Exercise 10.1

Focus

1 Ingrid counted the birds in her garden each day.
Complete the table to show how many days she saw each number of birds.

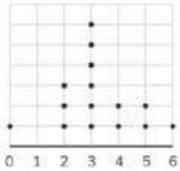
3, 3, 4, 4, 4, 5, 5, 5, 5, 6, 6, 7, 7, 8

Number of birds	How many days?
3	2
4	
5	
6	
7	
8	

Tip

In the list there are two days when Ingrid saw 3 birds. The number 2 goes in the table next to 3 birds.

2 Billy looked in 15 packets of sweets and counted the red sweets he found in each packet.
He used a dot plot to record how many red sweets he found.



a How many packets had 0 red sweets?

____

b How many packets had 3 red sweets?

____

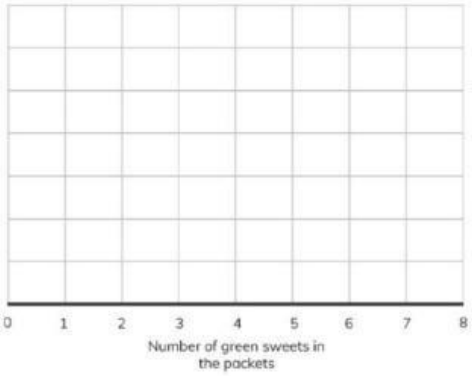
c What is the greatest number of red sweets that Billy found?

____

3 Billy counted the green sweets in the packets.
This is how many green sweets he found in each packet.

1, 1, 2, 2, 2, 2, 3, 3, 3, 4, 6, 6, 6, 7, 8

Complete the dot plot with the number of green sweets he found in the packets.



4 Complete these sentences and choose the words to plan an investigation to find out how many seeds there are in a packet.

Question: How many _____ are there in a packet?

I will **count / collect** how many seeds are in each packet.

I will **plant / record** the number of seeds in a _____.

LIVEWORKSHEETS

Practice

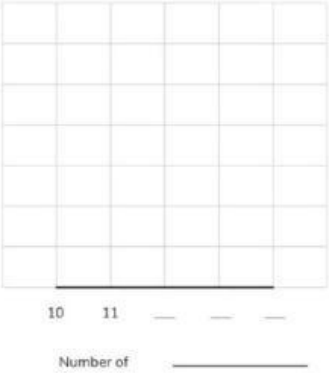
5 Aron counted the number of cars that passed his window each hour.

a Complete the table to show his results.

10, 11, 14, 10, 10, 13, 14, 13, 13, 13, 11, 13

Number of cars	How many hours?

b Complete the dot plot to show the number of cars that passed each hour.



6 Use the table or the dot plot in Question 5 to answer these questions.

a For how many hours did Aron see 12 cars?

b What was the greatest number of cars Aron saw in an hour?

c For how many hours did Aron see less than 12 cars?

d Did you use the table or the dot plot?

Why?

7 You are going to plan an investigation to find out how many cubes your friends can hold in one hand.

Complete the plan.

Question: How many _____?

People I will use: _____

LIVEWORKSHEETS

I will record the data in this table.

Number of _____	Number of _____

Carry out the investigation and complete the table.

Challenge

8 Nasreen counted the number of seeds in 12 packets of sunflower seeds.
This is the number of seeds in each packet:

23, 24, 22, 22, 22, 23, 26, 24, 24, 21, 23, 23

a Draw a table to show how many packets had each number of seeds.

b Draw a dot plot to show how many seeds are in each packet.

c How many packets had 25 seeds?

_____

d What was the least number of seeds found in a packet?

_____

e How many packets had more than 23 seeds in them?

_____

f Reflect on how you answered questions c, d and e.
Did you use the table or the dot plot?

_____

Why?

_____

_____

LIVEWORKSHEETS

16 Data display and interpretation

16.1 Displaying and interpreting data

Worked example 1

Display the data in this frequency table using a bar chart.

Frequency table showing how many pets each person has

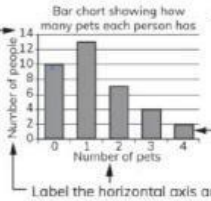
Number of pets	Number of people
0	10
1	13
2	7
3	4
4	2

Tip

Always use a ruler and work neatly so that the bar chart will be easy to read and interpret.

