

RICH MATHEMATICAL TASK BOOKLET

STATISTICS

YEAR 4

Task Copy Masters

Phase 2: Year 4: Statistics

Task 1

The local community centre will run a free sports holiday programme. They want to know about the favourite sports of children in the area.

What sports do you play?

How can you collect data to answer this question?

Record your results to present to the class.

Can you represent this in different ways?

*Phase 2: Year 4: Statistics***Task 1 (independent)**

The local library is going to buy some activities for children to borrow. They decided to ask children who visited what activities they would prefer out of board games, puzzles, card games, and drawing. This is the results they found:

Board games	Card games	Puzzles	Card games
Puzzles	Drawing	Board games	Board games
Board games	Puzzles	Card games	Card games
Drawing	Card games	Puzzles	Card games
Drawing	Board games	Puzzles	Board games
Card games	Board games	Drawing	Card games
Drawing	Drawing	Board games	Card games
Card games	Puzzles	Board games	Board games
Board games	Card games	Puzzles	Card games

Record your results using a table of data and tally-marks.

Activities	Tally	Number
Drawing		
Board games		
Card games		
Puzzles		

Now represent this as a graph.

Phase 2: Year 4: Statistics

Task 2

Ollies Ice-cream is putting in an order to their supplier.

What things might they want to find out?

What questions could you ask to gather data?

How can you collect data to answer this question?

Record your results to present to the class.

Can you represent this in different ways?

*Phase 2: Year 4: Statistics***Task 2 (independent)**

The Warehouse is ordering board games for the mid winter toy sale. They are looking at the sales in one shop during the sale last year. This is the data that they collected.

Scrabble	Monopoly	Game of life	Mancala
Guess who	Mancala	Monopoly	Guess who
Scrabble	Scrabble	Monopoly	Monopoly
Monopoly	Monopoly	Monopoly	Mancala
Guess who	Game of life	Guess who	Guess who
Monopoly	Guess who	Game of life	Monopoly
Game of life	Monopoly	Scrabble	Mancala
Monopoly	Monopoly	Guess who	Guess who
Guess who	Scrabble	Mancala	Monopoly

Record your results using a table of data and tally-marks.

Activities	Tally	Number
Mancala		
Guess who		
Scrabble		
Monopoly		
Game of life		

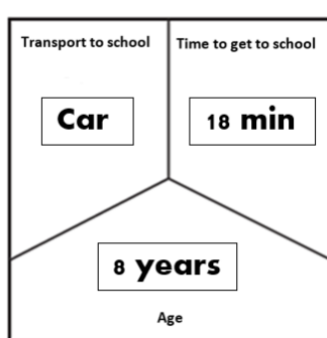
Now represent this as a graph.

Phase 2: Year 4: Statistics

Task 3

The local council is looking at funding for roads, bike lanes, and public transport. They want to know about travel to schools.

The data cards have information about how students of different ages come to school.



What do you wonder about the data? Make “I wonder...” statements.

What questions could you ask about this data set?

Sort the data cards into sets.

Record your results in a table.

Can you represent this in different ways using a graph?

What statements can you make about the data?

Phase 2: Year 4: Statistics

Task 3 (independent)

The data cards have information about how students of different ages come to school.

What questions could you ask about this data set?

Record your results in a table.

Can you represent this in different ways using a bar graph or dot plot?

*Phase 2: Year 4: Statistics***Task 4**

A way of showing aroha for yourself is by doing physical activity. A group of children decided to track how much physical activity they did in a day using a fitness tracker watch. These are their results in minutes.

15 55 75 30 52 5 32 59

55 42 48 50 55 29 60 35

Organise the results into a stem-and-leaf graph.

Make “I wonder” and “I notice” statements about the data.

*Phase 2: Year 4: Statistics***Task 4 (independent)**

Malia thinks that it is not fair that she is only allowed 30 minutes screen time after school each day. She decides to find out how much screen time, the other students in her class are allowed after-school each day. These are the results she found in minutes:

0 15 35 20 10 25 40 35 30 0

10 15 30 45 0 20 25 30 20

Can you organise the data into a stem and leaf graph or a dot plot?

