

# NEW GENERAL SCIENCE & TECHNOLOGY

for Primary Schools

**Primary Teacher's Guide 1**

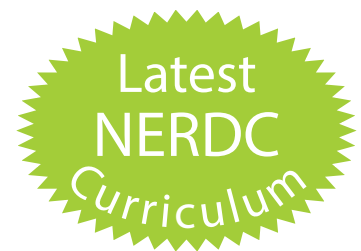


Latest  
NERDC  
Curriculum

T Dayo-Odukoya • J Duffett • B Gough • H Lewis • O Oladele-Ajose

# NEW GENERAL SCIENCE & TECHNOLOGY for Primary Schools

## Primary Teacher's Guide **1**



T Dayo-Odukoya • J Duffett • B Gough • H Lewis • O Oladele-Ajose

PEARSON

Pearson Education Limited

Edinburgh Gate

Harlow

Essex CM20 2JE

England and Associated Companies throughout the world

© Pearson Education Limited

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior permission of the publishers.

First published in 2015

ISBN 978-1-2921-1766-9

Printed by

It is illegal to photocopy any page of this book without the written permission of the copyright holder.

Every effort has been made to trace the copyright holders. In the event of unintentional omissions or errors, any information that would enable the publisher to make the proper arrangements will be appreciated.

# Contents

<b>How to use this course</b> .....	iv
<b>Curriculum Matching Chart</b> .....	xiv
<b>Theme 1: Basic science</b> .....	<b>1</b>
<b>Unit 1:</b> At school .....	1
<b>Unit 2:</b> At home .....	4
<b>Unit 3:</b> On the road .....	9
<b>Unit 4:</b> Living things .....	13
<b>Unit 5:</b> Non-living things .....	15
<b>Unit 6:</b> All about soil .....	18
<b>Unit 7:</b> Air around us .....	21
<b>Unit 8:</b> Water .....	25
<b>Unit 9:</b> Colours .....	28
<b>Assessment 1</b> .....	32
<b>Theme 2: Basic technology</b> .....	<b>33</b>
<b>Unit 10:</b> Identifying simple machines .....	33
<b>Unit 11:</b> Use simple machines safely .....	37
<b>Unit 12:</b> What is energy? .....	41
<b>Assessment 2</b> .....	44
<b>Theme 3: Physical and health education</b> .....	<b>45</b>
<b>Unit 13:</b> Moving your body .....	45
<b>Unit 14:</b> Playing games .....	48
<b>Unit 15:</b> Sports .....	51
<b>Unit 16:</b> Keeping clean .....	56
<b>Unit 17:</b> First Aid .....	60
<b>Assessment 3</b> .....	63
<b>Theme 4: Information technology</b> .....	<b>64</b>
<b>Unit 18:</b> Computers .....	64
<b>Unit 19:</b> Uses of computers .....	68
<b>Unit 20:</b> Common technology .....	72
<b>Assessment 4</b> .....	75
<b>Glossary</b> .....	77
<b>Index</b> .....	80

# How to use this course

The *New General Primary Science & Technology* series is an innovative and comprehensive Science and Technology course for Nigerian pupils from Primary 1 to Primary 6. The course has been planned to give pupils and teachers well-structured support in order to cover the curriculum in depth and make Science and Technology accessible to all pupils.

The work throughout the course is designed so that topics are introduced at an early stage and expanded in later years. In addition, the skills that pupils need are progressively introduced and expanded upon throughout the course.

## Components of the course

This course comprises a Teacher's Guide, a Pupil's Book and a Workbook.

The Pupil's Book is divided into units to cover all the curriculum topics. Besides discussing each of the topics, it provides activities and exercises, making the learning a meaningful and participatory process. Each Pupil's Book also contains easily accessible Teaching notes at the bottom of the page that assist you with teaching topics and highlighting particular aspects thereof for pupils' attention.

The Workbook provides further activities and exercises on each topic, for the pupils to work through, either on their own or as a class activity. The Pupil's Book and Workbook link in with and complement each other so that all the curriculum topics are covered in depth and the pupils get ample opportunity to learn the concepts in different ways. The Workbook includes a note regarding which key skills are taught per Worksheet, as well as a useful Teaching note that provides guidance to reinforcing key skills and content.

How the different parts of the course interlink is shown in the Teacher's Guide.

The Teacher's Guide provides the framework and structure for teaching this Science and Technology course. It sets out a programme of work for the year, divided into units. Each unit deals with a particular topic from the curriculum; each is divided into lessons, and suggestions for teaching are provided.

## The Pupil's Book

The Pupil's Book aims to provide you and pupils with as much content and assessment opportunities as possible to meet the curriculum requirements.

## Features of the Pupil's Book

The key features of the Pupil's Book are as follows:

### Table of contents

The Contents page of the Pupil's Book clearly sets out the units and their titles. The titles make clear the relationship between the unit contents and the relevant curriculum topics.

### Curriculum Matching Chart

The Curriculum Matching Chart at the beginning of the Pupil's Book provides a breakdown of how the units are organised. It should be noted that some of the units will probably be more time-consuming than others.

### How to use this book

The Pupil's Book further contains a 'How to use this book' section that explains the approach and key features.

The Pupil's Book covers the curriculum topics as follows:

### Themes and units

Each curriculum theme is clearly indicated in the Pupil's Book. Each theme is broken down into units that mirror the curriculum topics. The units contain a number of key features that support the acquisition of concepts and skills, and set clear objectives for pupils to assess themselves against.

## Key words

sandy  
clay

rough  
loam

The key words are highlighted in the text and explained in the glossary in the units in this Teacher's Guide. Take time to ensure that pupils understand these concepts.

The key word definitions of scientific concepts are the foundational building blocks that pupils in the Primary phase will use to build their scientific literacy in the long term. Therefore, this feature aims to ensure that pupils gain an accurate understanding of key concepts so that they can use the terms appropriately in a scientific context. Key words ensure that important and essential concepts are highlighted for pupils. They can also be used as a study tool. In Primary 1 and 2, we do not include the definition in the Pupil's Book. You will explain the concepts to pupils as needed. You can also refer to the glossary in this Teacher's Guide to do so.

### Content

The content clearly matches the curriculum content requirements. The content headings make it clear how and where particular aspects of the curriculum are addressed in the individual units.

## Activity 2: Colour collage

### You will need:

scissors, glue, plain paper, magazines, scrap paper, scraps of fabric.

### What to do

1. Choose something colourful you would like to make a picture of.
2. Think about the colours you will need. Tear bits of photographs from magazines, or use pieces of scrap paper and cut off small pieces of fabric.
3. Stick the coloured things onto a piece of plain paper to make your collage.
4. Leave your collage to dry and then show it to the class.

Activities perform two major functions: a) they consolidate content knowledge while giving pupils an opportunity to demonstrate this knowledge practically, and b) they progressively build pupils' knowledge of and skill in applying the scientific method.

Many of the activities in the Primary 1 Pupil's Book simply ask pupils to do something. Other activities introduce them to the scientific method gradually. In this way, *New General Science & Technology* progressively builds pupils' scientific process skills from Primary 1 to Primary 6. The structure of those activities follows the outline of the scientific method, but we only include the full method in the Junior Secondary phase. It is therefore essential that you use the activities in the way they are structured per level. At this level, we include the following aspects of the scientific method in the Pupil's Book activity:

- Question or statement
- Materials
- Method.

### Question

A question is sometimes posed at the start of the activity in order to reinforce for pupils that the aim of activities (and scientific experiments or investigations) is to answer a key question about a particular branch of science or technology. In certain instances, you may be guided in the Teaching note or Teacher's Guide to pose a hypothesis or encourage pupils to do so. They have not yet been introduced to the concept of a hypothesis. Use the word prediction when doing so and explain a) the meaning of a prediction and b) the value of predictions in scientific study.

### Materials

Materials are listed for easy reference under the subheading 'You will need' so that you and the pupils know what is needed in order to complete the experiment (where appropriate, alternative materials are referred to in the Teaching note or Teacher's Guide). In Primary 1–3 the materials are simply listed under a 'What you will need' heading. In Primary 4, we introduce vocabulary that pupils will use throughout their study of science and technology and hence refer to materials.

Explain to pupils the link between the ‘Materials’ and the ‘What you will need’ features across the levels.

### Method

The method is referred to in Primary 1–3 as ‘What to do’. Therefore make sure that pupils know that the ‘What to do’ is simply a list of steps that show them what they need to do in order to complete the activity (or experiment). Each step also refers to what material the pupils need in order to complete that step. Where relevant, link the method back to the question or statement posed at the outset of the activity in the activity heading so that pupils can see the link between method and a scientific question. Later on in their studies, pupils will need to understand that by changing materials and methods, they are essentially introducing different variables that will influence the results of their experiments or investigations. For now, though, it is sufficient that pupils understand the link between a chosen method and the question.

Although observations, results and conclusions are built into the activities, we do not yet make these explicit for pupils by including them in the activity subheadings or steps. You will, where appropriate, make these links for pupils by using familiar language such as ‘What did you see?’ or ‘What does this tell us about ...?’ and so on.

Help pupils to formulate conclusions by using the *if, then* construction when you summarise the results of the activity and provide a conclusion. For example, we can now see that *if* (for example, we do X or Y, or if we combine X and Y and heat the mixture, and so on), *then* the following happens ... . This serves to introduce pupils to scientific logic, an essential foundational skill that they will need to build upon and apply independently as they progress through the grades. Take time to ensure pupils understand that they can test their conclusion by checking the truth of the *then* statement by looking at the results. By Primary 6, pupils should be able to formulate their own conclusions independently and test the truth of them as explained above.

### Exercises

The exercises in the Pupil’s Book test content knowledge and give pupils an opportunity to consolidate their knowledge, and give you an opportunity to assess their understanding. In Primary 1, the exercises form part of the content text and are not separated as is the case with the activities. For example, in Primary 1 Unit 16 on page 57, we have the following exercise:

#### Neat and tidy hair

Look at the pictures to see what we use to keep our hair neat and tidy.

Point to and name the items in the picture.

**Teaching note:** Let the pupils touch, feel and identify the soil in different areas of the school compound. Encourage them to bring a container of soil from home. Let them feel and describe the soil they and their friends brought.

Each page has a teaching note that aims to support you in your teaching of the particular topic. The type of guidance contained in these notes varies according to the extent of the challenge the authors believe pupils will have in absorbing the content and/or performing the investigations.

### Theme Assessment

Each theme closes with an Assessment that assesses each of the topics contained in that theme. You can use this assessment as a practice opportunity or a formal testing opportunity.

### Approach of the Pupil’s Book

In approach, the Pupil’s Book progresses sequentially from the known to the unknown, inviting the pupils to observe their surroundings and draw comparisons with what they already know. Starting with the pupils’ immediate surroundings – the home and school environment – and then moving further afield, it points out objects and phenomena that the pupils are familiar with, by first naming them and then showing how they are connected to both the pupils themselves and other objects and phenomena in their surroundings.

In tone, the Pupil's Book is conversational, directly talking to and involving the pupils. The aim is to draw in the pupils by inviting them to:

- look at pictures and guess what they are
- explore, and be aware of, their surroundings
- compare items and find similarities and differences
- collect and draw objects from their surroundings
- show their collections/drawings to a friend
- discuss their findings
- play games
- perform experiments and activities.

The authors have used a language level that is appropriate to the pupils' language ability.

Furthermore, the Pupil's Book is illustrated in full colour. Some of the activities are illustrated in stepwise fashion, enabling the pupils to follow the instructions by looking at the pictures.

## The Workbook

### Features of the Workbook

The Workbook is an excellent companion to the Pupil's Book. It is structured as follows:

#### Table of contents

The Contents page of the Workbook clearly sets out the Worksheets that are contained in the Workbook. The relationship between the individual Worksheets and the topics in the curriculum and units in the Pupil's Book are clear from the titles of each Worksheet.

#### Curriculum Matching Chart

The CMC in the Workbook is a repeat of that included in the Pupil's Book and clearly shows the links to the curriculum and the course components

#### How to use this book

The Workbook contains a 'How to use this book' section that explains the approach and key features contained in the Worksheets.

#### Worksheets

Each Worksheet offers pupils an opportunity to apply the knowledge and skills they have acquired in the course of their studies.

The Workbook provides a few extra activities for the pupils to do for each topic. Some examples of the activities given are:

- questions
- true/false sentences
- finding the odd one out and other grouping activities
- drawing and sketching activities
- exercises asking pupils to circle certain items in a list or in a picture
- word searches
- sentences to be completed
- exercises in which pupils describe experiments they have performed
- labelling activities
- activities asking the pupils to make tables based on their learning.

These activities are meant as revision and expansion. Through the Workbook activities, the pupils get more practice in the material they have learnt.

Occasionally, the Workbook may feature a text with questions on a discussed or closely related topic. Throughout, the pupils are invited to recognise patterns and apply their knowledge in a fun way.

#### Key words

The key words provide the meanings of the key concepts and difficult words that pupils might need assistance with in order to complete the Worksheets.

#### Key words

**garden** – an area of land used for growing flowers and other plants

**hoe** – garden implement we use for weeding and turning soil

#### Teaching note

These provide useful tips to you (or parents) on how best to support pupils in their completion of the Worksheets, as well as provide links to the content where necessary.



**Note to the teacher:** Throughout this course, encourage the pupils to bring in pictures of the objects discussed to show to the rest of the class. See the introduction to this section regarding classroom displays and pupil contributions.

## The Teacher's Guide

### Features of the Teacher's Guide

The Teacher's Guide pulls all the different parts of this course – the Pupil's Book and Workbook – together, giving detailed suggestions for teaching the materials, as well as descriptions of extra activities and materials. It provides the framework and structure for teaching this course. The Teacher's Guide also provides some suggestions regarding classroom management and organisation.

### Units

Each unit in the Teacher's Guide covers a curriculum topic and the supporting content provided in the Pupil's Book and Workbook.

The units include the following features that will help to guide effective teaching and learning:

- Objectives (listing what this unit sets out to do and what the pupils should have achieved by the end of the unit)
- About this unit (giving a brief description of the topic)
- Suggested resources (listing the resources needed for the experiments and activities, and suggested resources for the teaching of the materials)
- Key words (providing the new words contained in the unit)
- Teaching this unit (suggesting ways of teaching the materials)
- Link to Workbook (showing where to slot in the Workbook activities)
- Answers (providing answers to the Pupil's Book exercises, activities, revision questions and theme assessments, as well as the Worksheets, where relevant).

An important feature of the Teacher's Guide is the lesson-by-lesson approach to teaching the unit, which is presented under the following headings:

- Lesson aims (briefly listing the main lesson aims and teaching objectives for each lesson)
- Starting off (suggesting a starting-off activity to provide a bridge between what the pupils know and what will be taught in this lesson)
- Lesson focus (describing activities and a teaching approach for the main part of this lesson).

Some of the lessons also include:

- Extension activities (to be used either as a class enrichment activity or as an extension activity for advanced pupils)
- Homework activities (for revision purposes, these may be optional; some homework activities are in preparation for the following lesson).

Occasionally, the book supplies some notes for the teacher (providing additional information about the content or method).

### How to use this Teacher's Guide and organise your timetable

This Teacher's Guide is organised to provide a guide for teaching the topics in the Pupil's Book. The curriculum is organised into themes and topics, and this course closely follows this organisation into subject areas. In some cases you may find that you want to change the order of the topics. You may also decide that certain topics are better taught over several teaching periods: the suggested order of teaching materials and division into lessons is to be used as a guideline only. It is up to you to teach the materials at a pace and in a manner that you are comfortable with and that you feel will best benefit your pupils.

The units in this Teacher's Guide include the suggested number of lessons to be spent on each topic. Schools differ in the number of lessons they allocate to Science and Technology teaching at this level, so depending on your situation, you may have more, or less, time than implied here.

If you feel that your pupils could benefit from an extra lesson on a topic before moving on to the next, do spend that extra time: the curriculum is arranged in such a way as to make the teaching of later topics dependent on knowledge of earlier ones. This means that the pupils should know and understand a topic

thoroughly before moving on to new material. The Workbook presents the material in a variety of ways, so that you can do revision for pupils who need it without boring those pupils who have already grasped the concepts. On the other hand, do not spend too much time on one topic and then find that there is not enough time to cover the curriculum.

Before you start teaching this Science and Technology course, study this Teacher's Guide, the Pupil's Book and the Workbook. Then plan your lessons. Write a clear teaching plan for yourself, making sure that all the topics are covered in the course of the year. As you proceed you will probably find that you want to make minor changes to your scheme, but make sure that you do not fall behind with your initial plan because one topic has proved more interesting and time-consuming than you thought it would. Refer to the Curriculum Matching Chart that gives a clear plan for the work to be covered over a year, and which will assist with your own planning.

If you wish to teach the topics in a different order from that suggested here and in the curriculum, do so, but always bear in mind that later topics require some knowledge of earlier ones.

For many lessons, you may need to collect objects to help the pupils. Planning ahead also gives you time to ask the pupils to bring various things to school for their lessons. You may want to organise a field trip or a special project, and these things take time, so plan well in advance.

You will sometimes find that this Teacher's Guide, as well as the Workbook go into greater depth than required by the curriculum, so check the curriculum for minimum requirements. It may also be useful to consult reference books and seek advice from colleagues who are also teaching Science and Technology.

The supplementary materials offered in this course aim to relate the learning to the pupils' everyday lives, making it meaningful while encouraging active observation in your pupils.

## Assessment

Each unit in the Pupil's Book contains exercises and activities that consolidate knowledge and provide opportunities for pupils to apply this knowledge.

Answers to all these types of assessments appear at the end of the corresponding section of the Teacher's Guide.

## Evaluating lessons

After each activity, evaluate how successfully it was carried out. Ask yourself the following questions:

- Were the pupils able to carry out the activity successfully?
- Did they encounter any problems setting up the activity or answering the relevant questions?
- How did you deal with the problems encountered?

At the end of each lesson, make notes about the pupils' learning. This is invaluable for future lessons. It provides a reminder of how well the lesson went and of any problems encountered or tasks that still need to be done. It also summarises the success of the pupils' learning and, by extension, of your teaching. Ask yourself questions such as:

- Was the lesson interesting and stimulating?
- Did the majority of the class respond as you expected them to?
- If not, are there any reasons you could identify as the cause of this response?

## Evaluating pupils' performance

You should keep a regular record of the pupils' performance, not only in class discussions and in group activities, but also in the assessment exercises. Keep this record in a record book or file, with a separate section for each pupil. Organise it so that you can see at a glance how each pupil is progressing.

Performance below expectations may be due to one or more of the following:

- Language problems: Determine whether more help is needed with English. Make sure new words are given in English and explained in the pupils' own language. Use flashcards as a teaching aid and encourage pupils to include

both languages in classroom displays on their Science and Technology topics.

- Poor attention span: This may be the result of several problems. Be aware of problems in the home, bullying at school, dependency over lack of progress and so on.
- Problems with the lesson (see the evaluation questions listed under ‘Evaluating lessons’).
- Other points to consider: Are there any signs of physical problems, such as poor eyesight, hearing problems, poor nutrition? Can these problems be dealt with by a health worker or in consultation with the parents? Often, parents may not be aware of poor eyesight or hearing problems because conditions at home are different from conditions at school.

### Performance of the individual pupil

Using the marks from the Assessments, the progress of individual pupils can be determined. As it is important for the individual needs of pupils to be met, it will be necessary for the teacher to evaluate the learning needs of each pupil. To do this you can use:

- oral questions
- quizzes (individual or team) and games
- short written assignments that are designed to show individual pupils’ grasp of the concepts (examples of topics for written assignments are: ‘Using simple machines’ and ‘Keeping clean’)
- individual project work based on topics from the curriculum, for example, growing seeds in the school garden, making models for display, keeping a scrapbook of work done over a term or a year.

Use the results from your formal assessment exercises to identify areas of weakness in individual and whole class knowledge, by drawing a table as follows:

Pupils	Q1	Q2	Q3	Q4	Q5
Aisha	1	1	1	0	0
Obi	1	0	1	0	0
Ben	1	1	0	1	0
Alike	1	1	1	0	0

Evaluation of the results will reveal that there are weaknesses in the areas of knowledge covered by questions 4 and 5 (Q4 and Q5). It will also enable identification of individual areas of weakness.

### Performance of the class

The results in the above table can also be used to identify areas of general weakness in the class as a whole. It is at this point that the teacher should consider how the lesson was taught, by asking him- or herself questions such as:

- Did I allow enough time for teaching this topic? Did the pupils have time to ask questions?
- Were the activities challenging enough for the more able pupils?
- Did I offer enough support to the less advanced pupils?
- Did I check, by asking questions, that the pupils understood my explanations?

### Record keeping

Keep records and notes on each pupil’s progress and refer to your records frequently. Make sure the pupils are rewarded for their efforts. This could be for attaining high marks, for improvement on previous marks, for demonstration of a positive attitude and hard work or for good behaviour. It is important to give frequent feedback, and especially to encourage and reward good work.

### Homework

The Teacher’s Guide suggests some homework activities, consisting mainly of fact-finding or collecting materials pertaining to the Science and Technology topics.

Homework at this level should be minimal and should not be set regularly; however, pupils may at times be asked to finish a task they were unable to complete at school. Naturally, setting homework will also afford parents and guardians the opportunity of assisting and encouraging their children.

It is up to you whether, and how, you want to assess the pupils’ homework formally. Usually, it is probably enough to go through the homework orally in class; and for pupils to check their own work. Do ask to see the homework, however, your

pupils need to be acknowledged for the effort they have put in, and given feedback on their work.

### **Classroom management**

To ensure that your lessons run smoothly, establish rules at the beginning of the school year. This will make your task much easier and it will also enhance learning. Pupils need to know what is expected of them. Once you have laid down the rules, you need to be consistent in enforcing them and giving feedback. A class that is run firmly can still be run in a friendly way. Firmness does not rule out kindness; on the contrary.

Make sure you are always well prepared for each lesson so that you are confident about teaching the materials. The authority of a teacher who is confident will be questioned far less easily than that of a teacher who is ill prepared or unsure of him- or herself.

Use simple strategies such as separating pupils who are constantly being disruptive to reduce problems in classroom management. The sooner you get to know your class and their abilities and likes, as well as the classroom dynamics, the better your ability to manage the class.

One of the main reasons why pupils disrupt the smooth running of a lesson is that they are bored. Lessons that are either too repetitive or progress too fast are often the cause of boredom. It is your job as teacher to pace your lessons appropriately for the pupils' level. This includes supporting those pupils who need extra support, without boring the class. It also includes giving the advanced pupils extension work to keep them interested. With regard to extension work, note that this should not be seen as extra work to be done on top of what everyone else is doing but as alternative, more challenging, work.

The main challenge for you is to keep your pupils motivated to participate. If you are interested in Science and Technology, share this interest with the class. Interest is infectious. For example, if you are excited by nature, half the challenge is won. Get the pupils excited about it too, by bringing in samples you have collected, pointing to interesting phenomena and telling stories that relate to the

topic under discussion. Invite the pupils to bring in samples and tell of interesting observations they have made. Start a classroom display and make your classroom an interesting place to be.

### **Group work**

The Teacher's Guide makes suggestions with regard to when to ask the pupils to perform an activity individually and when to get them to work in groups. These, again, are guidelines only and the decision of when to set group work rests with you. Some of the benefits of group work are that the pupils develop their social skills and learn how to function in a group, which means both participating actively and listening to other group members. We all have to learn to work and function within groups, and most jobs today require the ability to work as part of a team. The classroom is a good place to practise. Be prepared to supervise and advise, as well as to draw out some pupils who may be reticent to participate. Observe the pupils within their teams and record their progress. Pupils can learn much from each other when working in a well-functioning group. Once you know your pupils well, you may engineer the grouping of the pupils in such a way as to benefit all the team members.

On the other hand, pupils also need to learn to work on their own, so make sure you give plenty of opportunity for individual work as well.

With regard to group work, ensure that you have mixed-gender and mixed-ability groups at least some of the time. Try to avoid situations where the advanced pupils answer all the group's questions, or where certain tasks are done by boys only and other tasks by girls only. Encourage all members of the group to participate equally in all activities.

### **Organising projects and field trips**

Projects and field trips need to be organised well in advance. Often, extra resources are needed and special arrangements have to be made ahead of the time. For instance, if you go on a field trip with your class you will need to consult with the principal and get parental permission. For this, a letter needs to be written informing the pupils' parents of the intended trip and its purpose, and of any special arrangements and requirements for that day. Encourage parents

to participate in a supervisory role. Involving the pupils' parents in school work will ensure their support from home. They will show an interest in the pupils' work and thus continue the learning process at home, for example, through sharing the topics with the pupils and ensuring that homework tasks are done well and punctually.

## Using resources

### Displays

As Science and Technology are by nature highly practical subjects, there should be a lot of scope for models and artwork on display in the classroom. Encourage the pupils to add to any displays with their own artwork and items they collect. You can start a display at the beginning of a new topic: in Primary 1, for instance, Unit 9: Colours, is a good topic for a display.

Such displays can become part of the lesson, as well as a record of activities the pupils have done. A large scrapbook could eventually become a record of what the class has achieved over the school year. There are other methods of display as well: for example, progress of seeds growing can be noted on a chart, as can weather changes. The pupils may be asked to draw pictures (Primary 1, Unit 2 Pupil's Book page 9) or to do a collage on colour (Primary 1, Unit 9, Pupil's Book page 28). Display these on the classroom wall.

Pupils love to see their work set out, so show everyone's efforts rather than just the best work, which may be inhibiting for the less able pupils. Change displays frequently so that they don't become dusty, die or no longer have relevance to what you are currently doing.

The pupils like their parents to see their work, just as the parents like to see the progress made by their children. As a teacher, collect anything you feel would be relevant to your lessons. Try to make the displays part of your teaching. Other than the classroom, another place for displays would be the school entrance, where the public can see what the pupils are studying and the work they are producing. These displays would be more permanent and need only be changed every half term.

## Establishing a school garden

Gardening should be regarded as an important activity. The school gardening activity can be linked to Science generally, and a love for and knowledge of the environment, but is especially relevant to certain areas of the Science curriculum (for example, learning about the soil and learning about plants).

All plants grown in the classroom, and seeds from these plants, can be added to the garden. An interest in farming and vegetable gardening should be encouraged at an early age. Work in the garden should be seen as a treat, not a punishment, and will encourage an early interest in growing plants for food. Flowers are also a commercial crop, as well as an area of study, so don't just concentrate on growing vegetables – allow the pupils to grow pretty flowers too.

The school garden should be planned collectively by all teachers so that each class has its own small garden area within the larger school garden. Let the pupils choose their plants, but make sure they select ones that grow quickly and easily without needing special tools or horticultural techniques. Allow the pupils to eat and take home some of the crops they grow.

You may wish to organise a competition between the various classes' garden areas to encourage gardening activity. Other gardening-related learning activities may include asking pupils to sketch and label their plants or make a model of a farm, visiting other gardens in the area, and learning about gardening tools.

