MATHEMATICS WORKSHOP

Poulton Lancelyn Primary School

EYFS FRAMEWORK

Educational Programme

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically.

- Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.
- By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.

EYFS FRAMEWORK

- In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics including shape, space and measures.

- It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, ‘have a go’, talk to adults and peers about what they notice and not be afraid to make mistakes.

EYFS FRAMEWORK - ELG

Number

Children at the expected level of development will:

- Have a deep understanding of number to 10, including the composition of each number
- Subitise (recognise quantities without counting) up to 5
- Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.

EYFS FRAMEWORK - ELG

Numerical Patterns

Children at the expected level of development will:

- Verbally count beyond 20, recognising the pattern of the counting system
- Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity
- Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally.

6 KEY AREAS OF EARLY MATHEMATICS LEARNING

1. Cardinality and Counting

Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents

2. Comparison

Understanding that comparing numbers involves knowing which numbers are worth more or less than each other

3. Composition

Understanding that one number can be made up from (composed from) two or more smaller numbers

4. Pattern

Looking for and finding patterns helps children notice and understand mathematical relationships

5. Shape and Space

Understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking

6. Measures

Comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later

DEVELOPING MATHEMATICAL FLUENCY

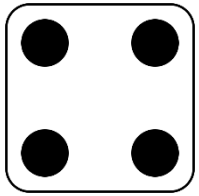
For children to become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to solve problems. Not only this, but children will be able to talk about the reasoning behind their methods and the steps they have taken.

Fluency means that children can:

Be Efficient
Choosing the most efficient strategy to complete a problem.
Be Accurate
Recall an increasing amount of number facts such as: two numbers that make 5; two numbers that make 8; two numbers that make 10.
Be Flexible
They know how to solve a problem and gradually realise that there may be different ways to solve the same problem.

SUBITISING

Subitising is **when you are able to look at a group of objects and realise how many there are without counting**. This only works with small groups of numbers, as we can only subitise up to 5 things.



COMPOSITION AND NUMBER BONDS

Beyond five, other mental strategies come into play for identifying the number of items in a group without counting them individually. These require some understanding of grouping and basic mathematics. For instance, when we see six dots on a die, we actually break this down into two groups of three which, when combined, gives us six. This is known as conceptual subitising and is an essential element for developing mathematical skills.

What can you see?

Number bonds e.g.

2+4

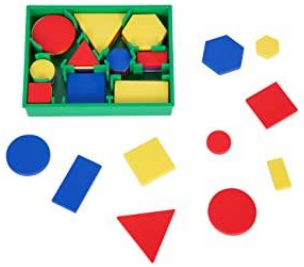
3+3

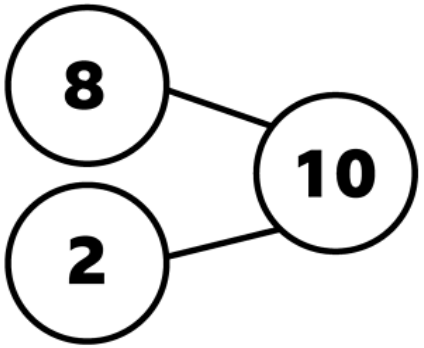
Children may begin to break this down further –

