

## *Top Ten Mathematics*

*The Power and Joy of Hands-on Maths*

*Units developed by Australian numeracy coaches for ten years in classrooms*

# Top 10 lessons to start the year

*10 of 500 lessons from the  
New 3-6 Pack  
(currently being developed  
in classrooms)*

*Learn about our intensive hands-on  
workshops with schools across Australia:*

*[https://www.toptenresources.com/  
workshops](https://www.toptenresources.com/workshops)*

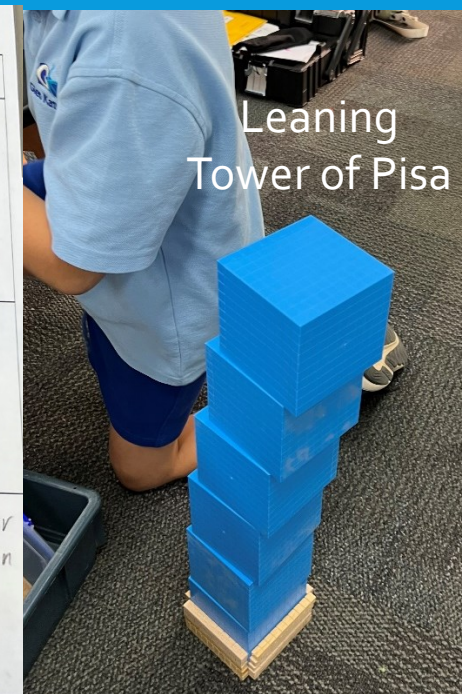
# Place Value Wonders of the World



Great Wall of China

*Place Value Wonders of the World* Name: Charlotte

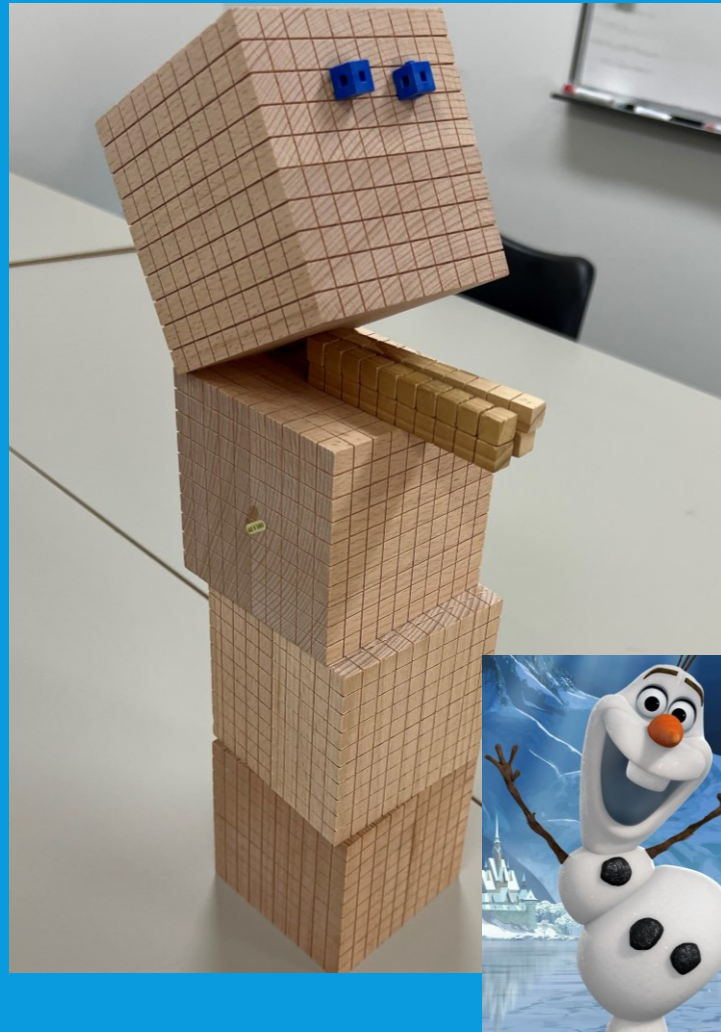
Gallery	Estimate	Place value blocks	Place value form Standard form	Worded form
colosseum	$\approx 1000$	 $\times 10$ $\times 8 + 10$ $\times 18$ $= \times 10$	9h 8t 0u 980	nine-hundred and eighty
leaning tower of Pisa	$\approx 6000$	 $\times 6$ $\times 0 + 2h$ $\times 20$ $= \times 10$	6th 2h 0t 0u 6200	Six thousand, two hundred
Taj Mahal	$\approx 6000$	 $\times 6th$ $\times 3 + 1h$ $\times 11$ $= \times 1$	6th 4h 1t 1u 6411	Six thousand, four hundred and eleven

