

5

Working in a garage



I work in a garage. We sell petrol, spare parts and accessories for cars. There are a lot of different things to do. I need to get a lot of information from lists, tables, charts and diagrams.

I also need to look after the stock and re-order when it gets low. It is important to collect information about customers and sales, to help us plan what stock to buy in.

Talk about it

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 sorts of things do customers buy 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?

These are the skills you will practise in this unit.

Which are the most useful for you? Tick the boxes.

- | | |
|--|----------|
| <input type="checkbox"/> Get information from lists, tables and diagrams | HD1/E2.1 |
| <input type="checkbox"/> Comparing information from graphs | HD1/E2.2 |
| <input type="checkbox"/> Sorting objects using two categories | HD1/E2.3 |
| <input type="checkbox"/> Collecting information with numbers | HD1/E2.4 |
| <input type="checkbox"/> Representing information so that it makes sense | HD1/E2.5 |

These activities are about getting information from tables. A table is a way of showing information clearly. They can be complicated, but here they will be simple.

The forecourt

When I'm working in the garage I need to get information about cars from lots of different places.



Activity 1

The garage sells different makes of radial tyre, each in different sizes.

| Tyres | R13 | R14 | R15 |
|------------|-----|-----|-----|
| MICHSTONE | £32 | £56 | £50 |
| BRIDGEYEAR | £33 | £59 | £54 |
| GOODELLI | £31 | £53 | £55 |

Remember

- Rows go across
- Columns go down.

The table shows the makes of car tyre down the side of the table and the size across the top.

A customer wants the price of a R14 Goodelli.

Find Goodelli and look across that row (see arrow). Now find R14 and look down that column. Where this row and column cross over is £53.

| Tyres | R13 | R14 | R15 |
|------------|-----|-----|-----|
| MICHSTONE | £32 | £56 | £50 |
| BRIDGEYEAR | £33 | £59 | £54 |
| GOODELLI | £31 | £53 | £55 |

Cost of an R14 tyre made by Goodelli is £53 per tyre.

Sometimes the customer just wants the cheapest tyre. For example, the cheapest R15.

Look down the R15 column.

- 1 What is the cheapest price?
- 2 Look across to the left. What make of tyre is this?

- 3 An R15 size Bridgeyear tyre will cost
- 4 An R13 size Michstone tyre will cost
- 5 The cheapest R13 tyre is
- 6 Which is the dearest R14?

Remember

- When using tables it is important to know what is shown in the rows and columns. This shows you where to find information.



Activity 2

The garage has four petrol pumps. Each pump delivers two different types of fuel, as shown in the table. Use the table below to answer the questions.

| Fuel Pump | Diesel | 4-star petrol | Unleaded petrol |
|--------------|--------|---------------|-----------------|
| 1 | Yes | No | Yes |
| 2 | No | Yes | Yes |
| 3 | No | Yes | Yes |
| 4 | Yes | No | Yes |

- 1 Is 4-star petrol sold at pump 3?
- 2 Is diesel sold at pump 2?
- 3 Which pumps sell unleaded petrol?
- 4 Which fuels can you buy at pump 4? and



Do you need more practice in reading tables?

Yes ☐

No ☐

For more work on this, go to H1 (page 12).

This work links to mini-projects M1/M3 (page 15).

Selling oil and tyres

'I also have to know about other items sold in the pay kiosk, and re-order when stocks are low.'



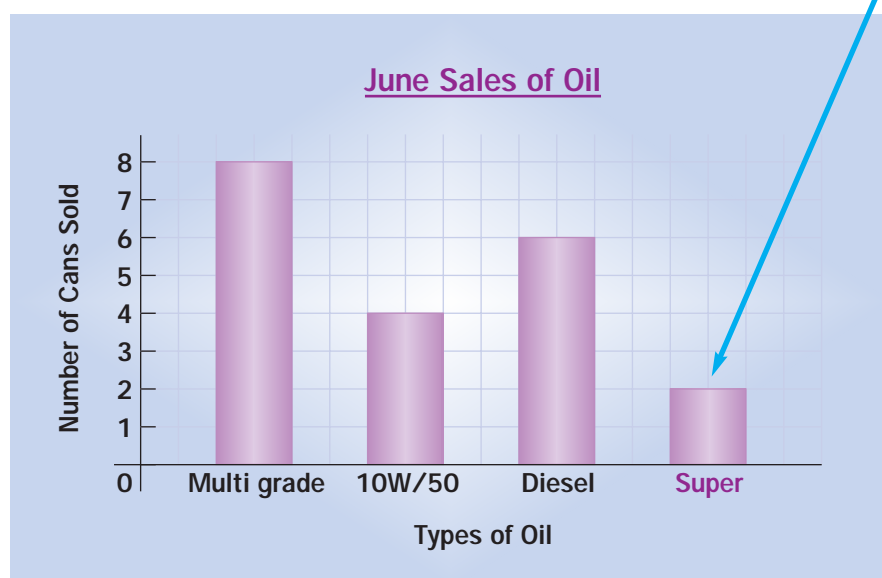
Activity 3

Engine oil is sold in different grades. This garage sells Multi grade, 10W/50, Diesel and Super grade. The oil is only sold in cans.

