

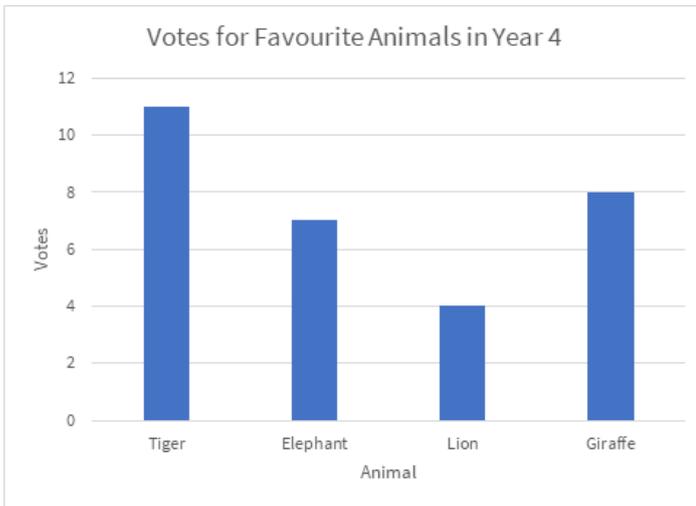
Independent Recap

Statistics
Week 10

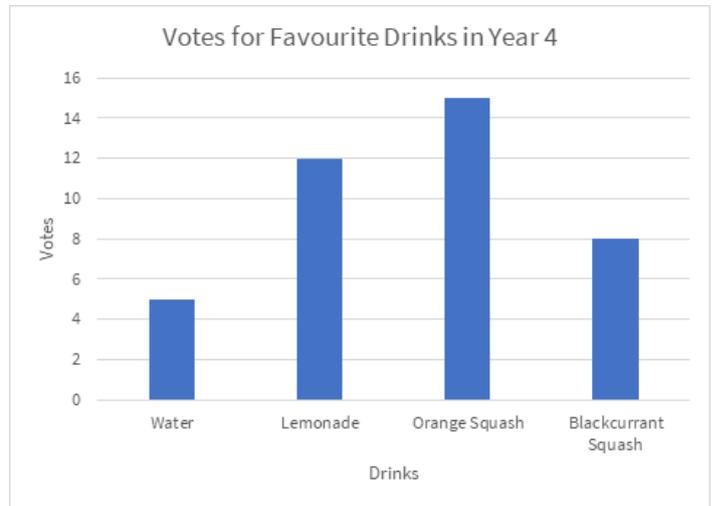
Year 4

Charts

Bar Chart a



Bar Chart b



Pictogram c

Number of pets owned by children in Year 4

Pets	Total
Rabbit	
Cat	
Dog	
Guinea Pig	
Other	

Key:
 = 2 children

Pictogram d

Favourite Sport

Pets	Total
Football	
Tennis	
Rugby	
Netball	
Other	

Key:
 = 4 votes

Arithmetic

1. $169 + 78$

2. $\frac{7}{9} - \frac{3}{9}$

3. 28×7

4. $\frac{3}{6} + \frac{1}{6}$

Practice: Interpret Charts

5. Recap: Explain how to read bar chart a.



6. Look at bar chart a.

Which is the most and least popular animal?

7. Imagine 5 more children voted for 'lion' as their favourite animal.

Add to the bar on bar chart a showing this.

8. Look at bar chart b.

How many children chose lemonade?

How many children chose orange squash?

9. Look at bar chart b.

What was the most popular drink choice?

Which drink received 8 votes?

10. Look at bar chart b. As the votes for 'water' is not on a horizontal line, explain how you can calculate the total votes.



11. Look at pictogram c.

How many children owned each pet?

12. Look at pictogram d.

4 more children voted tennis. Show this on the pictogram.

13. Mario is looking at pictogram d. He says it shows 7 people voted for football. Is he right? Explain.



Challenge 14. Write 3 questions and answers about bar chart a.



