

Mathletics

Series



Teacher



Statistics



Series E – Statistics

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Series E – Statistics

Pages 1–2

1 Do you prefer hot dogs or pizza?

2a This question is too open. The answers are likely to be too varied.

b For our end of season party, would you prefer to go to the movies or to the water slide park?

3 Sample answers:

- a What is your favourite food?
- b What is your favourite colour?
- c What month is your birthday?

4 Sample answers.

1. What colour eyes do most students have?
2. How many more students have brown eyes compared to blue eyes?

5a What colour eyes are most common in our class?

b Answers will vary.

Page 3

1a 15

b 25

c 13

d 17

Molly's training	
Monday	
Wednesday	
Friday	

Type of ticket	Amount sold
Kids	
Adults	

b Answers will vary.

Pages 4–5

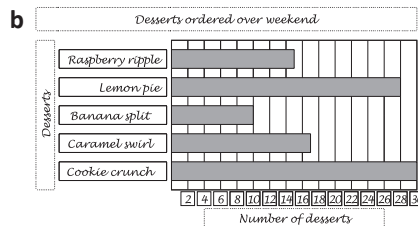
1a 35

b 25

c November

2 Answers will vary.

3a 15; 28; 10; 17; 30



c cookie crunch

d raspberry ripple

e Banana split, because it is the least popular.

Pages 6–7

1a 9

b 7

c 29

2a 90

b 30

c Teacher check that there are 6 and a half tickets.

3

Animals seen at the zoo		Key: = 4
Penguins		
Chimpanzees		
Flamingoes		
Lions		

4

Boxes of cookies sold		Key: = 4
Max		
Harley		
Sara		
Christie		

Page 8

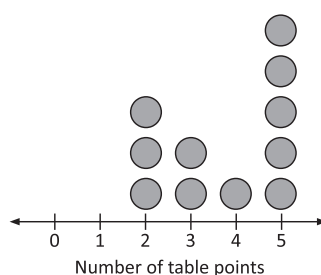
1a 4

b 4

c 9

d 18

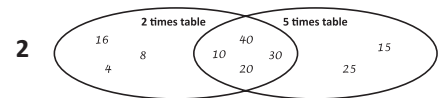
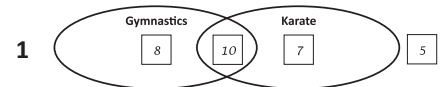
2 Table points for Ellie's group



2a 5

b 11

Pages 9–10



3 ➡ 16, 20, 10, 40

😊 2, 8, 12, 4, 6, 24

☆ 3, 1

Pages 11–12

1

	Did not go on mega drop	Went on mega drop
Went on dodgem cars	Harley	Lily Bec Tash
Did not go on dodgem cars	Ben	Mel

2

	Like strawberries	Do not like strawberries
Like bananas	26	18
Do not like bananas	15	8

3a

	Multiple of 4	Not multiple of 4
Less than 50	28 36	25 33
Not less than 50	60 100 80	53 75 81

b

	Divisible by 6	Not divisible by 6
Greater than 36	54 60	40 50
Not greater than 36	6 12 24	32 25 29

Page 13

1a–c Answers will vary.

