RICH MATHEMATICAL TASK BOOKLET

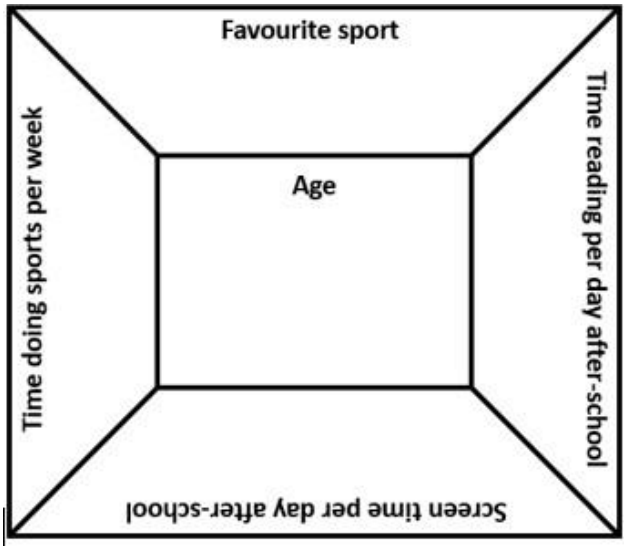
STATISTICS

YEAR 5-6 EVEN YEARS

Task Copy Masters

Task 1

Health New Zealand is interested in the leisure activities of children. These data cards have different information about the activities of students of different ages.



What is the favourite sport of children at different ages?

Use a table of data to show your results.

Now use a graph to record your results to present to the class.

Can you represent this in different ways?

What statements can you make about the favourite sports of students?

Task 1 (Independent Task)

The data cards have information about the favourite sport of students of different ages.

What questions could you ask about this data set?

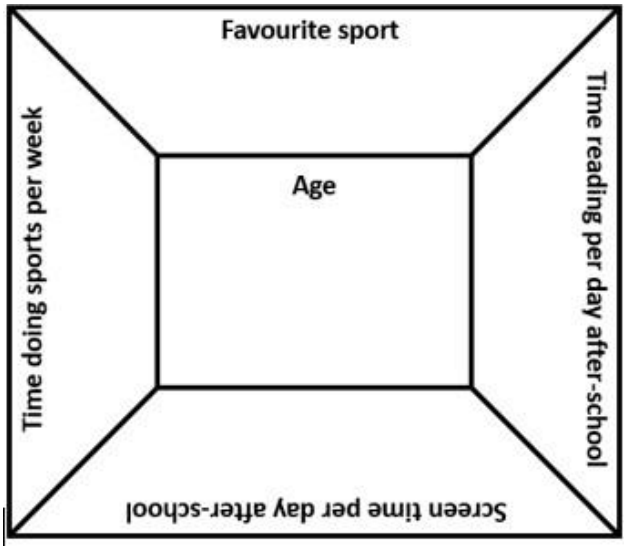
Record your results in a table.

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

Make statements about what you have found out.

Task 2

Health New Zealand is interested in the leisure activities of children. These data cards have different information about the activities of students of different ages.



How much time do children spend reading after-school?

Use a stem and leaf graph to show your results.

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

Task 2 (Independent Task)

Melvin and Khaleesi help their parents at home with the chores. They wonder how much time other tamariki at their school spend helping their whanau with chores. Here is the results they collected showing how many minutes a group of tamariki in the school spend doing chores in the weekend.

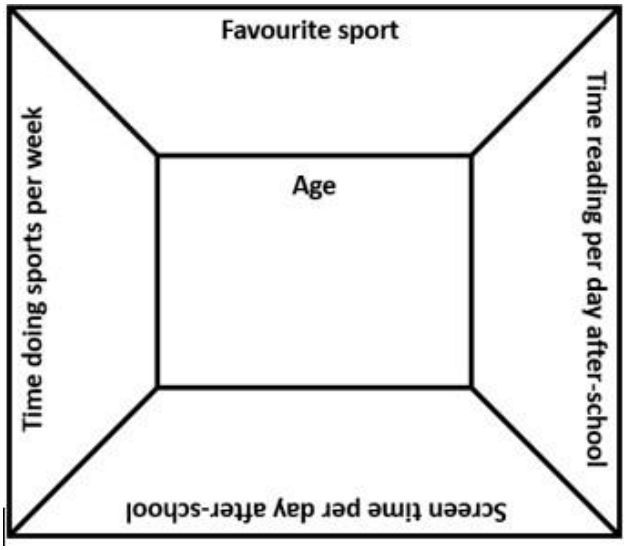
15	23	8	12	25	65	0	20	15	21	30
0	28	10	25	21	18	22	25	32	5	35
26	20	25	30	16	24	25	10	15		

