

# 4

## What's in store?

### Coverage

This unit is about describing and comparing size, weight, length and capacity.

It looks at recognising and naming common 2-D and 3-D shapes and understanding positional language.

### Skills

**MSS1/E1.3** describe size and use direct comparisons for the size of at least two items

**MSS1/E1.4** describe length, width, height, and use direct comparisons for length, width and height of items

**MSS1/E1.5** describe weight and use comparisons for the weight of items

**MSS1/E1.6** describe capacity and use direct comparisons for the capacity of items

**MSS2/E1.1** recognise and name common 2-D and 3-D shapes

**MSS2/E1.2** understand everyday vocabulary (e.g. between, inside or near to)

Resources needed for effective teaching of this unit:

### Demonstration

Various items of similar clothes in different sizes, e.g. a child's and an adult's sock, two T-shirts

Golf ball, tennis ball, football and beach ball

Three tins of different sizes or packets of rice/pasta

Various sized food packets for comparison

Two packets of spaghetti, one longer than the other

5–8 different containers to hold water, ranging in size from a medicine spoon through an eggcup to a bucket

A supply or large container of water

Two similar shopping bags, one containing bottles and tins and one containing light items such as pasta and crisps

Balance scales

Food in various size packages and in different weights, e.g. two bags of rice of different weights, two bags of apples, boxes of cereal, small bag of potatoes, bag of flour and similar size bag of crisps

Copy of the Highway Code for different road signs (optional)

Various food items in different regular 3-D shape containers, cylindrical tins, cuboid boxes, spherical oranges etc.

Instructions from flat-packed furniture or other materials that give measurements

Group	Pair	Individual
Selection of 2-D shapes 3-D shapes in models and food containers	Balance scales Food packages for weighing Metre rule 75 cm piece of string or bamboo stick	Coloured pencils or felt tips Multilink cubes Ruler Large sheets of squared paper Gummed shapes

## Reminder

In the Links, H means Help, E means Extension and M means Mini-project.

## Remember

Throughout the unit, be aware of the reading needs of learners.

You may need to read out parts of the text. Words **highlighted** in **bold** will need particular clarification.

## Context

- This unit is about Min. She is in her twenties, has a partner, Tim, and is a wheelchair user.
- The unit is mainly set in a superstore, where Min and Tim are shopping for a party, comparing sizes of packages etc., and at their home, preparing for a party.
- Discuss the scenario as a group.
- Most learners will have some experience of shopping in a supermarket but experiences will vary.
- Some learners will be unaware of the difficulties faced by wheelchair users in a supermarket.

## Stimulus questions

- Where do you do your food shopping?
- Is there a superstore near you?
- Do you look at the **size** of the packages you buy?
- If a package is bigger, is it heavier as well?
- Food packages come in different shapes. Do you look at the shapes of the packages?
- What shapes can you think of?

Keep the discussion general at this stage to encourage learners to share knowledge and experience.

## Pages 2 and 3 Size matters

### Introduction to activity 1

- Discuss going shopping for clothes. What size clothes do learners buy? Be sensitive to learners who feel uncomfortable about their size or weight.
- Do any of the learners have children? What size clothes do they buy for their children?
- Show two extreme different sizes of T-shirts, e.g. a child's and an adult's, preferably the same colour or pattern. Discuss that they are both T-shirts but there is a difference – the size. Look at other objects, e.g. two shoes in different sizes, two hats, two socks, two dresses, and compare them.

### Activity 1

- When learners are confident comparing sizes, ask them to complete activity 1 by ringing the smaller object in each pair.

### Activity 2

- Have a selection of different sized balls (e.g. tennis ball, beach ball, golf ball and a football) and compare the sizes. Ask questions such as: Which is larger, the football ball or the beach ball? Is the golf ball smaller or larger than the tennis ball? Is it smaller or larger than the football?

- Ensure partially sighted and blind learners have lots of practice comparing the sizes.
- Assess learners' use of the vocabulary larger and smaller before they complete activity 2 individually or in pairs.

### Activity 3

- Discuss that a larger trolley would hold more food than a smaller one. Is there a choice of trolleys where learners shop? How do they decide which trolley to use when they go shopping?
- Compare two different sized food packages, e.g. two bags of rice. Ask which is larger. Add another even larger bag of rice. Ask which is the **largest**? Explain that the word 'larger' is used when comparing the size of two objects; 'largest' is used when comparing three or more.
- Repeat with different sets of objects.
- Order up to five objects in size so that learners gain confidence before asking them to complete activity 3 individually or in pairs.