Page 14

1a 200 miles

b 3 hours

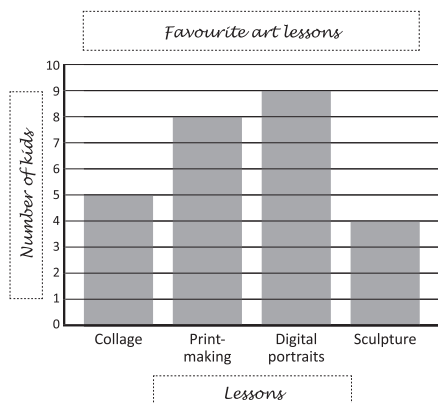
c 350 miles

d 500 miles

Series E – Statistics

Page 15

What to do



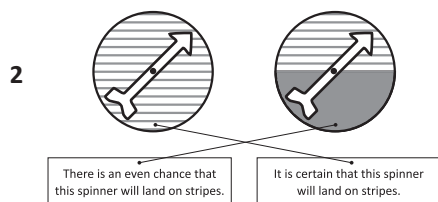
Pages 16–17

1a **even**

b **certain**

c **even**

d **impossible**



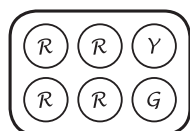
3a **green**

b **red**

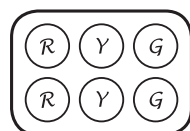
c **yellow, blue**

4 Answers will vary.
Sample answer:

Charlie's board



Sam's board



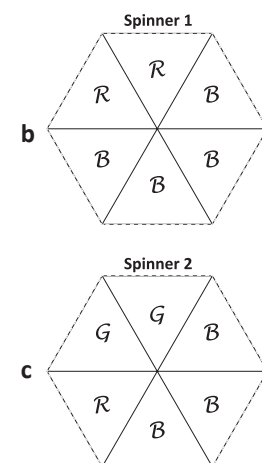
Pages 18–20

1a 6 out of 12; 2 out of 12

b **Yes**

2a, b Answers will vary.

3a Observe students.



d Teacher check.

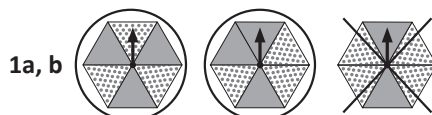
3e

Spinner 1	
Colour	Probability
red	2 out of 6
blue	4 out of 6
Most likely colour is <u>blue</u>	
Least likely colour is <u>red</u>	

Spinner 2	
Colour	Probability
green	2 out of 6
red	1 out of 6
blue	3 out of 6
Most likely colour is <u>blue</u>	
Least likely colour is <u>red</u>	

f–h Answers will vary.

Page 21



c Because there is more chance of landing on dots.

2a 3 out of 6; 3 out of 6; 2 out of 6

b This game is unfair because the chance or probability of landing on an odd number is higher.

Page 22

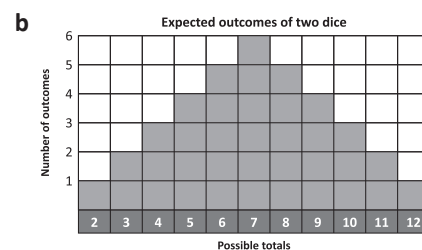
1a–c Answers will vary.

Pages 23–24

1

+	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

a 36

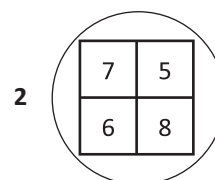


c 6

d 1

e Answers will vary.

f Answers will vary.



Pages 25–26

What to do

Observe students.

What to do next

Observe students.