Can you put the data into a stem and leaf graph?

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

Task 3

Health New Zealand is interested in the leisure activities of children. These data cards have different information about the activities of students of different ages.



What do you wonder about the data? Make "I wonder…" statements.

What questions could you ask about this data set?

Choose one question and sort the data cards to answer the question.

Now record your results as a representation.

Make "I notice" statements about the data in relation to your question.

What connections can you make between the different sets of data?

Task 3 (Independent Task)

These data cards have different information about the activities of students of different ages.

What questions could you ask about this data set?

Sort the data cards to answer your question.

Record your results in a table.

Represent your results using at least two different graphs.

Make statements about the data.

Task 4

Robertson Road is planning a street party to celebrate Matariki. The organisers would like to know how many people live in houses in this area so they can get enough kai for the party.

Can you sort and organise the set of data below showing how many people live in our houses?

4	5	3	2	4	1
5	6	6	3	4	10
2	6	4	5	8	1
4	5	5	4	2	3
2	6	5	3	5	4

Represent the data and record your results as a representation.

Can you find the mode, median and range?

What does this tell you about the set of data? What advice would you give to the street party organisers?

Task 4 (Independent Task)

Mereana is the goal shooter for the net-ball team.

She decided to work out her statistics for goal shooting.

Over 8 games, her mean was score was 5, the median was 6, and the mode was 7.

What might her scores be for each game?

Task 5

Helping around the home and doing things together for leisure 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.

Make “I wonder” statements about the data represented on the data cards.

Write questions that you can investigate using the data.

Record your results to answer the questions.

Represent the data using different graphs.

What statements can you make about the data?

Task 5 (Independent Task)

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

Represent your data using a variety of graphs.

What statements can you make about the data?

Task 6

Helping around the home and doing things together for leisure is one way of showing aroha for your whanau.

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

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

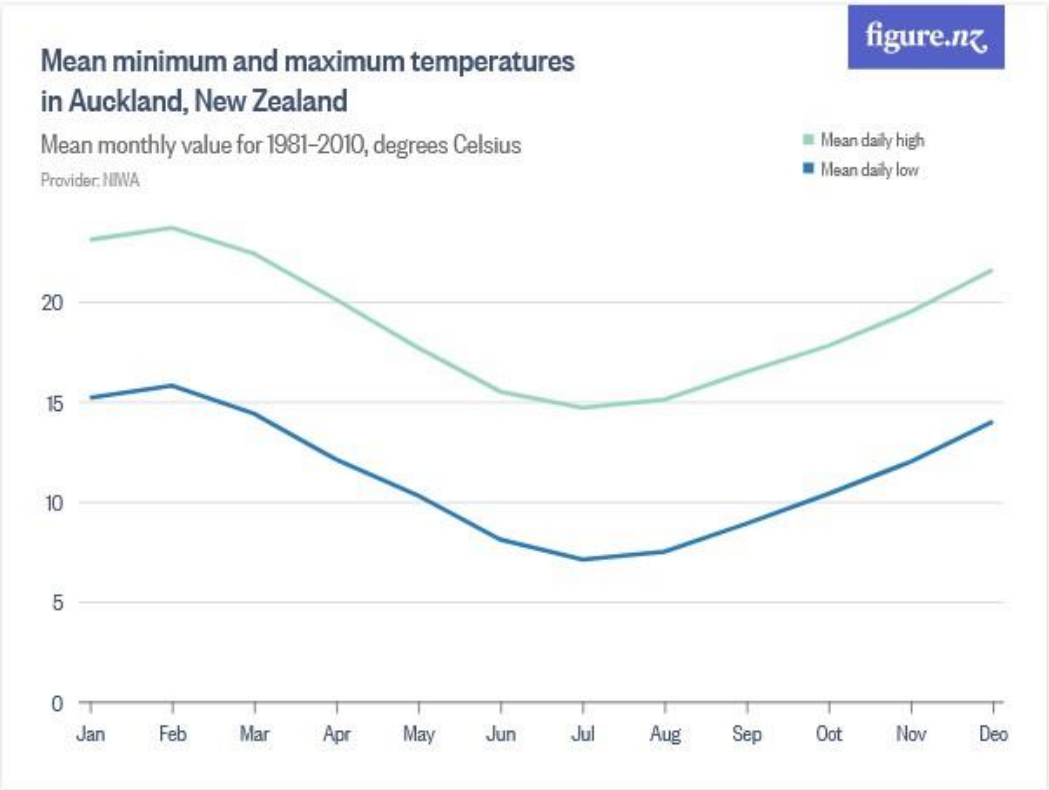
Task 6 (Independent Task)