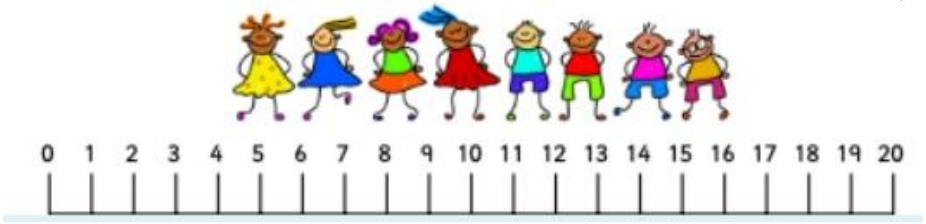
2+2+2

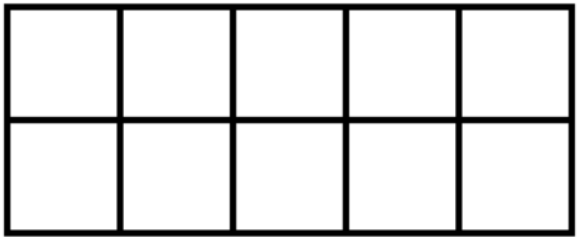
1+2+3

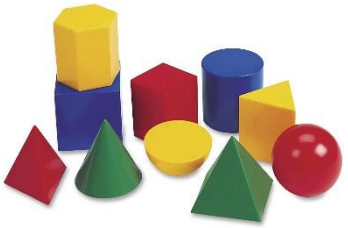
RESOURCES



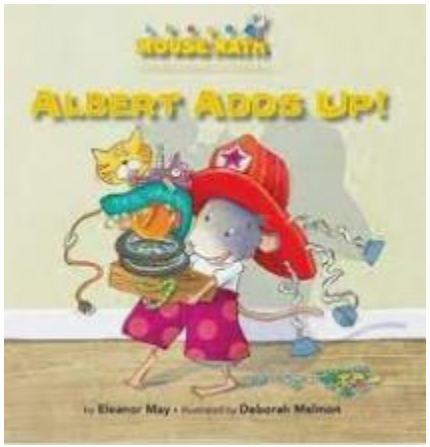


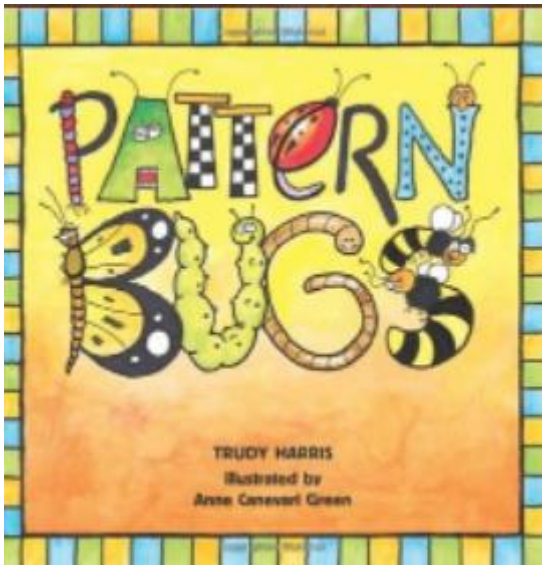


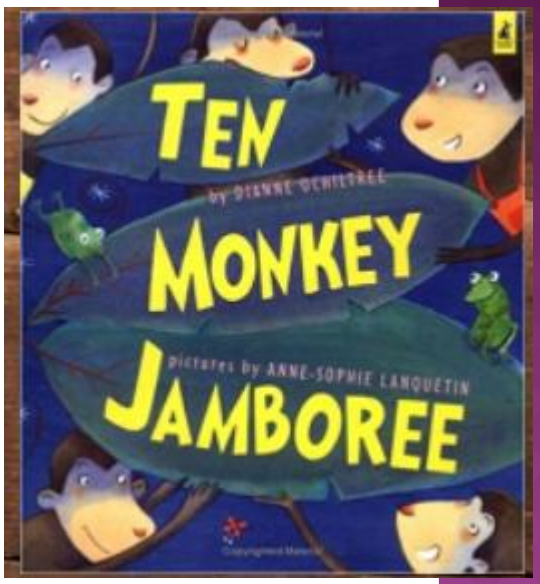




MATHS THROUGH STORIES







SONGS AND RHYMES

Number nursery rhymes are a classroom staple in Early Years education. They're an accessible and engaging method of establishing basic maths knowledge in young children. Rhymes like 1,2,3,4,5, Once I Caught a Fish Alive, demonstrate how to identify numbers and arrange them into the correct order. And they do this in a fun, informal way that doesn't confuse or overwhelm young children.