Make statements about what Malia found.

Do you think she could use the data to convince her parents that she should have more screen-time?

Phase 2: Year 4: Statistics

Task 5

Helping around the home is one way of showing aroha for your whanau.

Read the questions that you wrote for your data cards and make predictions about what the results will be.

Sort the data cards into sets.

Record your results to present to the class.

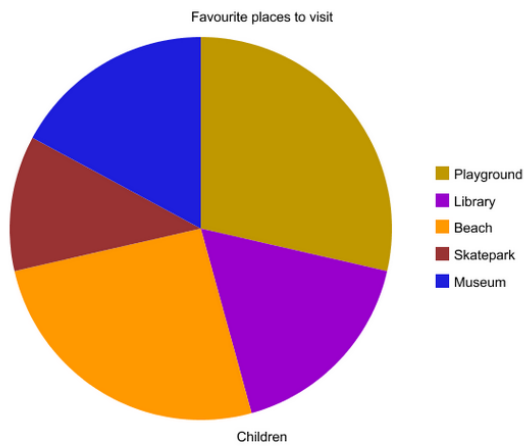
Represent the data using at least two graphs.

What statements can you make about the data?

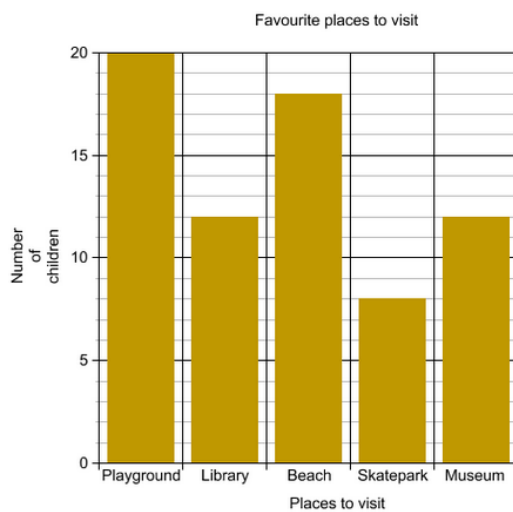
Phase 2: Year 4: Statistics

Task 5 – Connect

Look at this graph. What statements can you make about this?



Look at this graph. What statements can you make from it?



How does each graph give you information?

Phase 2: Year 4: Statistics

Task 5 (independent)

Continue working on your graphs and representations from your data card investigation.

Represent your data using at least two graphs.

What statements can you make about the data?

Phase 2: Year 4: Statistics

Task 6

Helping around the home is one way of showing aroha for your whanau.

Develop a presentation for the class that includes your investigation question and the graphs and data displays that answer your question.

Write statements and a conclusion about what you have found out.

Phase 2: Year 4: Statistics

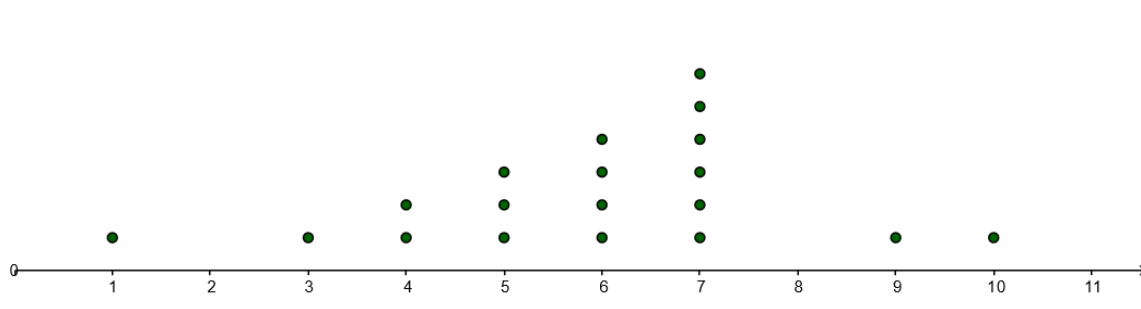
Task 6 (independent)

Look at the investigative question and data display that matches this.