In June sales totalled

| Types of oil | Multi grade | 10W/50 | Diesel | Super |
|---------------------|-------------|--------|--------|-------|
| Number of cans sold | 8 | 4 | 6 | 2 |

A block graph can be used to see how much has been sold.



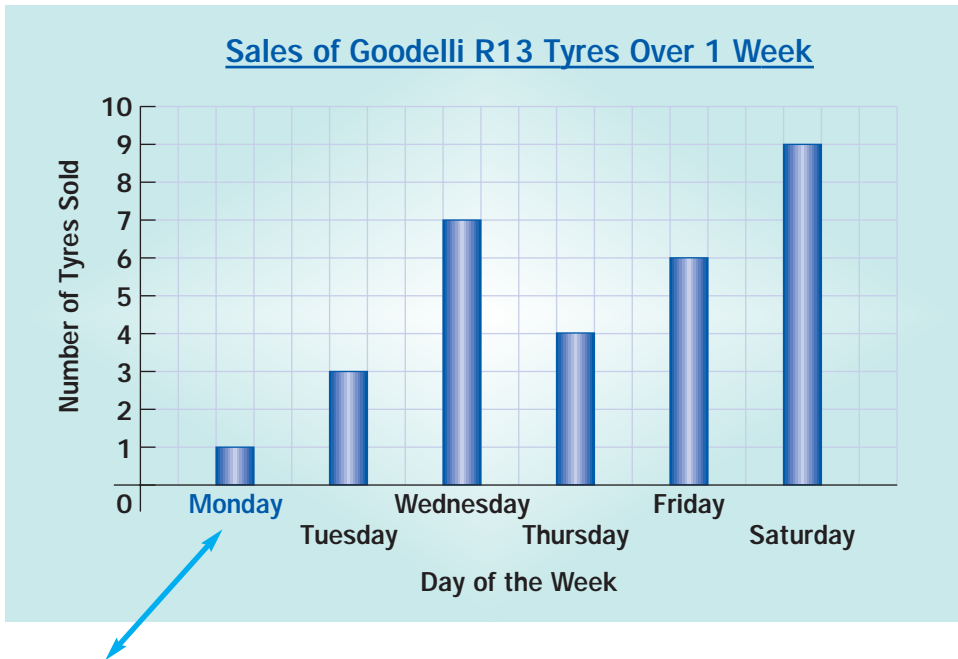
In June, two cans of Super grade oil were sold.

- 1 How many Diesel cans were sold in June?
- 2 How many 10W/50 cans were sold in June?
- 3 Which type of oil sold least in June?
- 4 I re-order when I have sold seven cans of one type of oil. Which type of oil will I need to re-order?
- 5 In June, which oil sold three times as many cans as Super oil?



Activity 4

The sales of Goodelli R13 tyres are shown in this block graph.



On Monday, one tyre was sold.

- 1 How many tyres were sold on Tuesday?
- 2 How many tyres were sold in the first three days?
I re-order as soon as I have sold ten tyres.
- 3 a On which day did I re-order?
b Did I order again during the week? If so, when?
- 4 On which day were most tyres sold?
- 5 On which day were least tyres sold?
- 6 Will the number of tyres sold be the same next week?
Why?
- 7 On which days were an even number of tyres sold?
- 8 Put the number of tyres sold each day in the table below.

| Monday | Tuesday | Wednesday | Thursday | Friday | Saturday |
|--------|---------|-----------|----------|--------|----------|
| | | | | | |



Do you need more practice in reading block graphs?
For more work on this, go to H2 (page 12).

Yes ☐ No ☐

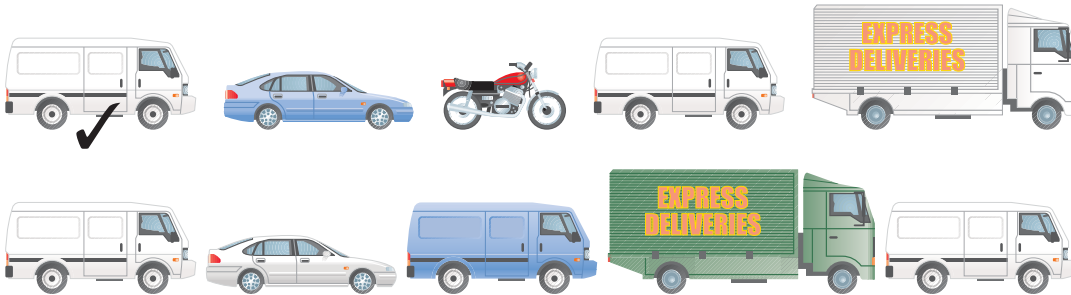
Diesel or petrol? What colour car?



Activity 5

My work-mate Joe thinks that more white vans come to the garage than any other vehicles. So we decide to do a survey.

The following vehicles visit the garage between 10 and 11 o'clock:



The first vehicle has been sorted into the table. It is a white van so the tally mark goes under White, across from Van.

