RICH MATHEMATICAL TASK BOOKLET

STATISTICS
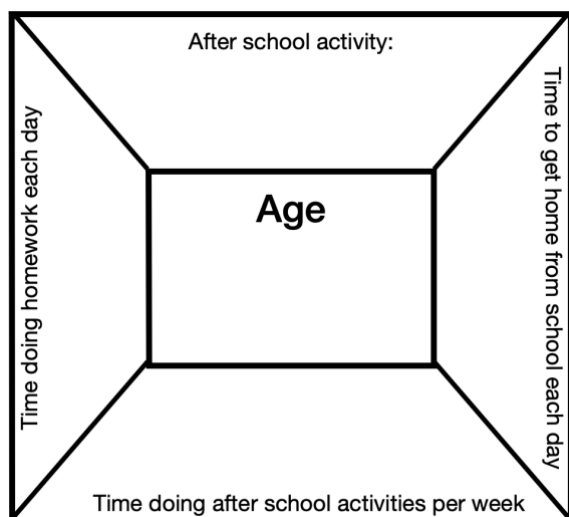
YEAR 5-6 ODD YEARS

Task Copy Masters

Phase 2: Year 5-6: Statistics: Odd Years

Task 1

The local council is interested in the after-school activities of children. These data cards have different information about the activities of students of different ages.

What is the most common after-school activity 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 most common after-school activity for students?

Phase 2: Year 5-6: Statistics: Odd Years

Task 1 (independent)

The data cards have information about the most common after-school activity 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.

Phase 2: Year 5-6: Statistics: Odd Years

Task 2

The local council is interested in the activities of children outside of school. These data cards have different information about the activities of students of different ages.
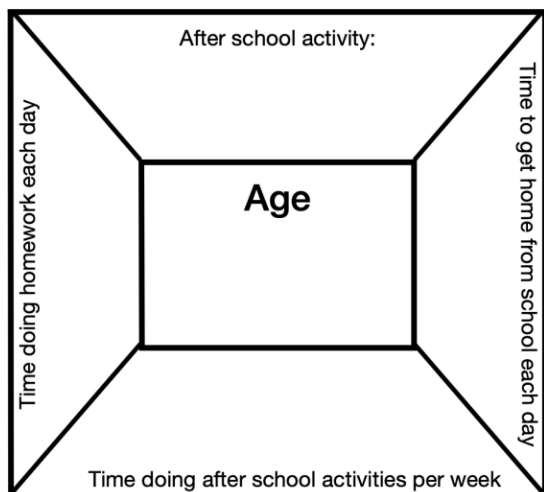
How much time do children spend doing homework after-school?

Use a stem and leaf graph to show your results.

Make "I wonder" and "I notice" statements about the data.

Task 2 (independent)

Saul is wondering how much screen time tamariki at his school have at home. Here are the results he collected showing how much screen time a group of tamariki in the school have each day.

99   15   0   30   65   60   0   80   90   20   30
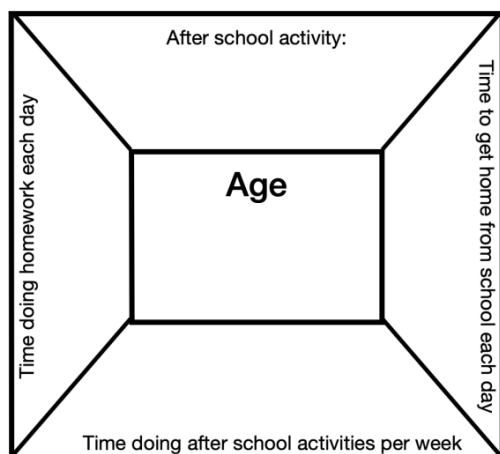
60   65   10   35   40   30   35   25   30   15   32

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

Make "I wonder" and "I notice" statements about the data.