Write statements using “I wonder” and “I notice” from the data displays.

*Phase 2: Year 4: Statistics***Task 7**

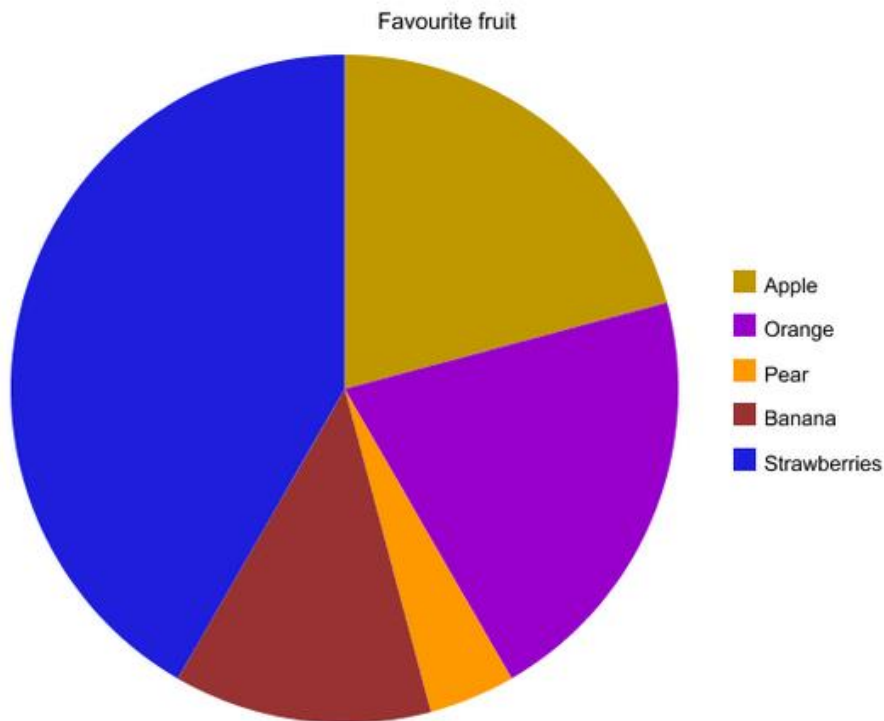
Hours of exercise over a week



Read the statements and say whether you agree or disagree with each one.

- 1) Most people do 9 hours or more of exercise a week.
- 2) Four people did 6 hours of exercise a week.
- 3) Most people do between 6 – 7 hours of exercise a week.
- 4) An outlier was a person who did one hour of exercise in the week.

Write your own statements about the data shown in the graph.

*Phase 2: Year 4: Statistics***Task 7 (continued)**

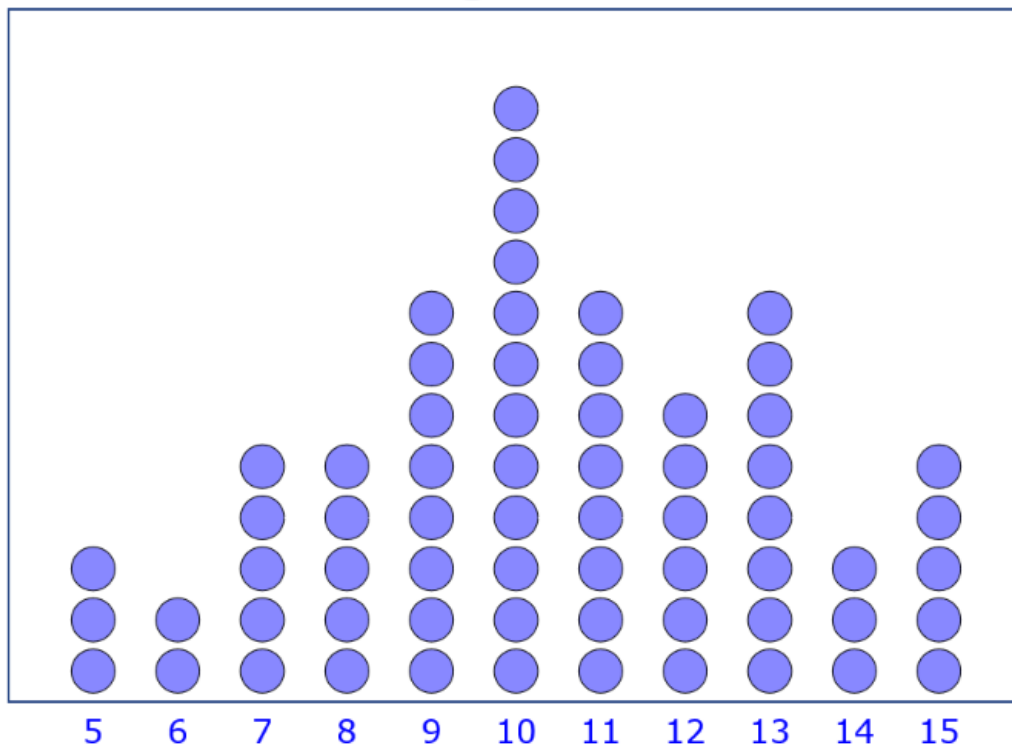
Read the statements and say whether you agree or disagree with each one.