Where will the blue car go? Mark it on the table.

1 Finish off sorting the vehicles into the table.

| | White | Not white (another colour) |
|---------------|-------|----------------------------|
| Van | | |
| Other vehicle | | |

2 How many white vans visited garage between 10 and 11 o'clock?

3 Was Joe right? Are white vans the most common type of vehicles?

Joe doesn't think this is fair because everything that isn't a van goes into the 'other' box. What do you think? Discuss this with the class.



Activity 6

Joe also says that all cars which use diesel have four doors. His does! So we do another survey.

Remember

- **Criteria** are features such as colour, shape, height which allows objects to be sorted.

They decide to group different types of vehicles in two criteria by fuel type, and the number of doors.

They draw a table like the one shown on the next page. The following cars visited the garage between 9 and 10 o'clock (the first 2 are done for you).

| | | | |
|-----------------|-----------------|---------------|---------------|
| Diesel 4-door ✓ | Petrol 4-door ✓ | Diesel 4-door | Petrol 3-door |
| Diesel 4-door | Diesel 2-door | Petrol 2-door | Petrol 2-door |
| Petrol 4-door | Petrol 2-door | Petrol 4-door | Diesel 4-door |

1 The first two cars have been recorded by fuel type and the number of doors into this table.
Complete the table.

| | Diesel | Petrol |
|--------|--------|--------|
| 2-door | | |
| 3-door | | |
| 4-door | 1 | 1 |

2 Is Joe right? Do all diesel cars have four doors?

.....

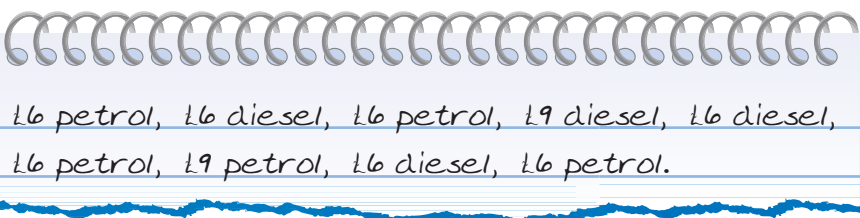
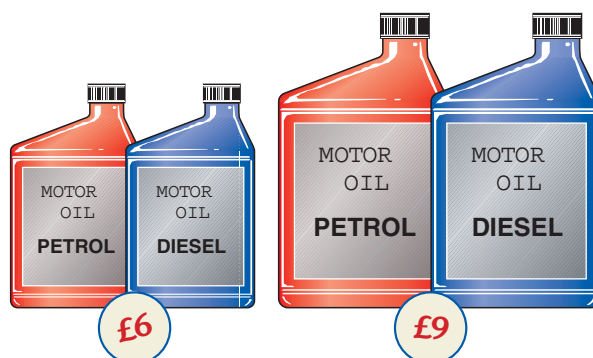
3 What is the most common fuel type in this group of cars?

Activity 7

Jay, my other work-mate has kept a note of all the oil that is sold. It is sold for petrol and diesel engines and in two sizes, for £6 or £9.

This is a list of the oil sold on Monday.

The list shows cost and fuel type.



1 What should be written at the top of the columns? Fill in the table below.

2 Look at the £6 column.

| | | |
|------------|--|--|
| | | |
| Petrol oil | | |
| Diesel oil | | |

a How many £6 cans of petrol oil were sold?

b How many £6 cans of diesel oil were sold?

c How many £6 cans altogether?

3 How many £9 cans of oil were sold altogether?



Do you need more practice in sorting information into a table?

Yes ☐ No ☐

For more work on this, go to H3 (page13) or E1 (page 14).

This work links to mini-project M2 page 16).

About our customers



Activity 8

The supervisor wants to know how many different types of vehicle use the garage on Friday morning. He tells us to use categories of car, motorbike, van, and lorry.

1 Can you think of any 'other' categories?

The following vehicles come into the garage on Friday morning:

| | | | | |
|-------|-------|-------------|-----------|---------|
| car ✓ | car ✓ | motorbike ✓ | lorry ✓ | car ✓ |
| van ✓ | car | car | motorbike | van car |

2 The first **six vehicles** have been sorted out. Finish sorting them into groups:

car, car, car

motorbike

lorry

van

3 Put the total number of vehicles into each category in the table:

| | |
|-----------|--|
| car | |
| motorbike | |
| lorry | |
| van | |

4 Which is the most common type of vehicle?

5 Which is the least common type of vehicle?

6 Will there be the same number of vehicles every Friday morning?

.....

Why?



Activity 9

The supervisor wants to know if customers spend more than £10 on petrol.

Joe thought the categories could be:

| | |
|---------------|--|
| More than £10 | |
| £10 | |
| Less than £10 | |

The information could be collected by questioning the customers or by looking at the till roll.

- 1 If you asked the customers a question, what would it be?

.....

Activity 10

The supervisor wants to know how customers pay for the petrol.

- 1 Decide on at least two ways to pay.

.....

- 2 Would you ask the customers or find the information another way?
Explain how you could get the information.

.....