https://www.bbc.co.uk/teach/school-radio/nursery-rhymes-counting-songs/zn67kmn

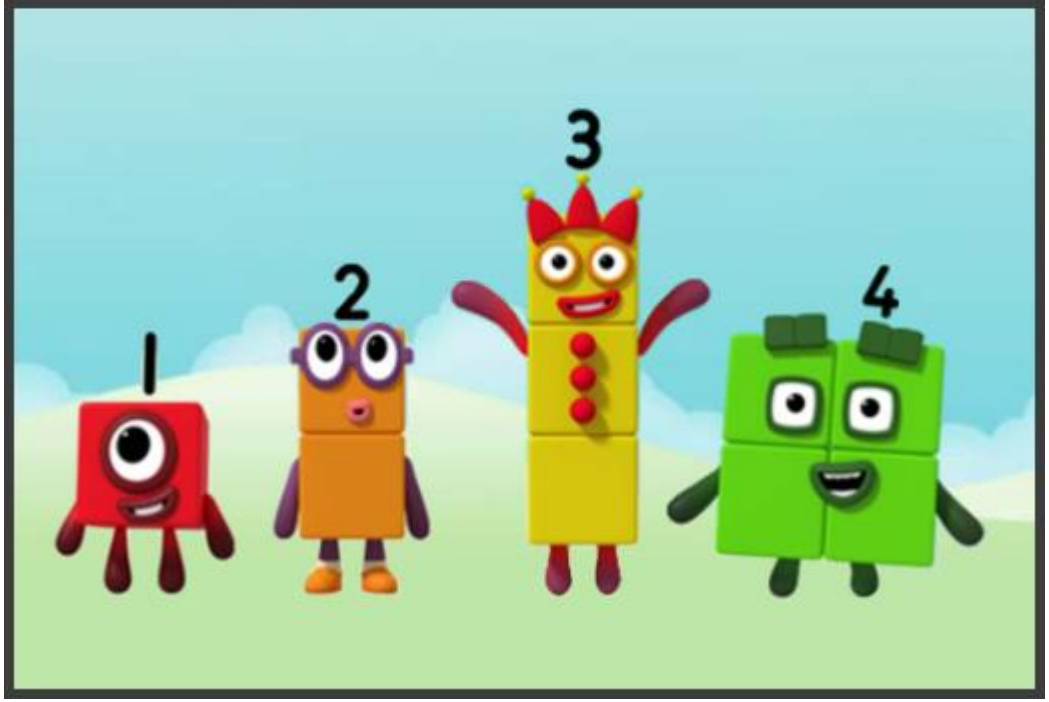
https://www.youtube.com/watch?v=V_lgJgBbqWE

NUMBERBLOCKS

NCETM
NATIONAL CENTRE FOR EXCELLENCE IN THE TEACHING OF MATHEMATICS

NUMBERBLOCKS AT HOME

Resources to accompany the CBeebies Numberblocks series, designed for parents to use at home with children



EVERYDAY MATHS AT HOME

Games
Play games which relate to number order, addition and subtraction, such as hopscotch, skittles and target games. Also play games like snap, lotto and dice games.

Walking to School
On the way to school, you could support your child's developing understanding of abstraction by counting things that are not objects, such as hops, jumps, clicks or claps. Also look at the environment around you and spot shapes e.g. windows, pavements. See how many squares, rectangles, round shapes and cylinders you can spot. Which did you see the most of? Choose a shape for the week e.g. a square. How many of these can your child spot on the way to school or setting? (You could include in the home as well). Count the leaves, cracks in the pavements. Look at door numbers of your friends, relatives and where you live – what does it say? Can they spot their favourite number or their age number?

In the Bath
Experiment with the sizes of containers by encouraging them to pour from one to another e.g. a small one to a large one or a large one to a small one. (This will help your child to understand things they will learn later in maths such as division and multiplication).

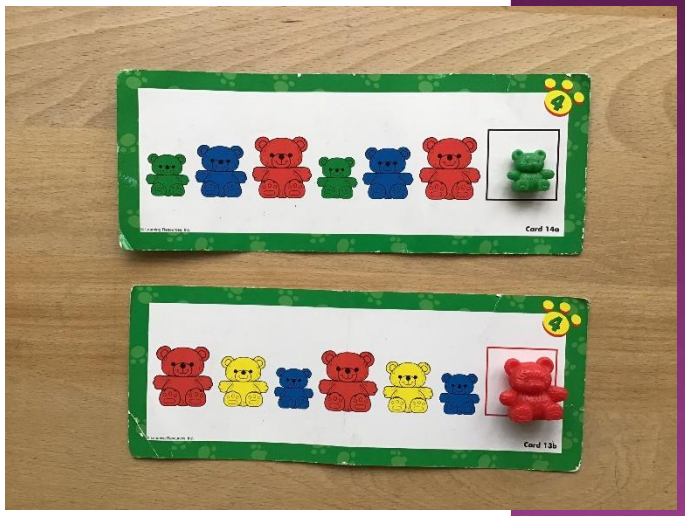
In the Kitchen
Use number language, e.g. 'one', 'two', 'three', 'lots', 'fewer', 'hundreds', 'how many?' and 'count' objects.
Demonstrate the language for shape, position and measures in discussions, e.g. 'sphere', 'shape', 'box', 'in', 'on', 'inside', 'under', 'long, longer', 'longest', 'short', shorter', 'shortest', 'heavy', 'light', 'full' and 'empty'.
Play 'Spot the shape' with your children, naming the shapes of the tins and packets and where they are.
Choose two tins or packets from your cupboard. Ask your child to hold one in each hand and tell you which is heavier and which is lighter. If they are correct, they keep the lighter one. Then choose another item, try to find one that is lighter still. Get them to compare again, and then switch between choosing heavier items and lighter ones.