- 1) Pears are not a popular fruit.
- 2) The same number of people like apples and strawberries.
- 3) Less people like bananas than oranges.
- 4) Most people like strawberries.

Write your own statements about the data shown in the graph.

*Phase 2: Year 4: Statistics***Task 7 (independent)**

This is a graph of the results of a survey from a school.



What might the survey be about?

Give a range of possibilities.

Can you present the data in a different way?

Phase 2: Year 4: Statistics

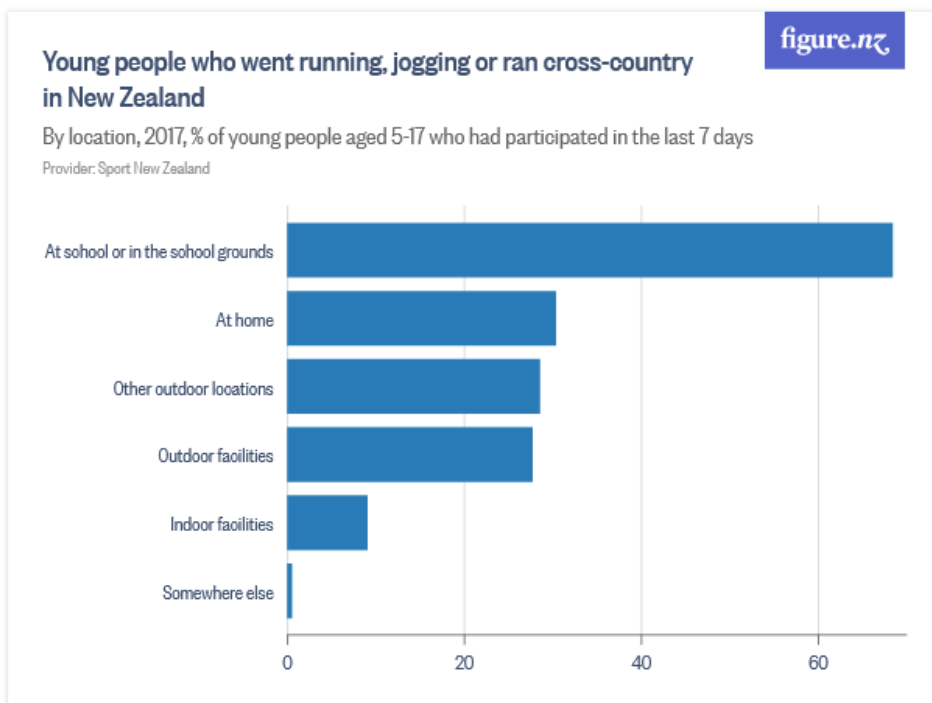
Task 8

Sports, physical activity and playing are all ways to show aroha to ourselves. Have a look at the graphs below and think of the stories that they are telling us.

