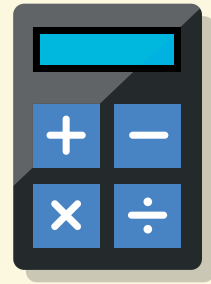




Graphing and analysing superannuation data



This sequence is intended as a framework to be modified and adapted by teachers to suit the needs of a class group.

Resources needed

- Superannuation – Explainer
- Superannuation – Investigation
- Investigation super – Data sheet
- Computer with spreadsheet software for each student

Suggested activity sequence

Part A: Exploring superannuation

- Use a *grouping strategy* to organise students in groups of 3 or 4.
- Students read the *Explainer* and groups decide on a definition of superannuation and write their definition on the board.
- When all definitions are displayed, discuss the concept of superannuation and develop a simple class definition.

Part B: Calculating super

- 1 Explicitly teach students how to calculate the superannuation guarantee using a gradual release of responsibility model.
To calculate the money your employer puts into your super account for you:

$$\text{Super} = 12\% \times \text{salary}$$

For example: You're a third year apprentice plumber and your weekly wage is \$669.53 per week. How much super should your employer pay into your super account?

$$\begin{aligned} \text{Super} &= 12\% \times \text{salary} \\ &= 0.12 \times \$669.53 \\ &= \$80.34 \end{aligned}$$

- 2 Ask students to do 5 simple calculations and a sixth one which is a bit more challenging – perhaps a 'working backwards' question, for example, if your employer pays \$72.30 into your super account, what's your salary?

$$\text{Super} = \text{Percentage} \times \text{Salary}$$

Dividing both sides of the equation by the

$$\begin{aligned} \frac{\text{Super}}{\text{Percentage}} &= \frac{\text{Percentage} \times \text{Salary}}{\text{Percentage}} \\ \frac{\text{Super}}{\text{Percentage}} &= \text{Salary} \end{aligned}$$

Substitute in known values:

$$\begin{aligned} \text{Salary} &= \frac{\text{Super}}{\text{Percentage}} \\ &= \frac{72.30}{0.12} \\ \text{Salary} &= \$602.50 \end{aligned}$$



Part C: Exploring super data

- 1 Discuss with students some of the key concepts around super:
 - Why do we need super – what about the age pension?
 - How much might you need to retire comfortably?
 - How long does retirement last?
 - Why do we need to start so young?
 - How else can you increase your super?

- What happens if you're out of the workforce for a while?
- Do they think women and men are likely to have the same amount of super? Why, why not?

- 2 Model the task students will do by doing a simple example as a whole class. If you're all working together on this, everyone will need access to a computer with spreadsheet software.

This is the weekly wage of 5 people in a netball team. Two people in the team didn't want to share their information.

\$1,845 \$1,529 \$2,135 \$1,150 \$986

	A	B	C	D
1		Weekly pay	Employers super contributions	Total cost to employer
2				
3				
4				
5				
6				
7	Average (mean)			
8	Median			

- Set up a spreadsheet and put the weekly pay data in excel.
- Sort from lowest to highest.
- Put in a formula to calculate super (=0.115*B2).
- Put in formulas to calculate average and median and total cost to employer (for example, = AVERAGE (C2:C6) and = MEDIAN (C2:C6) and = B2 + C2).
- Discuss with students about the average and the median being the same.

- 3 The rest of the team have decided they will

Category	Number of people in this category
0-999	
1000-1999	
2000 +	
Total	<i>Put in a sum formula here</i>





share what they get paid too. One gets \$950 and the other gets \$3,428.

- Add rows, sort, check the formulas then examine the mean and median. Again, discuss what's happened to these 2 measures of central tendency.
- Set up this table on your spreadsheet.
- Tally the number of people with wages within each category.

- Add the formula to calculate total people – discuss with students what they expect the figure to be and what should they do if it's not.
- Add a chart. Try both a line graph and a column graph, change the colours and add titles.

- 4 Students complete the *Investigation*. To do so, they will need copies of the *Data sheet*.
- 5 Walk the students through the instructions, reminding them of the similarities to the problem you modelled.
- 6 Students may benefit from working individually and/or in small discussion groups.