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

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

Task 7

This graph shows the average (mean) coldest and hottest temperatures in Auckland over 29 years.



What do you notice? What do you wonder?

Can you make statements about this data?

The table below shows the temperature at each hour on the 1st of June 2022

12am	1am	2am	3am	4am	5am	6am	7am	8am	9am
17	17	17	16	16	17	16	16	16	17

10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm
18	20	20	20	21	20	20	19	18	17

8pm	9pm	10pm	11pm
18	16	16	16

Use the graph paper to make a line graph of the temperature on the 1st of June.

Compare this with the first graph.

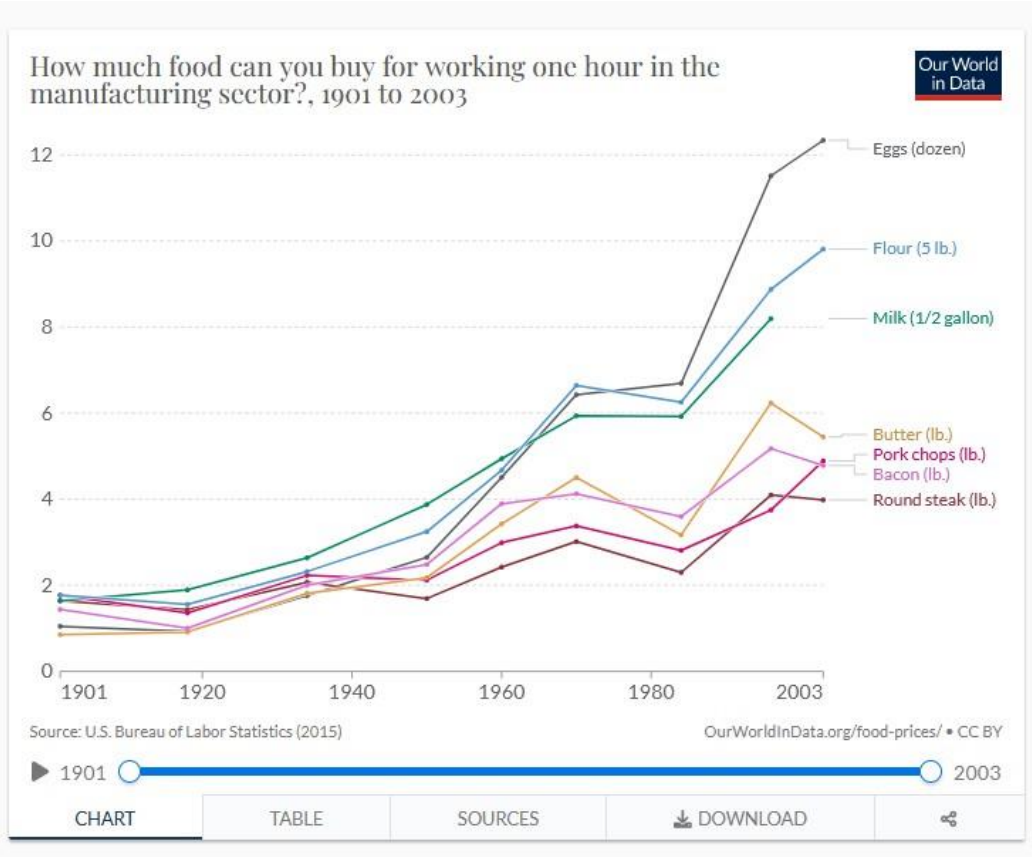
Develop a set of “I wonder” and “I notice” statements.