Begin by writing “I wonder” statements for each of the graphs.

Discuss what you notice in each graph and write “I notice” statements.

What stories and conclusions can you write about the data shown in the graphs?



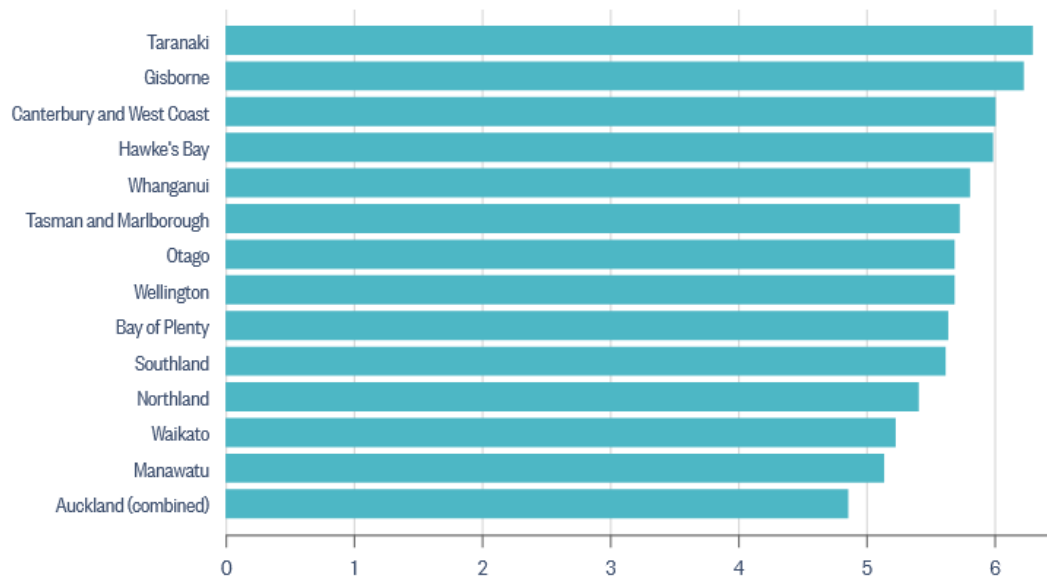
Phase 2: Year 4: Statistics



Average number of sports and physical activities undertaken by young people aged 5-17 in New Zealand

By region, 2018, number of sports and activities per week

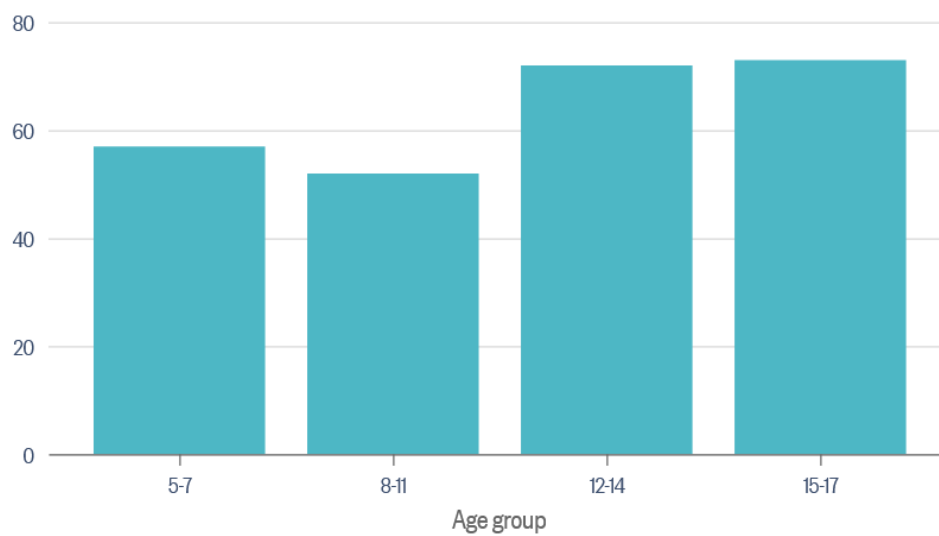
Provider: Sport New Zealand



Young people in New Zealand who would like to do more physical activities for sport, PE, exercise or fun