Phase 2: Year 5-6: Statistics: Odd Years

Task 3

The local council is interested in the after-school 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)

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

Luana and Tama show aroha at home by helping with chores. They are wondering how many hours tamariki in the school spend doing chores over a fortnight.

Can you sort and organise the set of data below showing how many hours a group of tamariki spend doing chores over a fortnight?

4	2	6	8	5	10
1	6	7	5	8	3
2	5	4	4	3	1
3	2	5	3	2	4
4	3	8	7	5	6

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 can you say about how long tamariki spend doing chores over a fortnight?

Phase 2: Year 5-6: Statistics: Odd Years

Task 4 (independent)

Tiana is a striker for the soccer team. She decided to work out her statistics for goal shooting.

Over 10 games, her mean was score was 3, the median was 2, and the mode was 1.

How many goals might she have scored for each game?

Phase 2: Year 5-6: Statistics: Odd Years

Task 5

The local library and community centre is being rebuilt. The local council is thinking about the resources and services that would be helpful and most used by the local community.

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?

Phase 2: Year 5-6: Statistics: Odd Years

Task 5 (independent)

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?

Phase 2: Year 5-6: Statistics: Odd Years

Task 6

The local library and community centre is being rebuilt. The local council is thinking about the resources and services that would be helpful and most used by the local community.

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.
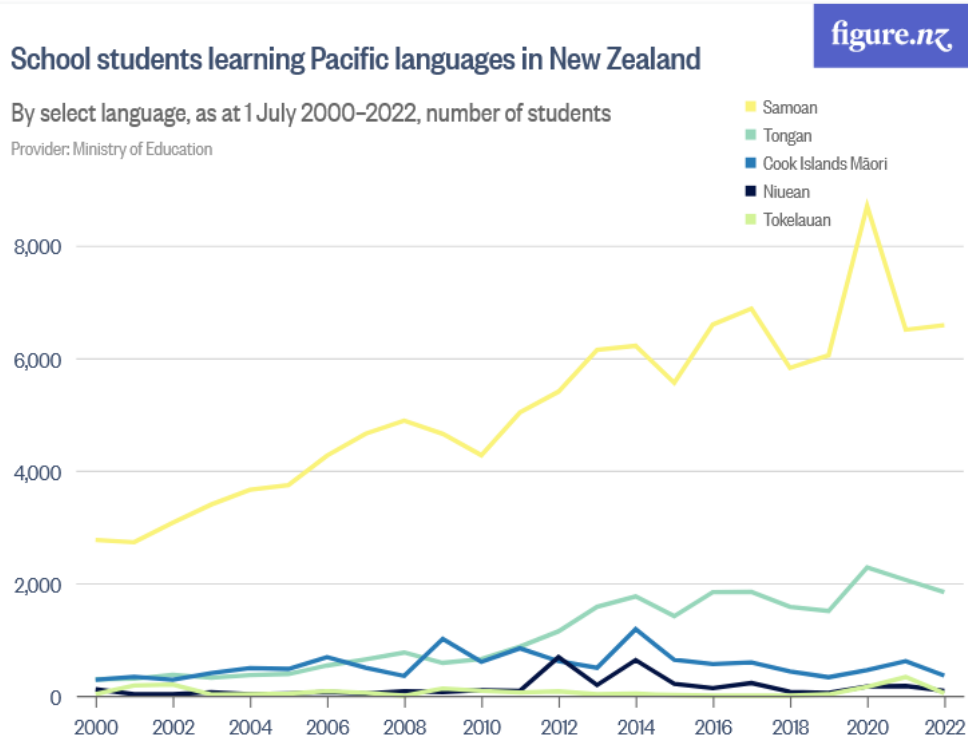
Phase 2: Year 5-6: Statistics: Odd Years

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.

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Task 7

School students learning Pacific languages in New Zealand
By select language, as at 1 July 2000–2022, number of students
Provider: Ministry of Education

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

1) Tokelauan is the least common Pacific language learnt by school students in New Zealand.
2) School students learning Samoan has increased every year since 2000.
3) In 2020, over 2000 school students were learning Tongan language.
4) More school students learn Cook Island Māori than Tongan language.