You might want to talk to an adult



Spot the mistake

Answers

Q no.	Question	Answer
1	$169 + 78$	247
2	$\frac{7}{9} - \frac{3}{9}$	$\frac{4}{9}$
3	28×7	196
4	$\frac{3}{6} = \frac{1}{6}$	$\frac{4}{6}$
5	Explain how to read bar chart a.	In bar chart a, the x-axis shows the type of animal being voted for. The y-axis shows the number of votes each animal has. To find the total votes for each animal, find the bar representing the animal along the x-axis, move up the bar to the end and compare the end to the y-axis. The top of the bar shows the total votes for the animal.
6	A - Which is the most and least popular animal?	Most – tiger, least - lion
7	Add to the bar on bar chart a showing this.	The total for lion should have increased from 4 to 9.
8	B - How many children chose a. lemonade, b. orange squash?	Lemonade – 12, orange squash – 15
9	B - What was the most popular drink choice? Which drink received 8 votes?	Orange squash, blackcurrant squash
10	B - As the votes for 'water' is not on a horizontal line, explain how you can calculate the total votes.	It is important that pupils understand how to read a scale. This scale increases in 2s. As the votes for water are between 4 and 6, the total is between 4 and 6 (5).
11	C - How many children owned each pet?	Rabbit – 5, cat – 8, dog – 11, guinea pig – 7, other - 9
12	D - 4 more children voted tennis. Show this on the pictogram.	3rd circle completed and another half circle drawn
13	Is he right? Explain.	Mario is incorrect. He has used the key for pictogram c, not d. Each circle in pictogram d is equal to 4 votes, not 2. Football actually had 14 votes.
14	Write 3 questions and answers about bar chart a.	Answers will vary. Example answers: How many people voted in total? 30 people Which animals had a difference of 1 vote? Elephant and giraffe What were the total votes for tigers and lions? 15 votes.

Arithmetic

1. $9,604 - 821$

2. $11.5 - 2.4$

3. $803 + 100$

4. $\frac{2}{5}$ of 40

Practice: Comparison, Sum and Difference

5. Recap: What operation would you use for these words:
sum, difference, altogether, total, how many more



6. Look at bar chart a.
How many votes were there altogether?
How many votes were there for lions and giraffes?

7. Look at bar chart a.
How many more children voted tigers than elephants? How many fewer children voted giraffes than tigers?

8. Look at bar chart b.
Which two drinks were voted for by 27 children altogether? How many children voted for water and lemonade?

9. Look at bar chart b. What's the difference between votes for orange squash and water? How many more children liked lemonade than blackcurrant squash?