- 3 On the table show how you could collect information about how customers pay.

| | |
|--|--|
| | |
| | |
| | |



Do you need more practice on collecting information?

Yes ☐

No ☐

For more work on this, go to H4 (page 13) or E1 (page 14).

This work links to mini projects M1/M2 (page 15).

Which pump works hardest?



Activity 11

Which is the busiest fuel pump on Monday morning?

The supervisor needs to know which pump is used the most.

The supervisor has printed the till roll for Monday morning.

- Record the number of times the pumps 1, 2, 3 and 4 have been used and fill in the rest of the table.

The first three uses have been done for you.

- Which is the busiest petrol pump on Monday morning?

.....

| Pump number | Times used |
|-------------|------------|
| 1 | |
| 2 | |
| 3 | |
| 4 | |

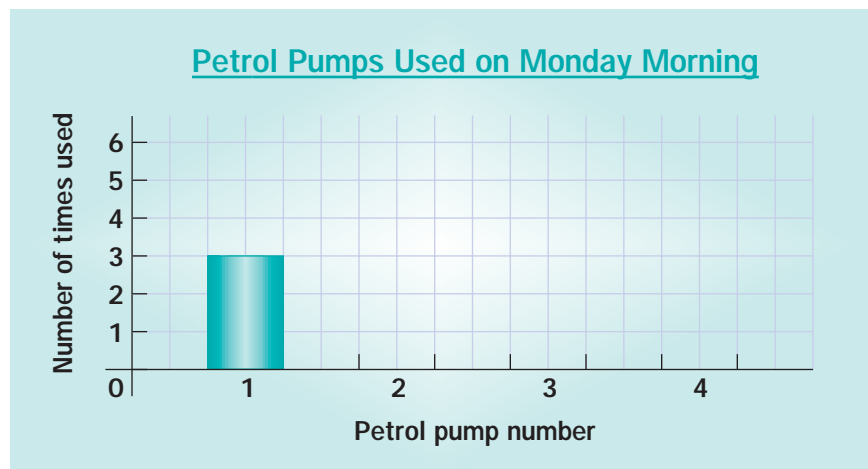
- How can you check you have included all the information from all of the petrol pumps?

.....

.....

.....

- Draw blocks on the graph to show petrol pump use. Petrol pump 1 has already been drawn for you.



THE GARAGE LTD

| Pump number | Time |
|-------------|--------|
| 2 | 6:30 ✓ |
| 3 | 7:00 ✓ |
| 2 | 7:15 ✓ |
| 3 | 7:15 |
| 2 | 7:30 |
| 1 | 7:45 |
| 2 | 7:45 |
| 3 | 8:15 |
| 4 | 8:30 |
| 4 | 9:00 |
| 1 | 9:30 |
| 1 | 10:15 |



Activity 12

The supervisor needs to know if there are more customers before or after 8 o'clock on Monday morning.

Use the information on the till roll on the opposite page.

- 1 What information does the supervisor need?

Pump number YES/NO

Time YES/NO

- 2 Use the till roll to fill in the table below, by listing the times the pumps are used.

| | Times |
|------------------|-------|
| Before 8 o'clock | |
| After 8 o'clock | |

- 3 Are there more customers before or after 8 o'clock?

- 4 Suggest a reason for your answer.

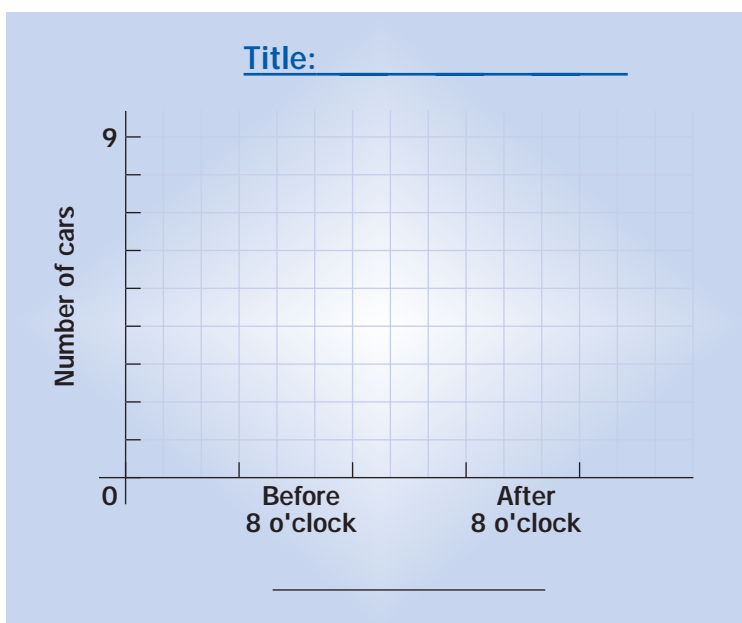
.....

.....

.....

- 5 Complete the block graph to show this information.

Make sure you give it a title and label both axes.