### Activity 4

- Use three boxes of different sizes and order them as a practical activity.
- Ask learners to draw three boxes, ordering them from smallest to largest.

### LINKS: H1

## Pages 4 and 5 The long and short of it

### Introduction to activity 5

- Have two packets of spaghetti, one longer than the other. Discuss the fact that one is **longer than** or **shorter than** the other when comparing their lengths.
- Use other objects, e.g. pencils. Ask learners which is longer. Which is shorter?
- Ask learners to make two lines of different lengths out of Multilink cubes. Which is longer?
- Now can they make the lines the same length? Now make one shorter.
- Assess learners' understanding of the vocabulary.

### Activity 5

- Ask learners to ring the longer object in each pair.

### Activity 6

- Introduce the metre rule (one metre) as a device for measuring length. It is not necessary for learners to measure objects at this stage but it can be useful for comparisons and as a preparatory activity for measuring later on.
- Make some estimates, e.g. Do you think the table is longer or shorter than one metre? Are you longer or shorter than one metre?
- Allow learners practical experience of comparing objects with the metre rule during the activity.
- Help learners decide how they will compare the objects, e.g. which side of the table to compare.
- Learners complete the activity in pairs, by writing 'longer' or 'shorter' in the spaces provided. These answers will vary according to the measurements of the items in the room.

### Activity 7

- Discuss length, width and height as terms of measurement.
- Some learners will benefit from cue cards for length, width, height with a sketch of a table.
- Introduce vocabulary such as wider, widest, narrow, tall, short, longest.
- Learners compare their tables with a metre rule and ring the correct answers for each dimension.
- Ask learners to describe objects in the room according to the dimensions, e.g. This book is longer than a pencil. It is narrower than my hand.
- Hold up a book and ask learners to find something in the room that is shorter than the book, wider than the book etc.

### Activity 8

- Learners order Min's friends from tallest to shortest. If possible do this activity practically with learners ordering themselves according to height. Who is the tallest? Ask questions such as: Who is taller than me? Who is the shortest person here?

- Be sensitive to learners who are not confident about their height or appearance.

*LINKS: H2, E1, M1*

## Page 6

### Half full or half empty?

#### Introduction to Activity 9

- Discuss Min's story about the orange juice. Did Tim get a full glass of juice from the machine? Did Min? What about Min's glass? At the table, why did the glass overflow? Does the bottle hold more liquid than the glass? Use vocabulary such as full, empty, half-full, holds more/less than.
- Have ready a selection of containers (5–8) to hold liquid, ranging in size from a medicine spoon through an eggcup to a bucket, and a supply of water.
- Ask learners to predict which container will hold the most and the least. Will this mug hold more or less than this glass?
- Allow time for the practical activity of pouring from one container to another. Ask learners to order the containers from the one that holds the least to the one that holds the most.
- Have some containers of unusual shape – broad bases and narrow tops.
- Learners complete the activity by ringing the picture of the container they think will hold more.

#### Activity 10

- Learners colour in the glasses according to the words underneath. Help learners with reading if necessary.

*LINKS: H3, E2, M2*

## Page 7

### Light weight!

#### Introduction to Activity 11

- Discuss the picture of the two bags of shopping.
- If possible have two similar bags, one containing bottles and tins and the other containing crisps and pasta, to show the difference in weight.
- Ask learners to feel the weight of the two bags and compare them. Which is lighter? Which is heavier? Which would they rather carry?
- Have a variety of resources available for learners to handle and compare weights.
- Start by comparing two objects, e.g. two tins of different weights.
- Use a balance scales to show how the heavier object moves the scales downwards. Ask learners to predict which of two objects will be heavier. Then put the objects on the scales.
- Emphasise that large objects are not necessarily heavier than smaller ones. Illustrate by weighing a big bag of crisps against a small bag of rice.
- Allow plenty of time for learners to practise comparing and weighing.

#### Activity 11

- Once learners have had plenty of practical experience, ask them to complete the activity, weighing on balance scales if necessary for confirmation.