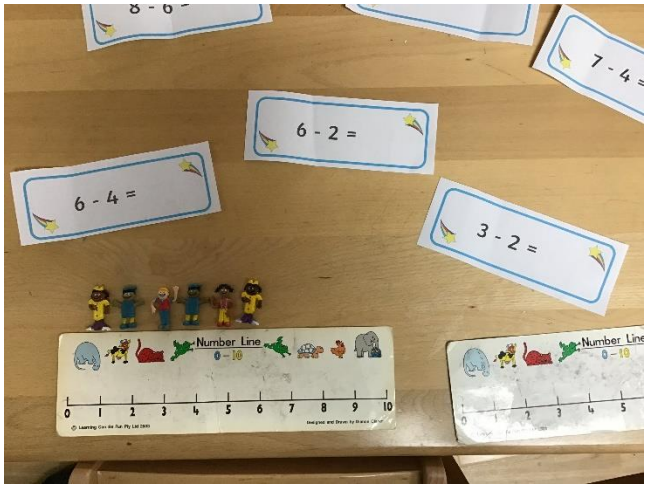
What's the time?
Talk about the passing of time – seasons, months of the year, days of the week as well as recurring significant events and celebrations within their lives. Look at an analogue clock and make a point of showing them o'clock and significant times of the day e.g. 'We are going to school at half past eight and this is what half past eight looks like'.

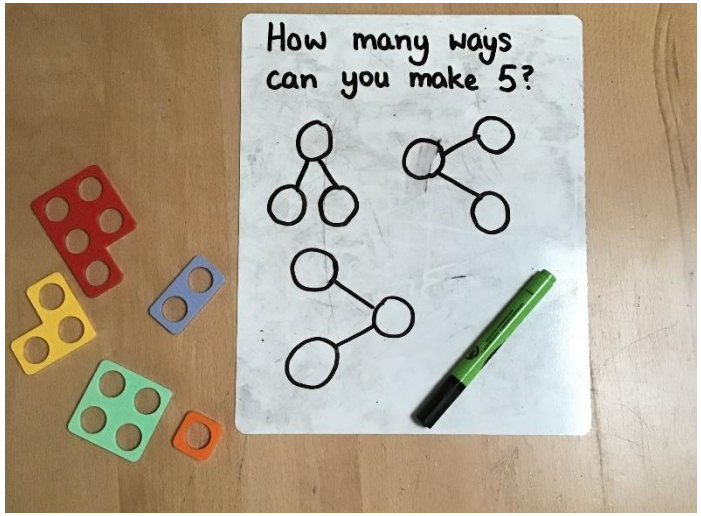
Going Shopping
Choose 5 carrots, 6 apples from the basket. Can you spot one red fruit? Find two yellow bananas. How many rolls are in this pack?