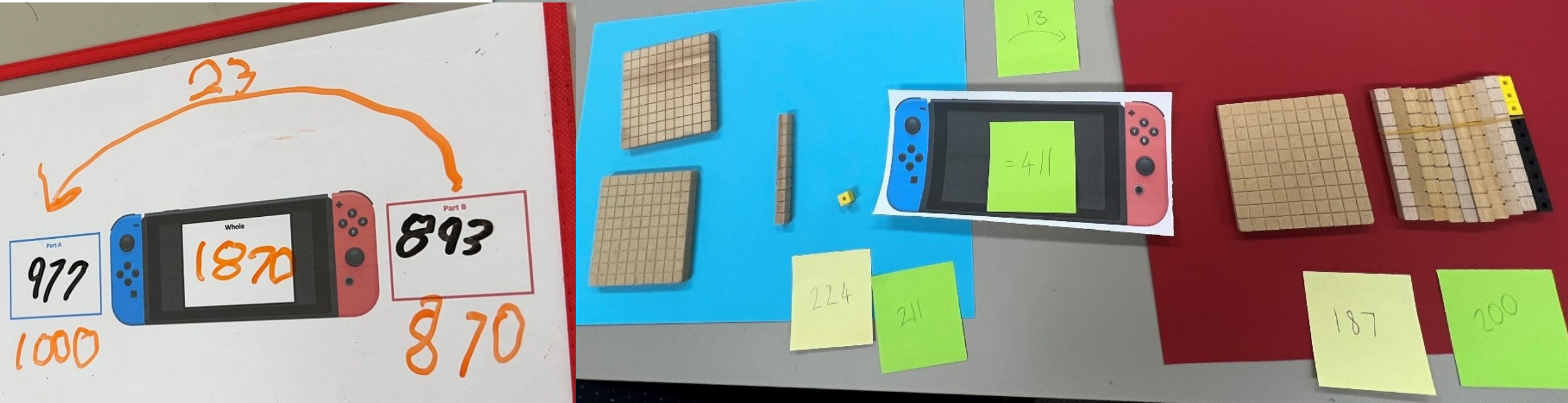


Leaning Tower of Pisa

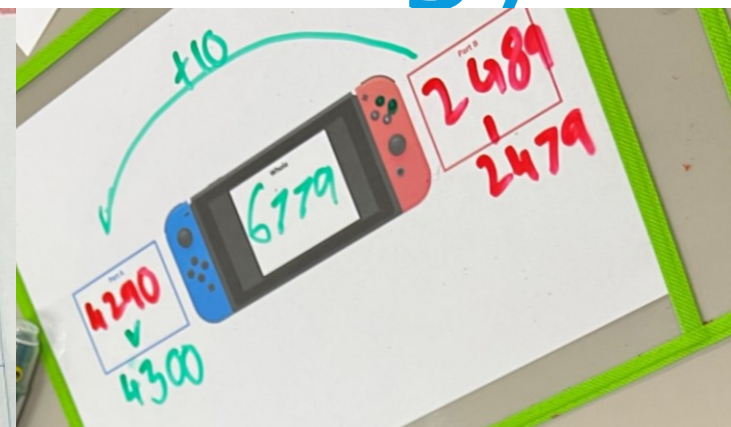
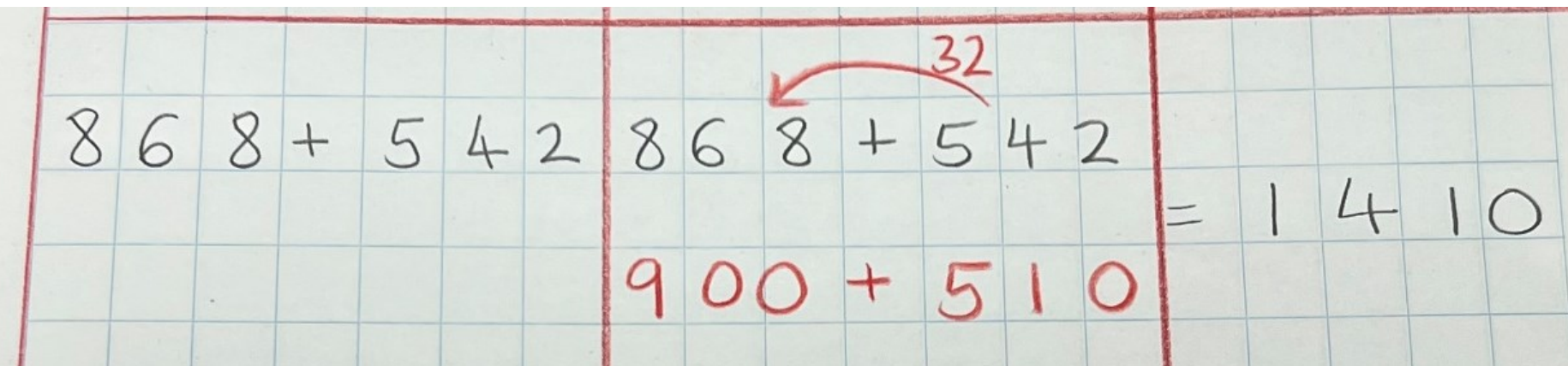
New 3-6 Pack (currently being developed in classrooms): Year 4 Place Value Unit. Revision lesson up to 10 000, place value form, standard form, worded form, estimating/rounding and renaming.