## The environment

Try to establish an attitude of caring for the environment in your pupils. You will be going on nature walks and expeditions to ponds and forests, farms, botanical gardens and zoos.

Emphasise that pupils should try not to damage the environment when collecting samples for the classroom. If they are collecting leaves, for example, they need only take one leaf, not the whole plant. Wild animals' homes, such as birds' nests, should not be disturbed; some animals will desert their young if they are interfered with. Even domestic

animals can become very aggressive if they fear for the safety of themselves and their young.

The safety of the pupils must also be considered and you should not allow them to touch dangerous animals, or plants that might cause skin irritations.

Under your supervision, the pupils can collect small animals such as insects and tadpoles for observation in the classroom. All living things should be replaced where they were found.

Pupils like to collect plants, leaves, flowers and fruits. However, if any of these are rare or on an endangered list they should merely be looked at, not picked. The same applies to plants that are either poisonous or cause skin irritations: Do not touch! Just look! Explain to your pupils that picking too many flowers will reduce the number of seeds scattered and consequently reduce that particular plant population. Also make sure that your pupils do not interfere with any farm crops.

The point is to encourage pupils to observe the environment with interest and relate their observations to their Science learning, and vice versa. Set a good example by pointing out items of interest, and by showing the pupils how to behave in nature, for example, by approaching animals with caution, by lowering one's voice when out in nature, by listening as well as looking, by not taking flowers unnecessarily or destroying a plant or animal, by staying on the path and by not littering. Show the pupils that there is a lot to learn from observing the little creatures, for example, ants or butterflies, and be prepared to share observations and stories about nature with the class whenever the opportunity arises.

### **Health and safety**

By nature, many Science and Technology lessons are practical lessons. You, as the teacher, should be aware of the pupils' health and safety, and possible health and safety risks, at all times. This includes safety on field trips, which is ensured by laying down rules regarding the safe handling of samples, appropriate behaviour around animals, and traffic safety, and by enrolling supervisory help where needed.

Health and safety issues also include handling of equipment during experiments, activities and artwork. For instance, staplers should be handled with caution. If you do not have rounded, child-safe scissors, handling of them should take place under supervision. It is important to set down rules as to the safe handling of equipment.

Show the pupils how to use scissors appropriately and how to pass them safely to a classmate. Remind them not to walk or run with open scissors and teach them how to use gardening tools safely.

The more orderly your classroom, the easier it will be to prevent accidents. Giving out only one or two pairs of scissors per team and instructing pupils to await their chance to use them may increase the safety of your classroom. Should you have any doubts as to the safety of an experiment, for example, involving glass bottles or hammers and nails, perform the experiment with the class gathered round, and invite individual pupils to come forward and help. Involve the rest of the class by asking them to say why you are performing the steps of the experiment, and guess what the next step will be, and by asking about reactions, outcomes and observations.

Ensure that your pupils always follow the rules of hygiene, washing their hands with soap and under flowing water, especially after going to the toilet, handling samples and animals and gardening, and before eating. Set a good example for the pupils to follow.

With regard to handling samples, make sure they are safe to handle. Ensure that the pupils follow the rule of never eating or drinking their experiments unless specifically asked to do so.

# Curriculum Matching Chart

Theme 1: Basic science				
Sub-theme	Topic	Pupil's Book	Workbook	Pages
Learning about our environment	Exploring your environment	Unit 1: At school	Worksheet 1: In the classroom Worksheet 2: In the school compound	Pupil's Book pp. 2–6 Workbook pp. 2–3
		Unit 2: At home	Worksheet 3: Inside my house Worksheet 4: Outside my house	Pupil's Book pp. 7–9 Workbook pp. 4–5
	Roads and road safety	Unit 3: On the road	Worksheet 5: Crossing the road safely Worksheet 6: Walking along the road safely	Pupil's Book pp. 10–11 Workbook pp. 6–7
Living and non-living things	Identifying living things	Unit 4: Living things	Worksheet 7: Myself Worksheet 8: Living things I see	Pupil's Book pp. 12–14 Workbook pp. 8–9
	Identifying non-living things	Unit 5: Non-living things	Worksheet 9: Non-living things in the classroom Worksheet 10: Non-living things at school	Pupil's Book pp. 15–16 Workbook pp. 10–11
Identifying other parts of our surroundings	Identifying different types of soil	Unit 6: All about soil	Worksheet 11: Types of soil Worksheet 12: What needs soil?	Pupil's Book pp. 17–19 Workbook pp. 12–13
	Learning about air	Unit 7: Air around us	Worksheet 13: What holds air?	Pupil's Book pp. 20–22 Workbook p. 14
	Sources and uses of water	Unit 8: Water	Worksheet 14: Water in the home Worksheet 15: Water outside	Pupil's Book pp. 23–25 Workbook pp. 15–16
	Colour identification	Unit 9: Colours	Worksheet 16: Name the colours Worksheet 17: Colour the road markings Worksheet 18: Colour the traffic lights	Pupil's Book pp. 26–29 Workbook pp. 17–19
<b>Assessment 1</b>				Pupil's Book pp. 30
Theme 2: Basic technology				
Understanding basic technology	Simple machines	Unit 10: Identifying simple machines	Worksheet 19: Machines in the classroom and at home Worksheet 20: Machines in the school compound	Pupil's Book pp. 31–34 Workbook pp. 20–21
		Unit 11: Use simple machines safely	Worksheet 21: Safe or unsafe? Worksheet 22: Who is being careful?	Pupil's Book pp. 35–38 Workbook pp. 22–23

		Unit 12: What is energy?	Worksheet 23: What do you need energy for? Worksheet 24: What uses energy?	Pupil's Book pp. 39–42 Workbook pp. 24–25
<b>Assessment 2</b>				Pupil's Book pp. 43–44
<b>Theme 3: Physical and health education</b>				
Sports and games	Moving our body parts	Unit 13: Moving your body	Worksheet 25: Movement skills Worksheet 26: Play safely	Pupil's Book pp. 45–47 Workbook pp. 26–27
Sports and games	Playing local games	Unit 14: Playing games	Worksheet 27: Local games Worksheet 28: Kick and stop the ball safely	Pupil's Book pp. 48–50 Workbook pp. 28–29
	Athletics and swimming	Unit 15: Sports	Worksheet 29: High jump Worksheet 30: Swim safely	Pupil's Book pp. 51–54 Workbook pp. 30–31
Health education	Health and hygiene	Unit 16: Keeping clean	Worksheet 31: Washing hands Worksheet 32: Healthy teeth and hair Worksheet 33: Caring for clothes	Pupil's Book pp. 55–59 Workbook pp. 32–34
		Unit 17: First Aid	Worksheet 34: First Aid means ... Worksheet 35: What goes in the First Aid box? Worksheet 36: When must we do First Aid?	Pupil's Book pp. 60–62 Workbook pp. 35–37
<b>Assessment 3</b>				Pupil's Book pp. 63–64
<b>Theme 4: Information technology</b>				
Basic computer operations	Parts of a computer	Unit 18: Computers	Worksheet 37: TVs and computers Worksheet 38: Name the computer parts	Pupil's Book pp. 65–66 Workbook pp. 38–39
		Unit 19: Uses of computers	Worksheet 39: Name the uses of computers	Pupil's Book pp. 67–68
Basic concepts of IT	Common IT devices	Unit 20: Common technology	Worksheet 40: Match the name of the devices with the pictures Worksheet 41: Uses of devices	Workbook p. 40 Pupil's Book pp. 69–71 Workbook pp. 41–42
<b>Assessment 4</b>				Pupil's Book pp. 72–74





## Objectives

By the end of this unit, the pupils will be able to:

- observe and identify things in and around the classroom.

## About this unit

Section 1 of the Science syllabus for Primary 1 is the pupils' introduction to Science. The section's topic is 'Learning about our environment' and the chief aim of the section is to raise the pupils' awareness of their environment and the things in it.

The unit is a study of the pupils' learning environment, the classroom and the school. The pupils will look at their classroom, as well as the school as a whole, and the things in it.

## Suggested resources

*Lesson 1:* coloured pencils; sketchbooks or A4 paper

### Note to the teacher

Some key words can be used as vocabulary 'helping words' for discussion and writing sentences.

### Key words

- noticeboard** – board on which we pin notices, current information and reminders
- chalkboard** – board we write information on for pupils to read
- chalk** – a small stick of soft white or coloured rock, used for writing or drawing
- guess** – to say or decide that something is true or not true, when you cannot be certain that you are right
- flag** – a piece of cloth with a picture or pattern on it that is used as a symbol or signal, usually put on the top of a long pole
- garden** – an area of land used for growing flowers and other plants
- hoe** – garden implement we use for weeding and turning soil

### Key word

**interesting** – something that is unusual or exciting

## Additional vocabulary

classroom, pencils, toilets, water tank, flagpole

## Teaching this unit

Units 1–4 lend themselves to a great amount of artwork. Throughout the section, and indeed throughout this Science course, pupils should be encouraged to collect and bring in pictures and items relating to the topic work (as long as agreed safety rules are adhered to: no dangerous objects are to be brought in); and you can use their contributions in a classroom display on the topic.

Apart from links to Art, the topic work provides links to other subjects across the curriculum, such as Maths, Geography, Literacy: in Units 1–4, it is suggested that they draw a bar graph, do a map of the school and introduce a fable. It is important for the pupils to realise that their Science topics are linked to all other subject areas, and to make associations between as many of these areas of learning as possible. It is equally important for the pupils to realise that this learning is applicable to their everyday lives and, therefore, to draw as many examples as possible from their surroundings and their everyday lives.

## Link to Workbook

*Lesson 1:* Workbook page 2, Worksheet 1

*Lesson 3:* Workbook page 3, Worksheet 2

### Lesson 1 *(Pupil's Book pages 2–3, Workbook page 2)*

## Lesson aims

Pupils will:

- explore objects in their classroom
- name objects in the school

- play a game
- draw a picture.

### Starting off

Ask the pupils to look at the picture of a classroom on page 2 in the Pupil's Book. Ask: *What is this a picture of? Is the classroom in the picture like our classroom? What is different? How many pupils do you see in the picture? Is the class bigger or smaller than ours?*

Then ask: *What else do you see in the picture?* Ask for names of objects in the picture, for example, a board, a computer, pupils' school bags, calculator, desks. Write the words on the board. The list will include objects the pupils already know the names of but it will also introduce new vocabulary.

### Lesson focus

Ask whether there is anything in the classroom you are in that is not in the picture. Name as many objects as possible in the classroom environment. Also ask questions such as: *What do we use the chalk for? Where else would we use a pinboard?*

Now ask the pupils to look at Asari and Isaac's game on page 3 in the Pupil's Book. Ask the pupils to play the game in pairs.

After a few minutes, call the class together. Ask the pupils to make a picture called 'Me in my classroom'. The picture could include, besides the pupil, the pupil's best friend. Ask the pupils to also draw some of the objects you have been discussing, and point to the list on the board.

While they work, walk around the classroom and give feedback to individual pupils on their work.

Pupils then complete Worksheet 1 on page 2 in their Workbook. They compare their work with a partner.

### Extension

Pupils, in their notebooks, draw four or more items that are and are not found in the classroom. They swap these with a partner to identify which are found in the classroom, and which are not found in the classroom by placing a tick or cross next to the drawings.

## Lesson 2 *(Pupil's Book page 3)*

### Lesson aims

Pupils will:

- explore their school building
- make a map of their school
- talk about the different parts of their school environment.

### Starting off

Ask general questions about the school, such as: *Does anyone know how many classrooms there are in the school? Is there a hall? An office? Where is the storage place where things like brooms, rakes, and extra classroom equipment like extra chairs and desks, dustbins, chalk and boards, and books can be stored?*

### Lesson focus

Ask: *When you have walked through the school gate, which way do you walk to get to your classroom?*

Now ask the pupils to work on their own. They are to make a sketch of the walk from the school entrance to their classroom. (If this is too easy or too complicated, you might wish to ask them to make a map of the walk from, for example, the reception area to the hall instead.)

Now get the class to line up neatly. With the class, walk to the school entrance (or reception area, etc.) and then stop.

Say: *So now we will walk back to our classroom. We will turn down the corridor. We will pass three doors on the left, which go to classrooms X, Y and Z. How many doors will we pass on the right? (for example, two: to the hall and to the staffroom).*

With the class, retrace the steps to your classroom and let the pupils tell you what comes next, for example: There are steps up to Primary 2 and Primary 1. Primary 2 is on the right and Primary 1 is on the left, etc.

Back in the classroom, ask the pupils to sit down and check the sketches they made before the walk. Did they get all the details right? Ask them to redraw their sketches and put in the details they got wrong or forgot about the first time round.

Ask them to tell their neighbours how their first sketch compares with their second sketch.

Use the rest of the lesson to talk about the school, for example: *What happens in the hall? When/how often do we have assembly? What is the principal's name? Do you know who teaches Primary 2?*, etc. The point is to familiarise the pupils with their school environment.

### **Lesson 3** (Pupil's Book pages 3–6, Workbook page 3)

#### **Lesson aims**

Pupils will:

- look at a picture of a school compound and compare it with their school compound
- list and name items in the school compound
- explore their school compound
- make a picture of their school compound from memory.

#### **Starting off**

Start off this lesson by asking the class to look at the picture on page 3 in the Pupil's Book. Ask them to look at the picture of the school compound and say in what way it is similar to, or different from, their school compound.

#### **Lesson focus**

Ask the pupils to look at the things in the compound and talk about them. Now ask them to point to the listed items in the picture, for example, the tree, path, water tank, etc. Ask: *Does our school have a water tank? Where is our flag?* etc.

Tell the pupils that the class will be taking a walk around the school compound to find those things.

Before taking the class to the school compound, read through Activity 1 on pages 5 and 6 in the Pupil's Book. Explain to the pupils that they will be doing Questions 2, 3, 4, and 5 while they are walking around the compound. They will complete the rest of Activity 1 when they return to the classroom.

With the pupils, walk around the school compound and stop to point out the listed items and other interesting features, such as the flagpole, a goalpost, the fence. Name the things and talk about them. Ask the pupils to try to remember where things are in the school grounds.

When you return to the classroom, ask the pupils to draw a picture of the school grounds from memory.

Then ask questions such as: *Was the flagpole outside the principal's office or in front of the hall? How many trees are there in the school grounds? What does it say on the board with the school's name on it?*

Finally, ask the pupils to look at the pictures, on page 4, of six objects that can be found in a school compound. Ask the pupils to write the numbers 1–6 in their notebooks and the correct name of the corresponding thing next to each number. With the class, go through the answers: **1.** bell; **2.** broom; **3.** bucket; **4.** hoe; **5.** bin; **6.** football.

Pupils, on their own, then complete Worksheet 2 on page 3 of their Workbook. Explain the instructions, and remind them of the items they saw in their own school compound when they walked around the school with you.

## Objectives

By the end of this unit, the pupils will be able to:

- talk about different homes
- name the rooms in a house
- visualise and draw their own home
- name and identify objects in and around the home
- categorise different domestic objects according to use and area where found
- draw different domestic objects from their home and yard.

## About this unit

From their learning environment, the study of the pupils' environment continues by taking a closer look at their home environment. The pupils get to talk about their own homes and examine the different parts that make up this environment. As an extension, they also take a brief look at other types of homes.

## Suggested resources

*Lesson 1:* doll's house (optional); cross-sections of houses; floor plans; pictures of different houses, including the yard, (optional); pictures of different rooms

*Lesson 2:* more pictures of rooms

*Lesson 3:* pictures of items inside rooms; household objects, for example, a fork, can opener, hair clip

*Lesson 4:* flashcards; materials for a doll's house: one shoebox per child, corrugated cardboard, paper, coloured paper and/or gift wrap, scissors, glue, paint and paint brushes, bits of cloth for curtaining, carpeting, etc. (optional); small dolls or animals (optional)

## Additional vocabulary

surroundings, cross-section, floor plan, bedroom, kitchen, shampoo, can opener, other items found in the home

## Teaching this unit

As an introduction to this unit, you may want to talk about different types of homes, as suggested below for Lesson 1. This Teacher's Guide also includes games about the home environment, and suggests building a doll's house.

## Link to Workbook

*Lesson 1:* Workbook page 5, Worksheet 4

*Lesson 4:* Workbook page 4, Worksheet 3

## Lesson 1 *(Pupil's Book pages 7 and 9, Workbook page 5)*

### Lesson aims

Pupils will:

- talk about, and look at pictures of, different homes
- name the rooms in a house
- visualise and draw their home.

### Starting off

Tell the class that in the last few lessons they have been talking about their classroom, and exploring it and the school grounds, as well as different objects found in different parts of their school. Today, they will be exploring their surroundings at home.

Explain that surroundings are the places around them, as well as the things in those places. So while the pupils are at school, their surroundings are the school buildings and school yard, and their classroom and the things in the classroom. While they are at home, their surroundings are their bedrooms and the rest of the home, as well as the garden or yard (if there is one) around the home. They will be studying these surroundings and the things that are to be found there.

### Lesson focus

Ask pupils to describe the area around their house.  
*Do they have a yard or garden? Do they have animals? Do they have fruit trees or a vegetable garden?*

Discuss the house and items pictured in the yard on page 7 in the Pupil's Book.

Pupils, in pairs, complete Activity 1 on page 9. They discuss Dupe's yard and compare it with the items in their own yards.

Pupils then complete Worksheet 4 on page 5 in their Workbook.

Ask: *What about inside a house?*

Ask pupils to describe the area inside their house.

If you have brought in a doll's house, a picture of a doll's house, or a cross-section of a house, show it to the class. It will trigger the pupils' imaginations, and prompt discussion.

Ask leading questions. Say: *Here is the front door. Where does it lead to? Or, Look, there are stairs. What rooms will be upstairs?*

Ask the pupils to give you the names of different types of rooms and what each one is for. Write key words on the board, for example, lounge, kitchen, bedroom, bathroom, toilet.

If you have brought in pictures of different rooms, show them to the pupils now.

Ask: *What room is this? What tells you this is a kitchen?* etc. The pupils will point to different items, such as a stove, a pan, or a ladle, which give them a clue as to what room is depicted in the picture.

Now ask the pupils to think of their own homes. Ask them how many rooms there are in their home, and how many beds. Ask how many windows there are.

### **Extension**

Show the pupils the pictures of different homes you have collected. Pin them up on the wall or pinboard. These might include pictures of a single-room mud hut; a family home in a town or city; a flat in an apartment building; a castle; a barge that has been turned into a floating home; and an igloo.

With the class, brainstorm the concept of 'home' and talk about the differences between the different homes and surroundings like gardens or yards or in the pictures.

Lead the class to the conclusion that different people in the world live in different types of homes to suit not only their way of life, but also the climate, and the building materials and type of housing available to them, as well as how much money and space they have.

One of the reasons why housing can be so different is because people's lives are so different. Give examples and ask the pupils to tell you what kind of lives the people living in the homes in the pictures you have shown are likely to lead. Ask: *What do they do for a living?* (Some people live where they work. Others go far away to work.) *How big are their families?* (Some people, especially people leading modern lives and living in large cities, live alone or in small family units. Others, especially people living a more traditional life, grow up in big families that include grandparents and distant cousins.) *Is it hot or cold where they live?* (This will affect the building style.)

Give examples. For instance, a nomad (someone who moves from place to place to hunt or gather food, or to find pasture for his animals) will have a different home from a farmer with a small patch of land. An Inuit living in a very cold climate will have different housing from a family in Nigeria. A city dweller living in a small flat will have a different type of housing from a country person with a large yard.

At this point, you might wish to tell the pupils Aesop's fable of *The Country Mouse and the City Mouse*, which illustrates some of the differences in the living style and expectations of a country-dwelling versus a town-dwelling person. The story is available in illustrated form in a number of children's books.

### **Homework**

For homework, ask the pupils to draw a sketch of their home. This may be in the form of either a cross-section or a rough floor plan of the house. Show them examples of cross-sections and floor plans to make sure the pupils understand what they are to do.

Encourage the pupils to add in some details once they have done their rough sketch.

Drawing a sketch of a house is a difficult task for this age group; you may expect very varied results. However, it can be a fun activity and at the same time, it will raise the pupils' awareness of their surroundings.

## Lesson 2 *(Pupil's Book pages 8–9)*

### Lesson aims

Pupils will:

- name and identify objects in the home
- sort domestic objects into categories according to use and room where found.

### Starting off

Ask the pupils to work in pairs. They are to show each other the sketches of their homes and talk about them. Ask them to talk about drawing the sketch and what they found easy or difficult about the task. Then they are to explain to their partner how many rooms they have in their home, as well as what each room is for, how many people sleep in the bedroom(s), how many doors and windows there are, and so on.

While they work, walk around the classroom and listen in to conversations. You might find it useful to write the names of the different types of rooms on the board again.

Also look at the sketches the pupils have made and give feedback in the form of questions, suggestions and praise.

After a few minutes, call the class together. You might wish to ask individual pupils to hold up and show the rest of the class their homework, especially if they have put a great amount of detail and effort into their work. Ask them to tell the rest of the class about the different rooms in their home.

### Lesson focus

Ask the pupils to turn to page 8 in the Pupil's Book. They are to name the things in the pictures: a sofa or couch, a wardrobe, a stove, a bath, a bed, and so on. Now ask the class to say what each of these things is for: for sitting on, cooking on, etc.

Next, ask the class in which room they will find each thing: the bathroom, lounge, and so on.

Ask the pupils to work on their own for this next activity: they are to look at the sketch of their home and decide on one of the rooms in it. Ask them to draw some of the things they have in that room.

Now ask them to turn to their former partner (from the Starting off activity), show them their drawings and complete Activity 2 on page 9.

The partner is to name each of the things they have drawn and then guess which room they have chosen.

Show some of the pictures of interiors of rooms you have brought to class. Point to objects in the pictures and ask the pupils to name them. Write new words on the board. This will help build the pupils' vocabulary, and will prepare them for the next two lessons.

Pupils complete the lesson by doing Activity 3 in their notebooks. They describe their pictures to the class.

### Extension

If you wish, you can ask the pupils to put up their hands if their home has one bedroom, two bedrooms, three, etc. Count hands and present the information in a bar graph drawn on the board. This will tie in with the pupils' Maths learning.

## Lesson 3

### Lesson aims

Pupils will:

- categorise different domestic objects according to their use and the room where they are found
- draw different domestic objects from their home.

### Starting off

Begin the lesson by asking questions such as: *What do I use when I want to turn on the light?* (the light switch)

*What do you use to open a door?* (a door knob or door handle) *What do we open tins with?* (a tin or can opener) and so on.

Also ask: *Where will I find a light bulb? Which room do we brush our teeth in?* etc.

## Lesson focus

With each item named, show a picture of the item. Better still, if you have brought some things like a can opener, whisk, mug, or hairbrush to school, show these to the pupils.

A pupil (Pupil A) in the group will say, 'Can you guess what I'm thinking of?' His or her team mates will ask questions to find out the object. They need to phrase their question in such a way as to elicit a 'yes' or 'no' response: in other words, Pupil A can only answer either 'yes' or 'no'. A sample question may be, 'Is it used in the kitchen?' or 'Do you use it to clean with?'

By asking a number of questions, the pupils narrow the possibilities to the category of object, and finally down to the object itself. For example, if the answer to "Is it used in the kitchen?" was 'yes', then the pupils should know that the object couldn't be a bottle of shampoo. The pupil who guesses correctly is the next pupil in the team to say, 'Can you guess what I'm thinking of?'

To introduce the game to the class, play it once with the whole class. Take the role of Pupil A above and get the class to ask you yes/no questions.

## Homework

Tell the class they will be working on a project in Lesson 4. If possible, they are to bring a shoebox and some corrugated board to school.

### Note to the teacher

Throughout this course, encourage the pupils to bring in pictures of the objects discussed to show to the rest of the class. See the introduction to this section regarding classroom displays and pupil contributions.

## Lesson 4 *(Workbook page 4)*

### Lesson aims

Pupils will:

- play a game about the home environment
- build a shoebox house.

## Starting off

Get the class to sit in a circle on the floor, and you, also, sit on the floor. Make sure everyone in the class can see you and the other pupils in the class.

Play a game. Call it 'Can you guess what I'm thinking of?'

First tell the class you will be playing a game. Show the class a flashcard of, for example, a bathroom. This can be either the word 'bathroom' or a picture of a bathroom. Going around the circle, the pupils need to take turns saying the first bathroom-related object that comes into their head, for example, plug, mirror, toothbrush holder. There are to be no repeats. The point of the game is to think of a word quickly and shoot out answers. This is a very good way to learn and consolidate vocabulary.

At some point, you will switch to another flashcard, for example, of a kitchen, and the next round starts.

## Lesson focus

Ask the pupils to work on their own to do Activities 1 and 2 in Worksheet 3 on page 4 of the Workbook. Afterwards, go through the answers with the class. Ask the pupils to exchange books with their neighbour and mark each other's work.

Now ask them to do Activity 3 on page 4 of the Workbook. Let them work in pairs. They are to show their pictures to their partners and name the things their partners have drawn.

Spend the remainder of the lesson on building a shoebox house. The pupils will probably not be able to finish their shoebox houses during Lesson 4. If you are prepared to dedicate a few minutes at the end of the next few lessons to this project, the pupils can finish their houses at school. If not, they can take their shoeboxes home and finish them there. The time they get for this project will also determine whether they can combine several boxes into multi-storeyed houses (see House B, below), or whether each pupil builds a separate unit (House A).

For the houses, you will need:

- one shoebox per child (for House B, boxes should preferably be of the same or similar size)
- corrugated cardboard



- paper, coloured paper and/or gift wrap
- scissors
- glue
- paint and paint brushes
- bits of cloth for curtaining, carpeting, etc. (optional)
- small dolls or animals (optional).

#### **For House A:**

Get each pupil to make their own house. Again, if possible, show an example of a house you have made. House A will be a miniature house and may consist of one or several rooms. Partitions can be made with board.

The idea is the same as for House B, except House A is a unit on its own. Since it does not involve stacking several shoeboxes together, you can give the pupils the option of leaving the house open at the top and looking down into the room or house, rather than cutting away a side.

Explain what you want the pupils to do, ideally by showing a shoebox house you have made ahead of time.

Each shoebox is a house or a room in a house. The corrugated cardboard can be used for further partitioning and (House B) for stairs.

#### **For House B:**

Put the pupils into groups of four or five. Ask them to cut away one of the long sides of their shoebox. This will be the open 'front' of the house, which will allow people to look into the house as a cross-section.

Ask the teams to decide which member of the team is to build which room. One will build a kitchen, another will build a bedroom and so on. After they have decided on the layout of their rooms, the pupils can cut away squares for windows and put in wallpaper, carpeting, curtains, and so on. If there is time, some simple 'furniture' can be built out of paper or board, and glued in. (Furniture can alternatively be painted on the walls.)