By age group, 2018, % of young people

Provider: Sport New Zealand



Phase 2: Year 4: Statistics

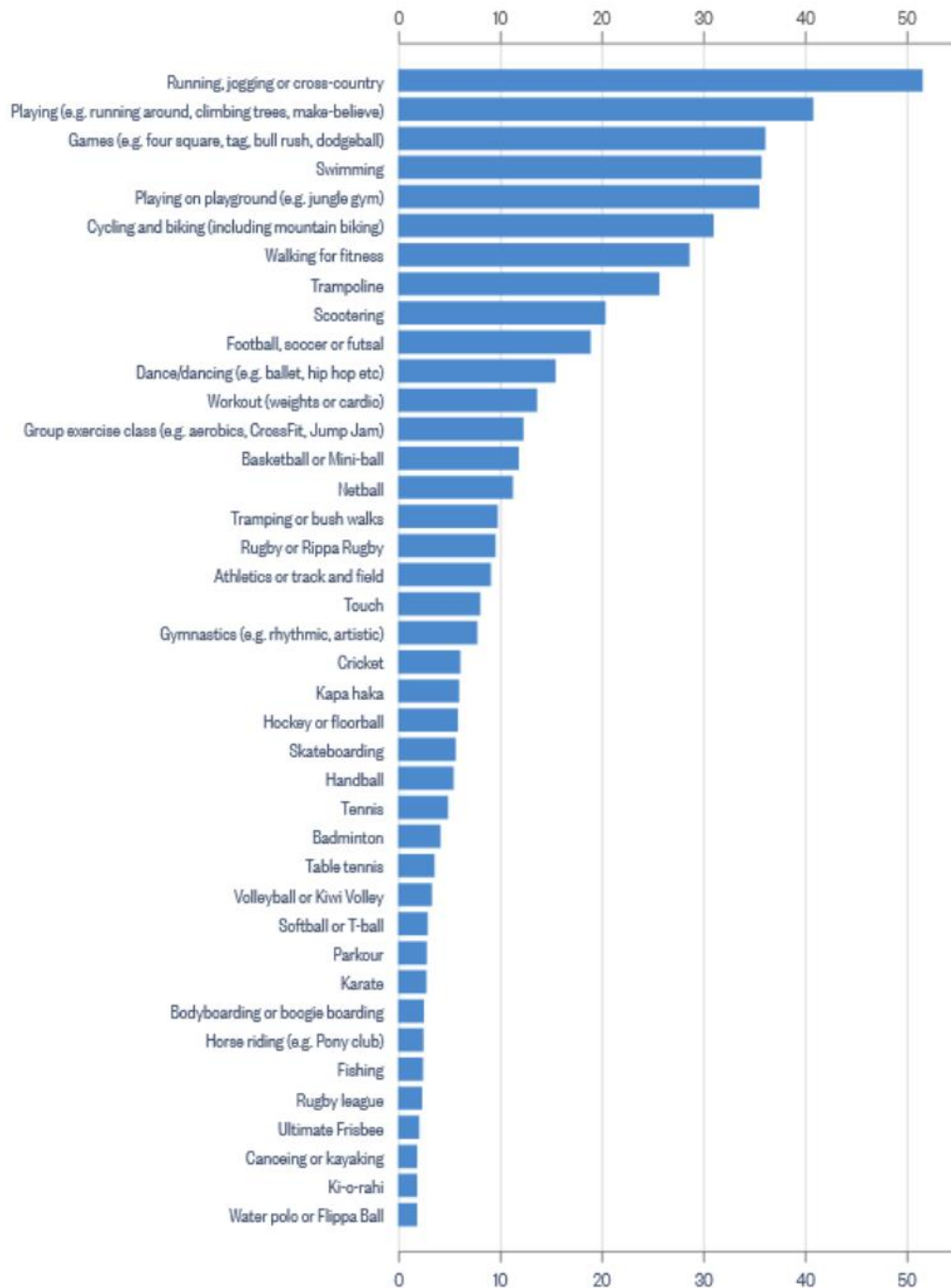
Task 8 (continued)