#### Introduction to activity 12

- Move on to comparing three or more objects. Use the vocabulary of heaviest and lightest.
- Order a set of five objects according to their weight.

#### Activity 12

- Ask learners to choose three objects in the room and order them from lightest to heaviest by feeling the weights in their hands. Put the objects on the balance scales to confirm and then record by drawing.

*LINKS: H4, E3, M3*

## Pages 8 and 9

### Shape up

#### Introduction to activity 13

- Discuss the shapes Min can see.
- Look at the picture and pick out the road signs. Which shapes are they? Have learners noticed different shaped signs? Have a selection of flat shapes. Match the flat shapes to the shapes of the road signs. Allow learners to feel the shapes.
- Look at each shape and discuss its properties. The circle is round. How many sides on a triangle? How many sides on a rectangle? What makes the square special? A square is a special type of rectangle – it has four *equal* sides.
- Some learners will benefit from having cue cards of individual names and sketches of shapes.

#### Activity 13

- Look at the road signs. Ensure learners look at the whole shape and not just at the information on the sign.
- Learners match the signs to the shape outlines.
- Learners then draw a sign they see by the road and label the shape correctly.

#### Activity 14

- Look at the picture of Min and Tim's kitchen.
- Identify different 2-D shapes on the cushion, in the picture on the wall and on the curtains.
- Ask learners to count the number of shapes and answer the questions.
- Use the curtains and show examples of different types of triangles (e.g. isosceles, right-angled, equilateral and scalene triangles) but do not introduce this vocabulary unless requested by learners. Emphasise that they are all triangles because they have three sides.
- Learners could use make their own cushion design on squared paper – provide squared paper, a selection of gummed shapes, coloured pencils and rulers. Suggest that shapes could be overlapped to make the designs more interesting.

## Activity 15

When learners are confident with the shapes, ask them to fill in the questions using the words in the box. Each word is used once.

*LINKS: H5, E4*

## Pages 10 and 11

### Pack it in!

#### Introduction to activity 16

- Introduce 3-D shapes, e.g. sphere, cube, cuboid and cylinder.
- Have a selection of 3-D shapes for learners to see and handle.
- Talk about their properties simply, comparing similarities and differences.
- Which shapes have straight sides? Which have corners? Which shapes are curved?
- Relate the faces on the 3-D shapes to the 2-D shapes encountered in earlier activities.
- Compare the faces on the cubes and cuboids.
- What is special about the cube? (It has six identical faces.)
- Ask learners to describe the shape of a sphere, cylinder etc.

#### Activity 16

- Put out a selection of 3-D shapes. As a group, ask learners to sort the shapes into sets: spheres, cubes, cylinders and cuboids.
- Discuss the differences and similarities between a cube and a cuboid. Encourage learners to handle the shapes.
- If this activity is too difficult, start with a selection of spheres and one cube. Ask learners to pick the odd one out. Repeat with other shapes until learners are confident.
- Some learners will benefit from having cue cards of the names and sketches of shapes.

### Activity 17

- Write the names of the four 3-D shapes on the board to help with spelling. Ask learners to write the name of the shape under each picture.
- The idea of 3-D shapes may be difficult to convey on paper so ensure learners have plenty of practical experience handling these shapes; emphasise that these are *pictures* of the 3-D shapes.

### Activity 18

- Have a variety of shapes – solid 3-D shapes or packages of food etc. Which shapes stack? Which shapes roll? Why has Min put the oranges in a bowl? What would happen if she didn't?
- Ask learners which shapes roll and which shapes can be stacked. Try out the different answers. Let learners try out this activity practically.
- Look closely at the cylinder – it can roll and be stacked.

### Activity 19

- Working individually, learners match the pictures of the objects to the correct name. If possible, have real examples of the items in the pictures for learners to investigate.

**LINKS:** H6, M4

## Page 12

### Here, there and everywhere

#### Introduction to activity 20

- Look at the cartoon strip and read the speech bubbles together.
- Look more closely at the positional vocabulary in bold. Ask learners for examples of other words, e.g. *in-between*, *inside*, *further*, *nearer*, *next to*.
- Write these words on the board and discuss their meanings using two objects, e.g. a doll and a box, positioning the objects appropriately for each word.