# Let's go to Disneyland!





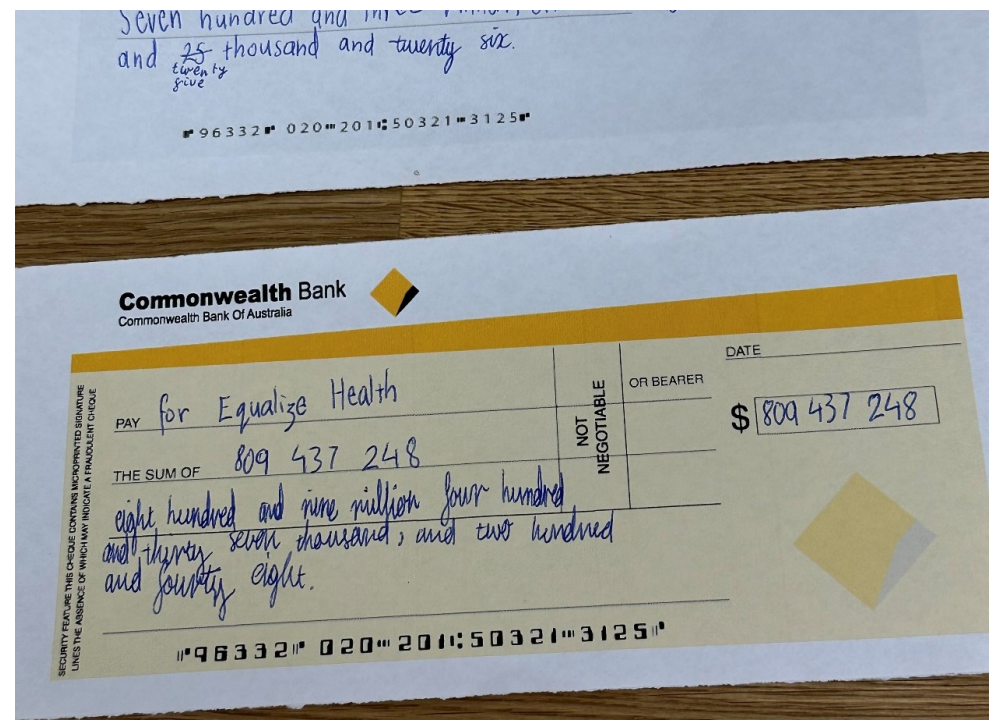
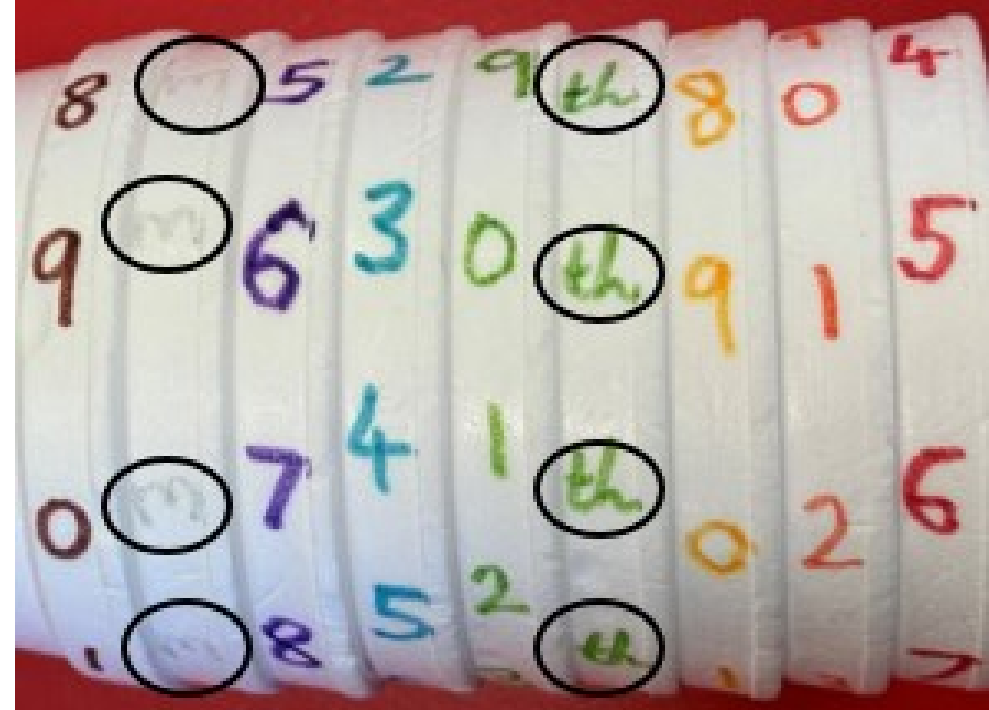
# Nintendo Switch (Transformation/Switch Strategy)