Statistics – bar chart

Name _____

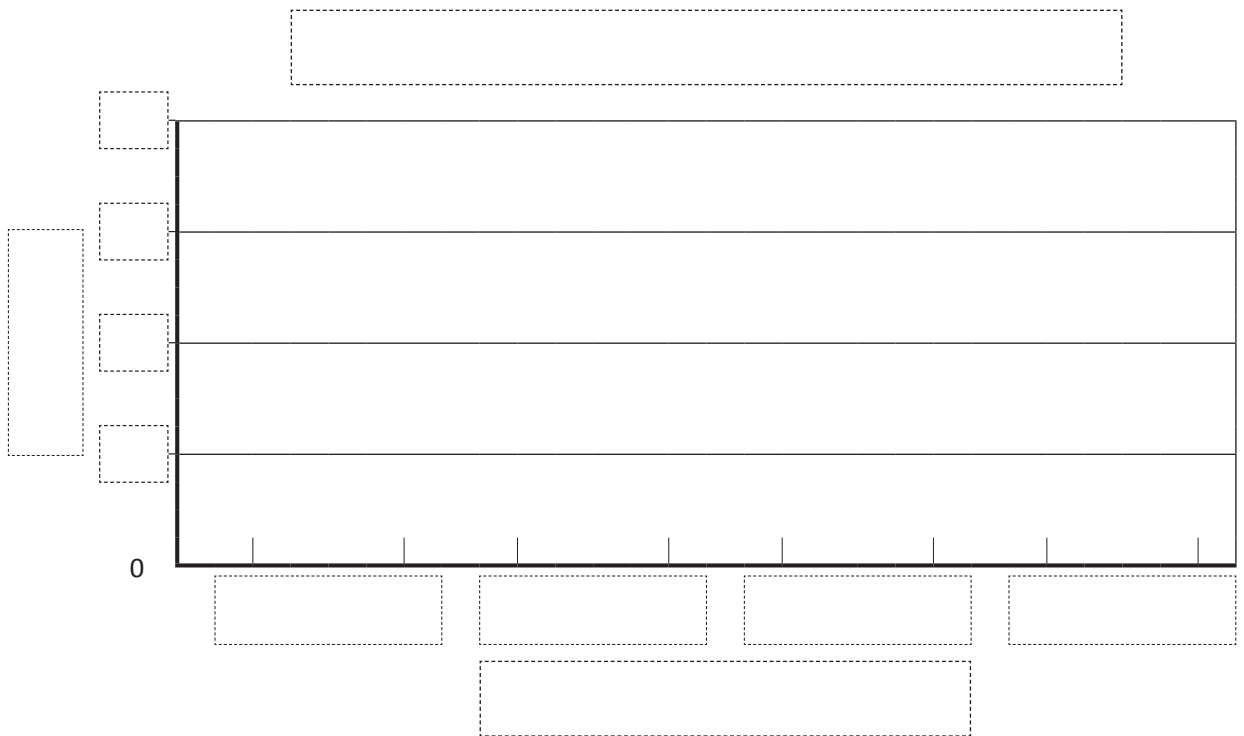
1 Here is a table of data that has been collected:

a Complete this table of tallies:

Food	Amount	Total
Pizza		
Hotdogs		
Hamburgers		
Meat pies		

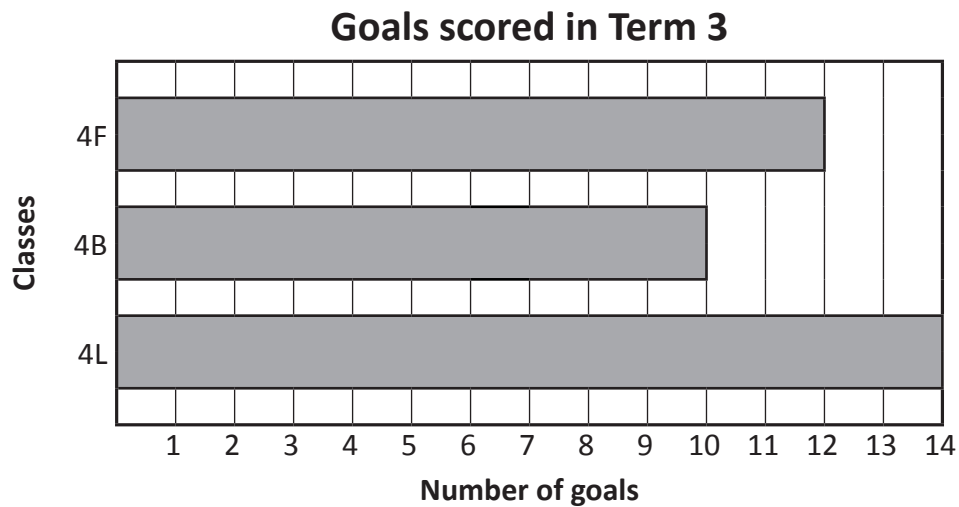
b What might the question have been?

c Show this data on the column graph below. Remember to label it correctly.