### Activity 20

- In pairs or as a whole group play a game similar to 'I spy'. Choose objects that encourage use of positional language, e.g. a book **underneath** a box, a chair **in-between** the tables.
- Be aware that some learners have difficulty with left and right.
- One player gives a clue to describe the position of the object and the other player(s) ask(s) questions: Is it on the top shelf? Is it near to me?

### Activity 21

- Read the words together, and give further reading help if needed during the activity.
- Working individually, learners match each positional word to the word *opposite* in meaning.
- You may want to pair up weaker and stronger readers for this activity.

## Pages 13 and 14

### Help

#### H1

- Allow plenty of time for practical work with different sized items so that learners get hands-on experience.
- Arrange 3–5 objects of the same shape but different sizes in a row.
- Ask learners to indicate the smallest, the largest and order the objects from smallest to largest.
- Ask learners to indicate the size of the red tin in each set by ringing the correct word.

#### H2

- Use plenty of practical examples of length, comparing everyday objects to say which is longer or shorter.
- Use five coloured pencils of different lengths. Ask learners to compare two of the pencils and indicate which is longer. Add another pencil each time until all five have been ordered.
- Ask learners to record the results by drawing the pencils in order from shortest to longest.

### H3

- Allow learners sufficient time for the practical activity of pouring into various containers. Use containers with different size bases. Learners predict which containers hold more.
- Learners estimate how many of one container will fill another. Use vocabulary of full, empty, half-full and overflowing.

### H4

- Allow time for the practical activity, in which learners use a balance scales and compare weight using their hands. Use a range of different objects. Emphasise that because an object is bigger, it is not necessarily heavier.
- A balance scales can be made using string, a 30-cm ruler and two pieces of material.
- Using the balance scales, learners order a group of five objects from lightest to heaviest.

### H5

- Ask learners to draw different flat (2-D) shapes.
- Look at the various triangles, right-angle, scalene and isosceles. Although learners do not need to know these names at this time, draw attention to the fact that all triangles have three sides.
- Discuss squares in relation to rectangles. What makes squares special?
- Look at the pictures together. Learners identify and count the different shapes.

### H6

- Ask learners to choose a 3-D shape then to think about everyday objects that are that shape.
- Encourage learners to handle the shapes.

## Page 15 Extension

### ↑ E1

- Look at instructions for flat-packed furniture or other materials that give measurements.
- Although learners do not need to be able to measure in standard measurements at this stage, ask them to identify the width, height and length of objects.

### ↑ E2

- Ask learners to estimate an object's capacity, e.g. the number of mugfuls to fill a bowl, the number of bucketfuls to fill a paddling pool.

### ↑ E3

- Ask learners to estimate before trying out the activity practically.
- Assess learners' ability to gauge approximate weights of objects.
- Learners record the estimated weights in order and compare with the actual weights using a balance.

### ↑ E4

- Provide some prepared flat gummed shapes.
- Learners identify and count out a certain number of these shapes and then use these to create patterns and pictures.

## Page 16 Mini-projects

### M1

- Prepare some sticks or string approximately 0.75 m long. (Remember to describe these as just under a metre – centimetres are introduced at Entry 2.)
- Learners assess whether their home is suitable (accessible) for a wheelchair user.
- Which areas are too narrow?
- How can they make them wider without affecting other areas?

### M2

- Learners look at various containers they have at home which hold or contain liquid. Estimate how many of one would be needed to fill another, e.g. how many washing-up bowls of water would be needed to fill the bath. Look at and compare food containers that hold liquid.



### **M3**

- Use food objects of different size and weight.
- Learners pack four carrier bags so that they are as even as possible in weight.
- Compare the weights of each. What objects could they swap around to balance out the weights between the bags?

### **M4**

- Pack four bags with food according to the shapes of the objects – all the cuboids together etc.
- Provide a box and ask learners how many food objects can they fit into the box.
- Which shapes would be best in the corners of the box? Which objects need to go on the bottom? Which go on the top so they don't get squashed?
- Ask learners to look at the shapes of food objects next time they go shopping.
- What is the most efficient way of packing bags and boxes: by shape or by size?

## **Pages 17 and 18**

### **Check it**

- Use these questions to assess how learners have coped with the skills in this unit. Ask learners to indicate the areas in which they would like help.

### ***How am I doing?***

- Learners complete this individually or with teacher support.