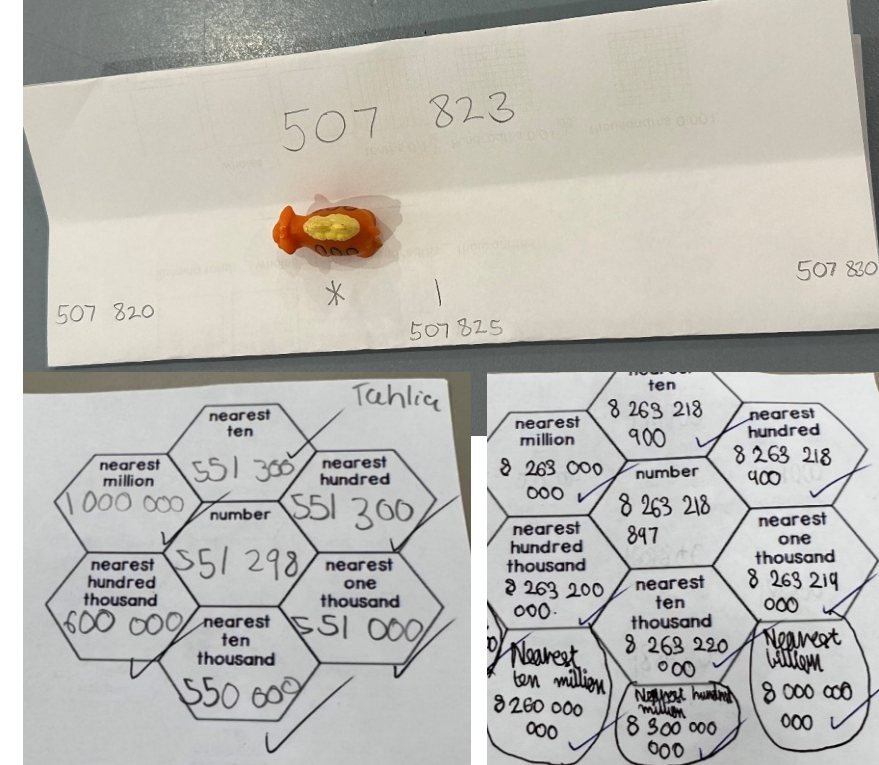
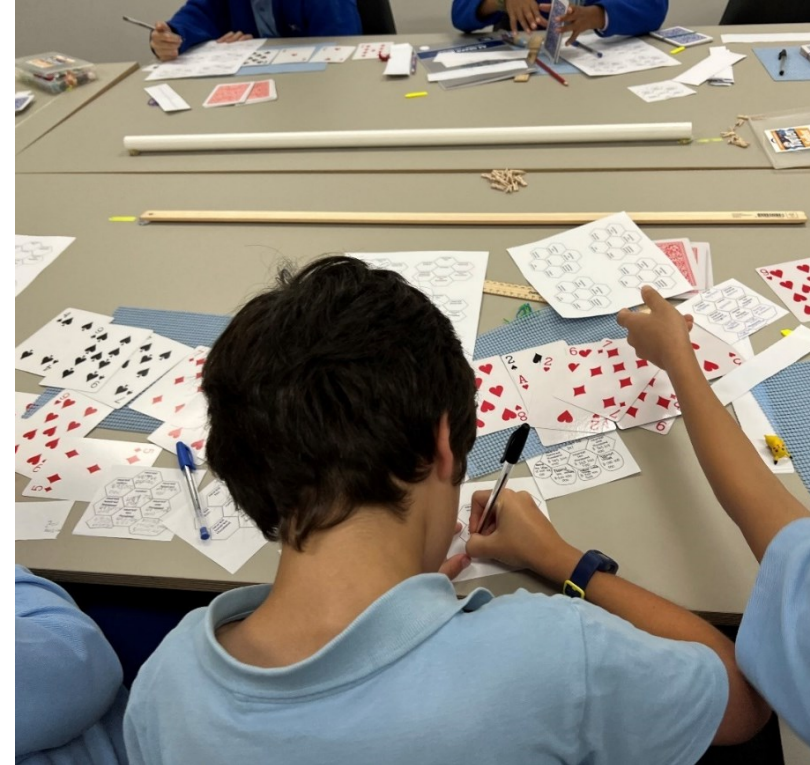
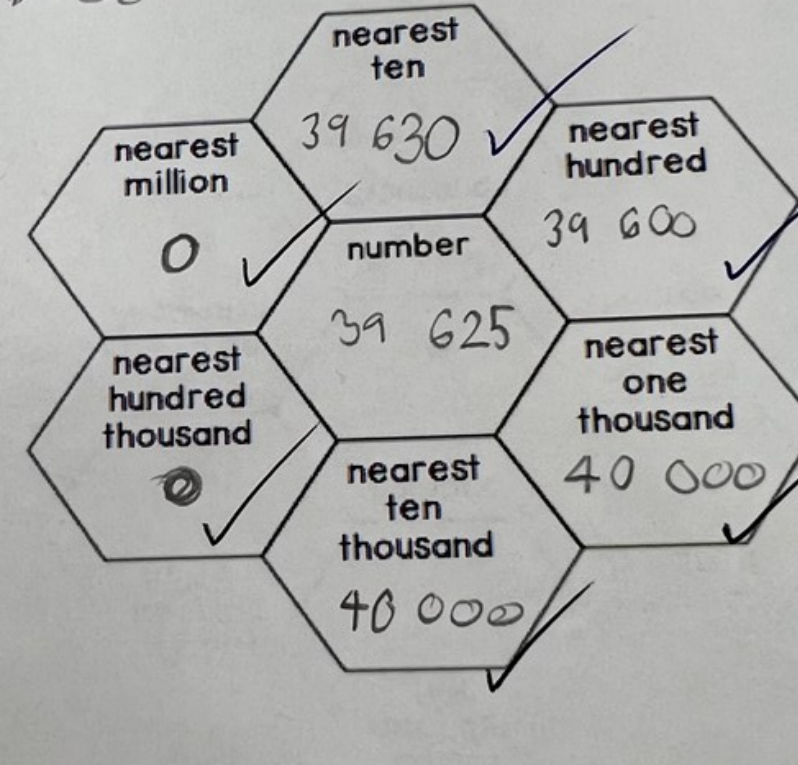