Write your own statements using "I notice" and "I wonder" about the data shown in the graph.

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Task 7 (continued)
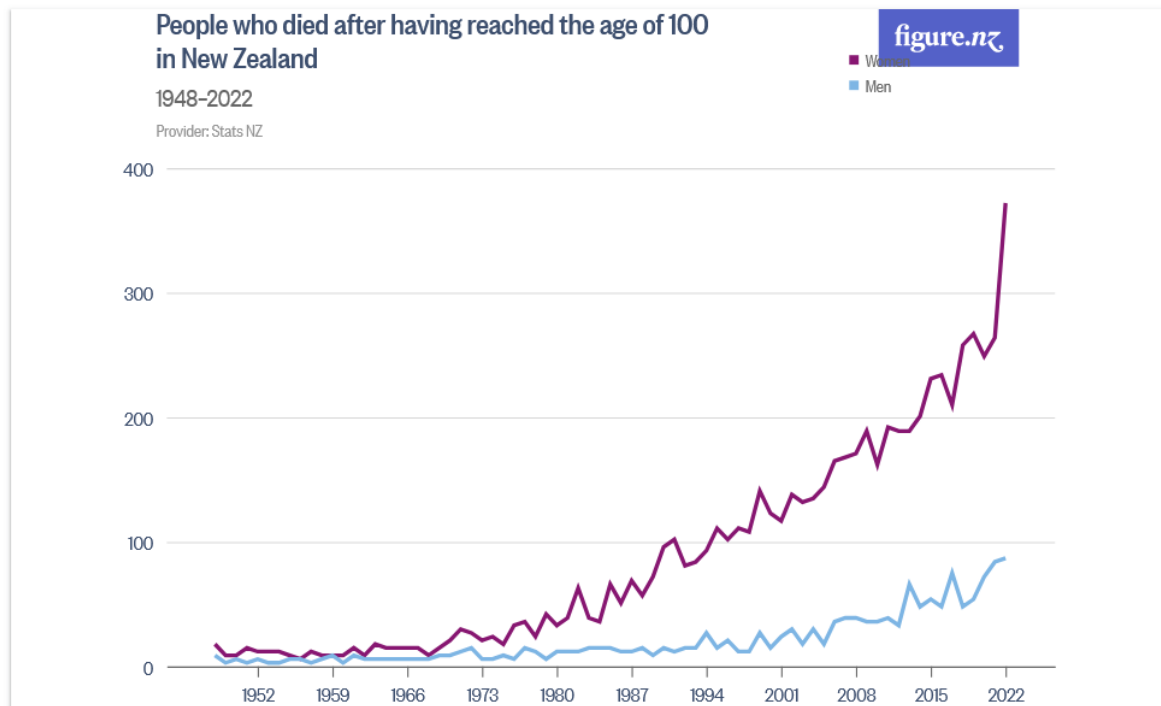
Read the statements and say whether you agree or disagree with each one.

1) Over 400 people in New Zealand died after reaching 100 years old in the year 2022.
2) There is an equal chance for males and females that you will live over 100 years.
3) For every year since 1952, more females have lived to over 100 years than males.
4) Female life expectancy has increased dramatically since 1952.

