

Introduction

The aim of this book is to provide resources to help busy Key Stage 1 teachers introduce practical science activities into their National Curriculum and QCA science lessons. The book covers the topics:

- Grouping Materials
- Changing Materials
- Investigating Materials

The book provides a series of lessons with a number of different practical activities on the same theme.

Individual classroom teachers will wish to choose which activities are most appropriate for their own individual situation. Each lesson has detailed notes for teachers giving learning objectives for each activity. Assessment activities can be found at the back of the book. An outline has also been provided for teachers and pupils to decide on 'Practical Science Rules' for their own classroom.

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Topical Resources publishes a range of Educational Materials for use in Primary Schools and Pre-School Nurseries and Playgroups.

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This book has been written for Key Stage One teachers to use in Science lessons. The activities have been carried out successfully with Year 1 and Year 2 pupils in different schools. The objectives covered follow the QCA requirements for Science at Key Stage One, but can still be used if your school does not follow the QCA guidelines.

The thinking behind this publication stems from a knowledge of different learning styles. All our pupils learn in different ways and this book aims to enable the Key Stage One teacher to cater for all types of learner. Whether our pupils are visual, auditory or kinaesthetic learners we must remember their needs above our own. Visual teachers tend to teach in a predominantly visual way which discourages other pupils from accessing the information as well as they could do. Our pupils need to be encouraged to join in activities which stimulate them and excite them. They need to be encouraged to speak and listen well while working together in a group. The collaborative carousel approach to learning is particularly successful with Key Stage One classes. The pupils encounter many different short tasks within one Science session where they can be involved in discussion, cutting/ sticking activities, role play, 'hands-on' tasks, active listening, sharing resources, working together, taking turns and carrying out investigations.

Teacher Notes

Although these lesson activities are presented in a carousel style approach, the teacher may decide to work through the tasks as whole class sessions, concentrating on one task at a time. The tasks can be managed by a classroom support assistant working with small groups outside the allocated Science lesson times if required.

Carousel Approach

All these lessons are presented in a carousel style approach. The class will be organised into small mixed ability groups of approximately five or six pupils for each task. Using timers, the pupils take turns to carry out each task, and then move on to the next activity. The timer you use depends on how long you have for your Science lesson. It could be anything from a 10 minute to a 20 minute timer.

The Benefits of Working Collaboratively

Collaborative working enables the children to:

- Co-operate in a group situation.
- Take turns.
- Share resources.
- Listen carefully to each other.
- Develop their thinking skills.
- Take on roles within the group – leader, scribe, reader etc.
- Work with other pupils of mixed ability.
- Work with pupils outside their 'friendship group'.
- Complete work within a given period of time.
- Carry out 'challenges' which they wouldn't normally be able to do.
- Become independent learners.

Material Properties

Name:

Date:

Take turns to examine each object and then write YES or NO in each box



| Objects | Smooth | Rough | Hard | Shiny | Transparent | Magnetic |
|---------------|--------|--------|--------|--------|-------------|----------|
| | YES/NO | YES/NO | YES/NO | YES/NO | YES/NO | YES/NO |
| Play Dough | | | | | | |
| Blu-tac | | | | | | |
| Elastic Band | | | | | | |
| Sponge | | | | | | |
| Rubber ball | | | | | | |
| Wooden Ruler | | | | | | |
| Lego Brick | | | | | | |
| Stone | | | | | | |
| Pencil | | | | | | |
| Scissors | | | | | | |
| Plastic Ruler | | | | | | |
| Paper Clip | | | | | | |

This object is rough and hard

This object is smooth and magnetic

Sorting Materials

Name:

Date:

Decide how you will sort the materials and draw them here.



Group A are all:

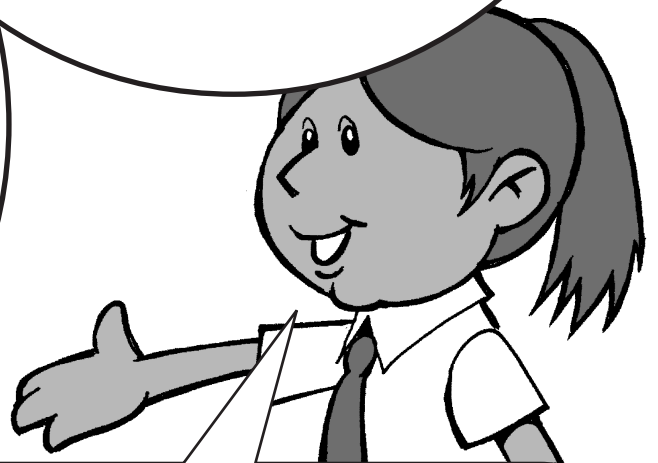
.....

Group B are all:

.....

Group C are all:

.....

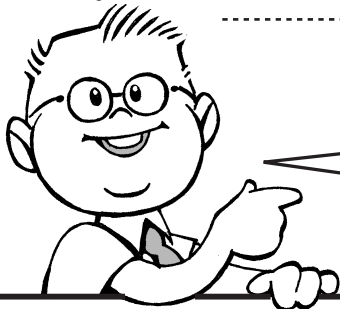


Don't forget to label each group to show how you have sorted them.

How Natural Materials Are Altered

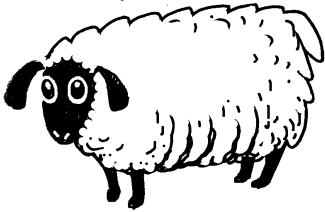
Name:

Date:

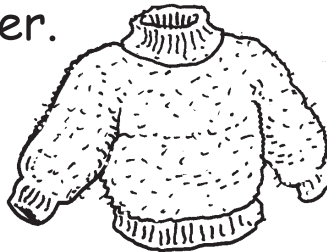


Some natural materials are altered before they are used. Draw and write your ideas below.

Wool from a sheep can



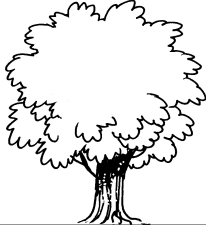
be made into a jumper.



What has altered?

.....
.....
.....

Wood from a tree can



be made into a

.....

What has altered?

.....
.....
.....

Stone from the ground can

be made into a

.....

What has altered?

.....
.....
.....

.....
..... can

be made into a

.....

What has altered?

.....
.....
.....