

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.