One million 1 000 000 um	Hundred thousand 100 000 hth	Ten thousand 10 000 tth	One thousand 1000 uth	Hundred and 100 h	Ten 10 t	One 1 u

# Real-life place value sort

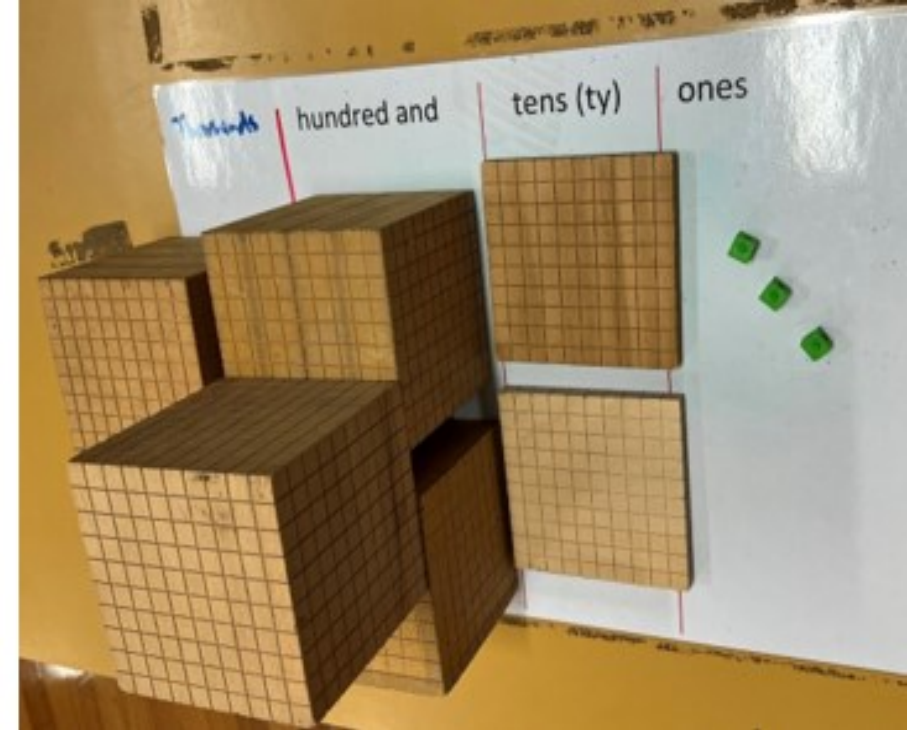
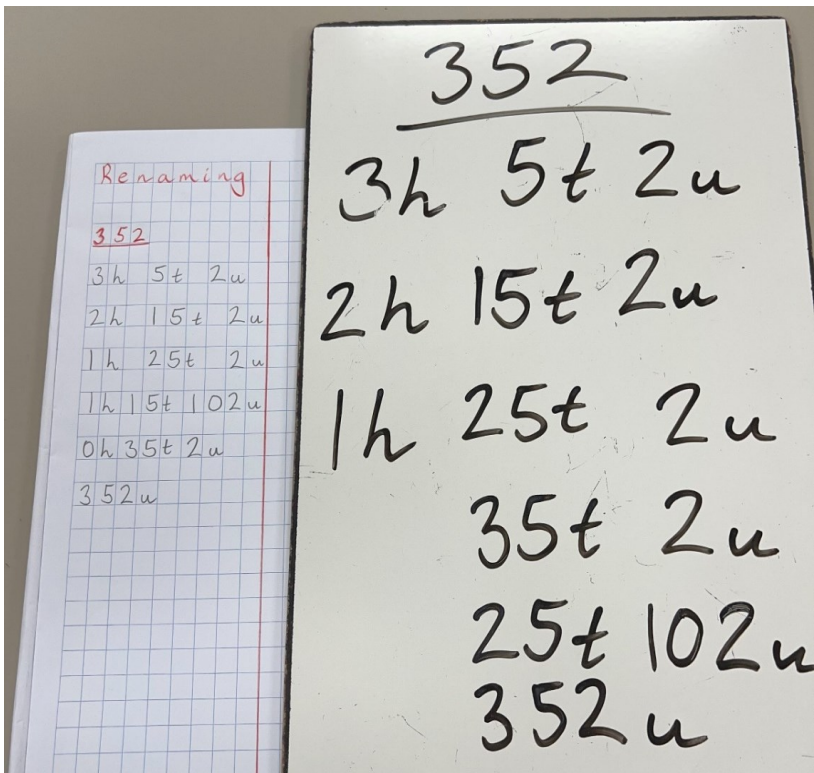
Place value  
donations  
using  
place value  
cups