10. Explain why it is important to have a key with a pictogram.



11. Look at pictogram c.
 $\frac{1}{8}$ of the children have which pet?

12. Look at pictogram d.
How many children voted altogether?

13. Conall says that in bar chart a, the difference between tigers and lions is 3 votes. Is this right? Explain.



Challenge

14. The answer is 4.
Using any of the bar charts or pictograms, what could the question be?
Give three examples.



You might want to talk to an adult



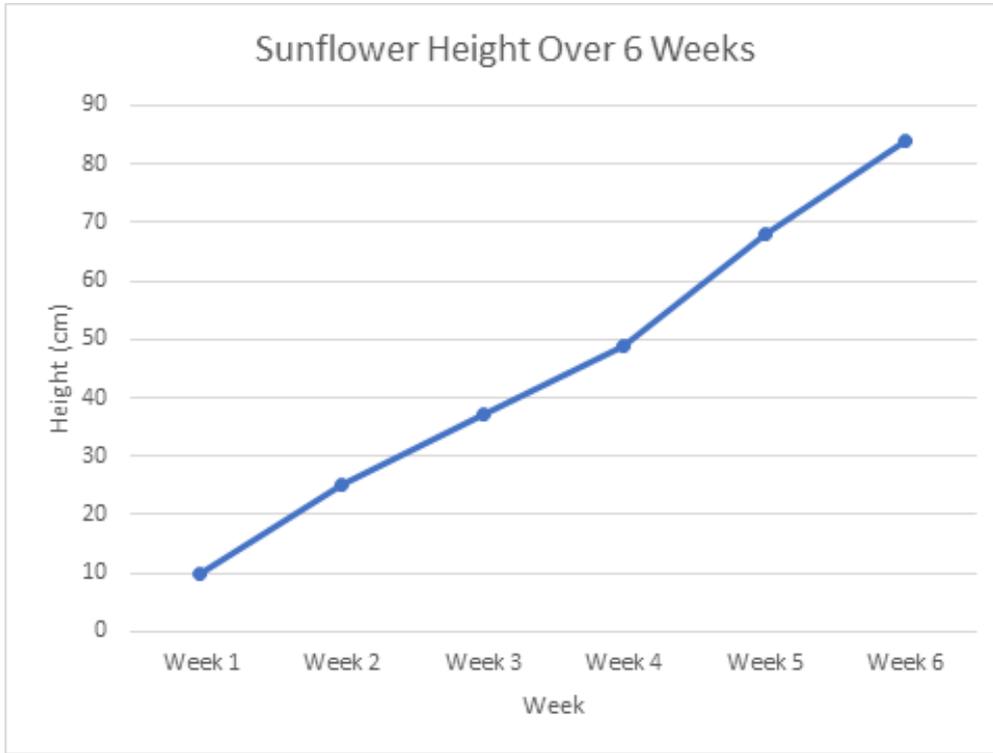
Spot the mistake

Answers

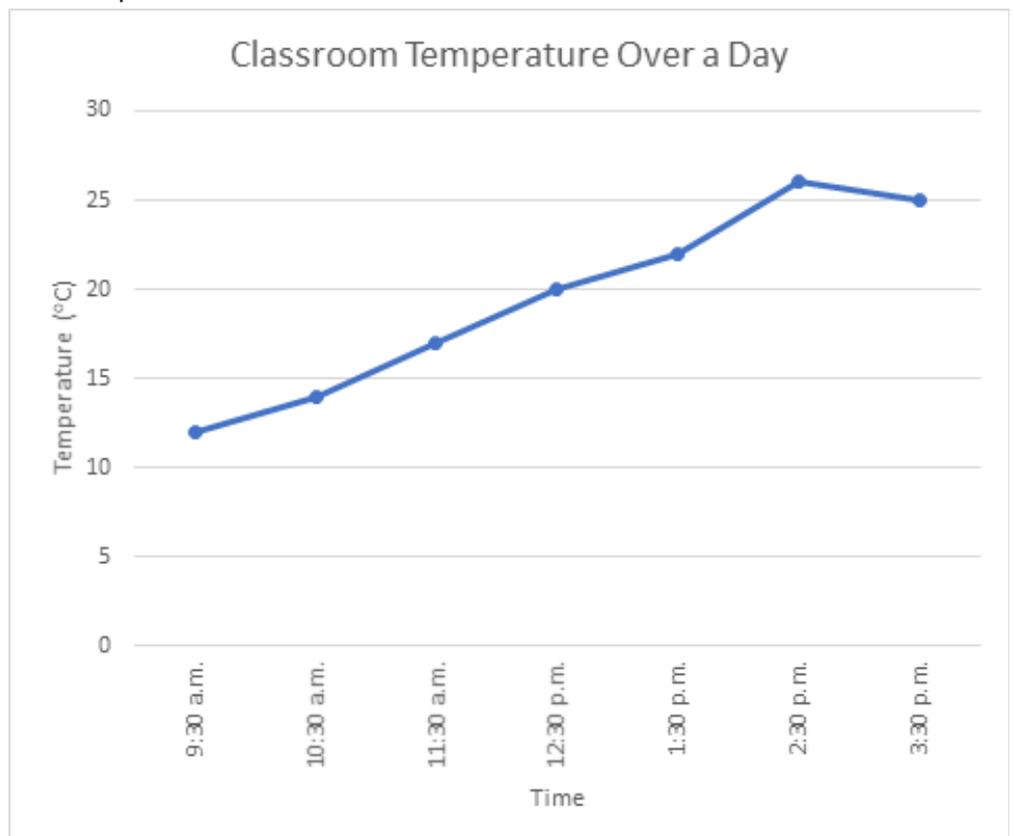
Q no.	Question	Answer
1	9,604 - 821	8,783
2	11.5 - 2.4	9.1
3	803 + 100	903
4	$\frac{2}{5}$ of 40	16
5	What operation would you use for these words: sum, difference, altogether, total, how many more	Addition: sum, altogether, total Subtraction: difference, how many more
6	Questions about bar chart a.	30, 12
7	Questions about bar chart a.	4, 3
8	Questions about bar chart b.	Lemonade and orange squash, 17
9	Questions about bar chart b.	10, 4
10	Explain why it is important to have a key with a pictogram.	The key on a pictogram shows the value for the symbols used in the pictogram. Without the key, it is impossible to know the total each symbol represents.
11	Questions about pictogram c.	Rabbit (5 out of 40 children)
12	Questions about pictogram d.	60
13	Is this right? Explain.	Conall is incorrect. He has not used the scale and has counted three horizontal lines. The actual difference between tigers and lions is 7 votes.
14	The answer is 4. Using any of the bar charts or pictograms, what could the question be? Give three examples.	Answers will vary. Example answers: Bar chart a - how many votes for lions were there? Bar chart b - what is the difference between votes for blackcurrant squash and lemonade? Pictogram c - If one fewer child had a rabbits, how many children would have rabbits? Pictogram d - How many votes does each circle represent?