Skills	Not yet	Kind of	Got it
• Calculates tallies			
• Formulates questions that can be answered with data			
• Constructs a bar chart using a simple scale			

- 1 This vertical bar chart shows the number of goals scored in different games of football in Term 3 by 3 different classes.



Show this same data as a pictogram:

Heading: _____

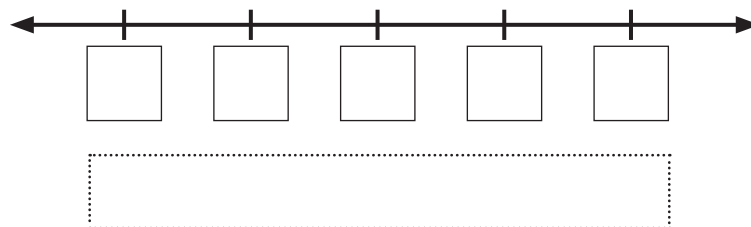
Key: =

Skills	Not yet	Kind of	Got it
• Interprets data from a bar chart			
• Constructs a pictogram and includes a key			

- 1 A group of children undertook a reading challenge to read as many books as they could over the school holidays.

Books read in challenge	
Number of books	Number of students
1	1
2	4
3	3
4	3
5	2

Show these results in a dot plot below. You will need to show and label the number line and provide a heading:



Skills	Not yet	Kind of	Got it
• Constructs a dot plot from a set of data			

Statistics – carroll diagrams and time graphs

Name _____

1 Sort these numbers in the carroll diagram:

3 9 1 8 2 7 10 4 12 29

	Even	Not even
More than 6		
Not more than 6		

2 This time graph shows the distance covered by a man walking in the country. Answer these questions:

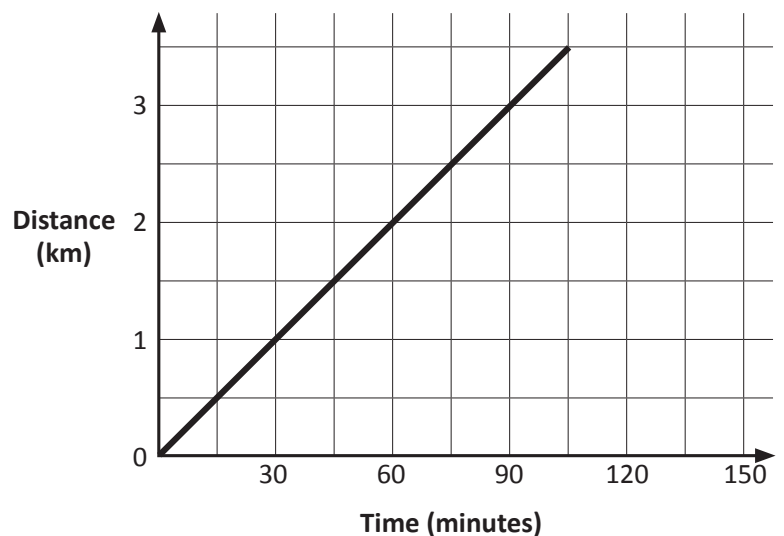
a How far did he walk in 1 hour?

b How long did it take him to walk 3 km?

c How far did he walk in $\frac{3}{4}$ of an hour?

d How long did it take him to walk $3\frac{1}{2}$ km?