Write your own statements using "I notice" and "I wonder" about the data shown in the graph.
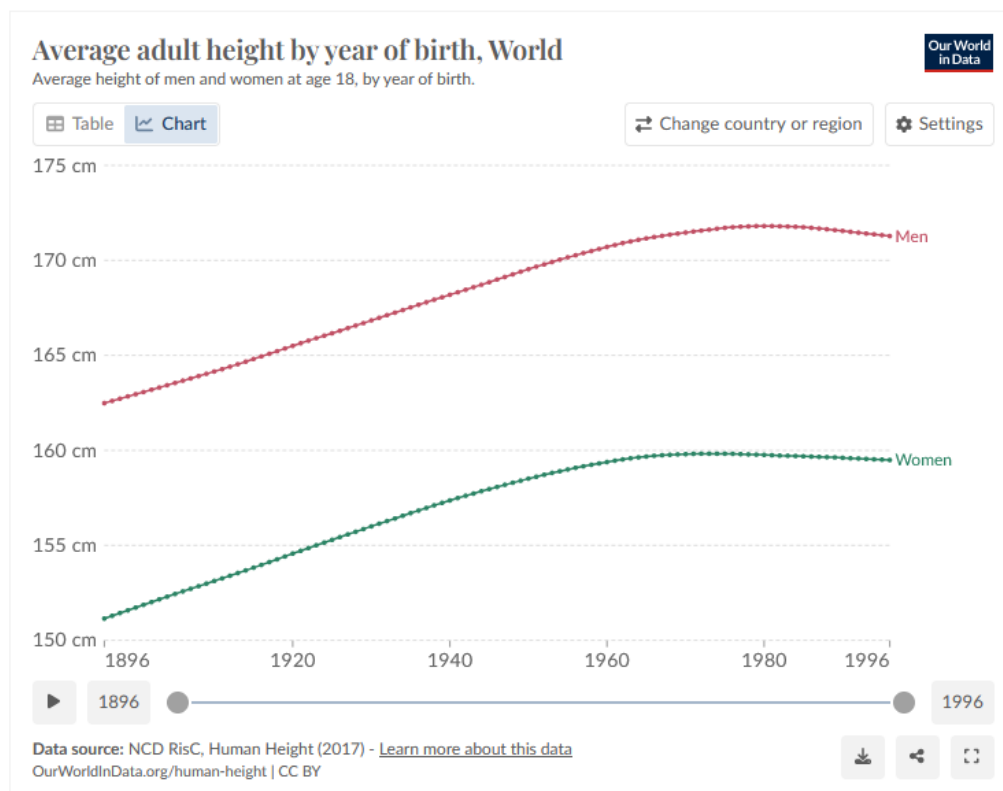
Phase 2: Year 5-6: Statistics: Odd Years

Task 7 (independent)

The data on the graphs below show the heights of people both over time and in comparison with different groups in New Zealand and the world.
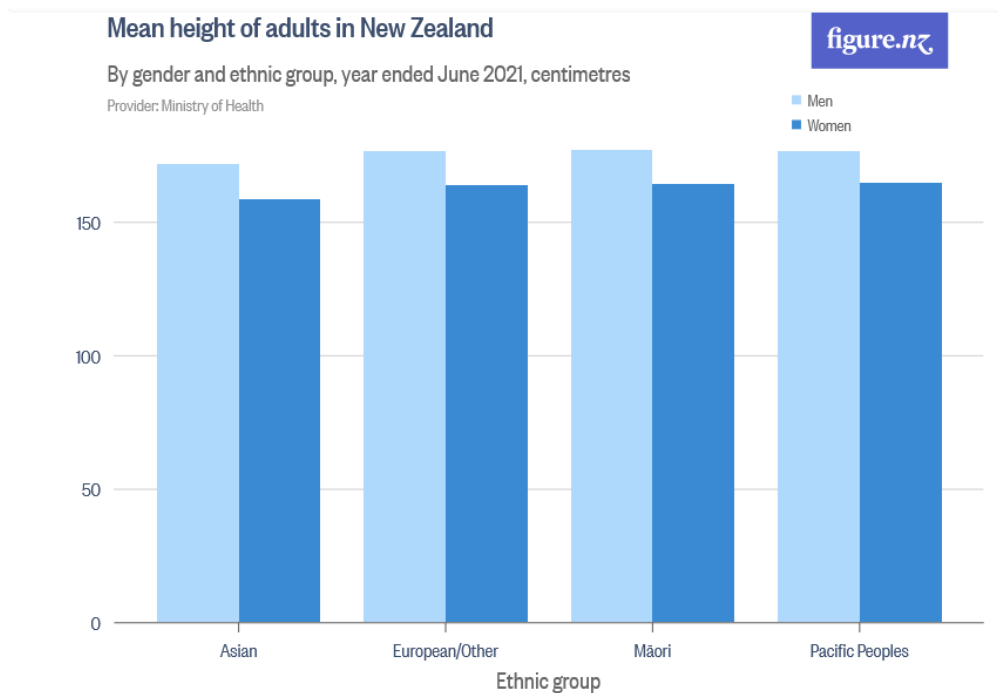
Begin by writing "I wonder" statements for each of the graphs.

