recorded during a national survey of rivers.

Suitable for National Curriculum Key Stages 2-3, it allows pupils to explore rivers on-screen,

practise a 'virtual' survey of their own, and find out about river habitats and basins.

It is an excellent resource for science and geography teachers, and includes comprehensive guidance and suggested schemes of work as well as support materials for pupils.



ENVIRONMENT  
AGENCY