Plan your own investigation

Follow the steps in this activity to help plan your own statistical investigation. Brainstorm your ideas at each step; a few ideas have been included to get you started.

Learning intention: I am learning to plan a statistical investigation.

It is important to think through all aspects of your investigation before you start to make sure your topic will be manageable.

1. Decide on your question

What do you want to find out?

- What is the most popular sport to play?

- How long do students spend on their sports practice each week?

- What is the most popular holiday destination for the school holidays?

- Which authors does your class most like to read?

- Should our school have a lunch order system?

What do you predict?

What do you think you will learn from this investigation? (Make a prediction.)

By making a prediction, you set a base to compare your actual results with.

I think my results will show …

2. Collect your data

What method or methods of data collection will you use?

• Put together a questionnaire or a survey.

• Use a tally chart to record data.

How will you get a good cross-section of data?

• Survey a wide variety of people.

• Collect statistics over different days.

3. Organise and present your data

How are you going to organise and present your results clearly and concisely?

• Which type of graph will be most suitable to present my data clearly: bar graph; line graph; stem and leaf plot …?

• Why would this be the best choice?

4. Analyse your results

What did you learn?

- Were your results what you predicted? Why or why not?

- What might have caused the results you got?

- Would the results be the same if you repeated the investigation or asked different people or changed your investigation in another way? Why or why not?

5. Draw your conclusions and present your findings

- Have I made clear statements explaining what I have learnt from my collected data?

- Have I presented my data and findings in the best way that people will be able to understand?

- Am I confident that I fully understand my data and findings so I can answer questions about them?

- Did I collect data from a cross-section of people?

- Did I get enough data to be able to reach a conclusion? If not what should I have done differently?

Statistics word search

Find the following statistics terms in the word search below. The words may go forwards or backwards, across or down, or diagonally.

QUESTION	STATISTICS	LABEL	GRAPH	AXIS	PLAN
TITLE	PREDICTION	LINE	BAR	HISTOGRAM	PIE
STEM	LEAF	DOT	STRIP	PICTOGRAPH	
MEAN	MEDIAN	MODE	RANGE	INVESTIGATION	
SURVEY	TALLY	CHART	DATA	QUESTIONNAIRE	

Q	U	E	S	T	I	O	N	Q	S	W	E	N	T
U	H	S	T	Y	S	U	I	O	C	P	O	L	O
E	I	G	T	H	L	I	N	E	I	I	P	E	D
T	S	F	R	E	D	S	X	F	T	H	I	A	P
I	T	V	A	C	M	R	X	A	S	P	R	Z	L
T	O	D	H	P	A	R	G	E	I	A	T	N	A
L	G	B	C	N	N	I	M	L	T	R	S	A	N
E	R	Z	G	A	T	A	D	A	A	G	O	I	Q
T	A	E	X	S	C	B	A	R	T	O	E	D	Y
I	M	M	E	A	N	S	A	G	S	T	D	E	L
X	F	V	D	L	E	B	A	L	S	C	O	M	L
E	N	J	S	U	R	V	E	Y	E	I	M	D	A
I	N	O	I	T	C	I	D	E	R	P	H	B	T
E	R	I	A	N	N	O	I	T	S	E	U	Q	H

Data display detective

Use the picture clues of different ways of displaying data to complete this crossword.

Across

1.

Key
Each square represents 3 students.

- Vanilla
- Chocolate chip
- Caramel
- Gingernut
- Shortbread

5.

Adventure	
Animal	
Humour	
Graphic novel	

Key: Each book represents 1 student.

6.

7.

Down

1.

Stem	Leaf
2	1 1 2 6 7
3	4 7 9
4	0 1 6 9
5	3 6 6

2.

Key
- Bananas
- Apples
- Pears
- Peaches
- Oranges

3.