When all the team members have finished their rooms, help them to stack and glue the boxes together, two at the bottom, two for the first floor and (if there are five pupils to a group) one upstairs as an 'attic room'. Extra board can be used to make a roof and build stairs between the storeys.

Finally, get the pupils to paint their house. If you have some small dolls, teddy bears or other stuffed animals that fit into the house, the pupils can use their houses for play and role play.

### Objectives

By the end of this unit, pupils will be able to:

- identify types of roads around the school
- identify types of roads outside the school
- demonstrate crossing the road safely
- demonstrate walking along the road safely.

### About this unit

In this unit, pupils will learn to be aware of the roads in and around their environment. In the first lesson, they will identify roads near their school and roads in other areas nearby.

They will then learn the rules necessary for crossing the roads near their school, and learn how to cross roads with pedestrian crossing markings and at traffic lights.

In the third lesson, they will learn how to walk along a variety of roads safely. Pupils will have walked along the roads in their home and school environment but may not know how to do this safely. They may not have walked along roads that are not in their immediate environment, and in this unit, they will learn how to safely walk along roads found in rural areas, in villages and in towns and cities. In Lesson 4, pupils will have an opportunity to practically walk along and cross a road near the school.

### Suggested resources

*Lesson 1:* pictures of different types of roads, such as highways, busy city streets and rural roads, if possible

*Lesson 2:* stones for marking out a 'road' in the school compound

*Lesson 4:* colleagues and parents to assist you when you take the pupils on the road

### Key word

**tarred road** – road that is covered with a hard, black tar to make it smooth and strong

### Additional vocabulary

rural road, highway, pedestrians

### Teaching this unit

Your lessons will differ, depending on your local environment. Schools in busy towns and cities will be near roads that have pedestrian crossings and traffic lights with pedestrian markings. The roads may have road markings and well-defined pavements. There may be dangerous highways nearby where crossing the road is extremely dangerous. Schools in villages and rural areas may be near roads that have no, or very few markings, and may not have pedestrian crossings or traffic lights. These roads may have poorly defined or no pavements. There may be animals in or alongside the road, blocking pedestrians' views of oncoming traffic.

Be aware of the danger to pedestrians in the school's environment. Plan your lessons where the pupils walk outside the school for a time when the roads are quietest. Ensure that you carry out these activities with a few colleagues or parents' assistance. Ensure that they, too, know the pedestrian rules of the road.

Encourage pupils who have lived in areas different to the school environment to tell the class about the roads in those areas and to describe the dangers and how to avoid them.

If possible, invite an official from the traffic department to speak to the pupils about road safety.

### Link to Workbook

*Lesson 2:* Workbook page 6, Worksheet 5

*Lesson 3:* Workbook page 7, Worksheet 6

## Lesson 1 *(Pupil's Book pages 10–11)*

### Lesson aims

Pupils will:

- identify the different types of roads in their school and home areas
- identify roads in other areas.

### Starting off

Ask pupils to tell you how they get to school and to describe the roads they use to get to school.

Talk about the different types of roads that they describe. Add extra examples that they have not mentioned, such as rural roads, tarred roads, busy roads, quiet roads, highways, etc.

### Lesson focus

Draw a few different types of roads on the board and describe the roads as you draw. For example: This is a highway – highways are roads that connect towns and cities. Trucks, buses and cars travel fast on highways. Pedestrians should cross highways over bridges; this is a rural road – rural roads usually have no pavement for pedestrians to walk along. They usually don't have pedestrian crossings or pedestrian traffic lights. There may be animals such as cattle and goats grazing along the side of rural roads. Pedestrians must walk off the road, and stand back and look carefully before they cross a rural road.

Pupils, in their notebooks, draw a picture of the road outside their home and the road at their school. They describe the roads to a partner.

## Lesson 2 *(Pupil's Book pages 10–11, Workbook page 6)*

### Lesson aim

Pupils will:

- demonstrate crossing the road using a marked-out 'road' in the school compound.

### Starting off

Before starting this lesson, mark out a 'road' in the school compound with stones.

Explain the term 'pedestrians' so that pupils understand that you are describing the people who walk along and across roads.

Explain that some roads have pedestrian crossings in places where people cross the road regularly. Explain too that some roads have traffic lights with pedestrian crossing signs. Draw a picture on the board of a pedestrian crossing and traffic lights with the pedestrian light shining red and green. Discuss the purpose of the pedestrian crossing and pedestrian traffic light signs. Explain that pedestrians must always cross at such places if they are available.

Explain that traffic must stop when people cross the road at a pedestrian crossing and at a green pedestrian traffic light. Explain too, that traffic might not stop and so they must always only cross a road at such crossings once the traffic has stopped for them.

Talk about where pedestrians must cross roads that do not have pedestrian crossings or traffic lights. Explain that pupils must not cross at a crossroads but must walk away from the crossroads to an area on the straight section of the road where they can see traffic easily, and drivers can easily see them.

Explain that before they cross the road they must stop at the side of the road, then look and listen for cars and trucks. They must also look for bicycles and motorbikes. They look to the right first, then to the left, then to the right again. If there is no traffic they can cross the road. They must walk quickly but not run across the road, and keep looking out for traffic.

Remind pupils that they must cross the road with an adult.

Teach the pupils the rhyme:

*Stop, look and listen  
Before you cross the road  
Look right then left  
Then right again  
And cross quickly if it's clear.*

### Lesson focus

Discuss the example of pedestrians crossing the road on page 10 in the Pupil's Book. Talk about

how the pedestrians have waited for the traffic to stop before they started crossing the road. Point out that they cross at a pedestrian crossing.

Practise looking right, then left, then right again with the class.

Pupils, in groups of four or five, complete Activity 1 on page 11.

For Activity 2, take the class outside into the school compound to the 'road' you marked out with stones. In groups of four or five, pupils practise looking right, then left, then right again before they cross the 'road'.

Let some pupils act as traffic while others practise crossing the 'road'.

When back in class, pupils complete Worksheet 5 on page 6 in the Workbook.

### **Lesson 3** *(Pupil's Book pages 10–11, Workbook page 7)*

#### **Lesson aims**

Pupils will:

- discuss safe behaviour while walking along roads
- relate stories of unsafe behaviour.

#### **Starting off**

Explain to the class that it is important to walk along the road so that the people driving can see them easily. Explain that it is best to walk on the side of the road facing the oncoming traffic. This allows the pedestrians to see the traffic that is coming towards them.

Emphasise the importance of being careful while walking along the road. This means:

- no playing games
- no running with balls
- no pushing others
- watching out for traffic and other pedestrians while walking
- wearing white or shiny clothes if it is dark
- staying on the pavement if there is one
- keeping off the road if there is no pavement.

#### **Lesson focus**

Discuss the picture of pedestrians on page 10. Pupils, in pairs, point out how the pedestrians are behaving safely on the side of the road.

They then explain to each other how they themselves behave while walking along the road.

Have a class discussion on the possible dangers if the pedestrians in the picture were playing on the road or running after a ball that had bounced into the road.

Let pupils who have witnessed dangerous incidents explain their experiences to the class. Have a class discussion on how these incidents could have been avoided through careful behaviour on the road.

Pupils, in the same groups they worked with in Lesson 1, demonstrate how to walk along the side of the 'road' that you marked out with stones. Groups take turns to be pedestrians and traffic.

When back in class, pupils complete Worksheet 6 on page 7 in the Workbook.

### **Lesson 4**

#### **Lesson aim**

Pupils will:

- demonstrate how they walk along and cross the roads near the school safely.

#### **Starting off**

Choose a safe place to take the pupils where they can practise walking along the road and crossing the road safely. Ask parents and colleagues to assist you.

Remind the pupils of the pedestrian rules of the road and practise looking right, then left, then right again while in the classroom.

Repeat the rhyme they learnt in Lesson 2.

#### **Lesson focus**

Take the class along the road near the school to a safe place where they can practise crossing the road. Let them practise in groups of five or six.

Ensure they walk on the right-hand side of the road, facing the traffic, as they walk along the road. Ensure they walk calmly and do not play games or music as they walk.

Point out pedestrians who disobey and obey the pedestrian rules of the road as you walk.

When you return to class, reinforce the rules of the road that the pupils obeyed.

Give pupils an opportunity to describe their experience to the class and to describe any unsafe incidents they saw while walking on or crossing the road. Discuss the consequences of such unsafe behaviour with the class.

### **Homework**

Pupils may draw a picture of themselves crossing the road safely and explain the lessons they have learnt about crossing the road and walking along the road safely to their family.

## Objectives

By the end of this unit, pupils will be able to:

- identify self as a living thing
- identify other living things in the classroom, school and at home.

## About this unit

In this unit, pupils will discover how to identify living things (as opposed to non-living things).

The first lesson in this unit explains the concept of a living thing and gives the pupils an opportunity to identify the living things they see and touch at school.

The second lesson encourages pupils to recognise why they themselves are living things. They will identify the aspects that make us humans living things. With this knowledge, pupils will then learn about the living things they see and touch at home.

In Unit 5, pupils will learn about non-living things, and will differentiate between a 'living thing' and a 'non-living thing'.

## Suggested resources

*Lesson 1:* charts and pictures of animals and plants

*Lesson 2:* people in the classroom and school compound

*Lesson 3:* animals, insects, birds and plants at home

### Key words

**living things** – things like people, animals and plants, that need nutrition, and grow

**breathe** – take in and blow out air in order to stay alive

## Teaching this unit

In order for the pupils to recognise that they, and the plants and animals in their environment, are living things, take the class into the school compound and ask them to point out the things that live and die. Encourage them to observe and identify people, animals and plants.

Remind the pupils throughout this unit, that we must respect all living things, not only people, because both plants and animals play an important environmental role in our living world.

Explain too that living things need food and water, but also thrive in a healthy, safe and loving environment.

## Link to Workbook

*Lesson 2:* Workbook page 8, Worksheet 7

*Lesson 3:* Workbook page 9, Worksheet 8

### Lesson 1 (Pupil's Book page 12)

#### Lesson aims

Pupils will:

- identify living things in pictures and charts
- identify living things in and near the school compound.

#### Starting off

Ask the pupils to give examples of the living things they saw today. Write their responses on the chalkboard. Encourage them to think about the people, animals, insects and birds they saw. If they do not give plants as an example, discuss the fact that living things grow and die. Remind them of the plants such as flowers, fruit and vegetables they see in their environment. These grow with water and nutrients, and die after a time, or from a lack of water and nutrients.

Discuss the fact that people and animals are born, grow, reproduce and die. They also need food and water.

Explain that living things are also sensitive to things like heat or cold and light or dark.

#### Lesson focus

Point to the animals and plants in your display pictures and charts and ask pupils to say why these are living things.

Take the class outside into the school compound. Point out a few living things, then ask the class to

point out other living things they see. They may point to each other, staff at school, people in the area outside the school, the animals, birds and insects and the plants they see in and near the school compound.

Back in class, point to the items on page 12 in their Pupil's Book and complete Activity 1.

### Extension

Pupils may draw a person, an animal and a plant they saw in the school compound.

## Lesson 2 *(Pupil's Book page 13, Workbook page 8)*

### Lesson aim

Pupils will:

- identify themselves as living things.

### Starting off

Remind pupils that people are living things. They are born, they grow, they have children, and one day, when they are very old, they will die. They also need food and water, and feel cold or warm.

Have a short discussion on the fact that people are also social beings, and need love, friendship and care.

Talk about the pupils themselves. Ask them if they have seen pictures of when they were babies, and talk about how they have grown since then. Talk about how they will grow to become teenagers, then adults one day, and have children of their own.

Discuss all the things they can do that show they are living things.

Encourage the pupils to think about the fact that they need to eat, drink, breathe, excrete, sleep and move.

### Lesson focus

Play the game 'Simon says' with the class. Ask them to do a variety of actions, such as 'Breathe in deeply. Breathe out loudly. Touch your toes. Close your eyes. Block your ears.', etc. If you say 'Simon says: 'Breathe in deeply', they must obey your instruction. If you do not say 'Simon says' before the instruction they must not obey you, and must sit down. The pupil who is the last one standing is the winner.

Explain to the class that they were only able to play this game because they are living things.

Discuss the picture and read the explanations of why they are living things on page 13 in the Pupil's Book with the class. They complete Activity 2 with a partner. Give suggestions, such as eating, sleeping and jumping for them to act out.

Pupils complete Worksheet 7 on page 8 of their Workbook. Read the sentences aloud with the pupils before they start this task.

### Answers

Workbook page 8

The sentences next to the label lines should be as follows:

legs – I can walk.

nose – I can breathe.

thought bubble – I can grow.

mouth – I can eat.

## Lesson 3 *(Pupil's Book page 14, Workbook page 9)*

### Lesson aim

Pupils will:

- identify living things at home.

### Starting off

Ask a few pupils to tell the class who lives at home with them. Ask them to also say which animals they have at home. Ask them to describe the plants growing in their yard or garden, for example, whether they have trees, flowers, bushes, fruit and vegetables.

Point out to the class that they may each have different examples of living things at home.

### Lesson focus

Point to and talk about the examples of living things in the picture on page 14 in their Pupil's Book. Pupils, in pairs, complete Activity 3.

Pupils then draw a picture of their home and the living things found there. They explain their picture to their partner. They say whether the living things are people, animals or plants. They also say why these are living things.

Pupils then complete Worksheet 8 on page 9 of their Workbook.

They compare their answers with their partner.

### Objectives

By the end of this unit, pupils will be able to:

- identify non-living things in the classroom
- identify non-living things at school
- identify non-living things at home.

### About this unit

In this unit, pupils will discover how to identify non-living things.

The first lesson in this unit explains the concept of a non-living as opposed to a living thing and gives the pupils an opportunity to identify the non-living things they see and touch at school and compare living and non-living things they see in the classroom.

In the second lesson, pupils will identify and describe the non-living things they see in the school compound.

The third lesson focuses on the non-living things pupils generally see and use at home.

### Suggested resources

*Lesson 1:* charts and pictures of non-living things such as buildings and structures, roads and transport, furniture and household items, sports equipment, and farming and gardening implements, furniture and items in the classroom

*Lesson 2:* pencil and paper or drawing pad; implements and equipment in the school building and compound

*Lesson 3:* implements and equipment that are used at home

### Key word

**non-living things** – things that do not grow

### Teaching this unit

Pupils should now have an understanding of the concept of ‘living things’. There are many examples of non-living things in the classroom, so begin by pointing out and describing the non-living things they can see, and explaining why they are non-living things. Ensure they understand that non-living things do not breathe, move on their own, need food and water, have feelings, reproduce, grow old and die.

Also point out and remind the pupils, where relevant, how living things need non-living things in order to thrive. In this way, you can emphasise that non-living things are valuable to our livelihood and must be cared for. For example, a school chair and desk allow us to work properly at school, so we must care for them and not damage them.

### Link to Workbook

*Lesson 1:* Workbook page 10, Worksheet 9

*Lesson 2:* Workbook page 11, Worksheet 10

### Lesson 1 *(Pupil's Book pages 15–16 , Workbook page 10)*

#### Lesson aims

Pupils will:

- identify non-living things in the classroom
- play a game naming non-living things they see in the classroom
- compare living and non-living things in the classroom.

#### Starting off

Remind the pupils of the living things they identified in Unit 4, then ask them if they can point to non-living things in the classroom. Correct them if they point to living things. Explain why the items they point to are non-living things. They may point to items that they are wearing as well as classroom furniture and equipment.



### Lesson focus

Point to and read the labels of the items pictured on page 15 in the Pupil's Book with the class. Pupils complete Activity 1, Questions 1 and 2, and Activity 2, Question 2, on page 16.

Pupils may then play a game: 'I spy with my little eye'. They take turns to identify items in the classroom by saying the sound of the first letter of the item. For example, 'I spy with my little eye, something beginning with a p.' The rest of the class must guess the item they see, which starts with the 'p' sound (this might be pencil). The items they identify must all be non-living things.

Pupils, in pairs, discuss and complete Worksheet 9, Activities 1 and 2 in their Workbook on page 10. Read the labels with the pupils before they start this task.

Pupils, on their own, complete Worksheet 9, Activity 3.

Walk around the classroom and note that they are drawing non-living items that are in the classroom. Correct and explain any mistakes.

Make a note of the pupils who still struggle to differentiate between living, and non-living things, and work with them individually until they understand the concept more clearly.

### Answers

Workbook page 10

2. In the first column, Living things in the classroom, the pupils should list: teacher, girl, boys.

In the second column, Non-living things in the classroom, the pupils should list: bookcase, chalkboard, bin.

## Lesson 2 *(Pupil's Book pages 15–16, Workbook page 11)*

### Lesson aim

Pupils will:

- identify non-living things in the school compound.

### Starting off

Ask the pupils to suggest the non-living items they may see outside in the school compound. Correct any mistakes they might make. For example, if pupils suggest a tree, remind them that a tree can grow, so it is therefore a living thing, and revise the concept of living things.

### Lesson focus

Point to and name the items on page 15 in the Pupil's Book with the class. They may add items to the list that are labelled in their book.

Pupils complete Activity 1, Question 3 and Activity 2, Question 1 on page 16.

Take the class for a walk outside in the school compound. They must take a pencil and paper or drawing pad with them. Ask them to point to the non-living things they see. Explain that the air is a non-living thing, and they cannot see it. Pupils may then sit in one spot on the ground and draw five non-living things they see from their spot. They explain their drawings to a partner.

Back in class, read the labels and point to the items in Worksheet 10 on page 11 in their Workbook.

Once pupils have circled the words that describe non-living things, they may draw those items in their notebooks.

### Extension

Pupils may draw their own picture of items in their school compound. They may swap their pictures with a partner to circle the non-living items they drew.

### Answers

Workbook page 10

The pupils should circle the following words as non-living things: air, flag, school, rope, fence, paper, soil tree, bench.

## Lesson 3 *(Pupil's Book page 15)*

### Lesson aims

Pupils will:

- identify non-living things at home

- create a display of non-living things that they brought from home.

### **Starting off**

Ask the class to close their eyes and picture the things they see at home. While they do this, choose different pupils to take turns to come up to the front of class and name some non-living things that they themselves have at home. As they do so, the rest of the class can put up their hand if they have that item. Count the hands and, at the end of the game, tell the class which items are most common in the pupils' homes, and which are least common.

### **Lesson focus**

Point to and read the labels of non-living things at home on page 15 in the Pupil's Book with the class.

Pupils may choose a room in their home or an area outside their home. They draw a picture of five non-living things and one living thing that is often in the room or area. They then take turns to show

their pictures to a group of three or four. The group names all the things in the picture and points out which item is a living thing.

Pupils then work in pairs. They take turns to act out how they use a non-living thing in their yard at home. Their partner must guess which item they are using. For example, they may act as if they are digging with a spade, or sweeping the yard.

### **Support**

Pupils may still be confused about the difference between living plants and non-living things. Assist the pupils who struggle to differentiate between living and non-living things by walking outside with them and touching the different items, saying 'living' or 'non-living' as you do so. The pupils should copy your actions. They may then draw the items they touched in two columns under two headings: 'Living things I touched' and 'Non-living things I touched'.

## Objectives

By the end of this unit, pupils will be able to:

- identify other parts of their environment – soil.

## About this unit

In Unit 5, pupils learnt that soil is a non-living thing. In this unit, they will take a closer look at what is inside soil. They will look at the components of soil through a magnifying glass and create a picture using soil. Pupils also learn about different types of soil – sandy soil, clay and loam. The unit concludes with a table on the different soil types.

## Suggested resources

*Lesson 1:* three trays of soil, one with sand, another with clay and a third with loam soil; a trowel; some clean containers

*Lesson 2:* clean jam jars or plastic containers; trowel(s); magnifying glass(es)

*Lesson 3:* art materials: coloured sand (to be prepared in advance; see page 20 of this Teacher's Guide), cardboard, pencils, glue

## Key words

**sandy** – soil that has a lot of sand in it

**clay** – soil that feels like fine mud

**loam** – soil that has some sand and some clay

**rough** – not smooth or even

**trowel** – a small gardening spade

**magnifying glass** – a glass disc that, when held close to items, makes them look bigger than they are

## Teaching this unit

The material should be taught in as practical a way as possible, based on the principle that pupils learn much better if they take part in experimentation, learning by doing rather than by 'being told'.

To put this into practice, let the pupils sample and feel soil (always remembering to wash their

hands afterwards) as well as look at it under the magnifying glass. Let them do the experiments themselves.

Pupils also learn by enjoying, so where possible, offer a variety of fun, cross-curricular activities that tie in with their learning. One such activity that has been suggested for this unit is making a sand picture (Lesson 3).

## Link to Workbook

*Lesson 1:* Workbook page 12, Worksheet 11

*Lesson 3:* Workbook page 13, Worksheet 12

## Lesson 1 *(Pupil's Book pages. 17–18, Workbook page 12)*

### Lesson aims

Pupils will:

- learn about three different types of soil
- identify the different soil types
- describe the different soil types.

### Starting off

Ask the pupils to describe the colour and texture of the soil in their home yards. Point out that the soil consists of sand, small stones and bits of plant matter. Point out that the plants grow in soil.

Explain that they will learn about different types of soil in this lesson.

### Lesson focus

If possible, prepare three trays of soil before the lesson, one with sand, one with clay and a third with loamy soil.

Explain that there are three main types of soil: sandy, clay and loam. Invite the pupils to come forward to look at and feel the different types of soil in your trays. Ask them to describe them and talk about the differences between the three, in terms of texture, feeling, moisture, and colour.

The Pupil's Book, pages 17–18, sums up the main characteristics of the three soil types. Read through the pages with the class. Ask the pupils to add to the descriptions given.

The pupils can then complete Worksheet 11 on page 12 of the Workbook.

Take the class on a mini field trip around the school grounds. Their homework (see below) links in with this activity. The point is for pupils to identify and collect soil from different parts of the school compound.

For this field trip, you will need a trowel and some clean jam jars or buckets. Once back in the classroom, investigate the different soil types and talk about them.

### Homework

Ask the pupils to look at the soil they have in their garden at home. If possible, they are to collect some soil and bring it to school. If there is more than one soil type, they are to bring in different soil samples.

## Lesson 2 *(Pupil's Book page 19)*

### Lesson aims

Pupils will:

- define 'soil'
- collect a soil sample and look at it under a magnifying glass
- record what they have found in the soil.

### Starting off

Revise Lesson 1 by bringing a tray of soil into the classroom. Ask the class to stand around the tray. Ask: *What is this?* The pupils may come up with various answers, like 'sand', 'dirt', 'soil', 'earth'. Tell them that sand, earth, mud – all these things together – are called soil. Soil is the top layer of the Earth's surface.

Invite the pupils to feel the soil in the tray, and to talk about what it feels like: Is it grainy, loose, sticky, soft or wet? Ask them about the colour of the soil in the tray.

Now add a little water to the tray. Again, invite pupils to feel it. Ask: *Has the feel of the soil changed? In what way? Does it stick together more, or less, than before the water was added? Has the colour changed?*

Then ask: *Is all soil this colour?* Talk about different colours of soil the pupils may have seen. Ask where they have seen these different soils.

### Lesson focus

Divide the class into groups of four. Tell the class that they will find out what is inside soil, doing Activity 1 on page 19 in the Pupil's Book.

Equip each group with a clean jam jar or plastic container. Take the class out in the school grounds in search of some soil they can use.

Ask each group to appoint a person who will dig up a small trowelful of soil and place it in the group's container. You may have several trowels or just one to pass around from group to group. While one person digs, ask the other pupils to take a close look at what they can see in the soil.

Once you have returned to the classroom, talk about what the pupils found in the soil.

Get each group to empty their soil onto a sheet of paper. Get them to look at the soil with the naked eye and, if available, a magnifying glass. Make sure that all the pupils get a turn to discuss what there is in the soil and to look through the magnifying glass. You may only have one or two magnifying glasses at your disposal, in which case, ensure that the rest of the pupils are busy discussing and recording their findings while the magnifying glasses go round the classroom.

Ask the groups to go through the list, on page 19 in the Pupil's Book, of things that can be found in soil, and list the ones they found. Ask them to add to the list if they have found something that was not listed.

Ask the pupils, in their notebooks, to sketch some of the things they found in their soil sample.

## Lesson 3 (Workbook page 13)

### Lesson aims

Pupils will:

- complete a soil profile
- make a sand picture.

### Starting off

Divide the class into groups of four. Remind the pupils of the soil they examined in Lessons 1 and 2. Ask them to tell you what they found in the soil.

### Lesson focus

Discuss other things that may be found in soil, for example: animal eggs; seeds; burrowing animals' nests, waste and food; animal skeletons; spiders; shells; rotting plant material; and sometimes litter, such as a rusty tin, a plastic bag.

The pupils complete Worksheet 12 on page 13 in the Workbook on their own. Read the labels of the pictures with the class, and then ask them to write the names of the things that need soil in column 1, and the names of the things that do not need soil in column 2.

### Assessment suggestion

You may wish to collect the pupils' Workbooks for marking. You should be able to assess, by the items listed in each column, whether or not the pupils understand which things need soil.

### Extension

Get the pupils to make a sand picture. For this, you will need:

- coloured sand (to be prepared in advance; see below)
- cardboard
- pencils
- glue.

Remember that this may be a messy activity, so bring plenty of newspaper for the pupils to work on.

### How to prepare the sand

Place clean, white, fine-grained sand in a plastic bag, preferably one with a zip top. Add a few drops of food colouring. Shake the bag to thoroughly mix the sand and colouring.

Repeat this with other colours.

### How to make the sand picture

**Step 1:** Ask the pupils to draw the outline of a simple picture on a piece of cardboard. The simpler the design, the more effective their sand picture will be. The idea is to have a design with several fairly large areas they can fill with sand, for example, a flower with colourful petals, rather than an intricate drawing. As always, if you have an example to show to the class, they will have a better idea of what is required.

While they are designing, ask them to think of which colour sand will go in which part of their picture.

**Step 2:** Once they are happy with their design, the pupils are ready to turn it into a sand picture. Picking the first colour, for example, red, they are to put a thin layer of glue on all the areas of their design that are to be red.

**Step 3:** Next, the pupils sprinkle a thin layer of red sand onto the glued area.

**Step 4:** Before moving on to the next colour, they are to gently shake off all the sand that has not stuck to the picture.

**Step 5:** Then they can repeat Steps 2–4 for the next colour, and after that for the next, and so on, until their sand picture is complete.

### Answers

Workbook page 13

1. In column 1, things that need soil, the pupils should list: hen and chicks, tree, earthworm, tomato plant, mouse.
2. In column 2, things that do NOT need soil, the pupils should list: kite, car, train, boat, balloons.

## Objectives

By the end of this unit, the pupils will be able to:

- identify other parts of their surroundings – air
- demonstrate that air exists
- create air currents by blowing with the mouth or using a paper fan
- demonstrate that air occupies space using balloons.