# Rounding Parkour

Draw the options on a number line – which is the closest jump for your character?  
 Jump around the hexagons and round to different place values.



*1 one thousand, 30 hundreds, 20 tens, 3 ones  
(1uth 3h 2ot 3u)*

Note: 'u' is used for 'units' instead of 'o' for 'ones,' although ones is generally preferred in Australia, because 'o' is too easily confused with zero.

# X-ray Eyes

Beware of the 6 hundred block misconception – centre photo is of a student checking how many hundredsd makes one thousand.

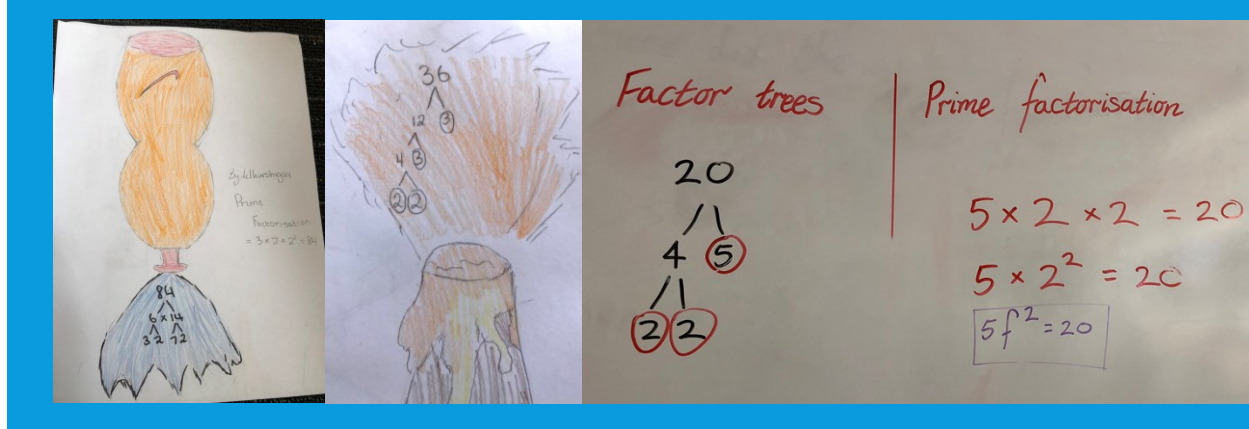
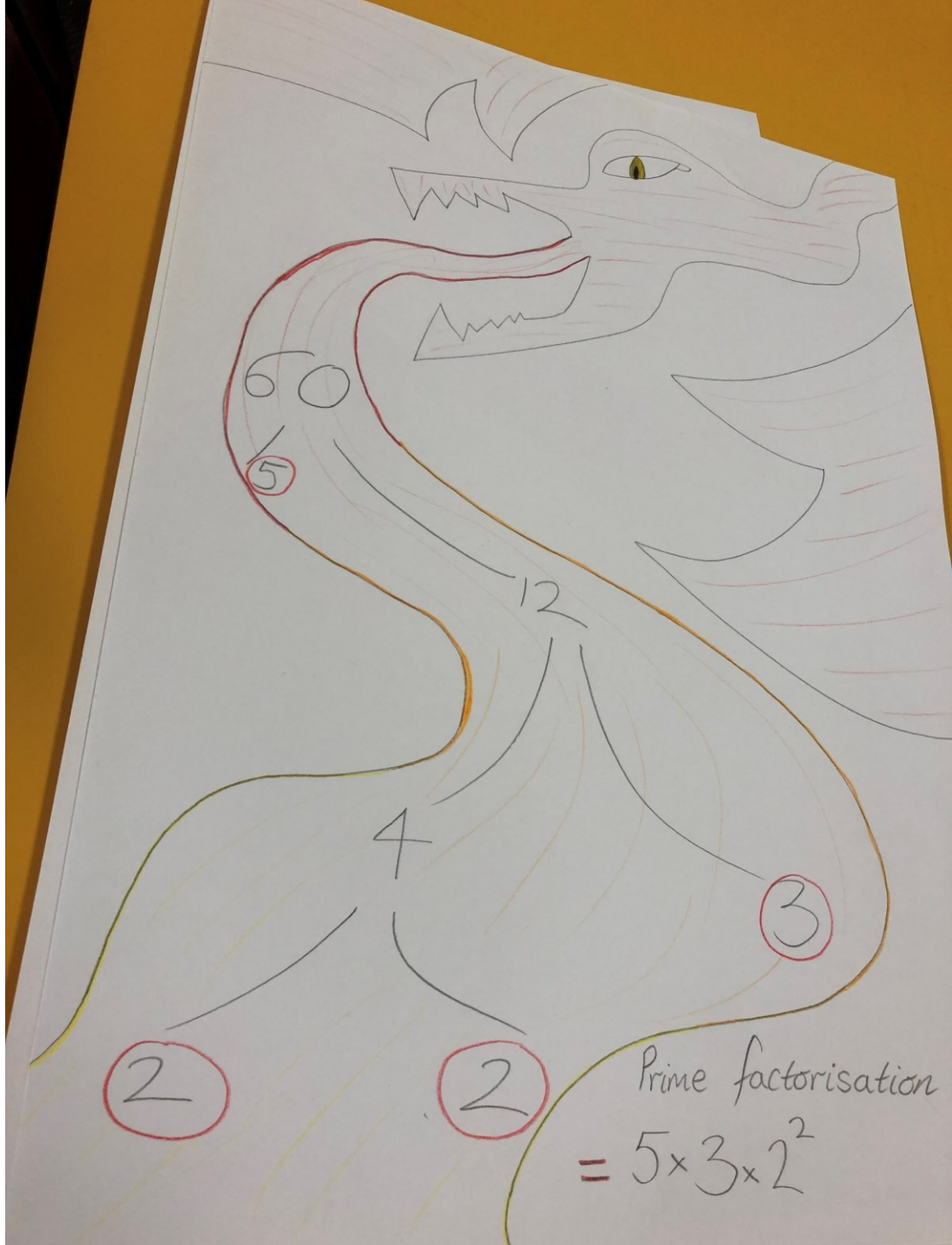
Aussies are experts at nicknames! Do you know numbers have nicknames too? For example, 352 is called '3 hundreds 5 tens 2 ones' or 'three hundred and fifty-two' on its birth certificate, but it has lots of other nicknames that don't change its value. Shift blocks around in the place value chart and use your new x-ray eyes to see the place values inside the blocks, wherever you have placed it on the chart. What are all the nicknames for your number? Rename it!