Answer:

Choose a scale for the vertical axis. The highest number in the data is 13, so the axis must go up to at least 13. The data will be clearest if it is labelled in 1s or 2s.



Add a title. The title explains what the data is about.

Draw bars, using the scale to match the data in the table to the data in the bar chart.

Label the horizontal axis and the vertical axis. The headings in the table can be used to label the axes.

bar chart Carroll diagram pictogram Venn diagram

Exercise 16.1

Focus

1 Label each diagram, chart or graph with its name.

pictogram	Venn diagram	Carroll diagram
bar chart	dot plot	frequency table

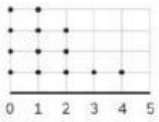
a

Sweet colour	Number in the packet
red	
yellow	
green	

key: = 2 sweets

_____

b



_____

c

	Even	Not even
Multiple of 10		
Not a multiple of 10		

_____

d

Coin	Number of coins
5 cents	4
10 cents	1
25 cents	2
50 cents	1

_____

LIVEWORKSHEETS

2 Circle the chart or diagram you should use for displaying each set of data.
Explain why you would use that chart or diagram.

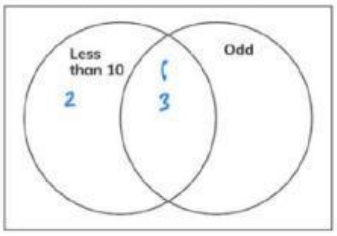
mengelompokkan

a Sorting the colour and name of a set of shapes. I would use a
Pictogram / Carroll diagram because it is a sorting data.

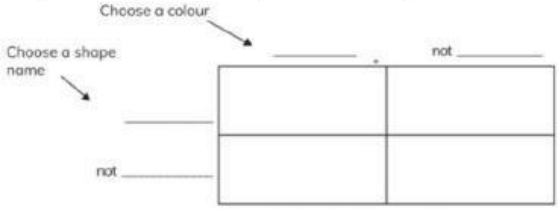
Berapa banyak

b Showing how many people voted for different songs. I would use a
Venn diagram / Bar chart because It shows the number of things that can be compared

3 Sort the numbers from 1 to 20 into this Venn diagram.



4 Choose your own categories to sort shapes in this Carroll diagram.

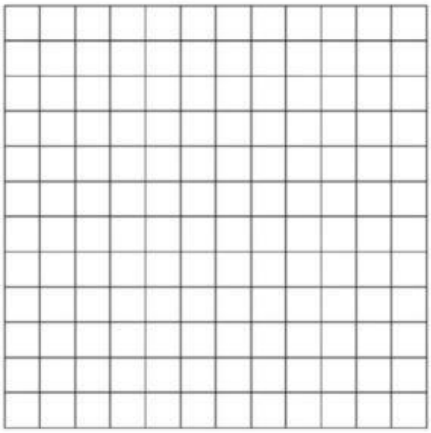


Draw and colour two shapes in each section to match the properties you have chosen.

5 Display the data in this frequency table using a bar chart.
Frequency table showing how many pets each person has

Number of pets	Number of people
0	20
1	14
2	9
3	3
4	1

You can use Worked example 1 to help you.



a How many people have two pets? _____

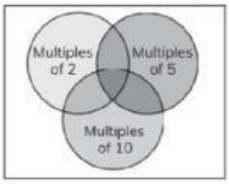
b How many people have more than two pets? _____

LIVEWORKSHEETS

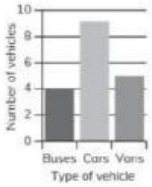
Practice

6 Name the type of diagram, chart or graph.

a



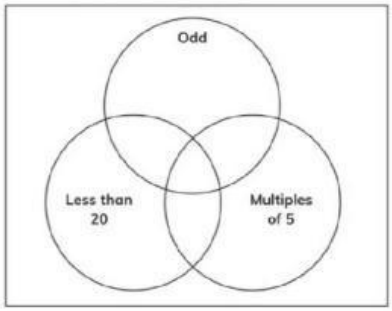
b



7 a Name two charts or diagrams you could use for sorting a set of numbers by their properties.

b Name two charts or diagrams you could use for showing how many stamps have been collected by each person in a group.