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

Average adult height by year of birth, World
Average height of men and women at age 18, by year of birth.

Data source: NCD RisC, Human Height (2017) - Learn more about this data
OurWorldInData.org/human-height | CC BY

Phase 2: Year 5-6: Statistics: Odd Years

Task 7 (independent - continued)

Mean height of adults in New Zealand

By gender and ethnic group, year ended June 2021, centimetres

Provider: Ministry of Health

Mean height of adults in New Zealand

By gender and age group, year ended June 2021, centimetres

Chart | Table ✔

The following information applies to all values in the table. Year ended June: 2021, Indicator: Mean height, Grouping variable: Age group, Estimate: Median

GENDER	CATEGORY	CENTIMETRES
Male	15-24	177.2
Female	15-24	165.1
Male	25-34	177.3
Female	25-34	164.4
Male	35-44	176.4
Female	35-44	164.4
Male	45-54	176.3
Female	45-54	164.1
Male	55-64	174.9
Female	55-64	162.3
Male	65-74	172.7
Female	65-74	160.4
Male	75+	171.2
Female	75+	157.6

Phase 2: Year 5-6: Statistics: Odd Years

Task 8

Time is a limited resource, we all have 24 hours each day, 365 days in a year, and 8760 hours in a year. Both education/work and leisure are important ways that people spend their time. How people spend their time and how much leisure time they have is both different in different countries and changes over time.

Have a look at the graphs below and think of the stories that they are telling us.

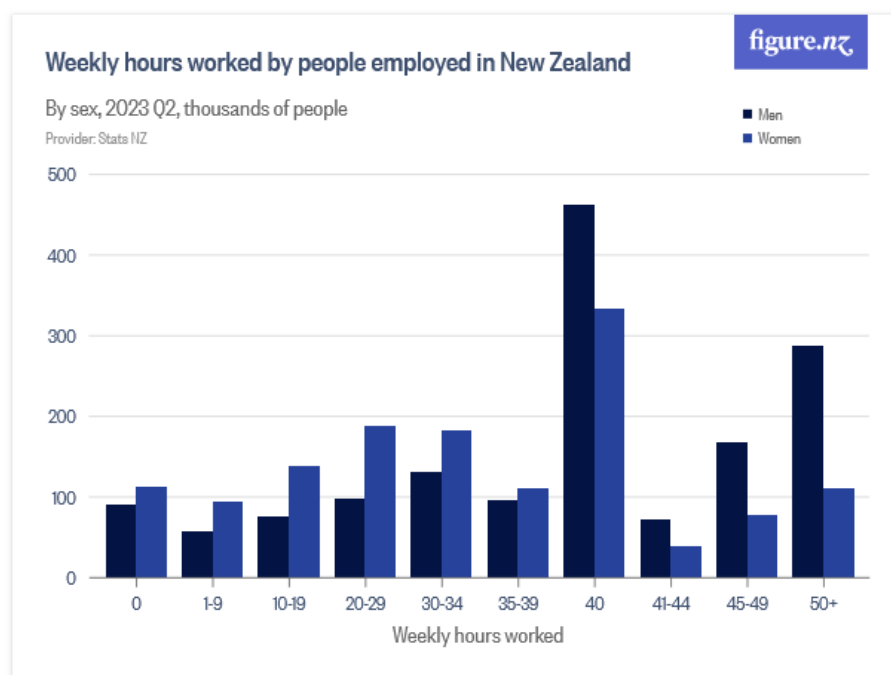Begin by writing "I wonder" statements for each of the graphs.