## About this unit

In this unit, the pupils formulate a definition of ‘air’ and learn that air is everywhere. They will build a fan to create their own air movement, and experiment with it. Finally they will demonstrate that air takes up space by blowing up balloons.

## Suggested resources

*Lesson 1:* clean jam jar with lid; empty shoebox

*Lesson 2:* pictures of fans (optional); paper or thin card; colouring pencils or pens (optional); staples, sticky tape or glue (optional); paper clips; also, newspaper, pencils, scissors, chalk or string

*Lesson 3:* a deflated air mattress and an air pump, if available; balloons and string, a cardboard balloon pump.

### Key words

**air** – the gases around us that we breathe in and out

**tube** – band filled with air used in a tyre

**tyre** – the outer part of a wheel

**life jacket** – jacket with air pockets worn while in water to help us float

**fan** – folded sheet of paper or card that is waved backwards and forwards to create a cooling breeze

## Additional vocabulary

wind

## Teaching this unit

The material taught in this unit is probably fairly familiar to the pupils. Most children by this stage know that they breathe air; however, they probably do not know that plants need air too. All pupils will have experienced wind, but they may not necessarily realise that wind is moving air. One of the aims of the unit is therefore to put words to experiences.

The pupils will play a game involving paper fish and fans, which demonstrates the effect of air currents on objects, and blow up balloons to see that air fills up space.

## Link to Workbook

*Lesson 1:* Workbook page 14, Worksheet 13

### Lesson 1 *(Pupil's Book page 20, Workbook page 14)*

#### Lesson aims

Pupils will:

- define ‘air’
- recognise that air is everywhere, even if we cannot see it
- talk about the importance of air.

#### Starting off

Show the class an empty jam jar with a lid on.

Ask: *Do you see this jam jar? What is inside it?* The pupils will probably say, ‘Nothing.’ Or ‘It’s empty.’ Tell them that the jar looks empty but that there is something inside it. Ask what it is. (Air.)

Next, show the class a shoebox with a lid on. Open the lid and ask, *Is it empty?* (It looks empty but it has air inside it.)

#### Lesson focus

Say: *We cannot see air, but there is air all around us.* Ask: *So where else around us is air?* The point is for the pupils to realise that there is air in the classroom, and in the school building around the classroom, and outside the window, and in their pencil cases, etc.

Tell the class that air fills every empty space. Now tell the class that air is very important. Ask: *Why is it important?* The pupils will probably know that they breathe air. Say that we need to breathe in order to live. Ask the pupils to do a challenge in pairs: they are to do a competition to see who can hold their breath the longest. Then say: *We use air to speak. We use air to sing. And we use air to whistle.* Ask a pupil to demonstrate.

For this, you need to find a pupil who can whistle. Now ask them to whistle a tune. Halfway through the tune they are to put a hand firmly over their mouth. Ask the rest of the class what happens to the sound when we clamp our mouth shut: it stops. It stops because the air flow stops. Invite other pupils to try this experiment.

Explain that the air we use for speaking, singing and whistling comes from inside our bodies, and it is air that we have breathed in.

Tell the class that when we take air into our bodies, we 'breathe in' air. When we let out air, we 'breathe out'. We usually breathe in and out without thinking about it.

Explain that all animals need air. Cows and crocodiles, as well as birds and insects; even fish need to breathe air. Through prompting, get the class to understand that this means that there is air in water too, which the fish breathe.

Now tell the class that plants need to take in air as well. They get air through their leaves. Ask: *What would happen if there was no air?* Start a class discussion on this topic.

Talk about the items pictured on page 20 in the Pupil's Book, and read the labels with the class. Ask the pupils what is inside the items. Once they understand that air fills these spaces, point to a few items in the classroom, and ask them what fills the space in those items. For example, their empty lunch boxes, their pencil cases, etc.

Pupils complete Worksheet 13 on page 14 in the Workbook. They compare their answers with a partner.

## Answers

Workbook page 14

1. The pupils should colour in the following: swimming tube, soccer ball, box, baby's bottle, balloons, blow-up boat.
2. The pupils should draw a rectangle around the following: cell phone, crayon, glasses, spade.

## Lesson 2 *(Pupil's Book page 21)*

### Lesson aims

Pupils will:

- make a fan
- find out at which angle and from what distance the fan works best
- use the fan to move objects
- play a game
- answer questions.

### Starting off

Tell the class they will be making a fan. Make sure everyone understands what fans do: they have a cooling effect by moving the air. (You could mention that some heaters work the same way, by blowing out, and circulating, warm air. Another way of using air to warm-up is to build a fire.) If your classroom has an electric fan, demonstrate that to the class. Explain that theirs will be a handheld fan. If you have a fan or photographs of fans to show to the class, do so now. Many fans in the past were elaborately decorated, and seeing pictures of fans may inspire the pupils when decorating their fans.

### Lesson focus

With the class, read through the instructions for Activity 1 on page 21 in the Pupil's Book. Demonstrate the folding technique to the class by doing a few folds on a piece of paper.

Now hand out paper or card and coloured pencils or felt-tipped pens for decorating.

Explain that if they want to decorate their fans, the pupils should do so now, before folding. Allow about 8–10 minutes for decorating. Then ask the pupils to start folding. Walk around the classroom and assist where needed.

Once the pupils have finished their zigzag folds, instruct them to pinch one side of the paper together, or staple/glue it. You may have to help with the stapling.

The pupils are now ready to try out their fans. Tell them that we use a fan to make the air move. As the moving air touches our warm skin, we cool-down. Let the pupils try out different fan-holding positions and see which one works the best.

Now ask the pupils to sit in pairs. Hand out paper clips, one paper clip per pair. Ask the pupils to move the paper clip along on their desks, using their fans. Pupils can take turns trying out which is the most effective way of moving the paper clip along with their fan.

Pupils, in groups of three or four, may play the 'Move the paper clip game'. They use a tape measure to measure the distance each pupil can move his or her paper clip with ten waves of the fan.

### Extension

The pupils may want to try moving other, possibly heavier, things along with the fan. Encourage them to try out different things. This will enable them to discover the relationship between the force of the moving air and the weight of an object. In other words, it will enable the pupils to conclude how light an object needs to be in order to be moved by a hand fan.

## Lesson 3 *(Pupil's Book page 22)*

### Lesson aims

Pupils will:

- perform an experiment to show that air occupies space
- state how air inside some things helps them work
- give examples of things we inflate to make them work better.

### Starting off

Pick two pupils from your class. Say to the class: *Did you know that Pupil A can lift Pupil B without touching him?* Invite the class to guess how this is possible.

Place the deflated air mattress on the floor of the classroom. Ask Pupil B to lie down on it. Now ask the class to stand around. Attach the bicycle pump to the valve of the mattress and ask Pupil A to pump air into the mattress. (If you don't have a bicycle pump, the pupil will have to blow air into the mattress, which may take some help from you. It will also take longer.) Let the class observe Pupil B rise off the floor as the mattress fills with air.

Ask the class to relate what they have just observed; and say why Pupil B was lifted off the ground. Ask them what this means: it means that air takes up space. Because it takes up space it filled up the mattress and pushed Pupil B off the ground.

### Lesson focus

Following this start-off demonstration, ask the class: *Can you think of any other way we can show that air takes up space?* The pupils may come up with several examples of air inside objects that are similar to the air mattress, for example, a swimming ring.

Tell the pupils that they will get to do their own activity to show that air occupies space. Ask the class to open their Pupil's Books on page 22 and read through the test instructions with the class. Then hand out one balloon per pupil. Let the pupils choose which colour balloon they want, unless you have brought in one colour only for fear of disappointment or squabbling among the class.

Now get them to blow a little air into the balloon.

You may have to help, by showing the pupils how to use a cardboard balloon pump. Often it is the first few puffs that are the most difficult.

Ask the pupils to look at their balloon and state whether it is bigger, or smaller, than before they put in the air. Ask what this shows them: when the pupils put in a little air, the balloons get a little bigger. If they add some more air, the balloon's size increases again. This shows that air takes up space. Ask the pupils to make a knot once their balloons are the size they want them to be. (Warn them that if they put in too much air, their balloons may burst.) You may have to help with tying a knot in



the balloon. If you have brought in string, cut a short piece of string per pupil and let the pupils tie their balloons to the string, to take home. Alternatively, you may allow the pupils to play catch the balloon in pairs, at the end of the lesson.

For now, ask the pupils to put their balloons away and open their Pupil's Books on page 20.

Together, look at the pictures of a bicycle wheel, beach ball, swimming tube, inflatable boat, car tyre, basketball, soccer ball, tractor tyre and life jacket on the page. Discuss what they are and what each one does. Ask the pupils to write the letters (a) to (i) in their notebooks and, next to each, write down the name of the object in the picture.

Afterwards, ask the class: *How does the air inside each object help it to work?* Draw a table on the board with three columns. In the first column, write the heading: 'Air helps them bounce'. In the second column, write the heading: 'Air helps them float in water'. In the third column write the heading: 'Air helps them roll smoothly'. Ask

the pupils to copy the table into their notebooks and write the correct letter for each item under the correct heading. When they have done this, discuss which letters should go in which column and why.

The beach ball, basketball and soccer ball bounce when inflated. The swimming tube, inflatable boat and life jacket belong in the category of things that float. And the bicycle, car and tractor tyres roll smoothly with the help of air. Of course, there are objects that could go into more than one category: for instance, balls roll more smoothly when inflated; and the beach ball will float.

As a final activity, ask the pupils to draw an additional object in each column of the table. Discuss these with the class by asking for examples, and then ask the pupils to show their neighbour their drawing.

## Objectives

By the end of this unit, the pupils will be able to:

- identify other parts of their surroundings – water
- list the common sources of water.

## About this unit

In Unit 8, the pupils study water, the third element making up their natural environment. At the end of this unit, the pupils should be able to name five common water sources: rain, rivers, ponds/lakes, wells and boreholes, and state where they get their drinking water from.

## Suggested resources

*Lesson 1:* hand drum and shaker (optional)

### Key words

**well** – a hole dug in the ground from which we can pump or pull up water

**pump** – a machine that moves water from one area to another

## Teaching this unit

When introducing this unit, ask the pupils what they already know about water. Ask them where it comes from. Ask whether they like rain. Ask them what they do on rainy days.

All through the unit, relate the teaching material to the pupils' own experiences, for example, fetching water and trying out different liquids. Invite the pupils to contribute stories about water provision in their own and other communities.

As always, introduce additional, fun activities: for instance, a rhyme about rain, a drawing of a raindrop's story, tracing its course from when it falls to the ground to when it enters someone's home.

## Link to Workbook

*Lesson 2:* Workbook page 15, Worksheet 14

*Lesson 3:* Workbook page 16, Worksheet 15

## Lesson 1 *(Pupil's Book page 23)*

### Lesson aims

Pupils will:

- talk about water and where it comes from
- learn about different water sources
- discuss which of these are natural and which are made by humans.

### Starting off

Tell the class that they will be studying water.

Ask: *Where does water come from?* The pupils will probably have many different answers, like 'rain', 'the tap', 'the river' and 'the dam'.

Ask the pupils to talk about rain. Ask: *When does it rain? Where does it rain from? Do you like rain?*

Encourage a class discussion about why we need rain.

You can teach the class a rhyme about rain:

*Raindrops Raindrops splash, Raindrops splash,  
Raindrops go pitter-patter, Raindrops splash.*

Ask the class what other sounds raindrops make, besides splashing and going 'pitter-patter'. If you have brought a hand drum and shaker to the classroom, you can ask a pupil to play the drum on 'pitter-patter' and another pupil to shake the shaker on 'splash' while the rest of the class recite the rhyme. If the pupils have suggested other sounds for the rain, ask them to also suggest how to musically play these sounds, for example, by clicking with the tongue, clapping the hands or playing some other musical instrument.

Ask the pupils if they know any songs about rain, and if so, if they would like to sing them to the rest of the class.

### Lesson focus

Ask: *What happens to the raindrop once it has fallen to the ground?* Through prompting, get the class to tell you about rivers, dams (reservoirs), ponds or

lakes and underground water. Draw a simplified story of the raindrop on the board.

Ask the class to look at the pictures on page 23 in the Pupil's Book and read about sources of water with them.

### Extension

As a final extension activity, this Teacher's Guide suggests making fruit ice and letting the pupils taste it.

### Homework

For homework, ask the pupils to try to find out where the people in their house get drinking water from.

## Lesson 2 *(Pupil's Book page 24, Workbook page 15)*

### Lesson aims

Pupils will:

- discuss how water gets into their homes
- talk about different ways to get water into people's homes
- talk about what is good drinking water
- answer questions about good drinking water.

### Starting off

Ask the pupils if they have found out where the people in their house get water from. Discuss this. If you are in a rural area, your water source may be different from that of people living in a town or city.

Talk about what we use water for. List the examples that the pupils give on the board.

### Lesson focus

Read and recite the poem on page 24 in the Pupil's Book with the class. Add verses from the list you created when they gave their own suggestions, if there are additional suggestions. Give additional examples yourself, if they have not done so themselves. For example, 'This is the way we wash our clothes'.

Discuss how people in urban areas get their water: the water is taken from its source, natural or human-made, and pumped to the treatment works, where it is filtered, and treated with chemicals to get rid of unwanted germs. From the treatment works,

it flows through thick pipes to the city or town's water tower. Smaller pipes then take the water into people's homes. People turn on the tap and out flows clean drinking water. Ask where the pipes are. (Underground.) If you live in a town or city, ask if the pupils know where the water tower is.

Talk about different ways of getting water in a rural area: for instance, people drill for water by making boreholes; they fetch water from a river; villages often have a water pump or a well from which the villagers can collect their water.

Talk about the fact that people in poor or isolated communities have to walk very far in order to get their water. Often it is young children, mostly girls, who have to get up early and walk many miles to fetch water for their families. Even if the water is brought into our homes through pipes, and all we have to do is turn a tap, we should be aware that water is precious and that we need to use it carefully.

Pupils recite the poem in Worksheet 14 on page 15 in the Workbook. They draw a picture to illustrate the verses.

### Extension

If there is time at the end of the lesson, you could tell the class about different cultures and countries and their water provision. You could include, for example, Chinese water sellers, irrigation schemes and aqueducts in your talk. Be sure to bring any pictures you have on the topic, to show to the class.

## Lesson 3 *(Pupil's Book page 25, Workbook page 16)*

### Lesson aims

Pupils will

- take a tour of nearby water sources
- talk about water as a precious resource
- discuss ways of looking after our water sources
- answer questions about using water without wasting it
- draw pictures to show where they get their water from.

### Starting off

Ask the pupils to recite the poem they learnt in Lesson 2. Remind them of the importance of water

for our daily life. Explain that this is why our water sources are so important and must be cared for.

Now mention that, in some places, people do not have enough water, and that water is a very precious resource. Say that there is only so much clean water available and that we should be careful how we use it. So, while it is important to always wash our hands, we must keep in mind that water should not be wasted. For example, it is important to turn off the tap while we brush our teeth. We shouldn't leave the water running, because this would mean that many litres of water drain away unused. Say this would waste water; and talk about the meaning of the word 'waste'.

Tell the class they will be doing a tour of the water sources near the school. Explain that they must look out for how the water is collected and whether there is wastage or not. For example, if the pump they visit is leaking, or if the communal tap cannot be closed properly there will be water wastage.

Examples of water sources you may visit are:

- dams
- rivers
- water pumps
- communal water taps
- windmills
- wells
- boreholes
- rainwater tanks.

Ask a few colleagues and parents to assist you with ensuring the pupils are safe as they walk to or are transported to the water sources.

### Lesson focus

Visit local water sources with the class. Name the different sources you see on your tour of the area. For example, taps, water pumps, a windmill, a stream, a dam, etc.

On your return, divide the class into groups of four or five. Ask the pupils to open their Pupil's

Books on page 25 and, in groups, to talk about the pictures there. Then ask the pupils to write down a sentence one of the people in the second picture is saying when he or she discovers there is no water.

Ask the groups to report back to class. Start a class discussion on what would happen if we had no water. Ask what we would need to do if there was only very little water available. Now ask the class what we can do to save water. You may add some examples of water-saving measures, for example, always make sure you close your taps, and fix any dripping taps; take a short shower rather than a bath (showers use less water); use dishwashing water to water the flowers in the garden (mention to the pupils that this is called 'grey water'); and grow plants that do not need much watering. Discuss other ways of saving water, for example, installing a water butt and using the rainwater to water the garden, wash the car, etc. Ask questions to prompt the discussion, such as: *Is it necessary to wash cars at all? How often do we need to wash our windows? What do we do with the water we use for rinsing our clothes?* etc.

Pupils complete Activity 2 on page 25 in the Pupil's Book. Remind them of the water sources they visited when they draw their pictures.

They then complete Worksheet 15 on page 16 of the Workbook. Read the words in the box and the incomplete sentences with the class before they begin this worksheet. When they have finished, pupils read their complete sentences to a partner and together assess whether their answers are correct.

### Answers

Workbook page 16

1. Animals drink water from a dam.
2. Some people collect water from the river nearby.
3. We fill our buckets from a water pump.
4. Some people collect water from a well.
5. Often people open a tap for water.

## Objectives

By the end of this unit, pupils will be able to:

- identify different colours
- collect materials of different colours
- observe road traffic lights and identify their colours
- state the function of each road traffic light sign
- identify road markings and their colours.

## About this unit

Pupils in Primary 1 will probably know at least six different colours by now. They may know which colour is their favourite colour, and which coloured clothing they like to wear.

In this unit, pupils will name a variety of colours and state the relevance of colour in play, creative activities and on the road.

In Lesson 1, they will identify the colour of items in the classroom and the school compound and the colours of items in their Pupil's Book. They will colour and label balloons in the Workbook.

In Lesson 2, pupils will collect and use coloured pieces of paper and other materials to create a colourful collage.

In Lesson 3, pupils will identify and state the purpose of colour in road safety.

## Suggested resources

*Lesson 1:* a colour chart; bunches of flowers; containers of different colours; colourful pictures; sets of Lego bricks or similar coloured toys; modelling clay of different colours

*Lesson 2:* variety of materials for creating a collage; box or container for the collage materials; glue and scissors; sheets of plain paper for the collage base

*Lesson 3:* red and green cardboard circles on sticks for 'Stop' and 'Go' signs; coloured pencils and crayons

## Key words

**vase** – a container for displaying bunches of flowers

**collage** – a picture made using different materials of different sizes

**fabric** – cloth material

## Teaching this unit

In this unit, more than in any other unit of this Science and Technology course, you will need visual aids to illustrate your teaching, because this unit is entirely visual.

Bring in and use colour charts, coloured pencils, paper in different colours and many different full-colour pictures. Ask the pupils to bring in pictures themselves, and talk about the colours and different shades of colours.

Invite the pupils to look at the colours making up their surroundings. Use the wallcharts to teach colours.

Besides talking about colours, let the pupils experiment and build with colours: use modelling clay of different colours to create something; bring in Lego or DUPLO bricks and ask the pupils to make a sculpture or a picture in different colours. Both the Pupil's Book and the Workbook, contain plenty of materials to support your teaching.

## Link to Workbook

*Lesson 1:* Workbook page 17, Worksheet 16

*Lesson 3:* Workbook pages 18–19, Worksheets 17, 18

## Lesson 1 (Pupil's Book pages 26–27, Workbook page 17)

### Lesson aims

Pupils will:

- talk about colours

- identify colours
- match colours to objects
- make a colourful sculpture with modelling clay
- sing a colour song
- play a game.

### Starting off

Walk into the classroom wearing clothing with lots of bright colours. This will immediately capture the class's attention. You could ask the pupils to guess what this lesson will be about. If you wear accessories in different colours, you can take these off, one by one, to show to the pupils as you talk about the different colours. For instance, you could wear a purple scarf, red shoelaces, a green armband, a yellow bandana and a white cap. Alternatively, dress a large doll or teddy in bright colours, and remove them as you talk about them.

Take off, for example, your green armband and show it to the class. Ask: *What colour is this?* Place it on the desk in front of you. Next, take off your purple scarf and have the pupils identify that colour. Follow through with all the other accessories you (or the doll/teddy) are wearing.

Once they are all on the table, hold up the green armband and ask, *What colour is this?* Then ask: *What is this?* (It is a green armband.) Ask: *What else can you see that is green?* Get the pupils to look around the classroom and through the window and identify green objects. Do the same with the other objects.

Show the class your pictures. Ask the pupils to tell you what they can see in the pictures. Ask them to say what colours those things are.

### Lesson focus

Show the pupils a rainbow picture, or draw a rainbow on the chalkboard using the different colours of the rainbow. Name the colours, then teach the pupils a rainbow song:

*Have you seen a rainbow arching through the sky?  
Does it reach the mountains or the clouds passing by?  
Can you see the stripes of colours so bright?  
Can you say the colours shining in the light?  
First there's red and then there's orange. Yellow comes next, then green and blue.  
Then comes colours of pinks and purple - the rainbow*

*colours shine on me and you.*

Make up your own tune for the song, or recite it as a rhyme. While the class sing, ask a pupil to come forward and point on the wallchart at each of the colours sung about. Ask the class what a rainbow is, and when we can see a rainbow.

Now ask the pupils to sit in pairs. Ask the class to open the Pupil's Book on pages 26 and 27.

First point to and read the names of the colour blocks on page 26, then let the pupils look at the pictures and talk about them to their partner. They can talk about the colours of the flowers they have in their gardens at home, or in the garden at school.

Pupils, in their pairs, then complete Activities 1 and 2 on pages 26 and 27 in their Pupil's Book.

If there is time, ask the pupils to remain in their pairs. Suggest playing a guessing game involving colours: Pupil A in each pair says, 'I spy something with my little eyes, and it's red'. Pupil B then guesses which red object in the classroom Pupil A has spotted. After guessing correctly, the pupils swap roles.

Once you have walked around the school compound with the class and they have named the colours of items they see, they complete Activity 3 on page 27 in the Pupil's Book.

Pupils then, on their own, complete Worksheet 16 on page 17 in their Workbook. They may copy the balloons into their notebooks, and colour in the balloons using the correct coloured pencils or crayons. Refer the pupils to page 26 in the Pupil's Book for clues on how to write the names of the colours.

### Homework

Ask pupils to bring materials of different types and colours to school for the next lesson. For example, pieces of packaging, cloth and fabric of different textures and colours, old magazines and pamphlets.

### Answers

Workbook page 17

The colours of the balloons are as follows: red, blue, yellow, orange, green, pink

## Lesson 2 *(Pupil's Book page 28)*

### Lesson aims

Pupils will:

- sort materials of different types and colours for a collage
- make a collage.

### Starting off

Place an empty box or container next to your desk and ask the pupils to place the material and items they collected in it.

Plan to spend this entire lesson doing art. Colour is entirely visual, so make sure your pupils get sufficient time to create artwork and experiment with colours.

To start off, introduce the pupils to the genre of collages. Tell the pupils that a collage is a picture made up of things that have been stuck down. Often this means just tearing up bits of different coloured paper and sticking it down to make a picture; but some collages include buttons, sequins, bits of sand, seeds, sticks and leaves collected from nature, as well as bits of fabric; even squashed tins and bits of plastic, or small toys!

Show the class as many examples of collages as you can, from art books or from older classes in your school. Some excellent children's books have been produced using collage, including works by Eric Carle and Jeannie Baker. You might want to bring some to class and read them to the pupils. For instance, Bill Martin and Eric Carle's *Brown Bear, Brown Bear, What Do You See?* is about colours and, though it may be primarily for a younger readership, the Primary 1s will enjoy it. Also find out about collages by Nigerian artists, and show examples to the class.

### Lesson focus

With the class, read through the introduction to collages on page 28 in the Pupil's Book. Look at the tree collage and ask the pupils to comment on it: *Was this pupil's use of collage effective? How could he have improved it? What else could he have done? Do the pupils like his picture?*

Now say that it is the pupils' turn to make a collage. For Activity 4 on page 28, divide the class into groups of four to six. Give each group a few colour magazines, some tissue paper and some fabric from the box of items they collected. If possible, you could also give them buttons, sequins and wool. Also give each table sheets of plain paper to work on, scissors and glue.

Ask the pupils to think about the picture they want to make. Ask them to think about the colours they will need. Often, collages are most effective if you use different shades of the same one or two colours. For instance, for a collage about nature, pupils might use different shades of brown, ochre, yellow and orange.

Get the pupils to page through the magazines and other materials you have given them, and start collecting together the materials for their collage. Once they have decided on the materials and torn or cut them into small pieces, they are ready to make the collage by sticking the coloured things onto a piece of plain paper.

When they are done, the pupils can leave their collages to dry while they clean up. Ask the class to show their collages to their friends.

## Lesson 3 *(Pupil's Book page 29, Workbook pages 18–19)*

### Lesson aims

Pupils will:

- match the colours of traffic lights with their functions
- identify traffic road signs and markings
- draw and colour road traffic lights and markings.

### Starting off

Remind the pupils of the song they learnt in Lesson 1, and sing it together.

While the pupils sing the song, ask them to point to the right colours on your wallchart or on page 26 in the Pupil's Book.

Now ask them to sing the song again. This time, in the middle of the song, hold up a red circle on a stick: your 'Stop' sign. Test your class's reaction. The pupils might immediately know what is meant, i.e., that they are meant to stop singing or you may have to explain it to them.

Say that often a red sign or light means 'Stop'. Ask where the pupils have seen red being used in this way: a red traffic light means stop. The Stop road traffic sign is also red. Red is used when we do voice recordings, and red is used at the dentist's surgery while X-rays are being taken and we are not allowed to enter the room.

Ask which colour means the opposite of red, i.e., 'Go'.

Hold up your green 'Go' sign to show the pupils.

*Say: We will sing the song again, but this time you need to stop singing loudly when you see the red 'Stop' sign. Carry on singing in your heads. When you see the green 'Go' sign, you can sing out loud again.*

Practise this with the class. Once the pupils have understood what is required, ask a pupil to come forward and sign 'Stop' and 'Go' using your red and green signs while the rest of the class sing the song.

Now explain that the painted road markings are also in different colours. The red lines on the road tell drivers that they may not cross that line, or may never stop in that space. Yellow lines on the road tell the driver that they must turn in the direction of the painted arrow, or may not park in that space. Dotted white painted lines in the road tell drivers that they may cross the road and solid white lines tell drivers that they must not cross the line.

Now talk about the purpose of the red, orange and green in traffic lights. Explain that lights change

from green to orange to red. Ask the class if they remember what a green light means to a driver. Then ask them what a red light means. Lastly, ask them if they know the purpose of the orange light. Explain that the orange light tells drivers they must slow down and be ready to stop because the traffic light will very soon turn red.

### **Lesson focus**

Pupils turn to page 29 in their Pupil's Book. Ask the pupils to name the colours they see, then discuss the purpose of the traffic lights and road markings in the picture.

