Helping Children To Learn

Information Booklet for Parents

Numeracy in the Year 6

WALT AND WILF?

A Little bit of Theory..

We want to encourage our students to be actively involved in their learning because research shows that they are more motivated when they understand not just the task but the learning objective of the task. We want them to understand what they are being asked to do and what we hope they will learn in order to help them to make better decision about how they tackle a set task.

Learning is more effective if they are asked to help create the success criteria *(i.e. How will we know we've achieved this?) because they can be clear about how their work will be judged and what the teacher wants to see in the finished task. By inviting children to help create the success criteria, we are involving them in their own learning and encouraging them to evaluate their performance.*

Children need to know why they are learning something so that they can see how their work fits into the "bigger picture".

WALT** is short for **We Are Learning…

These are the learning objectives for the lesson.

WILF is short for What I'm Looking for…

These are the success criteria against which the children and teacher judge how well they are doing.

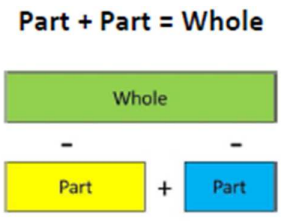
Example of WALT and WILF in Maths	
Year 6	
WALT We are learning… To solve problems involving addition and subtraction of fractions with the same or related denominator.	WILF What I'm looking for… I know to find the answer to problems involving addition and subtraction of fractions with the same or related denominator.

You can help by asking your child "**What did you learn today?"** rather than

Problem Solving Strategies Taught Across Year 6			
Term 1	***Term 2***	***Term 3***	***Term 4***
Problem solving with graphs MADt - (multiplication and division triangle)	Patterns Focus on parts	MADt — (multiplication and division triangle) Part-Part-Whole	Patterns Focus on parts

Part-Part-Whole

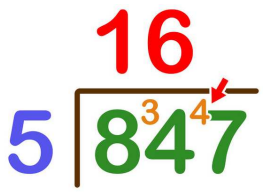
All addition and subtraction problems can be represented using the Part-Part-Whole Model . The Part-Part-Whole strategy enables students to identify the correct operation and represent the situation using the appropriate mathematical numbers and symbols**.**



This strategy is useful when.....

Short Division

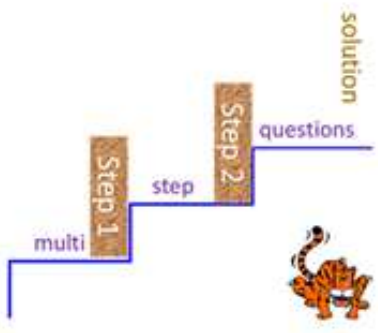
Short division is similar to long division, but it involves less written work and more mental arithmetic. The general method for both short and long division is the same, but in short division you write down less of your work, doing the simple subtraction and multiplication mentally. To understand short division, you must have mastered the basic skills of subtraction and multiplication. Short division is ideal when the divisor, the number you are dividing into another number, is less than ten.



The Multi Step Strategy

The Multi Step Strategy is useful for:

- Multi step problems
- Identifying the order of the steps
- Ensuring order of operations is maintained
- Representing a multi step problem as a single equation



Tables – Gather, organise and plan

We use tables to gather data

Our Favourite Fast Food—Room 5		
Food	**Tally**	**Frequency**
Pizza		
Chinese		
Hamburgers		
Chicken		

We use tables to organise lists

Name	Monday	Tuesday	Wednesday
Fiona	football	hoops	tennis gear
Paul	hoops	tennis gear	football
Jade	tennis gear	football	hoops