Line Graphs

Line Graph a



Line Graph b



Arithmetic

1. $515 - 20$

2. $\frac{1}{4} + \frac{2}{4}$

3. 6×8

4. $49 \div 100$

Practice: Introducing Line Graphs

5. Recap: Explain when estimating is used in line graphs.



6. Look at line graph a.

- a. How high was the sunflower in week 2?
b. When was it 49cm?

7. Look at line graph a.
a. Estimate how tall you think the sunflower was halfway between weeks 4 and 5. b. Estimate when the sunflower was around 30cm tall.

8. Look at line graph a.
a. How much taller was the sunflower in week 2 than week 1? b. How much did it grow between weeks 3 and 5?

9. Look at line graph b.
a. When was the warmest temperature? b. When was the coldest temperature? c. What was the temperature at 11:30am?

10. Explain what a line graph shows.



11. Look at line graph b. a. What was the difference in the temperature from the start of the day to 3:30pm? b. Between which hours did the temperature rise by 4 degrees?

12. Look at line graph b.
a. Estimate the temperature at 1pm. b. Estimate when the temperature was around 15 degrees.

13. In line graph b, the temperature at 9:30 a.m. is approximately 10°C. Is this correct? Explain.



Challenge

14. True or false.

In line graph a, the sunflower grew the most between week 2 and week 3.

Create your own true or false question about one of the line graphs.



You might want to talk to an adult



Spot the mistake

Answers

Q no.	Question	Answer
1	515 - 20	495
2	$\frac{1}{4} + \frac{2}{4}$	$\frac{3}{4}$
3	6 x 8	48
4	49 ÷ 100	0.49
5	Explain when estimating is used in line graphs.	Estimating is used in line graphs when exact data is not given. For example, in table b, Tommy's height is not recorded at age 6 years 6 months. The line graph would allow you to estimate his height at this age.
6	Questions about line graph a.	a. 25cm, b. week 4
7	Questions about line graph a.	a. Approx. 60cm, b. between weeks 2 and 3
8	Questions about line graph a.	a. 15cm, b. 31cm
9	Questions about line graph b.	a. 2:30p.m., b. 9:30a.m., c. 17 degrees
10	Explain what a line graph shows.	A line graph shows continuous data over time.
11	Questions about line graph b.	a. 13 degrees, b. 1:30 and 2:30p.m.
12	Questions about line graph b.	a. Approx. 21 degrees, b. around 10:45a.m.
13	In line graph b, the temperature at 9:30 a.m. is approximately 10°C. Is this correct? Explain.	This is incorrect. The temperature at 9:30 a.m. is above 10°C. The approximate temperature is 12°C.
14	True or false. In line graph a, the sunflower grew the most between week 2 and week 3. Create your own true or false question about one of the line graphs.	False, the sunflower grew 12cm between weeks 2 and 3 but it grew more between week 4 and 5 (19cm).