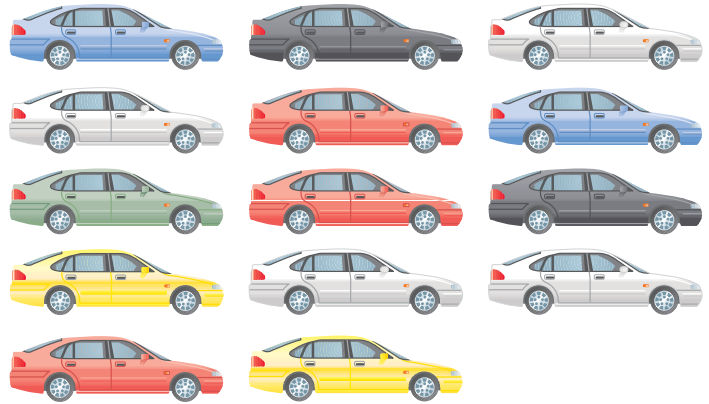


Activity 13

The supervisor needs to find out the most popular colours of cars to restock the paint shop.

These cars came into the garage on Friday morning.

The supervisor only wants to know the two most popular colours.



- 1 List the two most common colours.

| | |
|--|--|
| | |
|--|--|

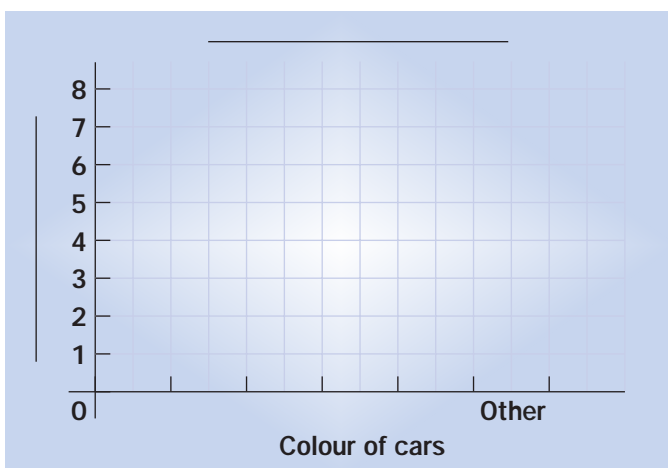
- 2 List the rest of the colours that will fit into the OTHER category.

| | | | |
|--|--|--|--|
| | | | |
|--|--|--|--|

- 3 Put the two most common colours into the table and the number of cars in each category.

| | |
|-------|--|
| | |
| OTHER | |

- 4 The supervisor needs to see a block graph to show the colours of the cars. Give the graph a title and label the vertical axis.



- 5 Which is the most popular colour of car? _____



This work links to mini-project M2 (page 15).

Activity H1

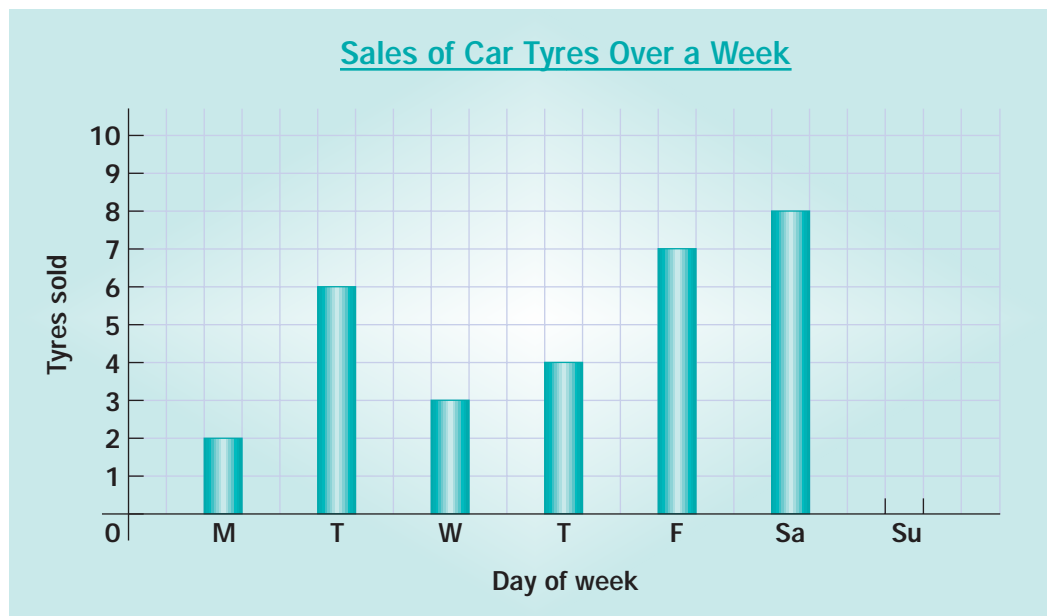
This table shows the cost of cross-ply tyres.

| Tyres | R13 | R14 | R15 |
|------------|-----|-----|-----|
| MICHSTONE | £27 | £45 | £38 |
| BRIDGEYEAR | £25 | £47 | £42 |
| GOODELLI | £28 | £37 | £43 |

- 1 What is the cost of a Michstone R13?
- 2 What does an R15 Goodelli cost?
- 3 Which is the cheapest Bridgelyear tyre?
- 4 Which is the dearest R14 tyre?
- 5 What does the most expensive cross-ply tyre cost?