Pupils, on their own, then complete Activity 5 in their Pupil's Book on page 29. They explain their pictures to a partner.

Once pupils have completed Activity 5, read the instructions in Worksheet 17 on page 18 in their Workbook with the class.

They then colour the road markings and explain their pictures to a partner.

Read the instructions in Worksheet 18 on page 19 in their Workbook. Pupils complete the worksheet, then explain the purpose of each coloured light to a partner.

Lastly, ask the pupils to tell you which road signs they often see. They may suggest signs such as STOP, TURN LEFT and CHILDREN CROSSING. Talk about the colours of these signs and emphasise the fact that red signs mean stop.

### **Extension**

Pupils may draw a road sign that they often see along the road. They find out the meaning and explain it to the class.



## Pupil's Book page 30

### Objectives

This Assessment tests the knowledge, understanding and skills that pupils are assumed to have acquired as they worked through the content presented in Theme 1: Basic science.

It is important that pupils complete this Assessment without support from other pupils, as this would cover up any difficulties a pupil may be having with particular concepts or skills.

It is therefore best carried out with small groups of pupils under your guidance.

Read each question carefully to the pupils and give them time to complete it before moving on to the next question.

A more able group within the class may be able to complete the Assessment without you needing to read the questions. However, observing all pupils while they complete the Assessment provides further information about their knowledge, understanding, and skills, and ability to apply these independently.

Ensure that you build in time to provide feedback to individual pupils and the class as a whole. Use the results of the Assessment to revise and/or reteach certain concepts or skills that are key to the pupils' ability to engage with content and concepts in future weeks and years of study.



### Answers

#### Living and Non-living things

1. Ensure that pupils draw living things – these may include plants as well as people, animals, insects, birds or fish.
2. Ensure that pupils draw non-living things – these may include soil and water as well as items they use at school and at home.

#### On the road

3. Ensure that pupils demonstrate that they stop and listen quietly, then look right, then left, then right again to show what they should do before crossing a road.

#### Soil, air and water

4. Pupils should write a) soil (or sand), b) water and c) air.

#### Colours

5. Ensure that pupils draw a traffic light that shows red in the top section.

## Objectives

By the end of this unit, the pupils will be able to:

- identify and collect simple machines in the school and at home.

## About this unit

This unit is the first of three units in Theme 2: 'Basic technology'. The concept of simple machines is used to introduce the pupils to ways in which we use technology in our everyday lives. One of the main objectives of this unit is to define 'simple machinery' and state how simple machines can help us. The concept of machines, and how to use them safely, is explored further in Unit 11.

The key skills that pupils will acquire and apply in this unit are the ability to recognise and identify simple machines, and to know how to use them.

## Suggested resources

*Lesson 1:* examples of simple machines, for example, a hammer, a pair of scissors, a rolling pin, a clamp, a mortar and pestle, and a gardening fork, as well as pictures of, for example, a vice, a spanner, kitchen scales, a pair of pliers, a wheelbarrow, and the cogwheels of a flour mill

*Lesson 3:* two bricks or wooden blocks, a plank (about 1 metre long)

### Note to the teacher

The key words listed alongside are examples or definitions of simple machines that the pupils should know.

### Key words

**see-saw** – a long plank balanced in the middle on a fixed support, on each end of which children sit and swing up and down by pushing the ground alternately with their feet; as a simple machine, an example of a lever

### Key words

**can opener** – a mechanical device used to open cans; made up of three different simple machines: a wheel and axle, a lever and a wedge

**cutlass** – a cutting tool; as a simple machine, an example of a wedge

**screwdriver** – a tool to drive screws into substances such as wood; as a simple machine, an example of a wedge

**wheelbarrow** – a small cart with a single wheel at the front and two supporting legs and two handles at the rear, used typically for carrying loads in building work or gardening; as a simple machine, an example of a wheel and axle combined with a lever

**machine** – a device used to make work easier and to work more efficiently

**simple machines** – basic mechanical devices for applying a force; types include an inclined plane, a wedge, a wheel and axle, a pulley, and a lever

## Teaching this unit

If there is any confusion on the part of the pupils as to the distinction between 'technology' and 'simple machinery', help them to understand, in simple terms, that simple machines are limited to things that are used to make our work easier and faster, while technology is a much broader field, being the application of our knowledge of the environment to practical purposes.

Technology includes simple machinery as one of its many applications: examples of simple machines are hammers and scissors, while examples of technology include fabrics; use of colour; ceramics; use of electricity, etc., as well as hammers and scissors. Making simple machinery, in other words, is just one type of technology.

## Link to Workbook

Lesson 2: Workbook page 20, Worksheet 19

Lesson 3: Workbook page 21, Worksheet 20

### Lesson 1 *(Pupil's Book page 31)*

#### Lesson aims

Pupils will:

- define 'simple machines'
- identify and name some simple machines
- state how simple machines can help us.

#### Starting off

For this lesson, bring in examples of the simple machines you will be speaking about, and pictures of simple machines. These could include a hammer, a pair of scissors, a rolling pin, a clamp, a mortar and pestle, and a gardening fork. Bring pictures of, for example, a vice, a spanner, kitchen scales, a pair of pliers, a wheelbarrow, and the cogwheels of a flourmill.

Show them to the class and get the pupils to name each item. Ask the pupils what each is used for. Tell the pupils that these are all simple machines.

#### Lesson focus

With the class, look at the pictures of simple machines on page 31 in the Pupil's Book. Get the pupils to name each machine and state what it is used for. Say that simple machines help us in our work. Ask the pupils to list some other simple machines that help us in our work.

Read the text on page 31. Then ask the pupils to tell you what a simple machine does: it makes hard work easier and faster. For instance, the man in the picture pushing the wheelbarrow would be able to carry all that sand in a bucket, but he would have to walk many times, with many bucketfuls, to carry the amount he can push at once with the wheelbarrow: the wheelbarrow therefore makes his work a lot easier and faster. Ask for other examples of how some simple machines make our work easier and faster.

Ask the pupils to look around the classroom and spot other simple machines. Ask them to name them and say what their function is.

### Note to the teacher

It is important to warn the pupils that they should always be careful when they use simple machines. Sharp edges and moving parts can cause injuries if the machines are not used with care. Stress that safety is important.

#### Extension/Support

If there is time, you can get the pupils, in groups of four or five, to play 'I spy with my little eye a simple machine starting with the letter ...'. In each instance, ask pupils to explain why the object they chose is an example of a simple machine.

#### Homework

For homework, ask the pupils to write down five simple machines they have in their home, and state what each is used for.

### Lesson 2 *(Pupil's Book pages 32–33, Workbook page 20)*

#### Lesson aim

Pupils will:

- identify machines by their function.

#### Starting off

Ask the pupils to take out their lists of simple machines from home, and share them with the class. Write the pupils' items on the board and talk about these machines.

#### Lesson focus

Refer to page 32 in the Pupil's Book, and ask the pupils to write down, in their notebooks, the name of each of the simple machines shown. The machines in the pictures are: a) tap; b) light switch; c) ladder; d) broom; e) door handle; f) scissors.

Afterwards, let them compare the names they have put down with their neighbour's answers. Ask the pupil pairs to discuss what each of the machines is used for: for example, a tap is for turning water on and off. Ask the pupils to work on their own to match the descriptions of machines and their functions on page 33 with the pictures on page 32.

Discuss the answers with the class. The answers are:

1. – b) light switch;
2. – f) scissors;
3. – c) ladder;
4. – e) door handle;
5. – a) tap;
6. – d) broom.

Let the pupils do Activity 1 on page 33 in the Pupil's Book. This activity requires various skills, including recognising simple machines, the physical skill of showing how to use the simple machine, as well as the cognitive skill of identifying the machine correctly.

### Extension/Support

Explain to the pupils that some people may not have some of the machines that have been discussed at home. Ask them to think of alternative machines or other methods to replace these machines. For example, if there is no electricity in a home, the people could use gas stoves to cook food, and lanterns or oil lamps to provide light.

### Homework

Ask the pupils to do the activities in Worksheet 19 on page 20 of the Workbook. Bear in mind that some pupils who live in remote villages may not have running water or electricity at home. You can instruct them to use their imagination and think which of the machines shown could be used in a home or at school.

### Answers

Workbook page 20

The pupils' answers to the questions in the Workbook may vary, depending on their personal circumstances at school and at home. Possible answers are as follows:

- tap: used at school and at home
- light switch: used at school and at home
- broom: used at school and at home
- scissors: used at school and at home
- board eraser: used at school
- door knob: used at school and at home
- ladder: used at school and at home
- bell: used at school.

## Lesson 3

(Pupil's Book page 34, Workbook page 21)

### Lesson aim

Pupils will:

- explore the functions and purposes of simple machines.

### Starting off

Ask a few pupils to describe how a member of their family (probably their mother) prepares a simple meal. After each description, ask the rest of the class to identify the simple machines used to prepare the meal. Examples of such machines could include knives, spoons, can openers, egg whisks or egg beaters, rolling pins, graters, etc. You may help, by writing new words on the board. Talk about the machines and ask the pupils to describe how each one is used.

### Lesson focus

Ask the pupils to imagine they were to make a cup of tea for their teacher. *What simple machines would they be using?*

Ask the class to think of other situations in which, or tasks for which, they would have to use a number of simple machines.

Divide the class into groups of 6. Ask them to do Activity 2 on page 34 in the Pupil's Book, and let each pupil act out using one of the machines listed in the activity. Walk around the class and give guidance where needed. Ask some of the pupils to describe what they are doing, and to explain the function of each machine. The skills that pupils will be acquiring or applying during this activity are: the ability to identify simple machines, and to associate each machine with the correct function.

Let the pupils open their Workbooks on page 21. Explain the words in the box to the class, and ask them if they know how each machine works. Explain, for example, that the hinges on a gate make it possible for us to open and close the gate. Ask the class if they know of any other places where one can find hinges. Let the pupils go to the classroom door and show them the hinges. Explain how hinges work. Say that hinges can be found on a lot of other things that have opening and closing

parts. Ask the pupils to think of examples. These can include windows, cupboard doors, piano lids, wooden pencil cases with lids, car doors, etc.

Ask the pupils to describe the function of each machine shown in the pictures. Help them to understand that the same principles that are used in, for example, the see-saw and the swing can also be applied for other useful purposes. You can demonstrate this as follows. Place a small stack of books on your table. Call a few pupils to the front of the class and ask them to lift the books from the table, using only one hand. They will find that it is difficult to lift the books. Now place two bricks or wooden blocks on top of one another, and balance a length of plank across them, so that it looks like a see-saw. Place the same stack of books on one end of the plank. Call a pupil to the table and ask him or her to push down on the end of the plank that is up in the air. This will demonstrate that it is easy to lift the books by pushing down on the opposite end of the plank.

You can mention that we call this type of machine a 'lever'. However, do not use difficult words such as 'fulcrum' to explain the functioning of the machine. The important thing is that the pupils understand that machines can make our work easier.

You can also explain to the class that a swing (which is also a type of lever) can be used to lift and move objects.

### **Extension**

Ask the pupils to identify other machines at home or at school that work on the same principles as a see-saw, a cutlass and a wheelbarrow.

### **Homework**

Let the pupils colour in the machines on page 21 of the Workbook.

### **Answers**

Workbook page 21

The machines in the picture are: cutlass, wheelbarrow, see-saw, swing and hinges.

## Objectives

By the end of this unit, the pupils will be able to:

- identify safe and unsafe ways to use simple machines
- identify safe and unsafe actions when using simple machines
- identify careful ways to use and store things
- identify dangers in the use of simple machines
- demonstrate and use simple machines in a safe way.

## About this unit

This unit is an extension of the concepts in Unit 10: Simple machines. Pupils are made aware that there is a safe and unsafe way to use simple machines and to recognise the dangers of using machines in an unsafe way.

The concept of caring for simple machines or items is also covered in this unit, including the safe and careful way to store things.

The key skills that pupils will acquire and apply in this unit are the ability to identify safe and unsafe situations, and to use machines safely.

## Suggested resources

*Lesson 1:* areas and items in the school compound

*Lesson 3:* items in the classroom: scissors, broom, dustpan and brush, pinboard pins, items stored on shelves in the classroom, like paints and glue and books

### Note to the teacher

Some key words can be used as vocabulary 'helping words' for discussion and writing sentences.

## Key words

**load** – a large quantity of something that a vehicle or person is carrying

**big** – of a great size

**small** – not big

**pain** – the feeling you have when a part of your body hurts

**uneven** – not flat, smooth, or level

**leaning** – to rest against something in a sloping position

**plank** – long, flat piece of wood

**tree** – a very tall plant that has branches and leaves

**rope** – very strong, thick string

**strong** – having a lot of physical power

**push** – to move something away from you by pressing it with your hand

**nail** – a thin piece of metal with a flat end that you hit with a hammer

**close** – near

**far** – a long distance

**chop** – to cut something into pieces

**sharp** – having an edge or point that can cut things easily

**blunt** – not sharp or pointed

**safe** – unharmed, secure, free from danger

**careful** – to look after, to be watchful

**stored** – to put things somewhere and keep them until they are needed

**tap** – a machine that is used for switching the flow of water on and off

**plug** – a round piece of rubber for blocking the hole in a bath, basin or sink

**hook** – a small curved object used for hanging things on

**scissors** – a tool for cutting paper or cloth

**pins** – thin pieces of metal with sharp points, used for fixing or fastening something

**balls** – round objects that you throw, hit or kick in a game or sport

**sticks** – joins things together using glue

**glue** – a sticky substance used for joining things together

## Key words

**paint** – to use paint to make a picture of someone or something  
**sweep** – to clean the floor or the ground with a brush  
**glass** – a hard transparent material used for making windows, bottles, etc.  
**cut** – to divide something into pieces using a knife or scissors  
**knife** – a tool you use to cut things  
**gas** – a substance, such as air, that is not solid or liquid  
**matches** – small wooden sticks that make a flame when you rub them quickly against something rough  
**hang** – to put something somewhere so that its lower part is not supported  
**shelf** – a long, flat board fixed to a wall or in a cupboard, used for putting things on  
**tools** – things that you hold in your hand and use to do a particular job, such as a hammer  
**unsafe** – dangerous; likely to be harmed  
**danger** – the possibility of suffering harm or injury

## Additional vocabulary

swing, axe

## Teaching this unit

The main focus of this unit is to make pupils aware of how to use and store simple machines in a safe and careful way.

## Link to Workbook

*Lesson 2:* Workbook page 22, Worksheet 21

*Lesson 4:* Workbook page 23, Worksheet 22

## Lesson 1 (Pupil's Book pages 35–36)

### Lesson aims

Pupils will:

- identify safe and unsafe ways to use simple machines
- demonstrate how to use simple machines safely.

### Starting off

Take the class on a short walk around the school compound. Ask them to look for anything that they think might be unsafe. For example: *Is the gate closed? Is there a wheelbarrow or ladder that might be left in a careless position? What is the playground equipment like?* Ask pupils to look for all the safe things.

### Lesson focus

Refer to the Pupil's Book pages 35 and 36. Work through the activity slowly. Read the key words for each set of pictures. Ask pupils how and why the things are used in a safe or unsafe way. Refer to the details in the pictures, like the uneven or even ground the ladder is on. Ask pupils to look for the differences between the pictures. Discuss the dangers of using things carelessly.

Pupils can then copy the numbers and letters of the pictures and draw a tick or a cross next to each to indicate whether it is safe or unsafe.

### Answers

Pupil's Book pages 35–36

1. a) safe
2. b) safe
3. a) safe
4. a) safe

## Lesson 2 (Pupil's Book pages 35–36, Workbook page 22)

### Lesson aims

Pupils will:

- complete a worksheet
- identify safe and unsafe actions
- write the words 'safe' and 'unsafe' under the correct pictures
- write four sentences.

### Starting off

Refer to the Workbook page 22, Worksheet 21. Ask pupils to look at the pictures and identify what is safe or unsafe and to explain why.

## Lesson focus

Read through the instruction sentences and give pupils time to complete the worksheet. Pupils are to write the words 'safe' or 'unsafe' under the pictures and colour the pictures that show safe actions.

Refer to the Pupil's Book pages 35 and 36. Read through the key words. Ask pupils to make up a sentence for each picture using the key words to help them. Write the sentences on the board. Pupils then choose four sentences to write in their notebooks. They choose a picture from each set (1, 2, 3 and 4) to write about.

## Support

Pupils may need assistance with the spelling of words for the sentences.

## Answers

Workbook page 22

1. The first picture of the swing shows a safe action. The second picture of the man and the wheelbarrow shows a safe action.
2. First picture of swing: safe, second picture of swing: unsafe, first picture of man and wheelbarrow: unsafe, second picture of man and wheelbarrow: safe.

## Lesson 3 *(Pupil's Book pages 37–38)*

### Lesson aims

Pupils will:

- name safe and careful ways to use and store things
- give reasons for how and why people use things carefully
- identify the dangers of unsafe or careless actions and ways of storing things.

### Starting off

Ask pupils to look around the classroom and identify all the safe or unsafe ways things are stored. Ask pupils to identify and name any items (simple machines) that could be used in an unsafe way. For example: scissors, pinboard pins or glue. Demonstrate the careful use of some tools and equipment at school, such as a broom, scissors, glue, resources that are stored. Ask how these items can be used in an unsafe way.

## Lesson focus

Refer to the Pupil's Book page 37. Ask pupils to describe what is happening in the picture and to read or name all the items illustrated. Read the key words. Then ask pupils to name all the safe and careful ways things are being used or stored.

Refer to page 38. Ask pupils to describe what is happening in the pictures and to read or name all the items illustrated. Read through the questions in Activity 3 and ask pupils to give answers.

Ask pupils to make up sentences describing the safe or unsafe use of things and why. They can use the key words to help with their sentences.

## Homework

Pupils can write the sentences they made up in the lesson in their notebooks for homework.

## Answers

Pupil's Book page 38

1. Unsafe: the pot handle is in easy reach of the child who could pull it off the cooker and burn herself. The drawer with the knives inside is open and the child is reaching into the drawer to take out a knife, which could cut her. The hoe and the spade are leaning against the open door of the shed and could fall over or someone could trip on them.
2. The mother is cutting carefully. The man is sawing carefully. Most of his tools are stored carefully.
3. They are being careful so that they do not hurt themselves.
4. The pot has hot food in it and can burn the child if she pulls it off the cooker. The knives are sharp. The blade of the hoe could hurt someone if they trip on it.

## Lesson 4 *(Workbook page 23)*

### Lesson aim

Pupils will:

- identify careful and safe actions.



### **Starting off**

Refer to the Workbook page 23, Worksheet 22.  
Ask pupils to look at the picture and ask them the questions one by one. Let them give verbal answers at this stage.

### **Lesson focus**

Refer back to the questions and ask pupils to give reasons for their answers. Pupils can now write 'yes' or 'no' to answer the questions.

### **Answers**

Workbook page 23

1. No, the door is not being used carefully. It is open and does not seem to have a handle or hook to close it.

2. Yes, the teacher is careful as the items are in the drawer, but the drawer is open.
3. Yes, it looks as though the pupils keep the classroom tidy.
4. The girl looks like she is sweeping carefully, but she is kneeling close to the broken glass and must be careful she does not cut her knees.
5. Yes, the children are using the scissors carefully. They are not waving them around or trying to hurt anyone.

# Unit 12 What is energy?

## Objectives

By the end of this unit, the pupils will be able to:

- explain the meaning of energy
- perform activities involving the use of energy
- identify things that use energy.

## About this unit

This unit deals with the meaning of energy as exemplified by people doing work and performing actions. It introduces the concept of energy as an active force or power that enables things to move or to be made to move. For example, a ball can move if it is rolled; the action that causes the ball to roll involves the use of energy.

The key skills that pupils will acquire and apply in this unit are, therefore, an understanding of what energy is, how to perform energy-based activities and how to identify activities that use energy. This is foundational knowledge that pupils will be required to build on in later studies as the concept of energy (and work and power) are, as you know, fundamental to scientific study. Be sure, therefore, that pupils have a clear understanding of this concept and how it is applied in the situations described in the unit.

## Suggested resources

*Lesson 1:* scissors, chair, broom, ball, paper

*Lesson 2:* wash-line peg, mat, bucket

*Lesson 3:* an area where pupils can move and do actions in the school compound

### Key words

**energy** – power of doing work, active force

**read** – to look at words and understand them

**write** – to put letters or words on paper, using a pen or pencil

**play** – to enjoy yourself with toys and games

**work** – to spend time and effort trying to do something

## Additional vocabulary

draw, cut, sweep, sit, walk, roll

## Teaching this unit

The main focus of this unit is to make pupils aware of energy as power that enables actions to be performed. Pupils will perform activities that show the use of energy and why energy is important. The extension activity for Lesson 3 teaches pupils self-control and good sportsmanship.

## Link to Workbook

*Lesson 2:* Workbook page 25, Worksheet 24

*Lesson 4:* Workbook page 24, Worksheet 23

### Lesson 1 (Pupil's Book pages 39–40)

#### Lesson aim

Pupils will:

- use items to perform these actions: cut, sit, sweep, draw, roll a ball and pick it up.

#### Starting off

Refer to the Pupil's Book page 39. Read the sentences and the key words.

Ask pupils to describe the picture. Suggested questions: *What is the boy doing? What is he thinking about? Why do we need energy?* (The boy is doing his work and thinking about playing with his friends. We need energy to do things.)

#### Lesson focus

Refer to the Pupil's Book page 40, Activity 1. Let pupils take turns to do the actions for Questions 1, 3 and 4. Questions 1: use the broom to sweep the floor. Questions 3: roll the ball along the floor and ask a friend to roll it back to you. Questions 4: walk to a chair and sit on it. Get up, turn and walk away.

Ask pupils to name or describe the action they are doing. Ask the following questions: *Why are they able to perform these actions? What are they using?* (They are using energy.) Pupils can work individually or in pairs to do Question 2 of the activity. Hand out the scissors and paper.

### Extension/Support

Pupils can colour in their sun and glue it in their notebooks. Write these sentences on the board for them to copy and write under the sun they have drawn and cut out: I use energy to draw a sun. I use energy to colour in. I use energy to cut with scissors.

## Lesson 2 *(Pupil's Book page 41, Workbook page 25)*

### Lesson aims

Pupils will:

- identify items or actions that use energy
- perform actions that demonstrate the use of energy
- draw pictures that illustrate the use of energy
- read sentences.

### Starting off

Refer to the Pupil's Book page 41, Activity 2. Ask pupils to look carefully at the pictures and decide which ones show the use of energy. Ask the pupils: *Does every item use energy?*

### Lesson focus

Continue with Activity 2, page 41. Give pupils time to do the activity in their notebooks.

Discuss the use of energy with regard to the pictures of the mat, the peg and the bucket. Ask pupils if the items use energy on their own. Use the resources and ask pupils to demonstrate these actions: shake the mat, use the peg to hang an item of clothing or a poster, pick up the bucket, fill it with some items available in the classroom, like crayons or building blocks, and carry the bucket.

Now ask the question again: *Do the items use energy by themselves? What do they need so that they can be used?*

This concept of how energy is used is developed further in Grade 3 where pupils learn about stored and potential energy.

### Answers

Pupil's Book page 41

The girl uses energy to ride the bike. The man uses energy to saw the plank. The lamp uses energy to give light.

The mat, the peg and the bucket do not use energy by themselves. They can be used if the energy comes from another source or action: 'shake' the mat, 'grip' the peg, 'carry' the bucket.

### Extension/Support

Refer to the Workbook page 25, Worksheet 24. Read the instructions and the sentences with the class. Give pupils time to complete the worksheet. The worksheet can also be given as a homework exercise. Use the worksheet to assess whether pupils can read and follow instructions.

## Lesson 3 *(Pupil's Book page 42, Workbook page 24)*

### Lesson aims

Pupils will:

- perform actions that use energy: jump, run, hop, bend
- listen to and follow instructions.

### Starting off

Refer to the Pupil's Book page 42, Activity 3. Explain to the class that they are going to use their energy to move and do actions. Take the class outside to an area where they can move around.

### Lesson focus

Line the pupils up in one line so that they can move forwards or backwards to do the actions. Give the instruction to do each action as a class.

Tell the pupils to do the following: jump forwards for three counts, jump backwards for three counts, run forwards for six counts, turn and run back for six counts, hop on one foot for three counts, turn and hop back for three counts, stand up straight and then bend slowly over to touch their toes, straighten up to standing position.

Now ask pupils to show how these actions are done if they have very little energy. *Would the actions be done quickly or slowly?* Repeat some of the actions, but tell pupils to do them slowly and then quickly. Ask: *What uses more energy, the slow actions or the fast actions?*

Actions use less energy if done slowly and more energy if done quickly.

Think of more actions that the pupils can do.

### **Extension/Support**

Set up apparatus in an area so that they can move from one to the other in a circuit. For example: tyres or hoops to jump over and into, stumps to jump onto, cones or buckets to run around. Use a whistle to control the giving of instructions.

Divide the class into small groups. Start in one area and let the first group complete the first part of the circuit before letting the second group go and so on. When the first group has completed the circuit they must sit. When all groups are sitting, the activity ends.

Controlling the beginning and completion of moving in a circuit teaches pupils self-control and good sportsmanship.

## **Lesson 4** (Workbook page 24)

### **Lesson aims**

Pupils will:

- read and identify words that tell how energy is used
- read simple instructions.

### **Starting off**

Recall the actions from the lesson of Activity 3 in the Pupil's Book page 42. Ask pupils to describe what they did and what they used to enable them to do the actions. (They used energy to do the actions.)

### **Lesson focus**

Refer to the Workbook page 24, Worksheet 23. Read the heading and let pupils give their answers.

Read through the instructions with the class and let pupils take turns giving answers for Question 1. All the words tell how energy is used, but there are specific words that describe the actions illustrated. Give pupils time to complete the worksheet.

Use the worksheet to assess whether pupils can read, listen to and follow instructions.

### **Homework**

The worksheet can be completed as a homework exercise.

### **Answers**

Workbook page 24

All the words tell how energy is used, but the five words that describe how energy is used in the pictures of the worksheet are: jump, chase, run, hop, bend.

## Pupil's Book pages 43–44

### Objectives

This Assessment tests the knowledge, understanding and skills that pupils are assumed to have acquired as they worked through the content presented in Theme 2: Basic technology. It is important that pupils complete this Assessment without support from other pupils, as this would cover up any difficulties a pupil may be having with particular concepts or skills.

It is therefore best carried out with small groups of pupils under your guidance.

Read each question carefully to the pupils and give them time to complete it before moving on to the next question.

A more able group within the class may be able to complete the Assessment without you needing to read the questions. However, observing all pupils while they complete the Assessment provides further information about their knowledge, understanding, and skills, and ability to apply these independently.

Ensure that you build in time to provide feedback to individual pupils and the class as a whole. Use the results of the Assessment to revise and/or reteach certain concepts or skills that are key to the pupils' ability to engage with content and concepts in future weeks and years of study.