We use tables to plan and evaluate events

Monday to Friday

Comes from Station	am	am	NTG am	SHC am	NTG am	SHC am
Bowen Hills	4:41	5:11	5:26	5:41	5:56	6:11
Fortitude Valley	4:43	5:13	5:28	5:43	5:58	6:13
Central arrive	**4:46**	**5:16**	**5:31**	**5:46**	**6:01**	**6:16**
Central depart	**4:47**	**5:17**	**5:32**	**5:47**	**6:02**	**6:17**
Roma Street	4:50	5:20	5:35	5:50	6:05	6:20
South Brisbane	4:55	5:25	5:40	5:55	6:10	6:25
South Bank	4:57	5:27	5:42	5:57	6:12	6:27
Park Road	**5:00**	**5:30**	**5:45**	**6:00**	**6:15**	**6:30**
Buranda	5:02	5:32	5:47	6:02	6:17	6:32
Coorparoo	5:04	5:34	5:49	6:04	6:19	6:34

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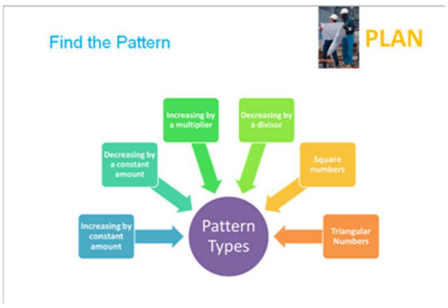
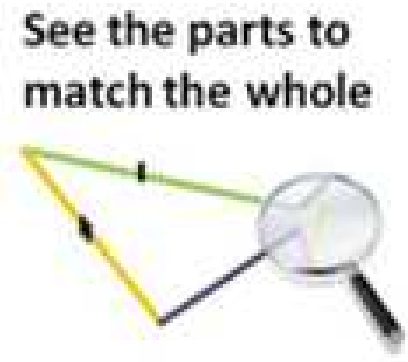
Patterns

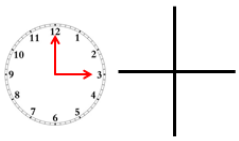
Look at a series of objects, colours or numbers to see if you can find a pattern. The pattern should repeat and may not always be obvious.



Focus on Parts
Analyse the component parts that form the object - their shape, size and placement, considering how the components fit and hold together.



Benchmark - Angles
Students are frequently required to compare or classify angles. Significant benchmark angles are 90°, 180° and 270°.

Concrete Representation	Semi-Abstract	Abstract
		
Students can be provided with a transparency to overlay on the angle they are comparing	*Students sketch reference angles onto angle they are comparing*	*Students visualise benchmark angles on the angle they are comparing*

Benchmark - Time/Location

When calculating elapsed time it is useful for students to benchmark to the next

- hour
- half hour
- quarter hour

Or

- noon
- midnight

Concrete Representation	Semi-Abstract	Abstract
		
Students can be provided with a clock face to skip count time	*Students represent time on a number line*	*Students visualise benchmark angles on the angle they are comparing*

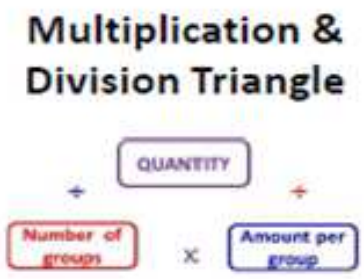
NUMBER FACTS

Students will develop fluency and confidence with numbers and calculations by saying number sequences.. The strategies covered in Year 4 are:

- Doubles (extension)
- Near Doubles
- Rainbow Facts (extension)
- Count on 1,2, 3
- Add zero
- Add 10
- Add 100
- Count back 1, 2, 3
- Take zero
- Take 10
- Take 100
- Timetables to 12

MADt—Multiplication and Division Triangle

Fact triangles are an effective device to memorise because they emphasise fact families.



WARMUPS

Goal: Warmups are designed to promote fluency with core skills in a variety of contexts (to move core curriculum content from short term memory to long term memory).