A walk in the country



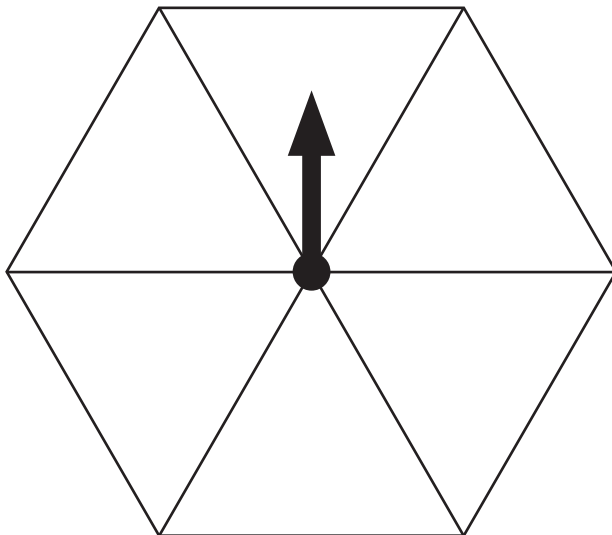
Skills	Not yet	Kind of	Got it
• Sorts data into a carroll diagram			
• Interprets data in a time graph			

1 Read each statement and circle the chance of it happening:

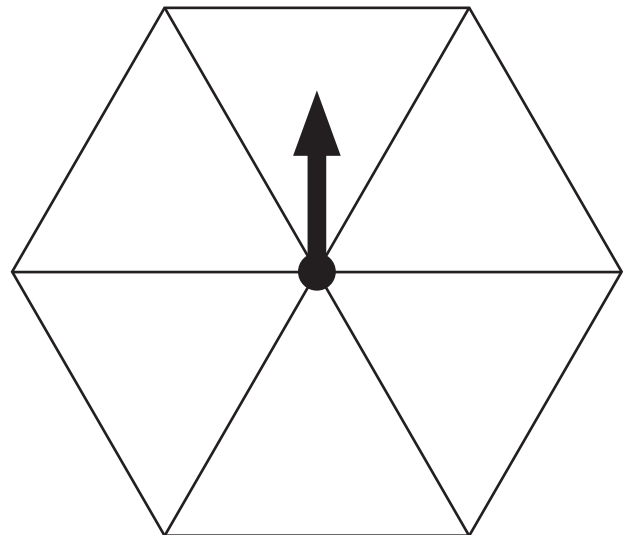
	Event	Chance
a	A baby is born a boy.	impossible / even / certain
b	Your birthday is on the same date every year.	impossible / even / certain
c	A coin is tossed and the result is a head.	impossible / even / certain
d	9 jelly beans are placed in a bag and a chocolate is drawn.	impossible / even / certain

2 The segment of each spinner either has spots or stripes. Show what each spinner would look like according to these chances:

- a There is an even chance that this spinner will land on a spotted section.



- b It is unlikely that this spinner will land on a spotted section.

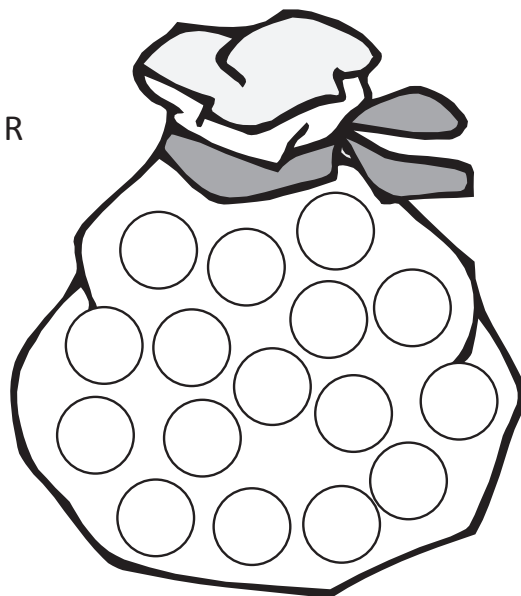


Skills	Not yet	Kind of	Got it
• Labels events as being impossible, even or certain			
• Connects results of simple chance experiments with the object used			

1 Here is a bag of different coloured sweets.

- a Label the contents of this bag according to the probability of picking one without looking. Use R for red, Y for yellow, G for green and P for pink.