### Answers

#### Simple machines

- 1. and 2.** Answers will vary, but can be selected from the items discussed and illustrated in Units 10 and 11.
- 3.**
  - a)** (X) unsafe
  - b)** (✓) safe
  - c)** (X) unsafe
  - d)** (✓) safe

#### Energy

- 4.** All words are correct: work, play, run, sleep, sit, jump, draw.
- 5. 6. and 7.** will vary.



### Guidance for Assessment

Pupils can refer to the pictures in the Pupil's Book from this theme to help them with answers.

For Question 2, have a selection of resources available for the pupils to choose from. For example: scissors, spoon and a broom or dustpan and brush. Use some of the items that were used for Units 10 and 11. Select the pupils who will work with each other to avoid conflict and to save time.

For Question 7, pupils can select items that were discussed and illustrated in Unit 12.

## Objectives

By the end of this unit, pupils should be able to:

- demonstrate correct movement patterns of leaping, walking, stepping, hopping and running, etc.
- perform basic manipulative movements
- identify safety rules in walking, running, pushing and kicking, etc.

## About this unit

This unit introduces the pupils to the techniques and skills necessary for a variety of locomotor movements. Most of your pupils should be able to do these actions but may not have the ability to do them effectively. During the course of this unit, they will gain an awareness of how they move, as well as improve their skills in catching, throwing and striking.

Pupils will also learn how to do the activities safely so that they do not hurt themselves or those they are playing with. Through regular physical activities pupils will develop and maintain healthy habits.

Remind them throughout this theme 'Physical and health education', and the sub-theme 'Sports and games', that playing games often, and participating regularly in the sports they enjoy will keep them fit and healthy. Explain that the physical activities they do now help build their bone strength, which will help them be strong even when they are old!

The key skills that pupils will acquire and apply in this unit are the ability to move forward safely in a variety of ways, and throw and catch effectively.

## Suggested resources

*Lessons 1 and 2:* use of the school playground, beanbags, balls of different sizes, buckets and bats, cone markers or other items which can be used to mark out areas in the playground, a whistle

## Key words

**leap** – jump high and far

**step** – stand up and down on a step, starting with a different foot each time

**hop** – move forward on one leg

**strike** – hit with a bat

## Teaching this unit

Wear comfortable clothes and sports shoes or shoes that are easy to move in while you teach these lessons. Ensure that pupils bring clothing that they can comfortably run around in. They can do these activities barefoot but could bring sports shoes if the ground has thorns or is too stony.

Make certain that the playing grounds are free from broken glass or sharp objects that could harm the children and always remind the pupils of the safety rules before they play outside.

The basic techniques necessary for effective catching, kicking and striking are explained in this guide but if you are unsure of the technique for some of the actions, ask a parent or colleague to demonstrate the techniques to you, for example, how to hold a bat when striking, or how to kick a ball accurately.

They need to warm their muscles up before participating in vigorous exercise, and cool their muscles down afterwards. Before each lesson in this unit, encourage pupils to walk slowly at first, then gradually walk faster until they are walking at a fast pace. They can do this on the spot for three minutes. After each lesson, encourage the pupils to lie down on the ground, and relax each part of their body as you call out the separate body parts. For example, relax your feet, now relax your ankles, relax your legs, etc. until each body part is relaxed.

Be aware of the pupils in your class with physical challenges and adapt the lessons so that they too can participate. The Support section at the end of each lesson gives tips on how to include physically challenged children.

## Link to Workbook

*Lesson 1:* Workbook page 26, Worksheet 25

*Lesson 2:* Workbook page 27, Worksheet 26

## Lesson 1 *(Pupil's Book page 45, Workbook page 26)*

### Lesson aims

Pupils will:

- practise leaping, walking, running and other locomotor movement techniques
- practise some non-locomotor movements such as rolling a ball
- practise some manipulative patterns (deliberate actions involving moving and anticipating – such as throwing and catching in pairs)
- list the dangers that could occur while doing these activities.

### Starting off

Before starting the movement activities outside, explain that they must always move and play safely. This means that they must move in a way that will not hurt themselves or their friends. Tell the pupils that they can protect their bodies by warming up before they do vigorous exercise, and cooling their bodies down afterwards. Explain that they will do the warm-up and cool-down activities before and after each lesson.

Talk to the class about moving and playing safely. Explain that they must not stop or turn suddenly while walking or running in case there is someone behind them. They must always keep their balance so that they do not fall and hurt themselves. They must not jump over something before checking that the ground on the other side does not have sharp objects like broken glass, thorns or sharp stones on it.

Read the text on page 45 in the Pupil's Book with the class and explain the actions they will do.

Note that the stepping action involves stepping up onto a level with the right foot, then bringing the left foot up so that both feet are on the same upper level. Then taking the right foot down onto the lower level again, followed by the left foot down until both are on the lower level. This stepping action can be repeated ten times before swapping the starting foot.

### Lesson focus

Take the pupils outside and ask them to check the ground and remove sharp objects before they start the movement activities. Ask them to tell you what they must and must not do in order to be safe. (Note whether they say that they must not stop or turn suddenly.)

Do the warm-up activities as explained in the 'Starting off' section with the class.

Mark out areas where the pupils can practise each type of movement. Group the pupils into groups of six or seven and let them practise each type of activity for five minutes. To make it fun, and to add challenges, give them a variety of tasks to do in a row. For example, jump five times, then hop three times, then walk ten steps and leap over a log, then run back to where you started.

If some pupils struggle with some of the actions, pair them up with those who manage well and let them practise together.

Do the cool-down activity with the class before they return to their classroom.

Pupils then, on their own, complete Worksheet 25 on page 26 in the Workbook. They compare their answers with a partner.

### Support

Adapt the activities for pupils with physical challenges. For example, a child who walks with a stick could time herself walking from one marked spot to another at the start of the lesson, then rest, then time herself again to see if she can improve her speed.

### Answers

Workbook page 26

leap, walk, step, hop, run, jump

## Lesson 2 *(Pupil's Book page 46, Workbook page 27)*

### Lesson aims

Pupils will:

- throw large, light balls or beanbags
- catch large, light balls or beanbags
- kick a ball towards a goal
- roll a ball towards a goal
- strike a ball with a bat
- list the dangers that could occur while playing with a ball.

### Starting off

As with Lesson 1, remind the pupils that we must always move and play safely. Explain that in this lesson they will be playing with balls and bats. Tell the pupils they must never throw a ball at someone; they must always check that the person is expecting the ball. They must always check that someone is not behind them when they are using a bat.

Also remind them that they need to warm their bodies up before they do vigorous exercise, and cool their bodies down afterwards so that they do not hurt their muscles.

Read the text on page 46 in the Pupil's Book with the class and explain the following actions they will do:

They must 'push' their arm and hand towards the bucket when they throw the ball or beanbag into the bucket. They must keep watching the bucket while they throw. They must stand in a balanced way so that they throw straight.

When they throw the ball to their partner they must throw up, with both their hands.

When they catch a ball they must watch the ball, not the person who is throwing the ball.

Explain to the pupils how to use the inside part of their foot to kick a ball accurately.

Show the pupils how to hold a bat, with their left (or least dominant) hand above, and their right (or dominant) hand below. The top hand must have the back of the hand facing the person who will throw the ball, and the bottom hand facing the other way.

Now read page 47 with the class and discuss the consequences of unsafe behaviour.

### Lesson focus

Take the pupils outside and ask them to check the ground and remove sharp objects before they start the ball games and activities. Ask them to tell you what they must and must not do in order to be safe. (Note whether they say that they must not throw the ball **AT** someone, but **TO** someone, and must check that there is no one behind them when they use a bat.)

Do the warm-up activities as explained in the 'Starting off' section in Lesson 1 with the class.

Mark out areas where the pupils can practise each type of movement. Group the pupils into groups of five or six and let them practise each type of activity for ten minutes. To make it fun, and to add challenges, let them count how many balls out of ten tries they can catch, can hit and can throw into a bucket.

If some pupils struggle with throwing and catching, let them roll the ball to each other until they feel more confident.

Do the cool-down activity with the class before they return to their classroom.

Pupils then, on their own, complete Worksheet 26 on page 27 in the Workbook. They read the completed sentences to a partner.

### Support

Adapt the activities for pupils with physical challenges. For example, a child who cannot see easily must have a large ball to practise with. A child in a wheelchair can practise most of the activities but ensure that they are partnered with someone who throws accurately.

### Answers

Workbook page 27

1. Look
2. trip
3. push
4. stop



## Unit 14 Playing games

### Objectives

By the end of this unit, pupils should be able to:

- demonstrate the skills of some local games
- perform some local games
- perform the basic skills in ball games
- mention safety rules in games.

### About this unit

In the first half of this unit, pupils will play local games that they can play in the playground without the need for sports equipment. They may know some of the games suggested in this unit but you may need to show them how to play those they do not know.

The skills involved in these games involve turning around quickly, and starting to run quickly (Rats and Rabbits), ducking under arms, and running fast in a circle and changing direction quickly (Cat and Rat), and running at medium pace in a circle, then standing absolutely still in one position (Fire on the mountain).

In the second half of this unit, pupils practise kicking and stopping a ball. The skills they will develop in this section are kicking accurately and remaining in a balanced position while kicking, and watching the ball and anticipating the direction it will take in order to stop it.

The key skills that pupils will acquire and apply in this unit are the ability to play running and catching games, and kicking and stopping ball games. They will learn how to play these games safely.

### Suggested resources

*Lesson 1:* use of the school playground

*Lesson 2:* use of the school playground and soccer-sized balls

### Key word

**whistle** – item we blow to make a noise and alert players to the rules and when to stop and start during a game

### Teaching this unit

Remember to wear clothes and shoes that are easy to move in while you teach these lessons. Before the lessons, remind the pupils to bring clothes they can play games in.

Check that the grounds are safe to play on before the pupils play games or play with the ball.

Read through the section ‘Starting off’ in Lesson 1, to remind you of the rules of the different games.

Refer to Unit 13 to remind you of the warm-up and cool-down activities that the class must do before the start and at the end of the games.

Remember to adapt the lessons for pupils with physical challenges so that they too can participate. The Support section at the end of each lesson gives tips on how to include physically challenged children.

### Link to Workbook

*Lesson 1:* Workbook page 28, Worksheet 27

*Lesson 2:* Workbook page 29, Worksheet 28

### Lesson 1 *(Pupil's Book pages 48–49, Workbook page 28)*

#### Lesson aims

Pupils will:

- practise the skills necessary for the local games
- play the local games
- mention the safety rules necessary for these games.

## Starting off

Explain to the class that they will play three games during the course of this lesson: Rats and Rabbits, Cat and Rat, and Fire on the mountain. Many of the pupils may know these games, but revise the rules for those who are not certain. Read the explanations of the games in Activities 1, 2, 3 and 4, and show the class the pictures on pages 48 and 49 in the Pupil's Book.

Here is a more detailed explanation of the games which you can follow if you and the class do not know the rules:

**Rats and Rabbits:** Split the group into two teams. One team is Rats and the other team is Rabbits. Line them up, standing back to back, in the middle of a designated area, about the size of half a netball court. You will shout 'Rats' or 'Rabbits'. If you shout 'Rats', the Rats must run to their end of the court or play area. The Rabbits must turn around quickly and chase after the Rats. If they catch a Rat, the Rat changes teams and become a Rabbit. If you shout 'Rabbits', the Rabbits run, and the Rats chase. The game can end when there is no one left in a team.

**Cat and Rat:** Choose two pupils to be Cat and Rat. The rest of the group stands in a circle, holding hands. Cat stands outside the circle, and Rat stands inside the circle. Rat must try to get out of the circle without being caught by Cat. Rat must keep moving, even when inside the circle. Cat cannot move into the circle but can reach through the circle to touch Rat. Players in the circle hold their arms up to let Rat in or out of the circle. They hold their arms down to stop Cat when Cat tries to touch Rat inside the circle. Once Cat has touched Rat, they swap with another pair in the circle.

**Fire on the mountain:** The group forms a circle around a designated pupil. That pupil is the mountain. The group sings: 'There's a fire on the mountain. Run! Run!' They sing this repeatedly as they jog around the "mountain". When the mountain shouts 'STOP', the pupils must "freeze" (stop immediately, and stay in that exact position). The "mountain" watches them carefully. As soon as one of the pupils moves, he or she is the

"mountain" and the pupil in the centre moves into the circle.

Now take the class outside to a play area and let them warm-up, as described in Unit 13.

After they have warmed up, demonstrate to the class the different skills they will need in order to play the games in this lesson. Tell them when you blow the whistle once, they must run quickly, and when you blow it twice, they must turn and run in a different direction. Let pupils do this for a minute or two. Then tell them that when you blow the whistle once, they must run as if jogging (at a medium pace). When you blow the whistle twice, they must stop and 'freeze' (stay motionless in the position they stopped in).

Explain to the class that they must always be aware of the pupils around them as they run and change direction so that they do not hurt the people behind them, or themselves.

Set out three different playing areas outside so that three games can occur simultaneously.

## Lesson focus

Divide the class into three groups. Explain that each group will have a turn to play each game during the course of the lesson.

Pupils play each game for about ten minutes. Check that they are playing fairly and following the rules of the game before they start their next game, so that you can explain any misunderstandings to the class.

Pupils then do the cooling-down activity as explained in Unit 13.

Back in class, pupils complete Worksheet 27 on page 28 in the Workbook.

## Support

Pupils who cannot run easily can be a part of the circle, in Cat and Rat. They can be the 'mountain' in Fire on the mountain.

## Answers

Workbook page 28

3. There's a fire on the mountain run, run.

## Lesson 2 *(Pupil's Book page 50, Workbook page 29)*

### Lesson aims

Pupils will:

- perform the basic skills in ball games
- mention safety rules in games.

### Starting off

Take the class outside to a play area and let them warm-up, as described in Unit 13.

After they have warmed up, demonstrate the basic skills needed to kick a ball accurately. Show them:

- how to kick with the inside part of their foot
- how to kick softly, and explain that they can kick harder once they are often kicking accurately
- that they must first look at the goal or person they want to kick to before they kick
- that they must watch the ball while they are kicking it.

Now demonstrate the basic skills necessary for stopping a ball. Show them the following:

- how to watch the ball coming towards them carefully (explain that they must watch the ball, not the person who kicked the ball to them)
- that they must move into a position that will allow them to stop the ball as soon as they see where the ball is going
- that they must bend their knees slightly so that they are well balanced
- that they must stop the ball with the side of their foot, not their toes.

Remind the class that while they practise kicking they must always kick a ball towards someone, not at someone. The person they are kicking to must be aware that the ball is coming their way. Remind them to keep their balance so that they kick accurately, so they do not kick someone by mistake, and so they do not fall over while kicking the ball.

## Lesson focus

Divide the class into groups, depending on the number of balls you have. Each group must have a large ball.

First let pupils practise kicking the ball accurately. Divide each group into two teams, with each team facing the other. The teams take turns to kick the ball softly through the “goals” or open legs of the opposite team. They may count how many times they manage to kick the ball through the “goals”. At first the opposite team does not try to stop the ball.

After most of the pupils are managing to kick reasonably accurately, the opposite team can try to stop the ball with their feet. They may count how many times they manage to do so.

Stop the games when necessary to show pupils who are struggling to kick accurately, or to stop the ball effectively, and how to improve their skills. You may pair pupils who struggle, so they can focus on only one person who is kicking towards them, or can focus on kicking to only one ‘goal’.

Pupils then do the cooling-down activity as explained in Unit 13.

Back in class, pupils complete Worksheet 28 on page 29 in the Workbook.

## Support

Pupils who cannot kick can throw the ball towards a partner, for the partner to stop the ball.

## Answers

Workbook page 29

1. a) insid  
b) foot  
c) to  
d) balance  
e) the ball

## Objectives

By the end of this unit, pupils should be able to:

- perform simple athletic activities
- explain the health benefits of running, jumping and throwing, etc.
- mention safety rules in running, jumping and throwing, etc.
- mention the preliminary skills of swimming
- list some benefits of swimming
- list the safety rules of swimming.

## About this unit

In the first lesson, pupils will learn how to run a 50 metre dash. They will learn how to complete a simple high jump in Lesson 2. They will learn how to start, carry out and finish these athletic activities correctly and safely.

In Lesson 3, pupils will practise basic swimming skills such as how to enter and exit the water, how to adjust their bodies to water temperature, how to breathe when in water and how to float in water.

The key skills that pupils will acquire and apply in this unit are the ability to perform athletic activities such as running, jumping, and to breathe while in water, to float, and to enter and exit water. They will learn how to perform these activities safely.

## Suggested resources

*Lesson 1:* playground, markers for running start and end lines

*Lesson 2:* cross bar or rope, up-right poles, landing pit or sponge mattress, tape measure

*Lesson 3:* swimming pool or swimming area, whistle, swimming trunks and towels, buckets of water, floating supports such as air-filled plastic bottles, and life jackets

## Key words

**high jump** – jump high, over a rope or pole  
**float** – lie in water

## Teaching this unit

Remember to wear clothes and shoes that are easy to move in while you teach the athletic lessons. Before the lessons, remind the pupils to bring clothes they can run and jump in comfortably, and swim in. Remind them to bring towels for the swimming lessons as well.

Check that the running and jumping areas are safe to use before the athletic lessons. Ensure there is soft sand, or place a sponge mattress or some such soft item beneath the landing area for the high jump.

Refer to Unit 13 to remind you of the warm-up and cool-down activities that the class must do before the start and at the end of the activities.

Remember to adapt the lessons for pupils with physical challenges so that they too can participate. The Support section at the end of each lesson gives tips on how to include physically challenged children.

## Link to Workbook

*Lesson 2:* Workbook page 30, Worksheet 29

*Lesson 3:* Workbook page 31, Worksheet 30

## Lesson 1 (Pupil's Book page 51)

### Lesson aims

Pupils will:

- demonstrate how to start a race
- demonstrate how to sprint (run a fast race)
- demonstrate how to end a sprint
- mention the safety rules necessary for these games.

### Starting off

Tell the class that they will learn how to run a 50 metre race. Explain the following:

- There is a certain way they start races, so that they can use as much power as possible to ensure they start their run as fast as possible. Explain

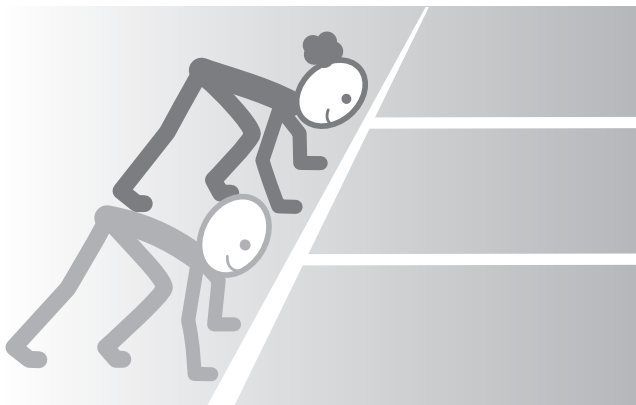
that you will show them this later.

- Once they start running they must look straight ahead at the end point.
- They must keep their balance so that they do not fall over or fall forwards while running.
- They must also use their arms to help them move faster and for balance.
- They must not slow down when they reach the end point, but run as fast as they can until they have crossed the finish line.

Discuss the information and pictures on page 51 in their Pupil's Book and explain the running stances. Tell the class you will show them the stances later, in the playground.

### Note to the teacher – Errata

Please note that the artwork for 'Get set' on page 51 in the Pupil's Book has been changed. The corrected artwork is as shown below.



Explain some running safety rules to the class. Tell them that they must not cross the path of their opponents while they run. They must also move forward once they have crossed the finish line, so that the runners behind them do not bump into them.

Also remind them that the warming up and cooling down exercises help prevent them from damaging their muscles.

Explain the value of exercising the body to the class. Remind them that they must have a strong, healthy body so that they can be healthy and fit. Explain that exercises, like running regularly,

helps build bone and muscle strength. This sort of regular exercise also strengthens the heart, and helps prevent heart diseases later on in life.

Mark out a 50 metre running course and ensure the area is safe from sharp objects.

### Lesson focus

Take the class outside and demonstrate the three stances they use to start a race, and say the starting words, as follows:

- On your marks – runners stand behind the starting line and lean down to support their upper body on their spread fingers, with their legs bent. Their dominant leg must be bent closer to the starting line, with their other leg bent further back. They look down and they must be balanced. Their hands must be behind the starting line.
- Get set – runners lift their haunches and look up. They lean on their back leg, so that they can push off quickly to start.
- Go – runners push off from their back leg and run as fast as they can towards the finish line.

Remind the class to keep balanced and to use their arms to help propel them while they run. Remind them that they must keep watching the finish line, and only slow down after they have crossed the line.

Then divide the class into two groups, and give each pupil a partner in the opposite team to observe. Explain that Group 1 will run while Group 2 will observe their partners as they run. The observers will give their partners advice after they have finished their race, if necessary. For example, their partner may not have used their arms effectively while they ran.

Pupils in Group 1 warm-up their bodies as explained in Unit 13.

After pupils in Group 2 have had a chance to give feedback to their partners, Group 2 warm-up and run their race. Pupils in Group 1 then give their feedback to their partners.

Groups run again, and try to improve their skills after receiving their peers' advice.

## Support

Physically challenged pupils may help you measure out and mark the 50 metre track. If you have a stop watch they may time the pupils who are keen to know their sprint times. They may also sit at the finish line and name the runners who come in 1st, 2nd or 3rd.

## Lesson 2 *(Pupil's Book page 52, Workbook page 30)*

### Lesson aims

Pupils will:

- practise the run-up for a high jump
- practise the take-off for a high jump
- practise jumping over a rope or pole
- practise landing safely
- mention the safety rules necessary for high jump.

### Starting off

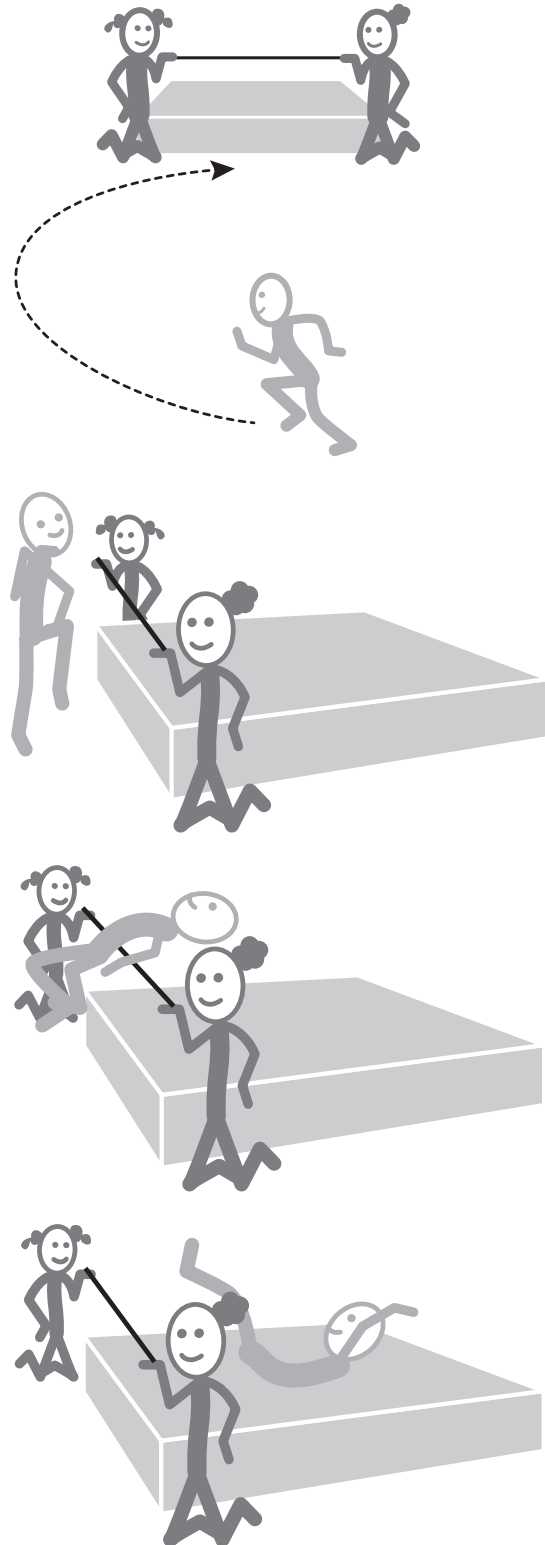
Explain to the class that they will learn how to complete a high jump. Tell them that there is a certain way they run up to the cross bar, and jump and land. This way helps them jump high and ensures that they land safely.

Read the instructions and explain the high jump technique, using the pictures on page 52 in the Pupil's Book, as follows:

- They must run slowly from the starting line, then turn slightly sideways towards the rope or bar and take a few fast steps before they jump.
- They then jump up with their strongest leg pushing hard off the ground.
- They turn as they jump, and bend the other leg's knee and lift that leg from the knee, as high as they can.
- Then they lift their head and back up and over the bar.
- They arch their back so it doesn't touch the bar.
- Their legs follow.
- They lift their head so that they fall safely on their shoulders, arms, and back when they land.

## Note to the teacher – Errata

Please note that the artwork for 'High jump' on page 52 in the Pupil's Book has been changed. The corrected artwork is as shown below.



Explain that the aim is to jump as high as possible without touching the cross bar or rope.

Set out the high jump area and ensure the landing area is safe from sharp objects. Place a soft mattress or foam mat in the landing pit.

### Lesson focus

Take the class outside and demonstrate the high jump technique. Explain to the class that they will each have a chance to jump. They must first do a low jump then build up until they feel confident about doing a high jump.

Remind them to land on their back, with their head up, and let them practise landing on the mat in that position before they start to do their jumps. Pupils explain to a partner how they land safely and show their partner how they do this. Their partner can assist them until they can show how to fall safely with confidence.

Measure their jump height after each jump and let them try to better their height each time.

Back in class pupils complete Worksheet 29 on page 30 in their Workbook.

### Support

Physically challenged pupils may measure and write down the height of their peers' jumps. They may also point out run-up, jump and landing techniques that their peers could improve and give helpful advice.

## Lesson 3 *(Pupil's Book page 53, Workbook page 31)*

### Lesson aims

Pupils will:

- listen to your explanations of the benefits of swimming and list these benefits
- observe your demonstrations of how to enter and exit water, breathe while swimming, and float in water
- practise entering and exiting water safely
- practise breathing while in water
- practise floating in water
- obey and list some safety rules.

### Starting off

Explain to the class that they will learn how to be safe in and around water. They will learn how to enter water safely, and how to breathe and float when in water. They will also learn how to get out of water safely. Explain that these actions can help them stay alive in water. If they do not know how to breathe, float or swim they could sink under water and drown. Emphasise the fact that if they play in, or fall into deep water and they know how to keep afloat and how to breathe, they will probably not drown. They will be calm and float until an adult helps them, or they will swim to shore.