8 Sort the numbers from 1 to 30 into this Venn diagram.



9 Four girls are sorted into this Carroll diagram.

	Curly hair	Not curly hair
Wearing glasses	Amira	Bibi
Not wearing glasses	Clara	Delia

Draw a picture of Clara.

10 You are going to investigate the length of the names of people you know.

Write 30 first names of people that you know. You can write one name in each box.

Mark the length of each name on this tally chart and find the frequency for each group of lengths.

Number of letters in the name	Tally	Frequency
1 to 3		
4 to 6		
7 to 9		
10 or more		

LIVEWORKSHEETS

Choose a type of graph or chart to represent your data.

What type of graph or chart will you use? _____

Why will you use that type of graph or chart? _____

_____.

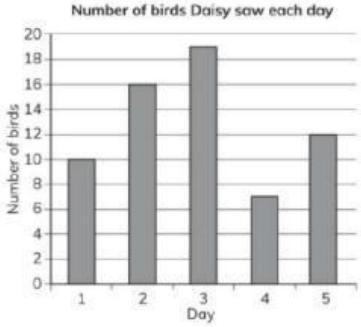
Use this space to draw your graph or chart.

Write two sentences to describe what you have found out about the length of first names of people you know.

1 _____.

2 _____.

11 Daisy counted the birds she saw outside her window for one hour each day for five days. The bar chart shows her results.



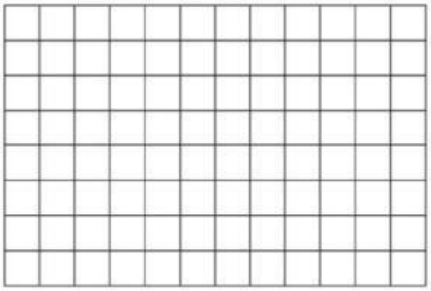
Kwame counted the birds he saw outside his window for one hour each day for five days. This frequency table shows his results.

Number of birds Kwame saw on each day

Day	Number of birds
1	10
2	7
3	7
4	4
5	3

Draw a bar chart of the birds Kwame saw.
Use the same scale as the bar chart for the birds that Daisy saw.

LIVEWORKSHEETS



a Describe one similarity between the two sets of data.

b Describe one difference between the two sets of data.

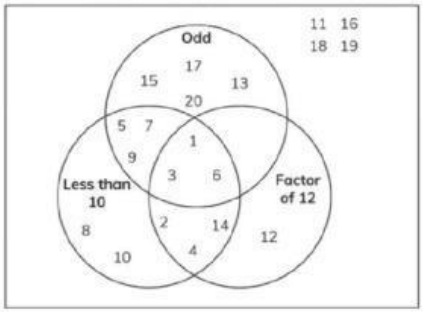
c Explain a possible reason for the differences in the data.

Challenge

12 a Explain what a Carroll diagram might be used for.

b Explain what a pictogram might be used for.

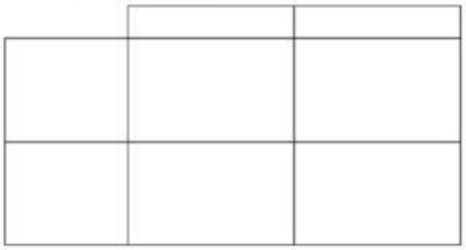
13 a Circle the numbers that are in the wrong place in this Venn diagram.



b Explain why one of the sections has no numbers in it.

14 Choose your own categories to sort 3D shapes in this Carroll diagram.

Write the names of at least one 3D shape in each section to match the properties you have chosen. If you cannot find a shape to match a section you will need to change your headings.



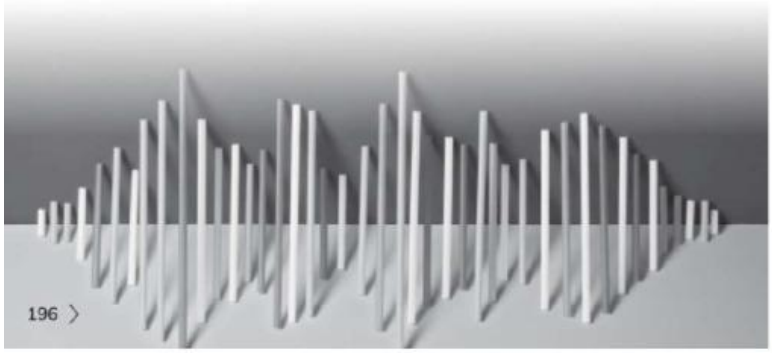
LIVEWORKSHEETS

15 Anna timed how long it took her to get to school each day for five days.
This frequency table shows how long it took Anna to get to school each day.