Activity H2

Tyre sales in May



- 1 How many tyres were sold on Wednesday?
- 2 On which day were most tyres sold?
- 3 How many tyres were sold over the whole week?.....



Activity H3

The following cars visited the garage between 10 and 11 o'clock on Wednesday:

petrol 2-door diesel 2-door petrol 4-door diesel 4-door
petrol 4-door petrol 2-door petrol 4-door

- 1 The two criteria to sort these are **a** the number of doors **b**

Complete the headings and tally the cars into the table.

| | | |
|--------|--|--|
| | | |
| 2 door | | |
| 4 door | | |

- 2 What is the most common fuel?

- 3 What is the most common number of doors?



Activity H4

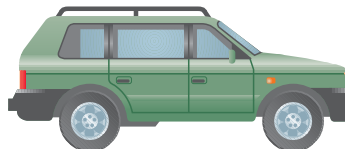
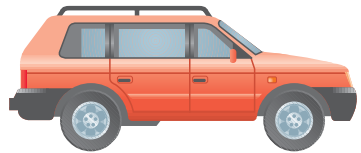
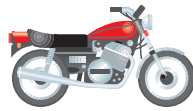
What types of vehicle use the garage on Saturday morning?

These vehicles come into the garage on Saturday morning:

- 1 List the different types of vehicles.

Tally the number of vehicles into each category in the table:

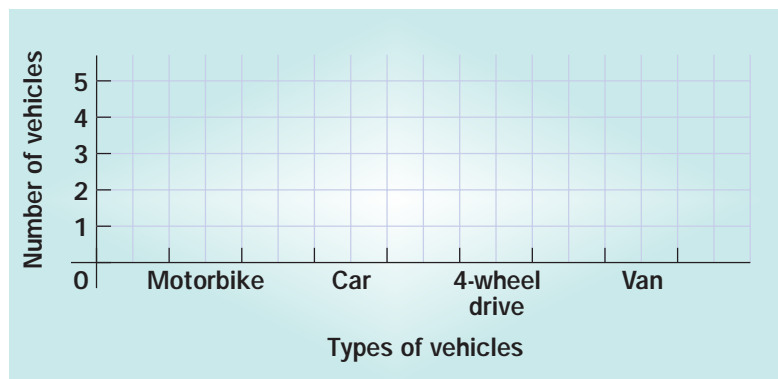
| Type of vehicle | Tally |
|-----------------|-------|
| | |
| | |
| | |
| | |



- 2 Draw a block graph to show the vehicles that called into the garage on Saturday morning.

- 3 Which is the most common type of vehicle?

.....





Extension

*In the shop at the garage we
sell windscreen wiper blades.*



Activity E1

There are two lengths, 26 cm and 29 cm.

They are made by two companies, Clearwipe and Wipeasy.

They are all stored in one big basket. The supervisor wants to order more and asks Joe how many of each are left.

Joe decides to do this by recording the information in a table.

Decide on the criteria to go in the table.

| | | |
|--|--|--|
| | | |
| | | |
| | | |

As Joe takes a packet from the basket he makes a tally mark on the table to show the wipers.

Here is the order of the packets that he takes out:

C26 W29 C29 W29 W26
W29 C29 W26 C29 W29

- 1 Complete Joe's table for him.
- 2 For which **length** of wiper is there more stock?
- 3 For which **make** of wiper is there more stock?



Mini projects



Activity M1

A tyre pressure chart shows how much air pressure to put into car tyres.

Discuss in a group how tyre pressure is measured.

Investigate **the tyre pressure on three different cars**.

Go to a garage and find the chart showing tyre pressure.

- 1 List three cars you have chosen.
- 2 Why does pressure vary for different cars?
- 3 Why does pressure vary from front to back tyres?
.....
- 4 Why does it vary for different loads/speeds in the car?
.....
- 5 How important is it to check it regularly?
- 6 List the tyre pressure for the three cars.
- 7 What is another measure of pressure used for car tyres?

Remember

- 'Psi' is a measure of tyre pressure. It means **pounds per square inch**.



Activity M2

Go to the local garage to collect information about the types of vehicles using the garage over half an hour, or an hour. Or go to a car park to collect information on the most popular colour of cars.

(Be aware that if you go to a garage you should ask permission from the supervisor and stand in a safe place to collect the information.)

Choose the categories of vehicles. Draw a table and put in the categories you have chosen or list the vehicles as they arrive and categorise them later.

Draw a block graph to show the different types of vehicles.

You could use a simple spreadsheet to categorise the data.

Use a simple graphics package to draw a bar chart.

Activity M3

Use the Internet to find costs of **a** car tyres **b** second-hand cars.