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?

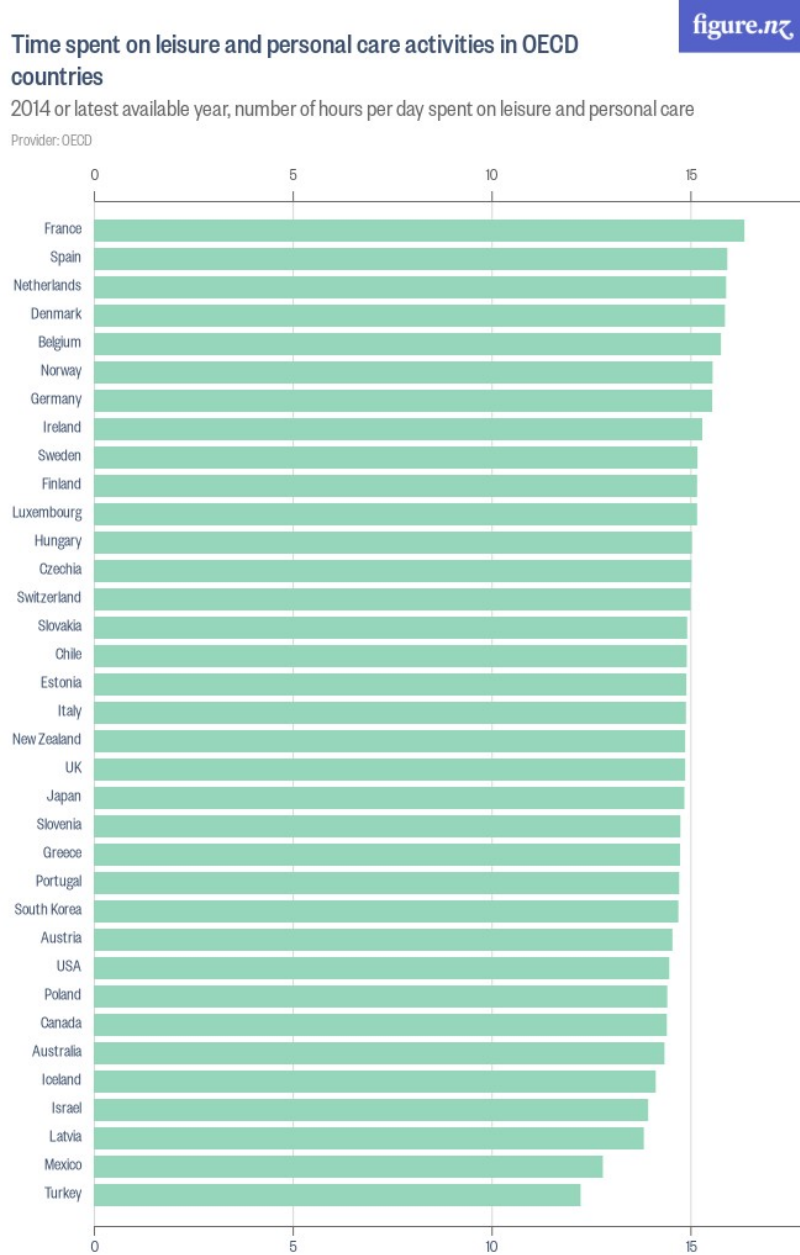**Weekly hours worked by people employed in New Zealand**