# Hide-and-Seek Renaming

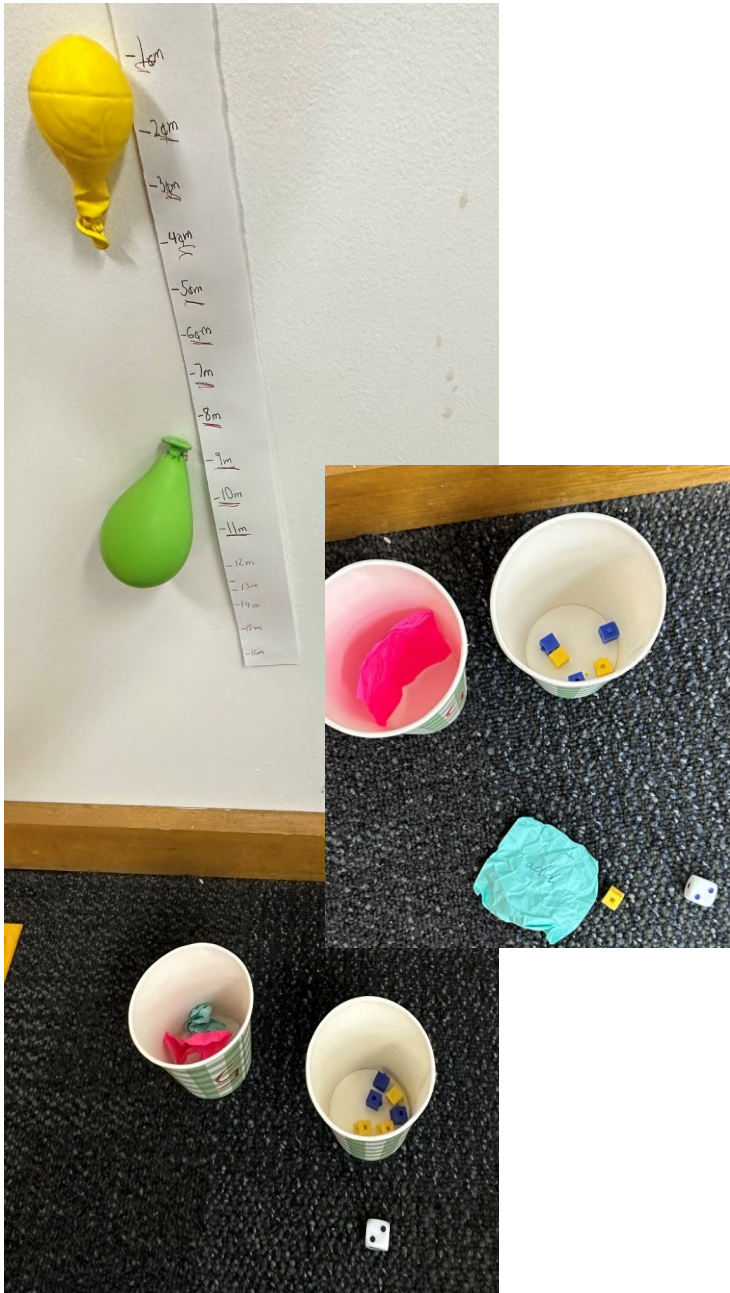
A nickname clue for the number is posted onto the outside of the box (50 tens). The same value is inside the box, but built using the largest place values possible (its regular or 'birth certificate' name, 5 hundreds or 500). Use the clue to work out the value, record your work in your grid book, then lift the lid for immediate feedback!



# FACTORS ART GALLERY

Why draw a factor tree,  
when you can  
create factor art!





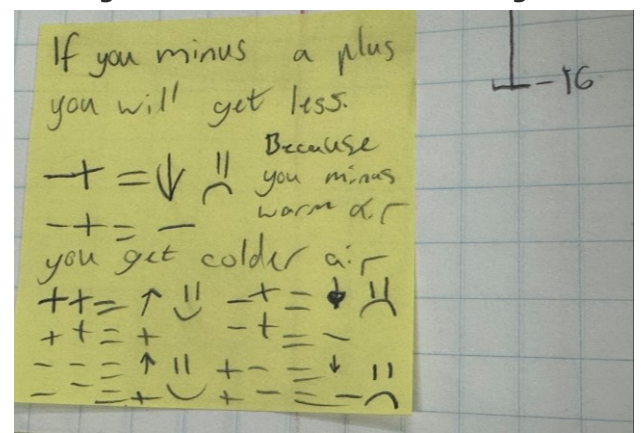
1. Start with a vertical number line with integers (positive and negative whole numbers), usually around +15 and -15, or similar.
2. Start both your hot air balloons at zero.
3. Pull from two post-it note cups. Post-it note cup A contains 'take away' and 'add.' Post-it note cup B contains blue cubes (air) and yellow cubes (sand bags). Also roll a 3-dot or 6-sided dice.

Taking away a negative (cancelling homework) makes life better/more positive!

# Hot Air Balloon Integers

Taking away a positive (cancelling art/sport) makes life worse/more negative!

Students were not told the rules – they were shown the game and tasked with discovering them!



- If you pull 'add' and 'blue,' rolling 3, you are adding 3 parts of air to your balloon. Where will you go?  
 $0 + +3 = +3$  (+ + because you are adding air; air is a positive)
- If you pull 'take away' and 'yellow,' rolling 2, you are taking away 2 sand bags from your balloon. Where will you go?  
 $+3 - -2 = +5$ , because dropping weight from your balloon is taking away a negative, making your altitude more positive or higher!
- If you pull 'take away' and 'blue,' rolling 1, you are taking away 1 air from your balloon. Where will you go?
- If you pull 'add' and 'yellow,' rolling 3, your friend on a nearby hot air balloon is throwing more sandbags into your balloon. Where will you go?