Colour	Probability
Red	4 out of 16
Yellow	5 out of 16
Green	1 out of 16
Pink	6 out of 16



- b If I reached into this bag and picked green, would this be surprising?

Yes / No

- c Why? _____

2 Complete this table for the probability of a regular die.

Number on die	Probability
6	
An odd number	
An even number	
A number greater than 2	

Skills	Not yet	Kind of	Got it
• Relates probability to an everyday situation			
• Lists probability of events from a regular die			

Series E – Statistics – Student Progress Record

Name

Class

Date

What went well:

What I need to improve:



Series E – Statistics – Student Progress Record

Name

Class

Date

What went well:

What I need to improve:

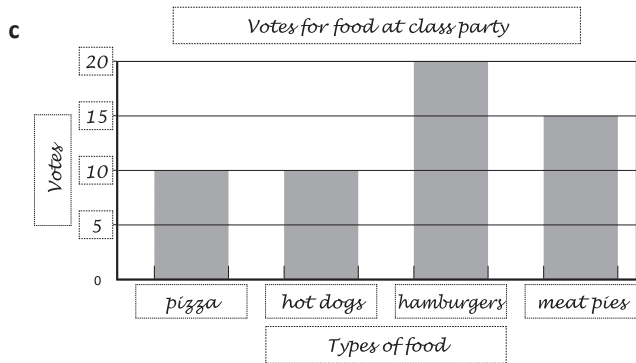
Series E – Statistics

ASSESSMENT ANSWERS

Page 3

1a 10; 10; 20; 15

b Which type of food would you prefer for our class party?



Page 4

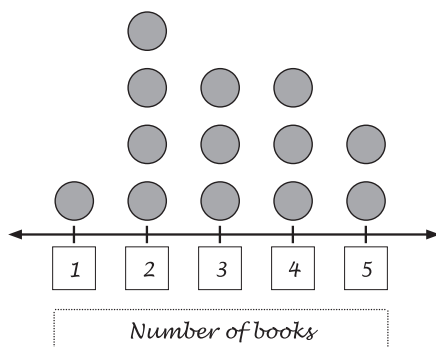
1 Heading: *Goals scored by each class*

4F	● ● ● ● ● ●
4B	● ● ● ● ●
4L	● ● ● ● ● ● ●

Key: = 2

Page 5

1 *Books read in reading challenge*



Page 6

1

	Even	Not even
More than 6	8 10 12	7 9 29
Not more than 6	2 4	3 1

2a 2 km

b 90 minutes

c $1\frac{1}{2}$ km

d 105 minutes

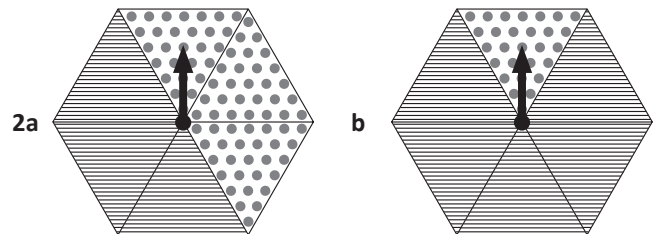
Page 7

1a ☐ even

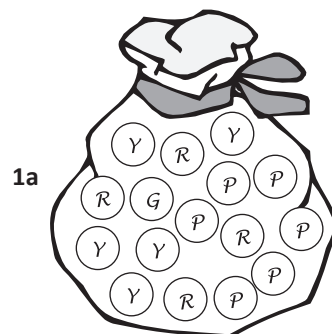
b ☐ certain

c ☐ even

d ☐ impossible



Page 8



b ☐ Yes

c There is only 1 green out of 16 sweets.

2 1 out of 6;
3 out of 6;
3 out of 6;
4 out of 6

Series E – Statistics

Topic	Reference	Strand	Objective
Statistics	4S1	Statistics	Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.
Statistics	4S2	Statistics	Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.
Chance	This content has been included for curricula other than the England National Curriculum.		