figure.nz

**Participation in active recreation among young people
in New Zealand**

By selected top 40 sports and activities, 2017, % of young people aged 5-17

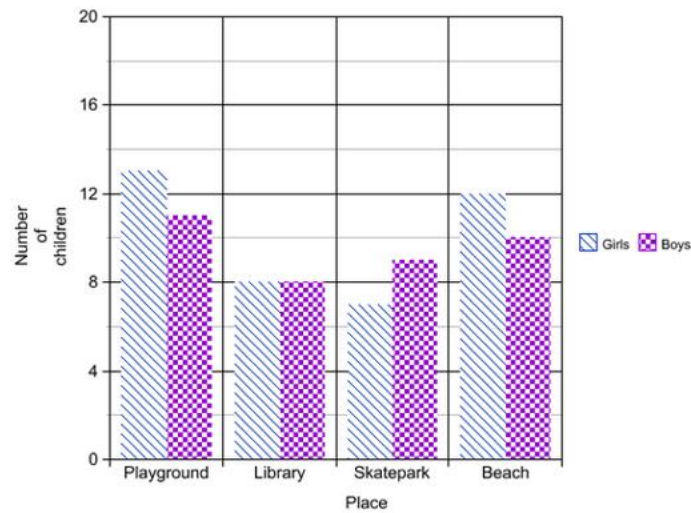
Provider: Sport New Zealand



Phase 2: Year 4: Statistics

Task 8 (independent)

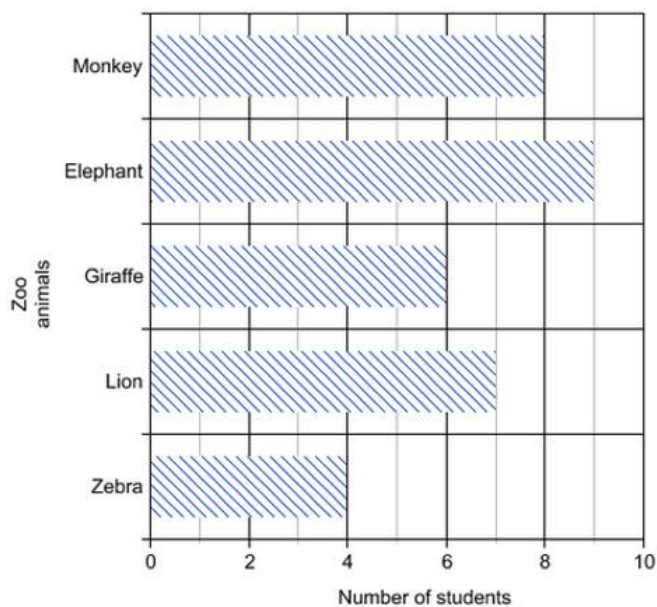
These are the results of a survey:



What might the survey be about?

Make “I wonder” and “I notice statements about the results.

These are the results of a survey:

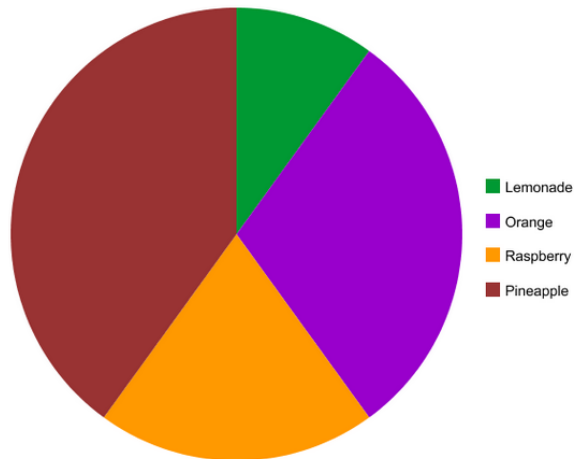


What might the survey be about?