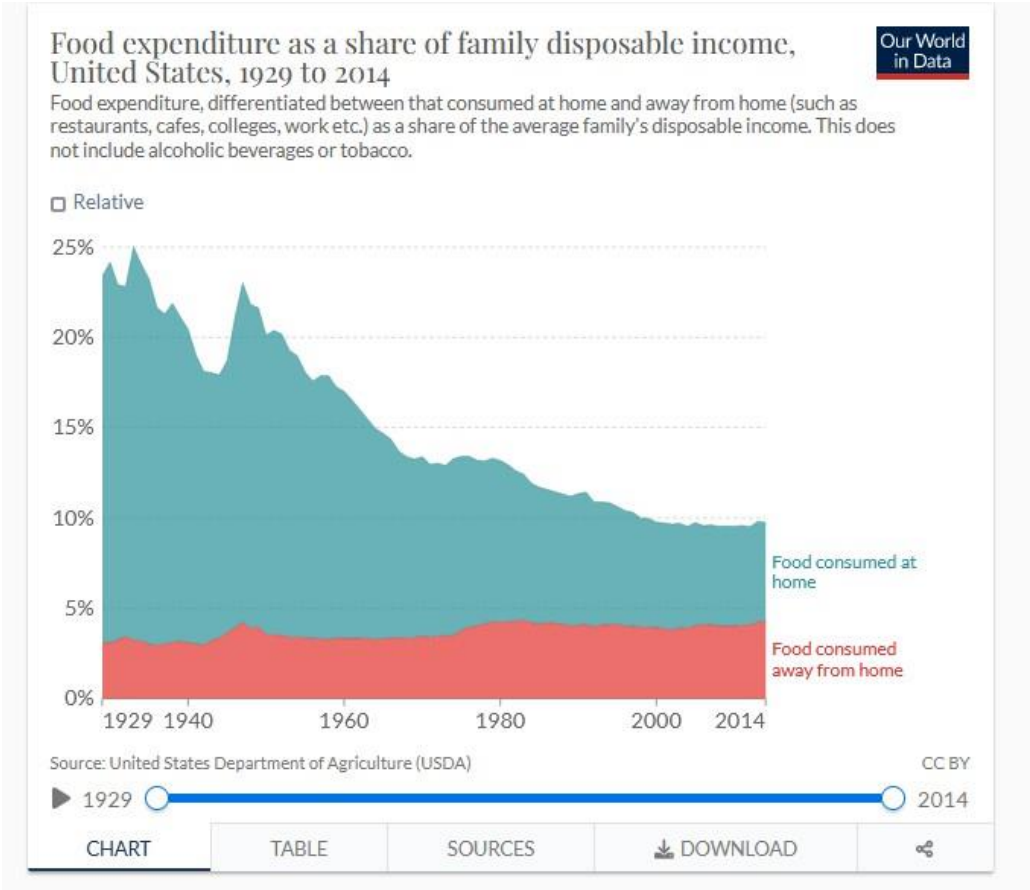
Task 7 (Independent Task)

The data on the graphs below is about the cost of food over time in the USA.