Check it



Activity C1

Sale of 1 litre cans of car wash in one week in January

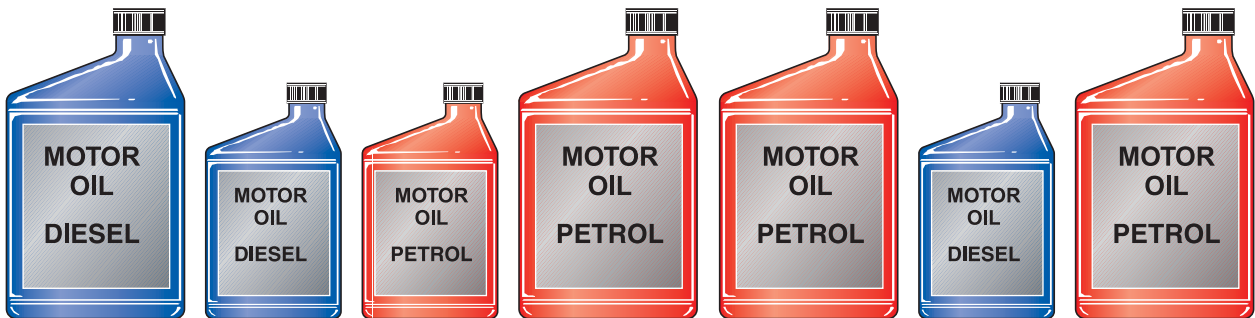


- 1 How many Executive Shine cans were sold?
- 2 Which car wash sold the most in January?
- 3 How many cans were sold altogether?



Activity C2

Sales of oil on Tuesday evening, in sizes and types as in Activity 7 (page 7).



Decide on the criteria to sort these and complete the tally table.

| | | |
|--|--|--|
| | | |
| | | |
| | | |

- 1 Which is the most popular size sold?
- 2 How many cans of oil were sold?



Activity C3

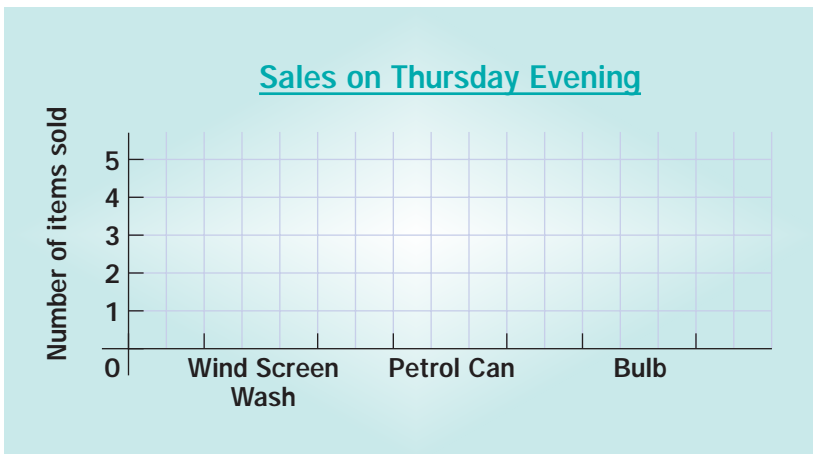
Sales in pay kiosk on Thursday evening.



- Sort the information into a table.

| Item sold | Number sold |
|-----------|-------------|
| | |
| | |
| | |

- Fill in the block graph using sales from the table.



How am I doing?

Now look back at the skills listed on page 1.

Then finish the sentences below.

I am confident with.....

.....

I need more practice with

.....

Date

Activity 1

- 1 £50
- 2 Michstone
- 3 £54
- 4 £32
- 5 Goodelli, £31
- 6 Bridgeyear, £59

Activity 2

- 1 Yes
- 2 No
- 3 All 1, 2, 3, 4
- 4 Diesel and unleaded

Activity 3

- 1 6
- 2 4
- 3 Super
- 4 Multi grade
- 5 Diesel

Activity 4

- 1 3
- 2 11
- 3 a Wednesday b Friday
- 4 Saturday
- 5 Monday
- 6 Unlikley, because there will be different customers.
- 7 Thursday and Friday

8

| Mon | Tues | Weds | Thurs | Fri | Sat |
|-----|------|------|-------|-----|-----|
| 1 | 3 | 7 | 4 | 6 | 9 |

Activity 5

| | White | Not white |
|-------|-------|-----------|
| Van | | |
| Other | | |
| | | |

- 2 4
- 3 Yes

Activity 6

1

| | Diesel | Petrol |
|--------|--------|--------|
| 2-door | | |
| 3-door | | |
| 4-door | | |

- 2 No
- 3 Petrol

Activity 7

1 Cost (£6 and £9)

| | £6 | £9 |
|--------|----|----|
| Petrol | | |
| Diesel | | |

- 2 a 4 b 3 c 7
- 3 2

Activity 8

- 1 4-wheel drive or sports car or three-wheeler or people carrier etc
- 2 car, car, car, car, car, car
motorbike, motorbike
lorry
van, van

3

| | |
|-----------|---|
| car | 6 |
| motorbike | 2 |
| lorry | 1 |
| van | 2 |

- 4 car
- 5 lorry
- 6 It is unlikely because they will be different customers.

Activity 9

- 1 In the last week did you spend – more than £10
– exactly £10
– less than £10
on petrol?

or a version of this.