Read the instructions and explain the reasons for obeying swimming safety rules, using the pictures on page 53 in the Pupil's Book with the class.

Ask the class to repeat the rules after you, then to say them again on their own, as a class.

Pupils then complete Activity 3 on page 53 in their Pupil's Book and check that they have answered accurately.

Ensure that you have a few colleagues or parents who can swim to help you with this lesson.

Give the pupils, and yourself, time to change into swimming clothing before taking them outside to a swimming area.

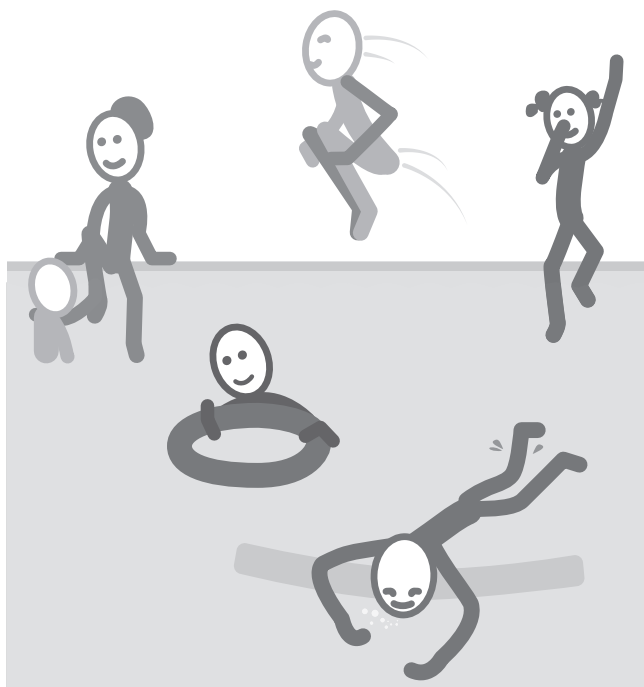
If you do not have a swimming area, ensure that you have tubs filled with water. You may want to have tubs available in any case, so that pupils can practise breathing skills when in water.

### Lesson focus

Pupils complete Worksheet 30 on page 31 in their Workbook. Discuss their answers and make certain they understand the rules.

### Note to the teacher – Errata

Please note that the artwork for 'Swim safely' on page 31 in the Workbook has been changed. The corrected artwork is as shown below.



Read and discuss the information on how to blow bubbles and how to float on page 54 and in Activity 4 in the Pupil's Book with the class.

Then take the class outside and pair them so that each pupil has a partner who he or she must watch throughout the whole lesson. Show them which end is the shallow end and which is the deep end of the pool, if relevant. Explain that they must only stay in the shallow area for this lesson.

Show the pupils how to blow bubbles into tubs of water. Tell them that they must blow bubbles, then come up for a fresh breath of air, then blow more bubbles in the water again.

While the pupils are practising this, take a few pupils to the water's edge and show them how to enter the water gently, without pushing others, and without jumping or diving into the water. Show them how to exit the water without kicking someone behind them. Explain that they must never pull on a friend to get out of the water, in case they pull that friend in.

Take pupils into the shallow area individually, and support them as you let them practise floating. Show them how to float on their back like a turtle,

and on their front. Remind them to blow bubbles while they float face-down.

Your colleagues and parents who are helping must be with a group of pupils at all times.

Back in class, pupils complete Activity 5 on page 54 in their Pupil's Book.

### Answers

Pupil's Book page 53

In picture 1 their teacher is watching them and they are getting into the water carefully. In picture 2 their teacher is not watching them, and one child is pushing another.

### Answers

Pupil's Book page 54

Pupils should explain that swimming could save their lives. If they fall into deep water and do not know how to keep breathing, or how to float or swim, they could swallow too much water and drown.

### Support

There may be pupils who are afraid of getting into the water. Do not force them, but encourage them to play games that may entice them into the water. For example, fill small, clear plastic bottles with stones. Close the lids tightly and drop them into the very shallow end of the pool. The nervous pupils may hold your hand, and bend down to collect the bottles. Praise them if they manage to collect more bottles each time they try, and if they manage to go a little deeper each time.

### Answers

Workbook page 31

1. Pupils should put a cross over the two children who are jumping into the water.
2.
  - a) jump
  - b) pull
  - c) push
  - d) adult



## Objectives

By the end of this unit, pupils should be able to:

- explain how to wash their hands, bath and care for the skin
- demonstrate how to brush their teeth
- describe how to cut their nails
- state ways of maintaining footwear
- mention ways of maintaining the hair
- mention the benefits of cleanliness.

## About this unit

This unit focuses on hygiene and health education.

In Lesson 1, the pupils will learn about the value of hygiene and learn how to wash and clean themselves properly. In Lesson 2, they will practise cutting their nails and tidying their hair, and in Lesson 3, they will learn the value of keeping their clothes clean.

They will finally describe how hygiene and cleanliness benefit them and those around them.

The key skills that pupils will, therefore, acquire and apply in this unit are the ability to keep their bodies clean and tidy, and how to wash their clothes.

## Suggested resources

*Lesson 1:* tubs of water, sponges, body cream or Vaseline, wash cloths, towels

*Lesson 2:* pupils' own toothbrushes, toothpaste, chewing sticks, water, mugs, nail scissors and clippers, hairbrushes, hair clippers, and hair accessories

*Lesson 3:* pupils' own shoes and socks, some clothing items, washing tubs, washing powder, shoe polish, shoe cloths

## Key words

**body cream** – cream to put on your body to keep your skin soft and smooth

**rinse** – use water to take the soap off your body

**wrists** – the joints between your hands and your arms

**fingernails** – the nails on the tips of your fingers

**clippers** – items used to clip or cut toenails and fingernails

**toothbrush** – brush used to clean the teeth

**toothpaste** – cleaning paste to put on the toothbrush

**shoe polish** – polish to put on a brush or cloth to shine shoes

## Teaching this unit

Pupils will know that they should all bath regularly, and keep their hands, nails, teeth and hair clean.

They will also know that they should keep their clothes and shoes neat and clean. In this unit, the pupils will learn why this is necessary, and learn how to maintain these hygiene practises.

## Link to Workbook

*Lesson 1:* Workbook page 32, Worksheet 31

*Lesson 2:* Workbook page 33, Worksheet 32

*Lesson 3:* Workbook page 34, Worksheet 33

## Lesson 1 *(Pupil's Book pages 55–56, Workbook page 32)*

### Lesson aims

Pupils will:

- describe and demonstrate how to wash their body
- describe and demonstrate how to wash their hands properly
- describe and demonstrate how to care for their skin.

## Starting off

Explain to the class that they must keep their bodies clean so that they do not allow germs to grow and make them sick. Explain too, that if they have germs they can spread them to others, and make those people sick.

Explain that you know they all wash often but tell the class this is their chance to check that they wash themselves properly.

## Lesson focus

Read and discuss the information on how to wash your body on page 55 in the Pupil's Book with the class.

Let pupils talk about the reason for the different items in the picture: Water and soap make it easy to wash. Warm water and soap help kill germs, and rinsing the body with water washes the germs and dirt away. Shampoo helps to keep the hair clean. Explain that many people can wash their hair with soap, but people with long hair often like to use shampoo because it is easier to rinse their hair after washing it with water and shampoo, and it can make the hair shiny.

Talk about how they spread soap onto a damp cloth to wash their faces and bodies, and use a rinsed cloth to wipe off the soap. Explain that they must dry themselves well with a dry towel, to prevent germs growing in damp areas, especially between their toes and behind their ears. Explain that many people rub body cream onto their skin after they have bathed or showered. This helps their skin stay moist and soft.

Read the information in Activity 1 and Activity 2 on page 56 with the class then let the pupils act out the steps as you read them.

Discuss when to wash hands: after visiting the toilet and before eating. Explain that when they are sick they can easily spread germs to others if they do not wash their hands often with soap and water.

Pupils then, on their own, complete Worksheet 31 on page 32 in their Workbook. You may need to assist them with the spelling of the words in brackets in Question 2.

## Answers

Workbook page 32

- Step 1:** Wet, **Step 2:** Rub, **Step 3:** Rinse, **Step 4:** Dry.
- a)** eat, **b)** toilet, **c)** sick, **d)** healthy.

## Lesson 2 *(Pupil's Book pages 57–58, Workbook page 33)*

### Lesson aims

Pupils will:

- cut and clean their nails
- explain why they should keep their nails short
- tidy their hair
- describe how to keep their hair neat, tidy, clean and trimmed
- clean their teeth
- explain why it is important to keep their teeth clean.

### Starting off

Before this lesson, ask pupils to bring the following to school:

- their nail clippers and nail brushes
- their hair combs and the accessories they use to keep their hair tidy
- their toothbrush and a mug.

You should bring nail scissors, hair combs, brushes and clippers, a tube of toothpaste and chewing sticks to class.

Ask a few pupils to demonstrate how they clean and trim their fingernails, how they keep their hair neat and tidy, and how they clean their teeth. Assist them if necessary, and describe to the class what the pupils are doing as they demonstrate each task.

### Lesson focus

Read and discuss the information on how to cut the fingernails on page 57 with the class.

Talk about how dirty fingernails can hold germs and remind the pupils that these germs can make us sick. Explain that long fingernails hold even more dirt and germs. They can also hurt us and the people we play and work with.

Pupils then, on their own, complete Activity 3, and describe the process to a partner.

Then read and discuss the information on keeping the hair clean, neat and tidy on page 57 with the class. Explain that dirty hair allows greasy oils to build up on the scalp and can lead to skin ailments.

They complete Activity 4 and draw their picture and describe it to their partner.

Lastly read and discuss the information on how to brush your teeth on page 58 with the class.

Show them how to do this, by wetting the brush, placing a small bit of toothpaste on the brush, brushing each tooth in small circles and then rinsing the toothpaste out the mouth with fresh water. Remind them that they must rinse their toothbrush afterwards, and keep it in a dry, clean place. Explain that we also keep our teeth clean with a chewing stick, and demonstrate how to do this.

Give each pupil some water for their mug, place a bit of toothpaste on their brush and encourage them to clean their teeth as outlined in Activity 5 on page 58. They may do this activity in the school bathrooms.

Pupils, in pairs, assist each other to complete Worksheet 32 on page 33 in the Workbook. Check that pupils have put the labels in the correct column.

### **Lesson 3** *(Pupil's Book page 59, Workbook page 34)*

#### **Lesson aims**

Pupils will:

- discuss and demonstrate how to clean their shoes and clothes
- explain why they should keep their shoes and clothes clean and tidy.

#### **Starting off**

Before this lesson, ask pupils to bring the following to school:

- shoes that they can polish
- shoe polish and a cloth
- a few items of clothing.

You should bring additional shoes, polish and polishing cloths for the pupils who do not have these items at home. Also bring some clothes, washing soap powder and a few tubs.

Ask a few pupils to demonstrate how they polish their shoes. Assist them if necessary, and describe to the class what the pupils are doing as they demonstrate the task. Remind them that they must place their shoes neatly on the floor or in the cupboard, in their pairs at the end of each day.

Now explain to the class how to wash clothes. Tell them that they dissolve washing powder in a tub of water; they then place the dirty clothes into the soapy water. They let the clothes soak for a short while, and then they rub the clothes with both hands to get the dirt out. Once they have done that, they place the soapy clothes on the side and put clean water into the tub. They then rinse the soap out of the clothes a few times. They squeeze the water out of the clothes then hang them to dry in the sun.

Remind them that they must fold their clothes and hang them up or place them neatly in their cupboard when they are dry. If they are creased, they iron their clothes before placing them in the cupboard.

Explain to the class that they keep their clothes and shoes clean so that they do not smell, and make them smell bad. Dirty shoes can cause sores on their feet, and dirty clothes will irritate their skin.

#### **Lesson focus**

Read the information and activities on page 59 with the class.

Take the class outside to wash the clothes they brought to school, as explained in Activity 6. Divide the class so that each group has a tub of water. Give each group a small amount of soap powder and let them wash and rinse their clothes. Show them where they can hang them out to dry.

Then let the pupils practise polishing their shoes, as explained in Activity 7 on page 59.

Now ask a few pupils to remind the class why they must keep their clothes and shoes clean. Correct any misunderstandings and add any reasons that they forgot to mention.

The pupils complete Worksheet 33 on page 34 of the Workbook.

### **Support**

Note those pupils who may not have regular access to shoe- and clothes-cleaning facilities, and assist them with a plan on how to improve their situation.

### **Answers**

Workbook page 34

The order in Question 1 should be:

- d) Then fold them neatly.
- b) Rinse them well.
- a) Wash your clothes with soap and water.
- f) Hang them in the cupboard.
- e) Iron them if they are creased.
- c) Hang them out to dry.

# Unit 17 First Aid

## Objectives

By the end of this unit, pupils should be able to:

- explain the meaning of First Aid
- state the objectives of First Aid
- list some contents of a First Aid box.

## About this unit

This unit gives pupils the confidence to give basic assistance to someone in an emergency.

In Lesson 1, pupils will learn about the value of First Aid and explain why it is important to do First Aid.

In Lesson 2, pupils will explain what a First Aid box is, and describe the contents necessary for a First Aid box.

The key skills that pupils will acquire and apply in this unit are the ability to explain the value and purpose of First Aid and identify the contents of a First Aid box.

## Suggested resources

*Lesson 1:* charts, pictures and posters of First Aid procedures

*Lesson 2:* a First Aid box

## Key words

**First Aid** – simple medical treatment that you give quickly to someone who is injured or ill

**strap** – to fasten something in place using a strap, or soft material

**heal** – to become healthy again or to make an injured part healthy again

**injury** – physical damage to someone's body

**First Aid box** – the box that contains the equipment necessary for First Aid, such as bandages and gloves

**plasters** – sticky material that covers and protects a wound

## Key words – continued

**cotton wool** – soft material that absorbs blood

**eye pads** – covers that protect the eye

**bandages** – strips of material used to cover a wound, or to strap a damaged limb

## Teaching this unit

All the pupils in the class would have hurt themselves at some stage, and needed to use a cloth or an elastoplast to cover the wound. They would have also seen their friends with a wound and may not have known how to help them.

In this unit, pupils will learn basic First Aid skills as they learn some steps they can follow to help someone who is suddenly ill or hurt. In Lesson 1, they will learn why it is important to do First Aid, and how First Aid can help save lives or prevent further damage. In Lesson 2, they will learn about the equipment that can help people who are administering First Aid.

## Link to Workbook

*Lesson 1:* Workbook page 35, Worksheet 34

*Lesson 2:* Workbook pages 36–37, Worksheets 35–36

## Lesson 1 *(Pupil's Book pages 60–61, Workbook page 35)*

### Lesson aims

Pupils will:

- explain what First Aid is
- explain why we do First Aid.

### Starting off

Ask the pupils if they have ever witnessed a road accident or seen someone hurt in a sports match or on the playground. Ask them if they saw someone helping the people who were hurt. Explain that those helpers were doing First Aid. Explain that First Aid is the very first help we give someone who is suddenly sick or injured.

Explain to the class that they do First Aid so that they can help the sick or injured person as soon as possible. This prevents the injury or illness from becoming worse than it could have been.

Ask the class what would happen if they cut their finger on a sharp knife. The finger would bleed until they could press on the cut and stop it from bleeding. If someone did not help them do this, their finger would bleed for a long time. It would take a long time to heal. If someone did First Aid, and stopped the finger from bleeding, and put a plaster around it to keep it clean, the finger would heal quickly.

### Lesson focus

Read and discuss the information on First Aid on page 60 in the Pupil's Book with the class.

Explain that a strapped broken arm will heal quicker than an arm that can move after it is broken. The strapping helps keep the arm still so that more damage is not done to the arm. Strapping a damaged arm with a headscarf is a form of First Aid.

Also explain that it is important to call an adult for help when there is a problem. Kariza's sister is going to pull him out of the water, but she is also calling her father to help. Pulling a baby out of a tub of water, and calling an adult for help are both examples of First Aid.

After they have completed Activity 1, ask a few pupils to give examples of when they themselves have given First Aid.

Encourage them by asking a few questions, such as: *Have you helped your friend walk home after he has hurt his foot? Have you called your teacher for help when a friend has fallen in the playground? Have you put cold water on a burn to stop it from hurting even more?*

Discuss how these actions help prevent further damage, then read the information on page 61 with the class.

Explain that when they do First Aid they must always be calm. If they panic, they cannot think properly, and they scare the person who is ill or hurt.

Also explain that they, too, must stay out of danger. They will be of no use to the hurt person if they also get injured.

Once you have explained the role of the First Aider, pupils, on their own, complete Worksheet 34 on page 35 in the Workbook.

### Answers

Workbook page 35

1. suddenly, adult, calm, danger

## Lesson 2 *(Pupil's Book page 62, Workbook pages 36–37)*

### Lesson aim

Pupils will:

- identify some contents of a First Aid box.

### Starting off

Explain to the class that there is a box, called a First Aid box, which contains some of the things we need when we give First Aid. This box is used throughout the world, and is usually white with a green cross on it.

Ask the class to guess what items they think should be in the First Aid box. Write their suggestions on the chalkboard and discuss the reasons they give. For example, they may suggest plasters, for covering a wound and keeping it clean. Write plaster on the board. Tell them they will compare their suggestions with the things that are actually in a First Aid box.

### Lesson focus

Read the information on the contents of a First Aid box on page 62 in the Pupil's Book with the class and discuss the purpose of each item.

Now refer back to the list you wrote on the board. Praise the class for the suggestions they guessed correctly. Ask them why they guessed those items. Discuss the items they guessed, but which are not in a First Aid box. Talk about why those items might not be in the box.

Pupils complete Activity 3 on page 62. They explain their picture to a partner.

They then complete Worksheets 35 and 36 on pages 36 and 37 in the Workbook. They read their completed work to a partner.

### **Answers**

Workbook page 36

First Aid box, plasters, cotton wool, gloves, dressing pads, plasters, eye pads, safety pins, bandages.

### **Answers**

Workbook page 37

**Picture 1:** Kayonde straps Lois' broken arm.

**Picture 2:** Dupe calls an adult.

**Picture 3:** Ayo stops the bleeding.

**Picture 4:** Obi puts water on the burn.

## Theme 3 Assessment

### Pupil's Book pages 63 and 64

#### Objectives

This Assessment tests the knowledge, understanding and skills that pupils are assumed to have acquired as they worked through the content presented in Theme 3: Physical and health education. It is important that pupils complete this Assessment without support from other pupils, as this would cover up any difficulties a pupil may be having with particular concepts or skills.

It is therefore best carried out with small groups of pupils under your guidance.

Read each question carefully to the pupils and give them time to complete it before moving on to the next question.

A more able group within the class may be able to complete the Assessment without you needing to read the questions. However, observing all pupils while they complete the Assessment provides further information about their knowledge, understanding, and skills, and ability to apply these independently.

Ensure that you build in time to provide feedback to individual pupils and the class as a whole. Use the results of the Assessment to revise and/or reteach certain concepts or skills that are key to the pupils' ability to engage with content and concepts in future weeks and years of study.



#### Answers

##### Safe and unsafe

- Pupils should put a tick next to the following:  
1. **b)**, 2. **b)**, 3. **a)**  
They should put a cross next to the following:  
1. **a)**, 2. **a)**, 3. **b)**

##### Keeping clean

- Pupils should complete the sentences using the following words:  
**a)** fit, strong

- two, day
- cut, clippers
- clean
- germs

##### First Aid

- Pupils should draw a picture of someone who is hurt or sick.
- Pupils should match the following:  
1. – **e)**, 2. – **d)**, 3. – **b)**, 4. – **a)**, 5. – **c)**



## Objectives

By the end of this unit, the pupils will be able to:

- identify common IT devices
- describe common IT devices.

## About this unit

This unit is the first in Theme 4: 'Information technology'. Unit 19 deals with the uses of computers, and Unit 20 with common technology.

The pupils are required to learn about the parts of a computer. It was not possible to supply all the background information about computers in the Pupil's Book, so additional information is given in this Teacher's Guide.

The key skills needed for this unit are the ability to recognise and identify the parts of a computer.

## Suggested resources

*Lesson 1:* a computer with its main components, if possible; pictures of computer components to use as alternatives, if necessary

*Lesson 2:* same as for Lesson 1

### Key words

**monitor** – the screen on which the information of images on a computer are displayed

**keyboard** – a panel of keys used to enter information on a computer

**system unit** – the enclosure for all the other main interior components of a computer

**mouse** – a device used to control the movement of the cursor or pointer on a computer monitor

**print** – to make a hard copy (printed on paper) of the information stored in a computer

**documents** – (computer documents) electronic files with information or pictures that are stored on a computer

## Teaching this unit

If possible, bring a computer to class or take the pupils to the computer room at your school. If you do not have a computer at school, you could try to arrange a visit to an office or shop in your town where the pupils can see people working on computers. Alternatively, you can bring pictures of the various computer components to class.

## Link to Workbook

*Lesson 2:* Workbook page 38, Worksheet 37

*Lesson 3:* Workbook page 39, Worksheet 38

### Lesson 1 *(Pupil's Book page 65)*

#### Lesson aims

Pupils will:

- learn the names of the parts of a computer
- match the names to pictures of the parts.

#### Starting off

Make sure that all the pupils know what a computer is. Bear in mind that there may be pupils who have never seen or worked on a computer, so you will have to explain the concept.

Explain to the pupils that a computer is an electronic machine that can be programmed to perform certain tasks.

It consists of parts, each with a separate function. There are parts that you use to give the computer instructions or to enter information (mouse and keyboard); a part that stores the data temporarily (memory); a part on which data is stored for a long time (hard drive); a part that actually executes the instructions (central processing unit or CPU); and parts that let you see what the computer has done (monitor and printer).

#### Lesson focus

Read the text on page 65 with the pupils. Say the name of each part of the computer and ask the pupils to point to each part in their books as you

talk. You can walk around the class while you do this to check if the pupils point to the correct parts.

Briefly describe each part and explain its function. Do not go into too much detail – the pupils must only know what each part is and what it does. Here is some basic information:

- The system unit is the main part of the computer. It is also called the computer case, computer chassis, or computer tower. The system unit connects to and controls all the other parts. It is the ‘brain’ of the computer. This part of the computer is the enclosure for all the other main interior components of a computer, such as the motherboard, the processor, hard drive, memory and power supply.
- The monitor is similar to a television screen. It is the visual display that shows the user what is happening in the computer.
- The keyboard and mouse are how the user controls and enters information into the computer. The mouse moves the cursor (pointer) and is used to select things. The keyboard is used to enter text into the computer. The keyboard and mouse can be connected to the computer or they can be wireless.
- The speakers are used to play sounds on the computer, such as music or the sound from a video.
- The printer uses ink to print text and pictures from the computer onto paper.

Write the name of each part on the board and ask the pupils to copy the word into their notebooks.

Computer terminology has difficult words for pupils in this grade, and you should not expect the pupils to be able to spell the words correctly on their own. By copying the words from the board, they will practise their writing skills and the words will become more familiar to them.

You can play a game in class.

Divide the class into teams. Draw a basic outline of a computer and all its parts on the board. Write the names of the parts on pieces of paper. Also write words that have nothing to do with computers, for example, book, pen and radio, on pieces of paper.

Supply some sticky tape or adhesive putty, and give pupils from each team a turn to stick a word in the correct position on the board. The irrelevant words must be put aside. The team that places the most words in their correct positions wins.

### **Extension/Support**

Explain to the pupils that computers come in many different shapes and sizes. Ask them to collect pictures of different types of computers from newspapers, magazines and advertising leaflets. Explain that laptops and tablets are also types of computers. Describe these computers to the class.

### **Homework**

Ask the pupils to find out from people in the community if they use computers, and what they use them for. The pupils can report back during the next lesson.

## **Lesson 2** (Workbook page 38)

### **Lesson aims**

Pupils will:

- talk about the differences between computers and televisions
- draw pictures to show the differences between computers and televisions.

### **Starting off**

Give the pupils a chance to report back on their homework task. List the things for which people use computers on the board.

### **Lesson focus**

In the discussion about things for which people use computers, some pupils may mention that some people use computers to watch videos or films, and others will say that computers are used to send emails, access the Internet, or use a word processing program. Use this basic information as an opening to talk about the differences and similarities between computers and television sets.

Explain that modern TV screens and computer monitors are basically the same things apart from one important difference: the TV has a built-in tuner that makes it possible to receive transmissions from TV stations. A TV has an aerial to improve

the reception of the transmissions. There are more similarities than differences between the two appliances. Both have a screen, and buttons to switch it on and off and to control the brightness of the screen. The distinction between TVs and computer monitors has fallen away to a large degree. Many modern TVs even have a connector to plug a computer in to them so they can be used as a computer monitor. For most people, however, a TV is still used mainly to watch news, films and other programmes and computer monitors are still used for functions such as word processing, email and browsing the Internet.

Ask the pupils to look at the pictures of a TV and a computer monitor on page 38 of the Workbook. Discuss the similarities and differences between the pictures. The picture of the TV shows a remote control that is used to switch the TV on and off and to change channels. The picture of the computer monitor shows a mouse that is used to select or move things on the screen.

Ask the pupils to do the activities on Worksheet 37.

The key skills required for this activity include not only basic drawing skills, but also the ability to conceptualise the differences between the purposes of the two appliances.

### Extension/Support

Ask the pupils to find out how to send an email message. They can ask their parents, other family members or friends. If they do not know anybody who uses email, they can contact a business person in their community and ask this person if he or she would be kind enough to show them how to send an email. Stress that this would be a favour and that the request must be polite. The pupils should accept politely if the answer is no.

The pupils can report back to the class when you discuss Unit 19.

### Homework

If there was not enough time in class to complete the worksheet, the pupils can finish it for homework.

## Answers

Workbook page 38

- 1. and 2.** The pupils' drawings will differ, depending on their personal experiences. Accept any reasonable drawings. Give positive feedback where possible, and give extra praise to pupils who have demonstrated creative thinking.
- 3.** We watch sport on a TV and we read emails on a computer monitor.

## Lesson 3 *(Pupil's Book page 66, Workbook page 39)*

### Lesson aims

Pupils will:

- do revision of the parts of a computer
- draw a picture of a computer.

### Starting off

To start the lesson, ask a few pupils to name the parts of a computer and to explain the function of each part. Identify pupils who may be struggling to understand or remember the information, and spend extra time with them.

### Lesson focus

The main aim of this lesson is to revise the information discussed in the previous lessons, and to consolidate the pupils' knowledge. The key skills they will need are the ability to recall information and to apply it practically.

Read the instruction on page 66 with the pupils and make sure they understand what to do. Explain that they must match each word in the boxes with the correct picture.