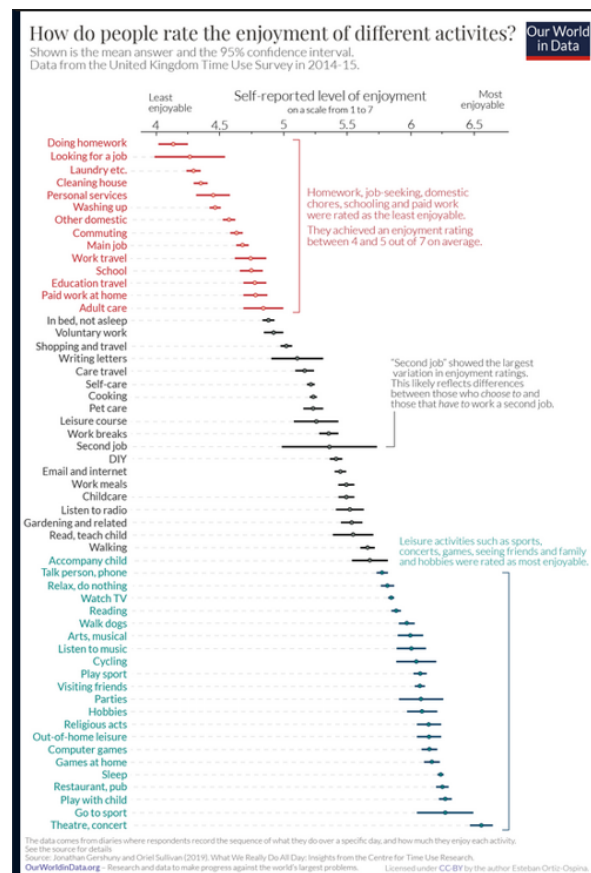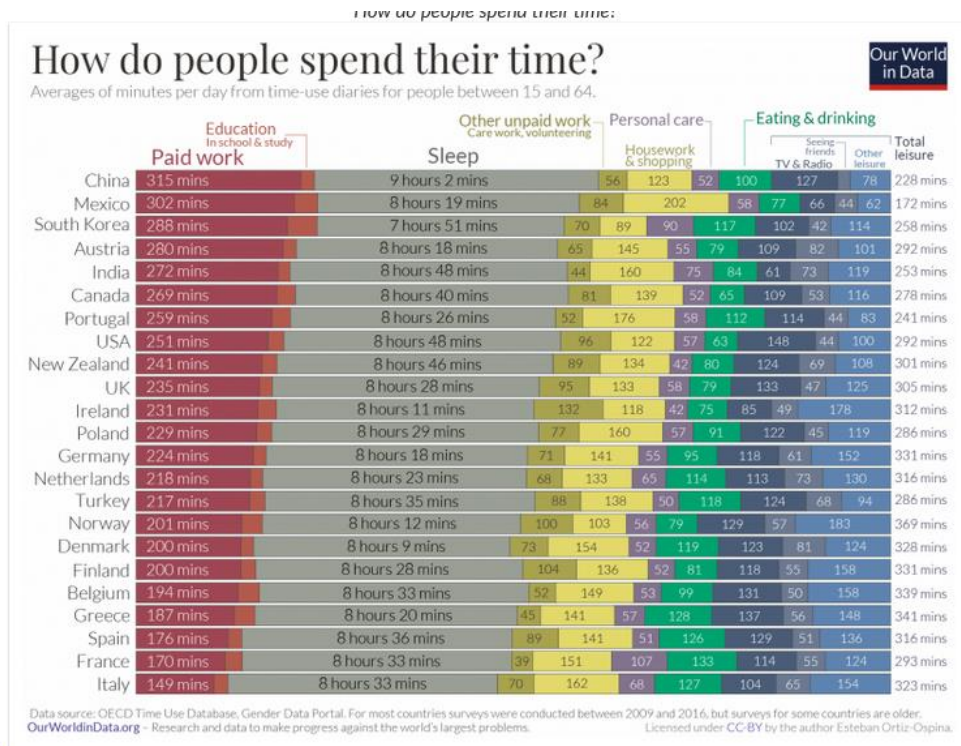By sex, 2023 Q2, thousands of people