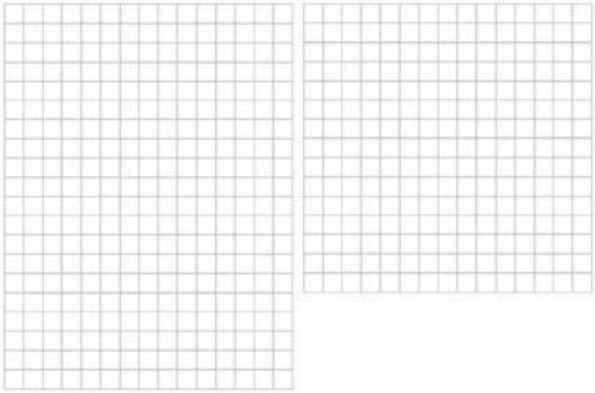
Day	Number of minutes to get to school
1	25
2	17
3	19
4	23
5	28

Carlos timed how long it took him to get to school for the same five days.
This frequency table shows how long it took Carlos to get to school.

Day	Number of minutes to get to school
1	11
2	9
3	11
4	15
5	18



Draw two bar charts on the grid provided to display the time it took Anna and Carlos to get to school.



a Why is it useful to use the same scale for both bar charts?

b Describe one similarity between the two sets of data.

c Describe one difference between the two sets of data.

d Explain a possible reason for the differences in the data.

LIVEWORKSHEETS

3 a Copy and complete the Carroll diagram.
Put the numbers 1 to 20 into the Carroll diagram.

	even	not even
multiple of 10		
not a multiple of 10		

b Copy and complete this sentence to explain why one of the sections of the Carroll diagram does not contain any numbers.

There cannot be any number in the section ____ because ____ .

4 Class 4 watched the road outside their window.

They recorded the number of vehicles that passed between 9.00 a.m. and 9.15 a.m. and also the number of vehicles that passed between 2.00 p.m. and 2.15 p.m.

These two pictograms show the results.

Number of vehicles passing between 9.00 a.m. and 9.15 a.m.

Type of vehicle	Number of vehicles
Car	
Bicycle	
Motorcycle	
Van	
Bus	

Key: = 4 vehicles

Number of vehicles passing between 2.00 p.m. and 2.15 p.m.

Type of vehicle	Number of vehicles
Car	
Bicycle	
Motorcycle	
Van	
Bus	

Key: = 4 vehicles

a How many cars passed the school between 9.00 a.m. and 9.15 a.m.?

b How many buses passed the school between 2.00 p.m. and 2.15 p.m.?

c During which time did most vans pass the school?

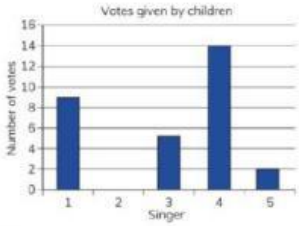
d How many more motorcycles passed the school between 9.00 a.m. and 9.15 a.m. than between 2.00 p.m. and 2.15 p.m.?

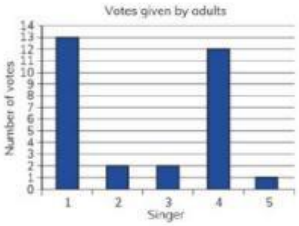
e How many vehicles passed the school in total between 9.00 a.m. and 9.15 a.m.?

f During which time was the road outside the school busiest? Explain how you know.

5 Thirty children voted for their favourite singer.

Thirty adults also voted for their favourite singer.





a Which singer received 13 votes from the adults?

b How many children voted for singer 2?

c How many more children than adults voted for singer 3?

d How many people in total voted for singer 4?

e Copy the sentence and complete it by writing something that is similar about the data in the two graphs.

Both the adults and children ____ .

f Conjecture about the differences in the data between the two graphs. Copy and complete the sentence by writing what is different about the data in the two graphs.

The children ____ , but the adults ____ .

g Copy and complete the sentence to give a possible reason why the data in the graphs is different.