Line Graphs and Tables

Table and line graph a

Time	Distance Travelled (miles)
8:00 a.m.	0
8:30 a.m.	30
9:00 a.m.	60
9:30 a.m.	60
10:00 a.m.	85
10:30 a.m.	118

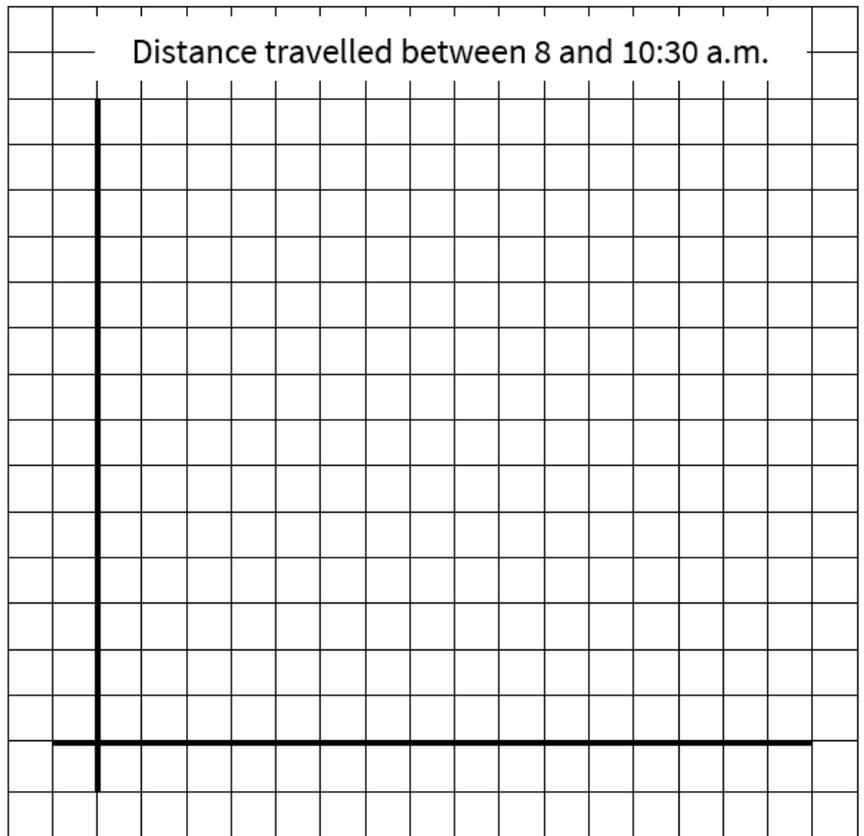
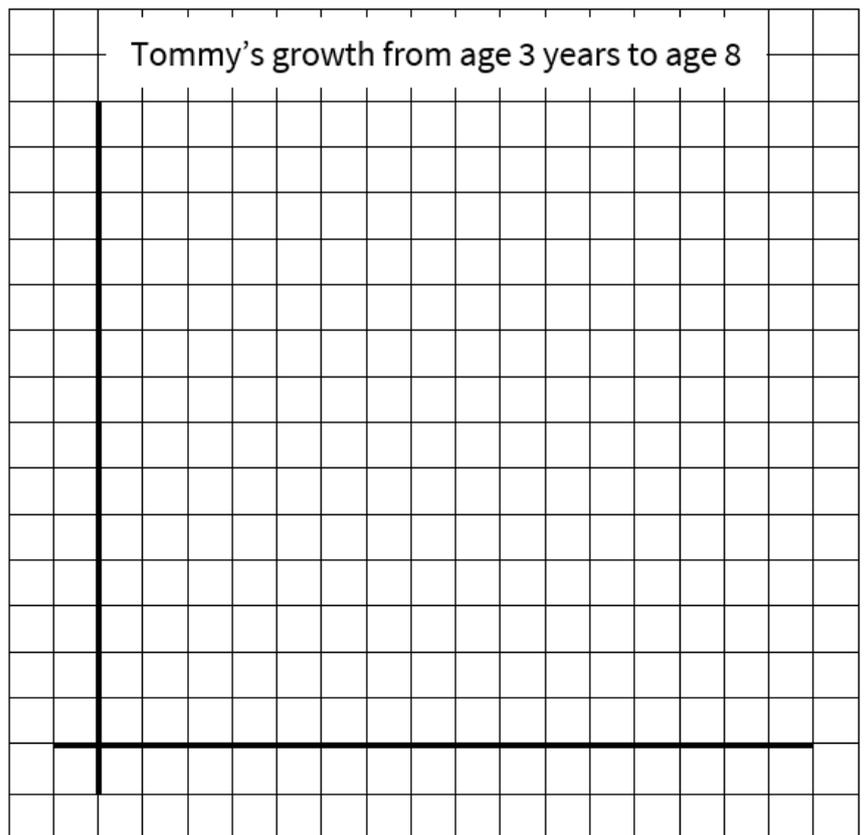