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

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




Food expenditure as a share of family disposable income, United States, 1929 to 2014
Our World in Data
Food expenditure, differentiated between that consumed at home and away from home (such as restaurants, cafes, colleges, work etc.) as a share of the average family's disposable income. This does not include alcoholic beverages or tobacco.
Relative
25%
20%
15%
10%
5%
0%
1929
1940
1960
1980
2000
2014
Food consumed at home
Food consumed away from home
Source: United States Department of Agriculture (USDA)
CC BY
1929
2014
CHART
TABLE
SOURCES
DOWNLOAD

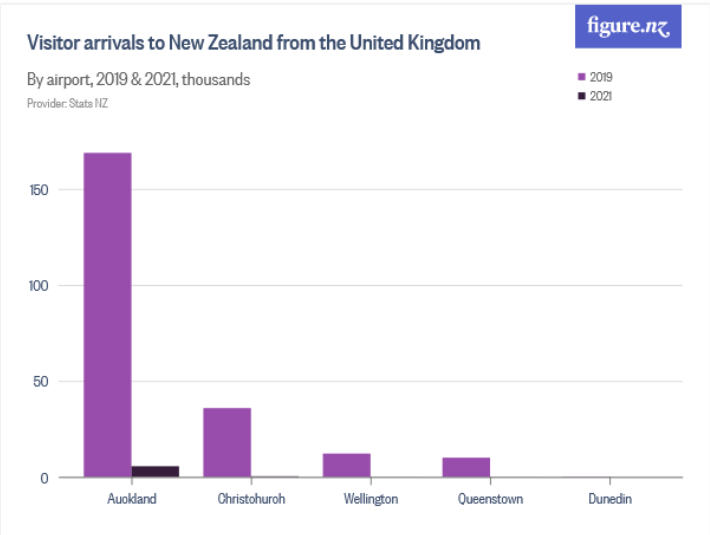
Task 8

New Zealand is a popular tourist destination. We also have a lot of people living in New Zealand who have family in different countries. 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?



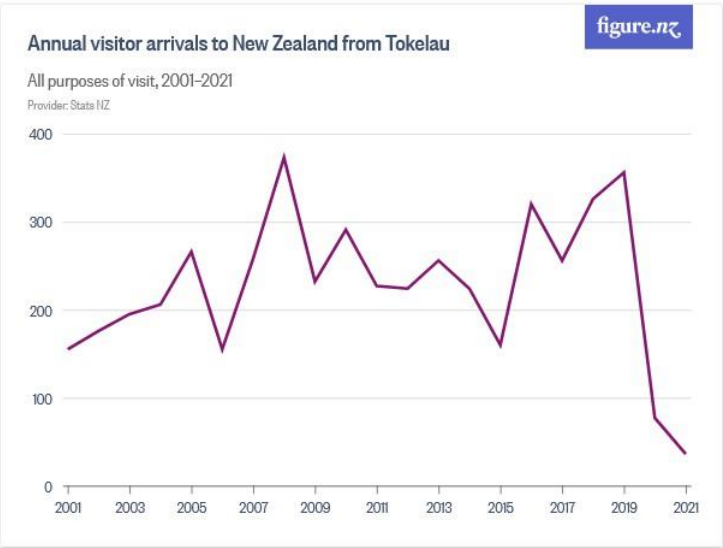


figure.nz
Annual visitor arrivals to New Zealand from Tokelau
All purposes of visit, 2001–2021
Provider: Stats NZ
400
300
200
100
0
2001
2003
2005
2007
2009
2011
2013
2015
2017
2019
2021