Ask them to write the numbers 1 to 6 in their notebooks, and to copy the correct word next to each number. Walk around the class while they do this, and give guidance where needed. When they have completed the task, you can ask them to swap books with the pupil next to them and to mark each other's work. Write the following answers on the board so that they can check the work:

- 1.** monitor
- 2.** keyboard
- 3.** system unit

4. mouse
5. printer
6. speakers

Ask the pupils to do Activity 1 on page 66. In order to draw the computer, they will have to apply the skills of recalling information and representing their knowledge in a visual format. Drawing also helps to develop the pupils' motor skills and visual literacy.

Encourage the pupils to make their drawing as accurate as possible, but do not insist on fine detail or perfect shapes. The main aim of this activity is to see whether they remember the parts of a computer and if they are able to represent it graphically – it is not an assessment of their artistic abilities.

### **Extension/Support**

If you have a computer keyboard or a picture of the keys on a keyboard available, bring it to class. Ask the pupils to look at the keys and to read each symbol, number or letter on the keys. Explain the function of the 'Shift' and the 'Enter' keys.

### **Homework**

Ask the pupils to do Worksheet 38 on page 39 of the Workbook as homework. This activity will test their memory and understanding of the parts of a computer, and will also help to develop their writing skills.

### **Answers**

Workbook page 39

The correct spelling and order of the labels are as follows:

- monitor
- mouse
- speakers
- systems unit
- keyboard

## Objectives

By the end of this unit, the pupils will be able to:

- identify common IT devices
- describe common IT devices.

## About this unit

In this unit, the pupils will investigate things that we can do on a computer. Once again, bear in mind that many pupils may have no experience of computers, so your discussions and explanations should be clear and easy to understand.

The key skills required for this unit include the ability to recall and apply information, and a grasp of technological applications and opportunities.

## Suggested resources

*Lesson 1:* a computer with some games and other programs loaded (if available), information about computer applications

### Key words

**educational** – something that is intended to educate or to supply information

**store** – to keep or save something for future use

## Teaching this unit

If possible, bring a computer to class or take the pupils to the computer room at your school. If you do not have a computer at school, you could try to arrange a visit to an office or shop in your town where the pupils can see people working on computers.

Alternatively, you can bring pictures of the computers showing screen shots of various programs.

If you know a computer expert, ask him or her to come to talk to the class and to answer questions about the possibilities that computers offer.

## Link to Workbook

*Lesson 2:* Workbook page 40, Worksheet 39

### Lesson 1 (Pupil's Book pages 67–68)

## Lesson aims

Pupils will:

- talk about the uses of computers
- discuss the types of information that can be stored on a computer.

## Starting off

Ask the pupils to tell the class what they, or people they know, do on computers. Extend the discussion by asking the pupils to give their opinions on the advantages or disadvantages of using computers for different tasks, for example, writing letters, reading books, or playing games.

Note that this lesson includes a lot of information. You can stretch the lesson over a number of periods to make sure that all the information is covered, and that the pupils have enough time to engage with the new concepts and ask questions.

## Lesson focus

Have a class discussion about the uses of computers. Explain to the pupils that computers can be used to do many different kinds of things. The key skill required for this lesson is an understanding of the technological opportunities that computers offer.

Encourage the pupils to switch their mind-set from analogue to digital – in other words, encourage them to think how they can use a computer to do tasks that were traditionally done on paper or with books, or manually.

Suggestions for uses of computers are as follows:

- Computers can be used to entertain us. We can use them to play games, read books, listen to music or watch movies.

- They can be used to create or edit things such as writing or making pictures. They can even be used to help make music or videos.
- They can save and store information such as documents, pictures, music and movies, so they can be looked at any time. We can also use the computer's printer to print out documents or pictures.
- Computers can be used to connect to the Internet. The Internet is millions of other computers all over the world, all connected together. The computer can be used to search for and find information that is stored on the Internet. This information can usually be downloaded (copied) and saved to the computer.
- The computer is also often used to communicate with others via the Internet. Email is often used to send text messages to other people, similar to sending letters by post, but where the email is delivered instantly. There are also Internet sites and programs that allow people to communicate with each other by text, speech and even video.

Read the text on pages 67–68 of the Pupil's Book with the pupils and discuss the pictures. As you look at each picture and discuss it, ask the pupils to do the instruction mentioned below each picture.

The first picture shows a computer game. If you have a computer available at school, try to install some easy games that the pupils can play. There are many free games available for download from the Internet. Some of these games are also educational and incorporate areas such as maths and language arts while introducing basic computer skills. Ask the pupils to tell the class about any computer games that they may know.

The second picture shows a screen shot of an email program. Point out to the pupils that there are different email programs available and that the different programs may look slightly different on the screen. The basic functions and way of using them are, however, the same. Refer back to the extension activity in Unit 18, where the pupils had to find out how to write and send an email. Give a

few pupils a chance to describe the process to the rest of the class. The process of sending an email message is basically the same for all email programs:

- Open the email program. Open a new email message window, usually by clicking the 'New message' or 'Compose' icon.
- Type the email address of the person to whom you want to send a message in the space marked 'To:'. If you want to send the message to more than one person, you can add more email addresses.
- In the space marked 'Subject', type a few words to say what the message is about.
- Type the message in the body part of the email screen.
- If you want to attach a document, a photo or any other type of file, click on the paperclip icon that says 'Attach a file' or something similar. This will take you to an option to browse through your computer's folders. Click to select the files/folders you want to attach. Click the 'Open' or 'Choose File' or another similar icon to attach the file to the email.
- When you are satisfied with the message, click the 'Send' icon or select 'Send' from the File menu. The email will be sent immediately and will appear on the recipient's computer within a few moments.

Let the pupils talk about things they can write on a computer. This can include stories, letters, diary entries, etc.

Picture 3 on page 68 shows a screen shot of a video that is being viewed on a computer. You can view videos that friends have sent you, or you can download videos of movies from the Internet. (Many are free, but commercial films are available at a cost.) You can also view movies or videos by loading them on a DVD or a memory stick (flash drive).

Discuss the type of film that is shown in the picture. It is a film about nature, and the picture shows a waterfall.

Give the pupils a chance to tell their partner about an educational film or video that they would like to watch on a computer. Extend this and also let them

mention other films or videos that they would like to watch for entertainment. If possible, get a popular film or video and watch it together in class.

Picture 4 shows a selection of documents and photos that can be viewed on a computer. To view or create text documents, you need a text editor or word processing program such as Microsoft Word or Notepad. To view photos or other graphics, you need an image viewer. There are many programs available that support this function.

Ask the pupils to explain what they see in the pictures on page 68, and to talk about other types of files that can be stored on a computer.

### Support

The information in this unit contains some complex ideas and many new words. Spend time with individual pupils or with small groups if they do not understand anything.

### Extension

If there are more advanced pupils in your class who clearly have a good knowledge and understanding of computers, you can ask them to explain a favourite game or a favourite use of the computer to the other pupils.

### Homework

Ask the pupils to find out about more things for which you can use computers. They can report back during the next lesson. This task is purely for enrichment.

## Lesson 2 *(Workbook page 40)*

### Lesson aims

Pupils will:

- match sentences and pictures
- draw a picture relating to computers.

### Starting off

Start the lesson by asking the pupils to tell the class what they had found out about uses of computers during their homework activity. They could, for example, have found out that business people use computers to do bookkeeping. (A spreadsheet program such as Excel can add up figures and

help with accounting.) They can also mention smaller utilities found on most computers. These can include a calendar function, a calculator, spell check, etc.

They can also talk about the ways in which designers and artists use graphics programs to create or edit images and graphic displays. You can add examples of more uses. You can, for example, tell them that this book as well as the Pupil's Book and Workbook were edited on a computer, and that a typesetter used a computer to prepare the pages you read. The pupils may also find it interesting to know that many of the illustrations in the Pupil's Book were created on a computer.

### Lesson focus

This lesson is mostly revision of the work you did during the previous lesson. The key skills the pupils will need are the ability to recall information and to apply it, and to match sentences and pictures. By matching the words and sentences correctly, they will demonstrate the ability to match written and visual concepts.

If necessary, go through the main concepts from the previous lesson again to refresh the pupils' memory.

Ask the pupils to open their Workbooks on page 40. Ask them to say what they see in the two pictures. If you have pictures that show other common programs on a computer screen, you can show those to the pupils as well to see if they can recognise the type of programme.

Let the pupils answer Question 1 in their notebooks. When they have finished, ask them to swap their books with the pupil next to them. Write the correct sentence for the first picture on the board. Ask the pupils to check if their friend had written the sentence correctly. Do the same for the second sentence.

Remind the pupils of the various uses of computers. Ask them what they would like to do on a computer. The answers could range from writing, to watching videos, to listening to music – or any other realistic answer. If any pupil suggests

something that is not possible, for example, to cook food on a computer, ask them how they would do that. Lead them with questions so that they see for themselves that it is not a viable option.

Now ask the pupils to answer Question 2 on page 40 in the Workbook. Encourage them to think creatively and draw a picture that represents their favourite use of a computer. When they have finished, you can take in the Workbooks to assess the drawings. Do not judge the pupils on their artistic skill. Focus on the content of the drawings and the way in which the pupils expressed their opinion visually. The completed drawings will give you a good indication of whether the pupils have a solid understanding of the functions of a computer.

### **Extension/Support**

If there is time, give the pupils a chance to ask questions about computers, or to make suggestions of how computers could be used. Encourage innovative and creative thinking, but remind the pupils that they should think 'technologically'.

### **Homework**

If you feel that the pupils need additional exercises to consolidate their knowledge and understanding of computers, you can ask them to prepare a short oral presentation in which they set out the advantages and disadvantages of using a computer to perform a specific function, for example, communicating over distance. The choice of function will depend on where you feel there is a gap in the pupils' knowledge.

### **Answers**

Workbook page 40

1. Sentence 1: We play games on computers.  
Sentence 2: We write emails on computers.
2. Pupils' pictures will differ.



## Objectives

By the end of this unit, the pupils will be able to:

- identify common IT devices
- name common devices
- explain the uses of devices
- demonstrate the use of devices through role-play.

## About this unit

This unit deals with common IT devices and their uses. It is part of the theme on Information technology and explores the concept of how we use technology in our daily life. This unit also has an assessment that revises what pupils have learnt in Theme 4.

The key skills that pupils will acquire and apply in this unit are the ability to identify, classify and describe.

## Suggested resources

*Lesson 1:* pictures of common devices and, if possible, real or toy devices that pupils can use

*Lesson 2:* pictures of common devices and, if possible, real or toy devices that pupils can use

### Key words

**information** – facts about something

**IT devices** – small objects or machines that are used for a particular purpose

## Teaching this unit

The main focus of this unit is to introduce the concept of how technology is used on a day-to-day basis. Using real devices or toy devices will be the most effective way to teach this.

Demonstrating how to use devices through role play is an important part of the process of learning new skills.

Be sensitive to the issue of socio-economic differences amongst pupils in the class. Some pupils

may have some of these devices at home and others may not.

## Link to Workbook

*Lesson 2:* Workbook page 41, Worksheet 40

*Lesson 3:* Workbook page 42, Worksheet 41

### Lesson 1 (Pupil's Book page 69)

#### Lesson aims

Pupils will:

- identify and name common devices
- demonstrate the use of devices
- role-play using devices.

#### Starting off

Display pictures of common devices and, if possible, real or toy devices that pupils can use. Ask pupils to identify and name the devices on display. Ask pupils to describe the devices and their parts: a screen, keys with numbers or letters on them and so on.

#### Lesson focus

Refer to the Pupil's Book page 69. Read the first two sentences under the heading.

Refer to the pictures of the devices and the text for each device one at a time. For example, the cell phone: ask pupils to name it, and if there is a real cell phone on display, ask a pupil to identify it and show it to the class. Read the sentences about the cell phone.

Choose two pupils to demonstrate the use of the cell phone through role play. Make up a short scenario: 'You are playing with your friend and you need to phone your mother or older brother to tell them to come and fetch you because it is time to go home.'

Refer to the next device, the smartphone, and work through the same teaching steps in a similar way to the cell phone. Discuss the differences between the

cell phone and the smartphone. The points under each device in the text can be referred to for this.

Listen to different ring tones.

### Extension/Support

Toy phones can also be made from firm card or small blocks of wood. The screen and keys can be drawn using a pen or a felt-tip pen.

## Lesson 2 *(Pupil's Book page 70, Workbook page 41)*

### Lesson aims

Pupils will:

- identify and name common devices
- demonstrate the use of devices
- role play using devices
- match pictures of devices with the names of devices.

### Starting off

Display pictures of common devices and, if possible, real or toy devices that pupils can use. Ask pupils to identify and name the devices on display. Ask pupils to describe the devices and their parts: a screen, keys with numbers or letters on them and so on.

### Lesson focus

Refer to the Pupil's Book page 70. Use the same teaching method as in Lesson 1.

Refer to the pictures of the devices and the text for each device one at a time. For example, the tablet: ask pupils to name it and if there is a real tablet on display, ask a pupil to identify it and show it to the class. Read the sentences about the tablet.

Choose two pupils to demonstrate the use of the tablet through role play. Make up a short scenario: 'You are playing with your friend and you want to take a photograph of your friend or you need to look up some information about something you are learning about at school.'

Refer to the next devices, the calculator and watches, and work through the same teaching steps in a similar way to the other devices. Discuss the differences between the tablet and the smartphone

or different watches. The points under each device in the text can be referred to for this.

The pictures in the Pupil's Book also give clues to differences with regard to colours and shapes. Clocks may have different alarm sounds.

### Extension/Support

Refer to the Workbook page 41, Worksheet 40. Read through the instructions and the helping words. Pupils can complete the worksheet in class or for homework.

### Answers

Workbook page 41

In order from left to right: tablet, calculator, cell phone, watch, smartphone

## Lesson 3 *(Pupil's Book page 71, Workbook page 42)*

### Lesson aims

Pupils will:

- name devices
- explain the uses of devices
- complete sentences by filling in the missing words.

### Starting off

Refer to the Pupil's Book page 71, Activity 1. Ask pupils to describe what they see and what the man is doing.

### Lesson focus

Refer to the Pupil's Book page 71. Read the sign that is displayed in the illustration of the shop. Ask pupils if they can explain what 'IT' stands for.

Talk about whether pupils have seen a shop like the one in the picture. *Do they have one in their town?*

Ask pupils to name all the items in the picture and to say what each device is used for. Talk about the colours, shapes and sizes with regard to the choices one can make when buying items.

### Answers

Pupil's Book page 71

The names of the devices are: headphones, speakers, watches, tablets, smartphones, cell

phones, CD discs, calculators, mouse for a computer.

### **Extension/Support**

Refer to the Workbook page 42, Worksheet 41. Read through the instructions, the sentences and the words in the box. Let pupils complete the worksheet. You may need to do an example first. Pupils can refer to the items on display or to the pictures in the Pupil's Book for their drawings.

This worksheet can also be used for individual assessment.

### **Answers**

Workbook page 42

1. talk
2. play games
3. find out things
4. tell the time
5. read emails
6. calculate numbers
7. take a picture

## Theme 4 Assessment

### Pupil's Book pages 72–74

#### Objectives

This Assessment tests the knowledge, understanding and skills that pupils are assumed to have acquired as they worked through the content presented in Theme 4: Information technology. It is important that pupils complete this Assessment without support from other pupils, as this would cover up any difficulties a pupil may be having with particular concepts or skills.

It is therefore best carried out with small groups of pupils under your guidance.

Read each question carefully to the pupils and give them time to complete it before moving on to the next question.

A more able group within the class may be able to complete the Assessment without you needing to read the questions. However, observing all pupils while they complete the Assessment provides further information about their knowledge, understanding, and skills, and ability to apply these independently.

Ensure that you build in time to provide feedback to individual pupils and the class as a whole. Use the results of the Assessment to revise and/or reteach certain concepts or skills that are key to the pupils' ability to engage with content and concepts in future weeks and years of study.



#### Answers

##### TVs and computers

1. a) X  
b) X  
c) ✓  
d) X  
e) ✓

##### Parts of a computer

2. This computer part is a monitor screen.
3. 1. – d) printer  
2. – e) speakers  
3. – b) mouse  
4. – c) monitor  
5. – f) keyboard  
6. – a) system unit

##### Uses of computers

4. a) We use a computer to type an email.  
b) We also use it to play games.

- c) Sometimes we watch films on the computer.
- d) We can keep information on the computer.

##### IT devices

5. 1. – b) calculator  
2. – e) smartphone  
3. – d) watch  
4. – a) tablet  
5. – c) cell phone



#### Guidance for Assessment

There are four sections and five questions in this assessment. It may take more than one lesson for pupils to complete it. It is also advisable to read through the instructions so that pupils understand what to do. Working through each question as a class or with individual pupils may also be required.

# Glossary

- air** – the gases around us that we breathe in and out
- balls** – round objects that you throw, hit or kick in a game or sport
- bandages** – strips of material used to cover a wound, or to strap a damaged limb
- big** – of a great size
- blunt** – not sharp or pointed
- body cream** – cream to put on your body to keep your skin soft and smooth
- breathe** – take in and blow out air in order to stay alive
- calculators** – small electronic machines that can be used for doing sums
- can opener** – a mechanical device used to open cans; made up of three different simple machines: a wheel and axle, a lever and a wedge
- careful** – to look after, to be watchful
- cell phones** – telephones that you can carry with you everywhere
- chalk** – a small stick of soft white or coloured rock, used for writing or drawing
- chalkboard** – board we write information on for pupils to read
- chop** – to cut something into pieces
- classroom** – a room in a school where pupils have lessons
- clay** – soil that feels like fine mud
- clippers** – items used to clip or cut toenails and fingernails
- close** – near
- collage** – a picture made using different materials of different sizes
- cotton wool** – soft material that absorbs blood
- cut** – to divide something into pieces using a knife or scissors
- cutlass** – a cutting tool; as a simple machine, an example of a wedge
- danger** – the possibility of suffering harm or injury
- device** – a small machine or tool used for a particular purpose
- documents** – (computer documents) electronic files with information or pictures that are stored on a computer
- desk** – a table where you sit and write or work
- door** – the thing that you open to get into a house, room or car
- educational** – something that is intended to educate or to supply information
- energy** – power of doing work, active force
- eye pads** – covers that protect the eye
- fabric** – cloth material
- fan** – folded sheet of paper or card that is waved backwards and forwards to create a cooling breeze
- far** – a long distance
- fingernails** – the nails on the tips of your fingers
- First Aid** – simple medical treatment that you give quickly to someone who is injured or ill
- First Aid box** – the box that contains the equipment necessary for First Aid, such as bandages and gloves
- flag** – a piece of cloth with a picture or pattern on it that is used as a symbol or signal, usually put on the top of a long pole
- float** – lie in water
- garden** – an area of land used for growing flowers and other plants
- gas** – a substance, such as air, that is not solid or liquid
- glass** – a hard transparent material used for making windows, bottles, etc.
- glue** – a sticky substance used for joining things together
- guess** – to say or decide that something is true or not true, when you cannot be certain that you are right
- hang** – to put something somewhere so that its lower part is not supported
- heal** – to become healthy again or to make an injured part healthy again
- high jump** – jump high, over a rope or pole
- hinge** – a piece of metal joining a door or lid to something, which allows it to open
- hoe** – garden implement we use for weeding and turning soil
- hook** – a small curved object used for hanging things on

- hop** – move forward on one leg
- information** – facts about something
- injury** – physical damage to someone’s body
- interesting** – something that is unusual or exciting
- IT devices** – small objects or machines that are used for a particular purpose
- keyboard** – a panel of keys used to enter information on a computer
- knife** – a tool you use to cut things
- leaning** – to rest against something in a sloping position
- leap** – jump high and far
- life jacket** – jacket with air pockets worn while in water to help us float
- living things** – things like people, animals and plants, that need nutrition, and grow
- load** – a large quantity of something that a vehicle or person is carrying
- loam** – soil which has some sand and some clay
- machines** – devices used to make work easier and to work more efficiently
- magnifying glass** – a glass disc that, when held close to items, makes them look bigger than they are
- matches** – small wooden sticks that make a flame when you rub them quickly against something rough
- monitor** – the screen on which the information of images on a computer are displayed
- mouse** – a device used to control the movement of the cursor or pointer on a computer monitor
- nail** – a thin piece of metal with a flat end that you hit with a hammer
- non-living things** – things that do not grow
- noticeboard** – board on which we pin notices, current information and reminders
- pain** – the feeling you have when a part of your body hurts
- paint** – to use paint to make a picture of someone or something
- pins** – thin pieces of metal with sharp points, used for fixing or fastening something
- plank** – long, flat piece of wood
- plasters** – sticky material that covers and protects a wound
- play** – to enjoy yourself with toys and games
- plug** – a round piece of rubber for blocking the hole in a bath, basin or sink
- print** – to make a hard copy (printed on paper) of the information stored in a computer
- pump** – a machine that moves water from one area to another
- push** – to move something away from you by pressing it with your hand
- read** – to look at words and understand them
- rides** – to sit on a bicycle or horse and move forward
- rinse** – use water to take the soap off your body
- rope** – very strong, thick string
- rough** – not smooth or even
- safe** – unharmed, secure, free from danger
- sandy** – soil that has a lot of sand in it
- scissors** – a tool for cutting paper or cloth
- screwdriver** – a tool to drive screws into substances such as wood; as a simple machine, an example of a wedge
- see-saw** – a long plank balanced in the middle on a fixed support, on each end of which children sit and swing up and down by pushing the ground alternately with their feet; as a simple machine, an example of a lever
- sharp** – having an edge or point that can cut things easily
- shelf** – a long, flat board fixed to a wall or in a cupboard, used for putting things on
- shoe polish** – polish to put on a brush or cloth to shine shoes
- simple machines** – basic mechanical devices for applying a force; types include an inclined plane, a wedge, a wheel and axle, a pulley, and a lever
- small** – not big
- smartphones** – devices that can be used as a cell phone and a hand-held computer
- step** – stand up and down on a step, starting with a different foot each time
- sticks** – joins things together using glue
- store** – to keep or save something for future use
- stored** – to put things somewhere and keep them until they are needed
- strap** – to fasten something in place using a strap, or soft material
- strike** – hit with a bat
- strong** – having a lot of physical power
- sweep** – to clean the floor or the ground with a brush

**system unit** – the enclosure for all the other main interior components of a computer

**tablets** – small computers with a touchscreen that you can carry with you

**tap** – a machine that is used for switching the flow of water on and off

**tarred road** – road that is covered with a hard, black tar to make it smooth and strong

**tools** – things that you hold in your hand and use to do a particular job, such as a hammer

**toothbrush** – brush used to clean the teeth

**toothpaste** – cleaning paste to put on the toothbrush

**tree** – a very tall plant that has branches and leaves

**trowel** – a small gardening spade

**tube** – band filled with air used in a tyre

**tyre** – the outer part of a wheel

**uneven** – not flat, smooth, or level

**unsafe** – dangerous; likely to be harmed

**vase** – a container for displaying bunches of flowers

**watch** – a small clock that you wear on your wrist

**well** – a hole dug in the ground from which we can pump or pull up water

**wheelbarrow** – a small cart with a single wheel at the front and two supporting legs and two handles at the rear, used typically for carrying loads in building work or gardening; as a simple machine, an example of a wheel and axle combined with a lever

**whistle** – item we blow to make a noise and alert players to the rules and when to stop and start during a game

**work** – to spend time and effort trying to do something

**wrists** – the joints between your hands and your arms

**write** – to put letters or words on paper, using a pen or pencil

# Index

## A

### air

- and balloons 23–24
- and breathing 22
- definition of 21
- key words 21
- importance of 22
- making and using fans 22–23
- making things work 24
- occupying space 23–24
- where it is 21–22

art work 1, 30

## C

### colours

- and artwork 30
- identifying 29
- key words 28
- making a collage 30
- of objects 29, 30
- of the rainbow 29
- the rainbow song 29
- and traffic lights, signs, markings 30–31

### computers

- email 66, 69
- key words 64
- parts of 64–65, 66–67
- and televisions, differences between 65–66
- see also* technology, common

### computers, uses of

- documents and photos 70
- email 66, 69
- key words 68
- matching sentences and pictures 70–71
- movies or videos 69–70

## E

### energy

- key words and vocabulary 41
- and performing actions 41–43

## F

### First Aid

- the First Aid box 61–62
- key words 60

what it is 60–61

why we do it 61

following instructions 42–43

## G

games *see* playing games

## H

health *see* First Aid; keeping clean

### home environment

- and Aesop's fables 5
- the area around 4–5
- the area inside 5
- building a shoebox house 8
- different homes 5
- of different people 5
- and the doll's house 5
- living things in 14
- and maths 6
- vocabulary 4

### home environment, objects in 6

- categorisation of 7
- games using 7–8

hygiene *see* keeping clean

## K

### keeping clean

- fingernails 57
- hair 58
- key words 56
- shoes and clothes 58–59
- skin care 57
- teeth 58
- washing hands 57
- washing the body 57

## L

### living things

- definition 13
- at home, identifying 14
- identifying 13–14
- identifying pupils as 14
- key words 13

## M

### moving your body

- cooling down 45



key words 45  
locomotor movement techniques 46  
manipulative patterns 46  
non-locomotor movement techniques 46  
safety 45, 46, 47  
using balls or beanbags 47  
warming up 45  
*see also* sports

## N

non-living things  
in the classroom 15–16  
definition 15  
at home 16–17  
in the school compound 16

## P

playing games  
basic skills in ball games 50  
Cat and Rat 49  
Fire on the mountain 49  
'I spy with my little eye' 16, 29  
key word 48  
Rats and Rabbits 49  
safety 50  
'Simon says' 14

## R

reading sentences 42  
roads  
crossing of 10–12  
crossroads 10  
identifying the different types of 10  
key words and vocabulary 9  
pedestrian crossings 10–12  
and pedestrians 9–12  
safety 9–12

## S

school environment  
and art work 1  
in the classroom 2  
key words and vocabulary 1  
links to other subjects 1  
making a map 2–3  
naming objects 2  
pictures 2–3  
safety 1  
school compound 3  
school environment 2

simple machines  
functions and purposes of 35–36  
hinges 35–36  
identifying and naming 34  
identifying by function 34–35  
key words 33  
safety 34  
and technology 33  
*see also* technology, common

simple machines, using safely  
careful and safe actions 39–40  
key words 37–38  
safe and unsafe ways 38–39  
storage 39

## soil

contents of 19–20  
definition of 19  
different types of 18–19  
examining with magnifying glasses 19  
key words 18  
making a sand picture 20

## sports 51

high jump 53  
key words 51  
safety 51, 52  
starting a race 51–52  
swimming 53–55  
value of 52  
*see also* moving your body

surroundings 4

## T

technology, common  
cell phones 72  
identifying and naming 72–74  
keywords 72  
smart phones 73  
*see also* computers; simple machines

## W

washing *see* keeping clean

## water

getting to homes 26  
key words 25  
as a precious resource 26–27  
rain 25–26  
saving of 27  
sources of 26–27