Unit 14: Statistics

Lesson 1: Charts and tables (1)

→ pages 75–77

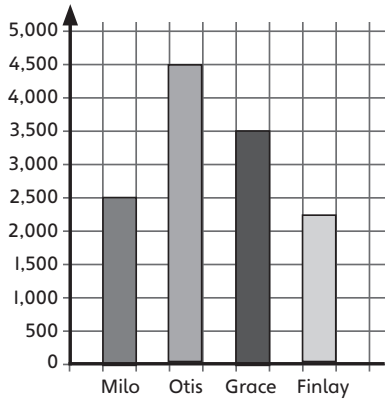
1 a) Each icon represents 8. Each half icon represents 4.
8 + 8 + 4 = 20
Kieron has 20 jigsaw piece cards.
b) Each quarter icon represents 2.
Kieron has 34 normal cards.
c) Amy has 25 shiny cards.

2. Evie read 20 fiction books.
Gracie read 8 non-fiction books.
Otis read 3 poetry books.
Gracie read 37 books in total.

3.

	Number of books read
Otis	■■■▮
Evie	■■■■■
Gracie	■■■■

4. Milo: 2,500
Grace: 3,500



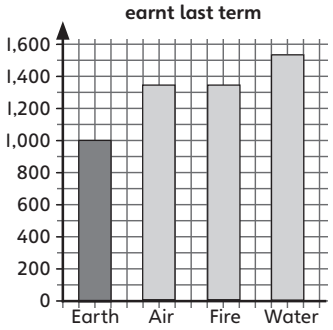
5.

Number of class points per team in Year 4

Each ● represents 100 points.

	Items
Earth	●●◢
Air	●●●●
Fire	●●●◔
Water	●●●●◖

Total number of class points earnt last term



Reflect

Children may give different answers but should be able to give reasons; for example:

Pictograms are the best way to display data because it is easy to count the pictures.

Bar charts are the best way to display data because you can read the data using the scale on the axis.

Lesson 2: Charts and tables (2)

→ pages 78–80

1. a) 21 + 14 = 35
Alice won 35 marbles in December and May.
b) Otis won 18 marbles in May.
Alice won 14 marbles in May.
18 – 14 = 4
Otis won 4 more marbles in May than Alice.
c) The children won 70 marbles in May.

2.

Number of visitors

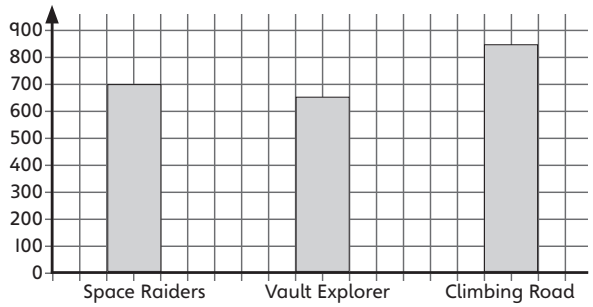
	History Museum	Science Museum	Total
Saturday	625	800	1,425
Sunday	745	725	1470
Monday	390	390	780

3.

Number of points earned

	Space Raiders	Vault Explorer	Climbing Road
Sarah	700	650	850
Tom	550	200	800

Number of points scored by Sarah



4. a) 20
b) Wednesday
130

Reflect

Answers will vary; look for children discussing both pictograms and bar charts and giving reasons for which graph they prefer.

Lesson 3: Line graphs (I)

➜ pages 81–83

1. a) 20
b) 55
c) 60
d) 150

2. a) 110
b) 12 pm

3. The shadow was the longest at 8:00 am.
It was 130 cm long.
The shadow was the shortest at 12:00 pm.
It was 30 cm long.
Many different answers possible; for example:
The shadow was the same length at both 9:00 am and 10:00 am.
The shadow was the same length at both 10:15 am and 2:30 pm.

4. No. Line graphs are used to track changes over periods of time. Bar graphs are used to make comparisons between different groups. Since this data is making comparisons, a bar chart is more suitable.

5. a) Vertical axis labelled in tens from 0.
0 written at start of horizontal axis; 60 written halfway between 30 and 90.

Time	30 minutes	60 miles	90 minutes	120 minutes	150 minutes
Distance	20 miles	45 miles	55 miles	55 miles	80 miles

b) The graph is level between 90 and 120 minutes which means that the car was not moving, so it must have been in a traffic jam at this time.

Reflect

Line graphs are used to track changes over a periods of time, whereas bar graphs are used to make comparisons between different groups.

Lesson 4: Line graphs (2)

➜ pages 84–86

1. a) There was 6 mm more water in the container at 11 am.
b) It took 2 hours for the water to increase from 22 mm to 32 mm.
Explanations may vary; for example:
The graph shows the water level between 11 am and 12 pm as being horizontal. This means it stopped raining for one hour and took 2 hours for the water level to raise from 22 mm to 32 mm.
At 11 am the water level reached 22 mm and at 1 pm it had reached 32 mm, so it took 2 hours for the water level to increase from 22 mm to 32 mm.

2. a) Evie took 9,000 steps during the day.
b) Evie took about 1,750 steps between 12 pm and 3 pm.
c) 1 hour

3. 72 m (approximately)
Explanations may vary; for example:
The top of the graph shows the greatest height the ball reaches before it drops back to the ground.

4. Different answers possible; for example:
The temperatures in Spain are very <u>different</u> when comparing summer and winter temperatures, with much warmer temperatures in July compared with December. The <u>warmest</u> temperature is 32 °C at 12 pm in July and the <u>coldest</u> is 5 °C at 8 am and 5 pm in December. The temperatures on 1 July are <u>more than</u> or equal to 18 °C and the temperatures on 1 December are <u>less than</u> or equal to 18 °C.

Reflect

Different answers are possible; for example:

One important thing I am going to remember when looking at line graph data is read the axes clearly / look for different gradients in the line / use the data to make comparisons / use a ruler to read across the graph.

Lesson 5: Problem solving – graphs

➜ pages 87–89

1. a) Lily and Maisie took 2,000 more steps than Tom and Kieron.
b) Gracie walked 6,500 steps.

2. a) 7
b) Belfast
c) Edinburgh

3. a) Otis walked furthest in the last 2 hours of his walk.
b) Explanations may vary; for example:
In the first 2 hours he walked 5 km – 0 km = 5 km and in the last 2 hours he walked 17 km – 11 km = 6 km.
c) £72 (12 × £6)

4. Approximately 4,250 (8,500 – 4,250)

Reflect

Different questions are possible; for example:

Estimate the difference between the population of Spixworth and Windermere; Which town has the largest population?

End of unit check

➜ pages 90–92

My journal

Different answers possible; for example:

The price of the car started at more than £1 at 9 am and reached a total of £5·50 altogether by 6 pm but remained less than £6. The price rose more quickly between 12 pm and 3 pm compared to between 10 am and 12 pm.

Power puzzle

1.