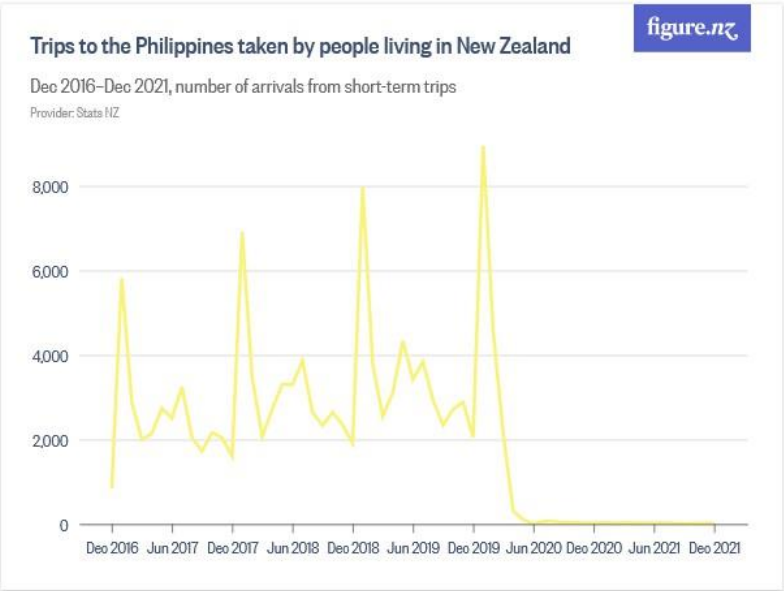


figure.nz
Trips to the Philippines taken by people living in New Zealand
Dec 2016–Dec 2021, number of arrivals from short-term trips
Provider: Stats NZ
8,000
6,000
4,000
2,000
0
Dec 2016
Jun 2017
Dec 2017
Jun 2018
Dec 2018
Jun 2019
Dec 2019
Jun 2020
Dec 2020
Jun 2021
Dec 2021

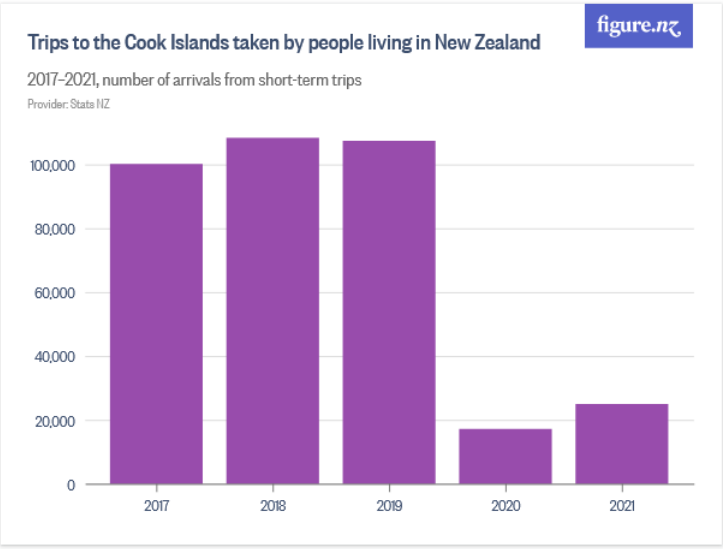


figure.nz
Trips to the Cook Islands taken by people living in New Zealand
2017–2021, number of arrivals from short-term trips
Provider: Stats NZ
100,000
80,000
60,000
40,000
20,000
0
2017
2018
2019
2020
2021

Task 8 (Independent Task)

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

Represent your data using a variety of graphs.

What statements can you make about the data?

Task 9 (Optional Task)

The average (mean) temperature over a week was 20 degrees Celsius. The highest temperature was 25 degrees Celsius.

What might the temperature have been on the other days?

Draw a table to show the time-series data.

Represent the time-series data using a line graph.

Make statements about the temperature over the week.

Task 9 (Optional Independent Task)

The mean is 10. The median is 12. The data-set has 16 numbers. What might the numbers be?

Develop a story about the data-set and the question that it might be answering.

Represent your data-set and write statements about it.

Task 10 (Optional Task)

The Warehouse is ordering Lego sets 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.

Creator	Friends	City
Harry Potter	Ninjago	Creator
Friends	City	City
City	Creator	Ninjago
Creator	Friends	Harry Potter
City	City	Harry Potter
Creator	City	Friends
Ninjago	Creator	Creator
Ninjago	Ninjago	Creator
Harry Potter	Friends	City
Creator	Creator	Creator
Friends	City	Harry Potter
Ninjago	Harry Potter	Creator
Friends	Creator	Creator
Harry Potter	City	Creator
Creator	Harry Potter	Harry Potter
Friends	Creator	Creator
Friends	Ninjago	City

Record the results in a table of data.

Now show this as a graph.

What recommendations would you give to the Warehouse?