Usually delivered at the start of a Maths block. A typical numeracy warmup may include:

- Number facts
- Times tables
- Counting
- Four processes
- Place Value
- Rules, formulae
- Maths vocabulary
- Applications on concepts/skills
- Selection of previous work covered

Concepts taught across Year 6- Australian Curriculum

Term 1

Number and place value

- Identify and describe properties of prime and composite numbers
- select and apply mental and written strategies to problems
- involving all four operations

Fractions and decimals -

- Order and compare fractions with related denominators
- add and subtract fractions with related denominators
- calculate the fraction of a given quantity and solve problems
- involving the addition and subtraction of fractions

Money and financial mathematics

- investigate and calculate percentage discounts of 10%, 25% and
- 50% on sale items

Using units of measurement

- solve problems involving the comparison of lengths and areas
- interpret and use timetables

Chance

- represent the probability of outcomes as a fraction or decimal and conduct chance experiments

Data representation and interpretation

- Revise different types of data displays
- interpret data displays
- investigate the similarities and differences between different data displays, identify the purpose and use of different displays
- identify the difference between categorical and numerical data.

Concepts taught across Year 6 - Australian Curriculum

Term 2

Number and place value

- select and apply mental and written strategies and Digital Technologies to solve problems involving multiplication and division with whole numbers, and identify
- describe and continue square and triangular numbers

Fractions and decimals

- apply mental and written strategies to add and subtract decimals,
- solve problems involving decimals
- make generalisations about multiplying whole numbers and decimals by 10, 100 and 1 000
- apply mental and written strategies to multiply decimals by one-digit whole numbers
- locate, order and compare fractions with related denominators and locate them on a number line

Patterns and algebra -

- continue and create sequences involving whole numbers and decimals,
- describe the rule used to create these sequences
- explore the use of order of operations to perform calculations.

Using units of measurement

- make connections between volume and capacity

Shape

- problem solve and reason to create nets and construct models of simple prisms and pyramids

Geometric reasoning

- make generalisations about angles on a straight line
- angles at a point and vertically opposite angles
- and use these generalisations to find unknown angles

Concepts taught across Year 6 - Australian Curriculum

Term 3

Number and place value

- identify and describe properties of prime, composite, square and triangular numbers
- multiply and divide using written methods including a standard algorithm
- solve problems involving all four operations with whole numbers
- compare and order positive and negative integers

Fractions and decimals

- add and subtract fractions with related denominators
- calculate a fraction of a quantity, multiply and divide decimals by powers of ten
- add and subtract decimals
- divide numbers that result in decimal remainders and solve
- problems involving fractions and decimals

Money and financial mathematics

- connect decimals, fractions and percentage
- calculate percentages
- calculate discounts of 10%, 25% and 50% on sale items

Patterns and algebra

- continue and create sequences involving whole numbers fractions and decimals
- describe the rule used to create the sequence and apply the order of operations to assist calculations

Using units of measurement

- connect decimals to the metric system
- convert between units of measure
- solve problems involving length and area and connect volume and capacity
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Location and transformation

- identify the four quadrants on a Cartesian plane
- plot and read points in all four quadrants
- describe combinations of translations, reflections and rotations

Concepts taught across Year 6 - Australian Curriculum

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Concepts taught across Year 6 - Australian Curriculum

Term 4

Number and place value

- solve integer problems
- solve problems using the order of operations
- solve multiplication and division problems using a written algorithm.

Fractions and decimals

- add, subtract and multiply decimals
- divide decimals by whole numbers
- calculate a fraction of a quantity and percentage discount
- compare and evaluate shopping options

Patterns and algebra

- write a rule to describe a pattern
- apply the rule to find the value of unknown terms
- plot coordinates in all four quadrants

Location and transformation

- apply translations, reflections and rotations to create symmetrical shapes

Geometric reasoning

- measure angles, apply generalisations about angles on a straight line
- angles at a point and vertically opposite angles and apply in real-life
- contexts

Chance

- conduct chance experiments
- record data in a frequency table
- calculate relative frequency
- write probability as a fraction
- decimal or percent
- explore the effect of large trials on results
- compare observed and expected frequencies
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Data representation and interpretation

- compare primary and secondary data
- source secondary data
- explore data displays in the media
- identify how displays can be misleading

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