I think that the data for the children's vote and the data for the adults' vote is different because ____ .

LIVEWORKSHEETS

6 Ahmed used a tally chart to collect data about the number of people in households.

Number of people living in a household	Tally	Frequency
1 to 3	卌	5
4 to 6	卌 卌 卌 II	17
7 to 9	卌 III	8

a How many households had between 7 to 9 people?

b Ahmed says that his data shows that 17 households had 4 people in them. Is he correct? Explain your answer.

Draw a tally chart and collect data from people in your classroom about the number of people in their households.

Write two sentences describing what is different and what is similar between the data in your table and the data in the table above.

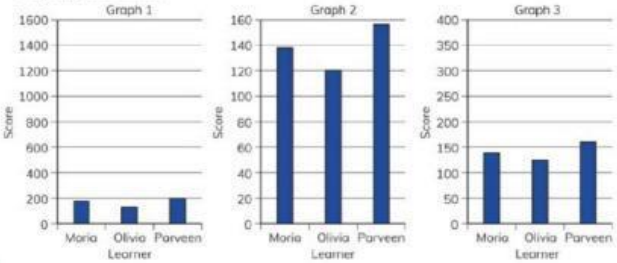
7 Three students used a table to record the scores in a test.

Learner	Score
Moira	138
Olivia	121
Parveen	154

The three graphs show this information.

Which one shows the results best?

Explain your answer.



8 Class 1 and Class 2 took a Maths test. These frequency tables show how many children got each score on the test.

Class 1

Score	Number of children
0	2
1	3
2	2
3	4
4	11
5	8

Class 2

Score	Number of children
0	0
1	2
2	2
3	6
4	9
5	11

a Would a Carroll diagram or a pictogram be better for displaying this data?

b A bar chart would also be a good way to represent the data. Draw two bar charts to display the data.

You will need to:

- choose a scale
- add a title
- label the horizontal axis and the vertical axis.

c Describe one way that the data in the graphs is similar.

d Describe one way that the data in the graphs is different.

e Why do you think that more children in Class 2 had higher scores?

Look at the bar charts you have made. Use this checklist to assess how well you have displayed the data.

- Have you used a ruler to make the chart neat and clear?
- Have you added a title to your chart?
- Have you labelled the horizontal axis and the vertical axis?
- Does the scale you have chosen make it easy to see the height of each bar and compare them?

Copy and complete this sentence.

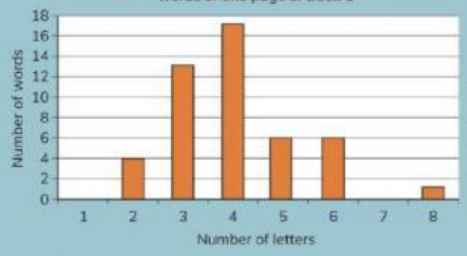
I can improve how I draw bar charts by ____.

LIVEWORKSHEETS

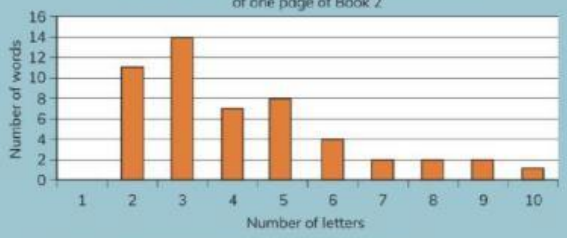
Continued

3 Look at these two bar charts.

A graph showing the number of letters in the words of one page of Book 1



A graph showing the number of letters in the words of one page of Book 2



a How many words on the page in Book 1 had four letters?

b How many words on the page in Book 2 had ten letters?

c How many words were there in total on the page in Book 1?

d How many words were there in total on the page in Book 2?

Continued

e Write one thing that is similar between the number of letters in words in Book 1 and those in Book 2.

f Write one thing that is different between the number of letters in words in Book 1 and those in Book 2.

g There are more words on the page in Book 2 than on the page in Book 1.

There are more words that are longer than 6 letters on the page in Book 2 than on the page in Book 1.

Write about why there might be those differences between the books.

4 This frequency table shows the number of badges collected by five children.

Child	Number of badges
Kevin	12
Todd	21
Tia	18
Raquel	16
Amanda	27

Display the information in a pictogram.

Use this key:

● = 4 badges

LIVEWORKSHEETS