Activity 10

- 1 Cash or credit card are most likely. Discuss other answers with teacher
- 2 From the till roll or by questioning customer
- 3

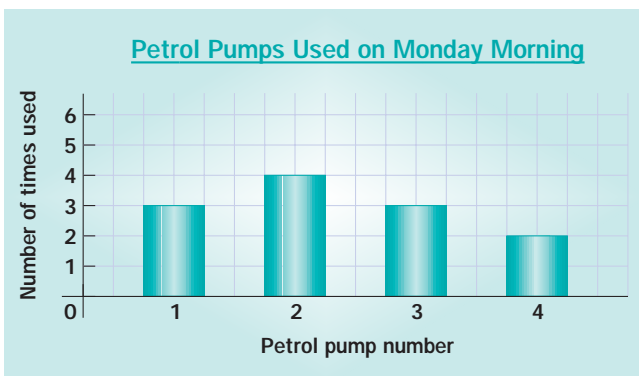
| | Number of customers |
|--------|---------------------|
| Cash | |
| Credit | |

Activity 11

- 1

| Pump number | Times used |
|-------------|------------|
| 1 | |
| 2 | |
| 3 | |
| 4 | |

- 2 Pump number 2
- 3 Count the number of pump readings on the till roll and make sure they are the same in the table



Activity 12

- 1 Pump number NO Time YES
- 2 Fill in the table below.

| | Times |
|------------------|------------------------------------|
| Before 8 o'clock | 6:30 7:00 7:15 7:15 7:30 7:45 7:45 |
| After 8 o'clock | 8:15 8:30 9:00 9:30 10:15 |

- 3 Before 8 o'clock
- 4 People are filling up on their way to work
- 5 Check with teacher

Activity 13

- 1

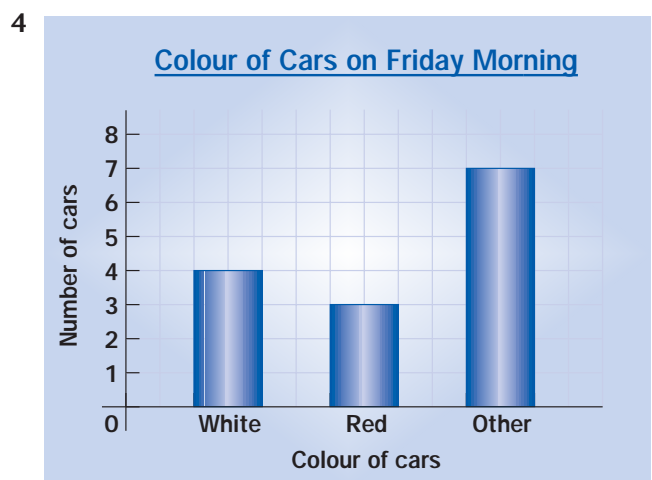
| | |
|-------|-----|
| White | Red |
|-------|-----|

- 2

| | | | |
|------|-------|-------|--------|
| Blue | Green | Black | Yellow |
|------|-------|-------|--------|

- 3

| | |
|-------|--|
| White | |
| Red | |
| OTHER | |



- 5 white

Help

Activity H1

- 1 £27
- 2 £43
- 3 R13
- 4 Bridgeyear
- 5 £47

Activity H2

- 1 3
- 2 Saturday
- 3 30



Activity H3

1 (2) Fuel type

| | Diesel | Petrol |
|--------|--------|--------|
| 2-door | | |
| 4-door | | |

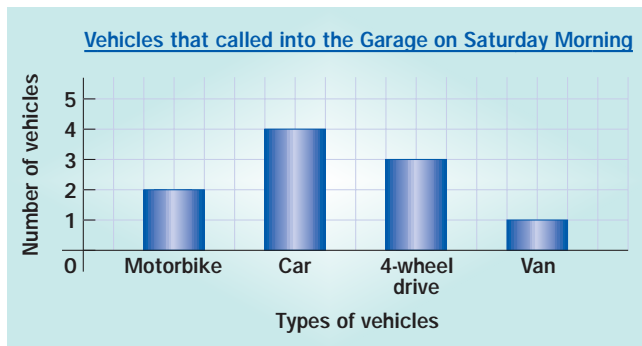
2 petrol

3 4 door

Activity H4

| | | |
|---|---------------|--|
| 1 | Motorbike | |
| | Car | |
| | 4-wheel drive | |
| | Van | |

2



3 car

Extension

| | | |
|-----------|------|------|
| E1 | 26cm | 29cm |
| Clearwipe | | |
| Wipeasy | | |

2 There are more 29 cm wipers in stock.

3 There are more wipers from Wipeasy in stock.

Mini projects

M1 M2 M3

Check with teacher

Check it

Activity C1

1 2

2 Super Wash

3 11

Activity C2

Sort the sales into two categories.

1 size

and

2 engine type

Fill in the table with categories and amounts

| | Large | Small |
|--------|-------|-------|
| Diesel | | |
| Petrol | | |

1 Large

2 7

Activity C3

1

| | |
|------------------|--|
| Wind screen wash | |
| Petrol can | |
| Bulb | |

2