Make “I wonder” and “I notice statements about the results.

*Phase 2: Year 4: Statistics***Task 9**

The graph shows the proportion of students in a class who prefer different ice-block flavours.



How many students might be in the class? How many students prefer each flavour?

Present the data using a different representation.

*Phase 2: Year 4: Statistics***Task 9 (independent)**

A graph of Lego set sales from the Warehouse showed that the most Lego sets that sold in a week was Lego City, both Lego Friends and Lego Creator sold the same number of sets, and the least sales were for Lego Disney.

What might the graph look like?

How many of each type of Lego set sold during the week?

Phase 2: Year 4: Statistics

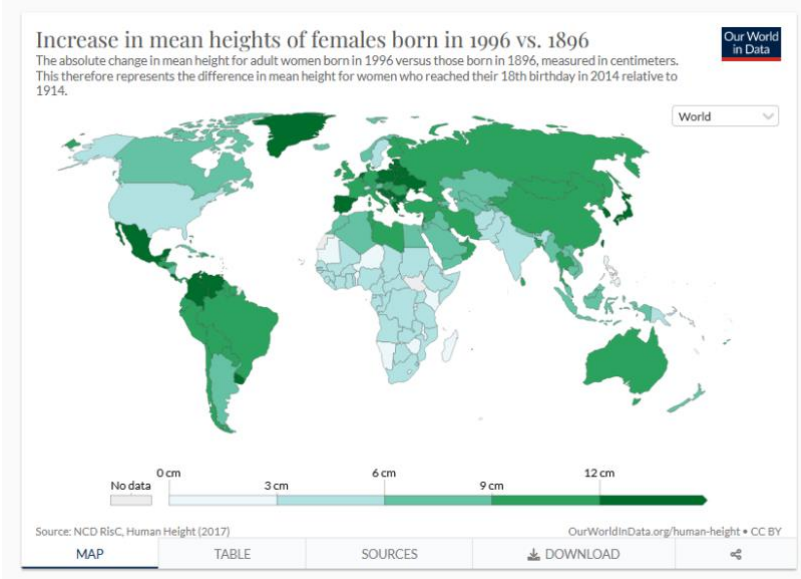
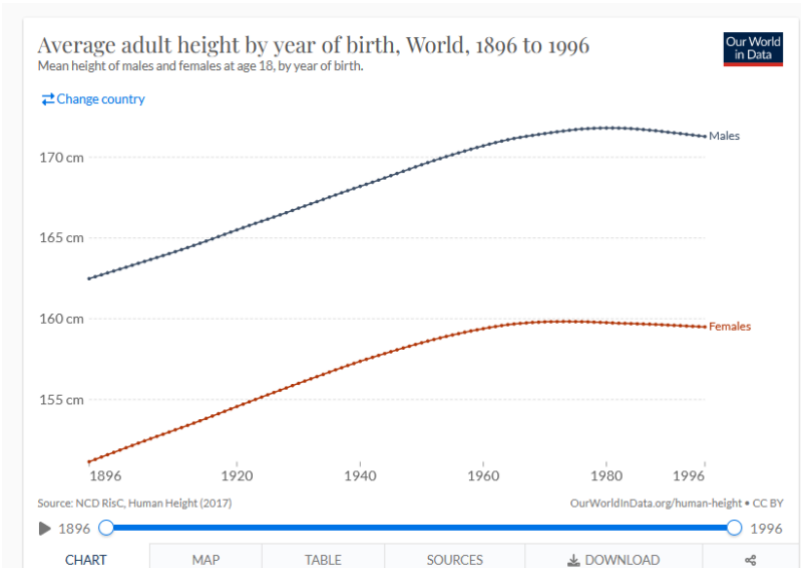
Task 10

These graphs provide information about the height of people over time. Have a look at the graphs below and think of the stories that they are telling us.

Begin by writing “I wonder” statements for each of the graphs.

Discuss what you notice in each graph and write “I notice” statements.

What stories and conclusions can you write about the data shown in the graphs?



Phase 2: Year 4: Statistics

Task 10 (Continued)