Table and line graph b

Age	Height in cm
Aged 3 years	95
Aged 4 years	100
Aged 5 years	109
Aged 6 years	115
Aged 7 years	120
Aged 8 years	130



Arithmetic

1. $48 \div 8$

2. $9,017 + 1,000$

3. $63 \div 10$

4. 5×7

Practice: Line Graphs

5. Recap: Which axis is the x-axis and which axis is the y-axis?



6. Label the x and y axes on line graph a.

7. Complete line graph a to show the information in the table.

8. a. At what time did the vehicle stay still for 30 minutes? b. How far did it travel between 8 and 10:30am?

9. Label the x and y axes on line graph b.

10. Explain how you decided on the scale to use for table a.



11. Complete line graph b to show the information in the table.

12. a. Between which ages did Tommy grow the most?
b. How much did Tommy grow between age 5 and 7?

13. In table a, the total distance travelled was 353 miles. Is this correct? Explain.



Challenge

14. Create a story for table a/ line graph a.



You might want to talk to an adult



Spot the mistake

Answers

Q no.	Question	Answer
1	$48 \div 8$	6
2	$9,017 + 1,000$	10,017
3	$63 \div 10$	6.3
4	5×7	35
5	Which axis is the x-axis and which axis is the y-axis?	The x-axis is the horizontal axis. The y-axis is the vertical axis.
6	Label the x and y axes on line graph a.	x – Time, y – Distance travelled (miles)
7	Complete line graph a to show the information in the table.	Correctly drawn.
8	Questions about line graph a.	a. 9am, b. 118 miles
9	Label the x and y axes on line graph b.	x – Time, y – Height (cm)
10	Complete line graph b to show the information in the table.	Answers will vary depending on the scale choice. Most pupils will have chosen a scale with intervals of 10 or 20 as most of the data points are multiples of ten.
11	Complete line graph b to show the information in the table.	Correctly drawn.
12	Questions about line graph b.	a. between 7 and 8 years old (10cm), b. 11cm
13	In table a, the total distance travelled was 353 miles. Is this correct? Explain.	The total of 353 miles has been found by adding all the distances together. This is incorrect and shows a misunderstanding of line graphs. This answer shows that the pupil believes each point on the line graph is a discrete set of data, not continuous.
14	Create a story for table a/ line graph a.	Answers will vary. Pupils should note that the vehicle stopped for half an hour.