

5

Working in a garage

<p>Coverage</p> <p>This unit is about handling data. It covers extracting information from lists, tables and other representations. Learners will compare the numerical information available from block graphs and classify objects according to two criteria. They will also collect their own simple information and represent it in lists, tables and diagrams.</p>	<p>Skills</p> <p>HD1/E2.1 extract information from lists, tables, simple diagrams and block graphs</p> <p>HD1/E2.2 make numerical comparisons from block graphs</p> <p>HD1/E2.3 sort and classify objects using two criteria</p> <p>HD1/E2.4 collect simple numerical information</p> <p>HD 1/E2.5 represent information so that it makes sense to others (eg in lists, tables and diagrams)</p>
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Resources needed for effective teaching of this unit:

Demonstration	Small group	Pair	Individual
Taking readings from petrol pumps Reading tables with tyre types and sizes Simple diagrams, plans and block graphs Tyre pressure charts		Clipboard and paper Access to simple spreadsheet Access to graphics package to draw simple graphs	Ruler Pencil Eraser Access to simple spreadsheet Access to graphics package to draw simple graphs

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

- Discuss the scenario as a group.
- Be sensitive to learners who do not own a car.

Stimulus questions

- What information do you need to know about running a car?
- Where would you find this information?
- Can you find examples of the information I might need?
- What sort of things do customers get from a garage?
- How do customers pay?
- What things do garages sell?
- What sort of things would a supervisor need to know about customers using a garage?

Pages 2 and 3 The forecourt

Introduction to activity 1

- As a group, discuss going to the garage. Ask learners to identify why you go and what you buy at a garage.
- Ensure learners know that the makes of tyre are in words, and that the types of tyre are described by both letters and numbers.
- NOTE: The size is measured by the diameter of the rim of the wheel. So R14 means that the diameter of wheel rim is 14 inches.
- Look at the example. Go through some more on a flipchart if necessary.

Activity 1

- Talk through the table and the instructions for reading the table.
- Stress that the rows represent names of tyres and the columns represent types of tyres.

Introduction to activity 2

- Discuss the table. Focus on rows representing pumps, and columns represent types of fuel.

Activity 2

- Learners complete the activity individually or in pairs.
- Ask further questions about the table to reinforce learning if necessary.

LINKS: H1, M1, M3

Pages 3 and 4 Selling oil and tyres

Introduction to activity 3

- Discuss ways of showing sales of different types of oil: table, block graph.
- On the block graph:
 - the horizontal axis shows the types of oil
 - the vertical axis shows the number of sales
 - the title tells us what it is about
 - there are equal gaps between bars
 - the height of the bar represents the number of sales.
- Discuss the advantages of blocks, e.g. simple to draw, regular, easy to compare.
- Reinforce this by summarising the method of reading the graph when checking learners' answers.

Activity 3

Learners complete the activity individually or in pairs.

Introduction to activity 4

- Discuss the block graph. Ask learners to describe what the title and axes show. How can they tell easily on which day most/least were sold?
- Ask questions about how many items were sold on individual days.
- Discuss re-ordering. If I re-order after selling 12 tyres, when would I have to re-order during the week?

Activity 4

Learners complete the activity individually or in pairs.

LINKS: H2

Pages 6 and 7 Diesel or petrol? What colour car?

Introduction to activity 5

- Discuss the claim about 'more white vans' and pick out the criteria 'colour' and 'fuel type'.
- Discuss 'criteria' in general terms – how things are sorted, e.g. colour, size, age, shape etc.
- Discuss where various vehicles would be entered in the table, e.g. blue motorbike, green van etc. and how they could be entered using tally marks (not making fives).

Activity 5

- Make sure learners know that the first item from the list has been recorded for them.
- Learners complete the activity individually or in pairs.

Activity 6

- Discuss the groupings needed to investigate Joe's assertion regarding fuel type and the number of doors.
- Discuss entry of tally marks in the table and that the first two items have been done.
- Learners complete the activity individually or in pairs

Activity 7

- Discuss how learners will sort the information for a 2×2 table.
- Discuss how the information is sorted for this activity.
- Learners complete the activity individually or in pairs.

LINKS: H3, E1, M2

Pages 8 and 9 About our customers

Introduction to activity 8

- Discuss different types of vehicles and how they could be categorised, e.g. cars, vans, motorbikes.

Activity 8

- Explain how the data have been recorded so far in question 2. Learners must list the vehicles in each category, and the items in the list must be counted to get the answers to question 3.
- Learners complete the activity individually or in pairs.

Introduction to activities 9 and 10

- Discuss completion of activity 9. Consider some amounts that might be under or over £10. Also discuss the exact amount £10.
- At this level, learners will not have covered pounds and pence mixed together.
- Learners complete activities 9 and 10 individually or in pairs.



Activity 10

- Discuss different ways we can pay for things.

LINKS: H4, E1, M1, M2

Pages 10–12 Which pump works hardest?

Introduction to activity 11

- Discuss the use of simple marks for recording (fewer than 5).
- Discuss how the supervisor's question could be answered: by counting up how many times each pump has been used over a sample period.

Activity 11

- Explain how the first three times the pumps used has been recorded on the table.
- Discuss important features of a block graph: title, labels on axes, bars, and gaps between bars.
- Look back at the examples of block graphs in activities 3 and 4 and point out these important features.
- Ask learners how high each block should be in question 4.
- Learners complete the activity individually or in pairs.

Activity 12

- Make sure that learners know that they should enter the **times** in the table.
- Learners complete the activity individually or in pairs.

⬆ Activity 13

- Work through the activity orally first so that learners know exactly what they are to do.
- Make sure they understand that the two most popular colours will be used and that the 'others' will be grouped together.
- Reinforce scale and labelling of axes.
- Learners complete the activity individually or in pairs.

LINKS: M2

Pages 13 and 14 Help

H1

- Learners work individually.
- Remind learners that they need to consider type size (columns) and type make (rows).

H2

- Learners work individually.
- Remind learners that they need to use the title, labels and height of blocks to answer the questions.

H3

- Learners work individually or in pairs.
- Remind learners of what is meant by criteria and discuss the criteria used here.
- Remind learners of how to use a simple tally.

H4

- Learners work individually or in pairs.
- Remind learners of how to use tally marks.
- Remind learners of the elements of drawing a block graph: title, labels on axes, scales, blocks and gaps between blocks (See activities 4 and 5 for examples.)

Page 15 Extension

⬆ E1

- Learners work individually or in pairs.
- Remind learners that they need to select two criteria to sort.
- Remind learners of how to tally.
- Ensure learners understand the use of the words 'more' and 'fewer'.

Page 16 Mini-projects

- Learners work on these projects individually or in groups in class or at home.
- They involve the application of skills learnt in the unit.
- Make sure that learners understand exactly what they are trying to achieve.

M1

- In groups, discuss tyre pressure measurements.
- Learners choose car types and find relevant information.

M2

- Discuss as a group how, where and when to collect relevant data.
- Discuss health and safety issues.
- Choose categories.
- Collect data.
- Use ICT to present data in a spreadsheet and simple chart or to draw a block graph.

M3

- A search engine should help find up-to-date websites. It may be useful to research some sites in advance.

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 where they would like more help.