Weekly hours worked by people employed in New Zealand
By sex, 2023 Q2, thousands of people
Provider: Stats NZ

Phase 2: Year 5-6: Statistics: Odd Years

Task 8 (continued)

Time spent on leisure and personal care activities in OECD countries

2014 or latest available year, number of hours per day spent on leisure and personal care

Provider: OECD
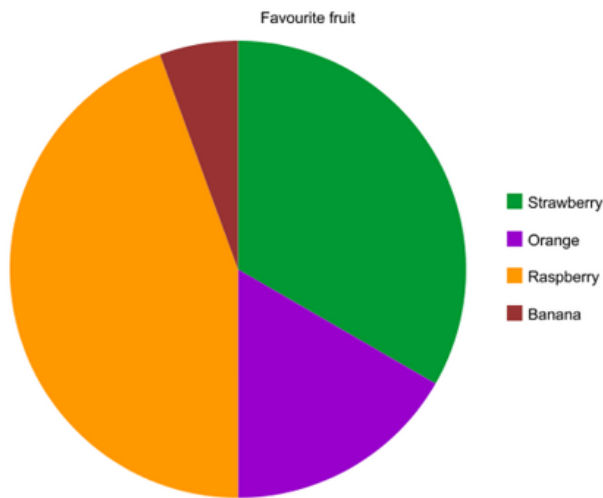
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Task 8 (continued)

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Task 8 (independent)

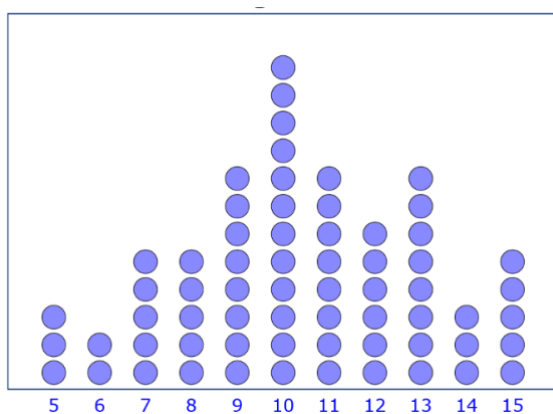This is the results of a survey from a class at school.

What could the survey be about?

How many students do you think are in the class?

How many students choose each category?

Represent the data in a different way.

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 5-6: Statistics: Odd Years

Task 9

The average (mean) length of a newborn baby is 50 cm long.

When a baby boy is 12 months old, the average (mean) length is 76 cm long.

When a baby girl is 12 months old, the average (mean) length is 74 cm long.

Give some possible lengths of a newborn baby.

What might the length of a baby boy be each month?

What might the length of a baby girl be each month?

Draw a table to show the time-series data for each month.

Represent the time-series data using a line graph and showing each month.

Make 'I notice' and 'I wonder' statements about the length of a baby over a year.

Phase 2: Year 5-6: Statistics: Odd Years

Task 9 (independent)

The mean is 6. The median is 4. The data-set has 20 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

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

Monopoly	Monopoly	Guess who	Scrabble
Cluedo	Game of life	Guess who	Game of life
Scrabble	Monopoly	Monopoly	Cluedo
Monopoly	Cluedo	Guess who	Scrabble
Guess who	Monopoly	Game of life	Game of life
Guess who	Monopoly	Scrabble	Cluedo
Game of life	Guess who	Game of life	Scrabble
Monopoly	Monopoly	Monopoly	Game of life
Game of life	Monopoly	Guess who	Cluedo
Scrabble	Game of life	Monopoly	Scrabble
Monopoly	Guess who	Scrabble	Game of life
Monopoly	Monopoly	Game of life	Cluedo
Cluedo	Scrabble	Monopoly	Scrabble
Cluedo	Game of life	Game of life	Game of life
Monopoly	Guess who	Guess who	Cluedo

Record the results in a table of data.

Now show this as a graph.

What recommendations would you give to the Warehouse?