Chocolate Vanilla Caramel Berry Coffee

4.
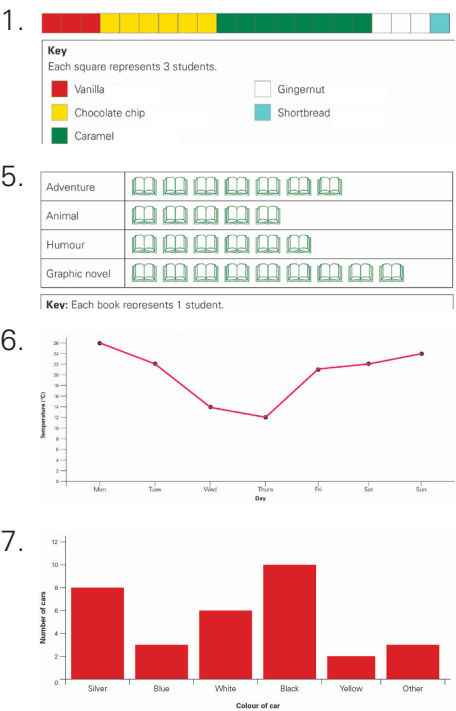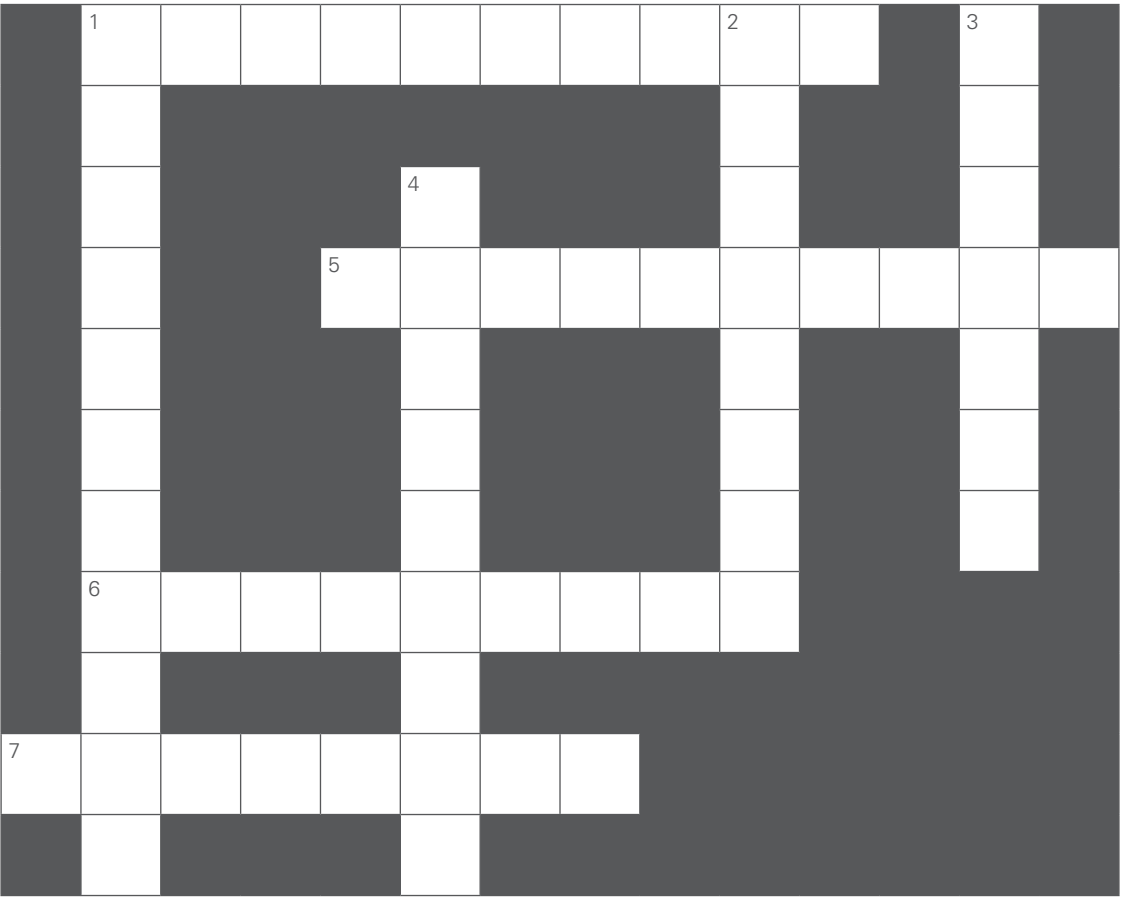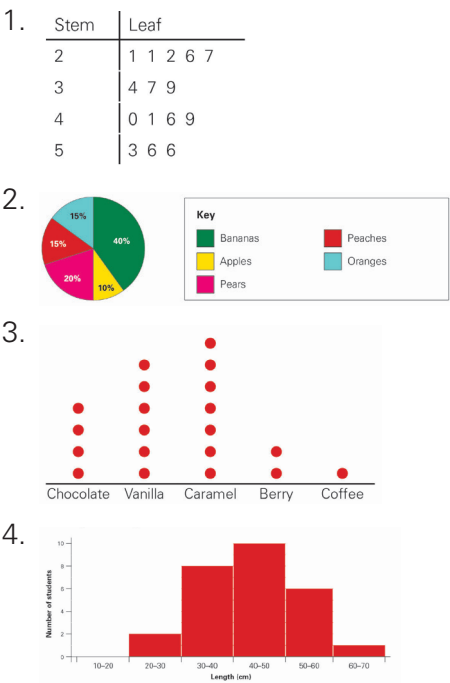
Answers

Statistics word search

Q	U	E	S	T	I	O	N	Q	S	W	E	N	T
U	H	S	T	Y	S	U	I	O	C	P	O	L	O
E	I	G	T	H	L	I	N	E	I	I	P	E	D
T	S	F	R	E	D	S	X	F	T	H	I	A	P
I	T	V	A	C	M	R	X	A	S	P	R	Z	L
T	O	D	H	P	A	R	G	E	I	A	T	N	A
L	G	B	C	N	N	I	M	L	T	R	S	A	N
E	R	Z	G	A	T	A	D	A	A	G	O	I	Q
T	A	E	X	S	C	B	A	R	T	O	E	D	Y
I	M	M	E	A	N	S	A	G	S	T	D	E	L
X	F	V	D	L	E	B	A	L	S	C	O	M	L
E	N	J	S	U	R	V	E	Y	E	I	M	D	A
I	N	O	I	T	C	I	D	E	R	P	H	B	T
E	R	I	A	N	N	O	I	T	S	E	U	Q	H

Data display detective

	¹S	T	R	I	P	G	R	A	²P	H		³D	
	T								I			O	
	E			⁴H					E			T	
	M		⁵P	I	C	T	O	G	R	A	P	H	
	A			S				R			L		
	N			T				A			O		
	D			O				P			T		
	⁶L	I	N	E	G	R	A	P	H				
	E			R									
⁷B	A	R	G	R	A	P	H						
	F			M									