CLASSROOM ENVIRONMENT

ACTIVITY EXAMPLES





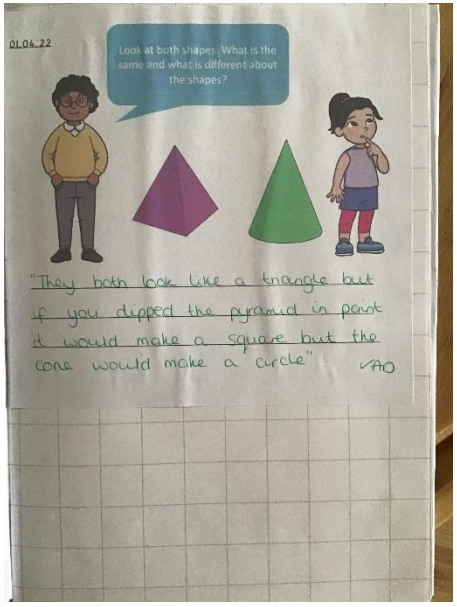


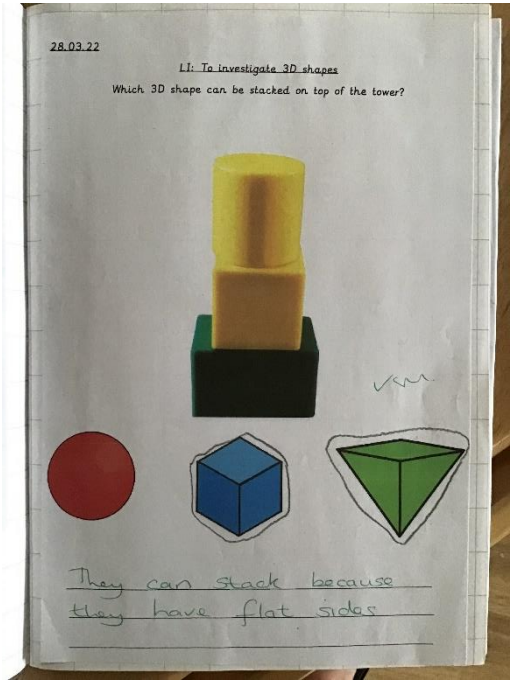
F2 - LTP

	W1	W2	W3	W4 - Number	W5 - Number	W6 - Number	W7 - Number	W8 - Number
A1	Baseline	Baseline	Baseline	Matching	Sorting	Comparing amounts	Comparing size, mass and capacity	Representing 1, 2 and 3
	W1 – Number	W2 – Number Geometry	W3 – Number Geometry	W4 – Number Geometry	W5 – Operations Geometry	W6 – Measure	W7 -	
A2	Composition 1, 2 and 3 Positional language	Comparing 1,2 and 3 Circles and triangles	Composition of 4 Four sided shapes	Composition of 5 Pentagons	One more and one less	Language related to time (day/night)	Consolidation	
	W1 – Number	W2 - Measurement	W3 – Number	W4 – Operations	W5 – Measure	W6 – Measure	W7 - Number	
Sp1	Representing 0 Composition and comparison of numbers to 5	Comparing mass and capacity	Representing and composition of numbers 6, 7 and 8	Making pairs Combining two groups	Length and height	Time	Representing and composition of numbers 9 and 10	
	W1 – Number	W2 – Number	W3 – Number	W4 – Geometry	W5 - Geometry	W6 - Consolidation (Operations)		
Sp2	Comparing numbers to 10	Number bonds to 10	One more and one less Combining two groups	Patterns	2D Shapes 3D Shapes	Composition of numbers to 10 Number bonds		
	W1 – Number	W2 - Number	W3 – Operations	W4 - Operations	W5 - Operations			
Su1	Making numbers beyond 10	Counting patterns beyond 10 Odd and even	Subtraction	Adding more	Doubling			
	W1 – Operations	W2 - Geometry	W3 - Geometry	W4 - Geometry	W5 – Consolidation	W6 – Consolidation		
Su 2	Sharing and grouping	Spatial reasoning	Spatial reasoning	Patterns and relationships Spatial reasoning Operations	Consolidation	Consolidation		

USING AND APPLYING

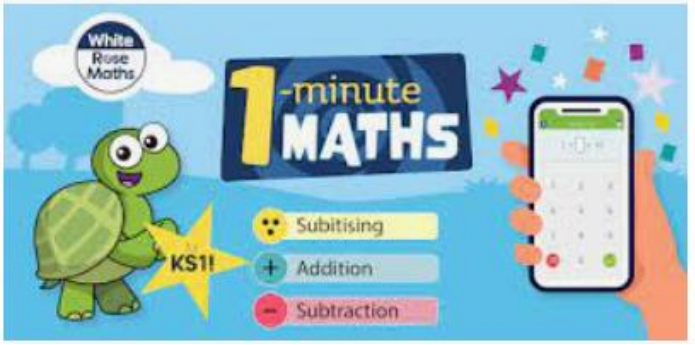
- We use reasoning and problem solving questions within lessons to allow children to apply their understanding. Children are encouraged to explain and prove their understanding verbally.

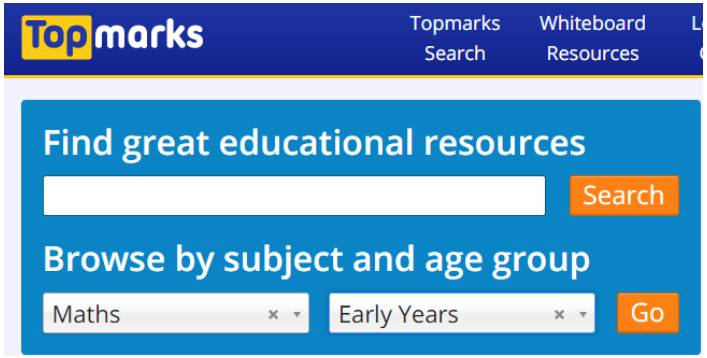


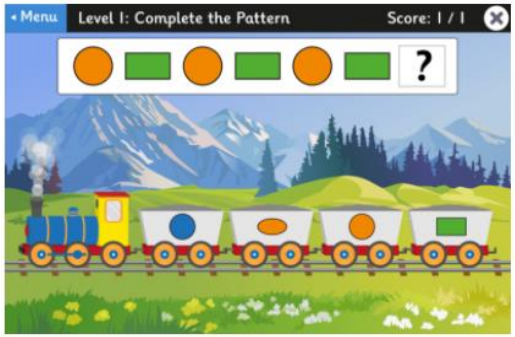


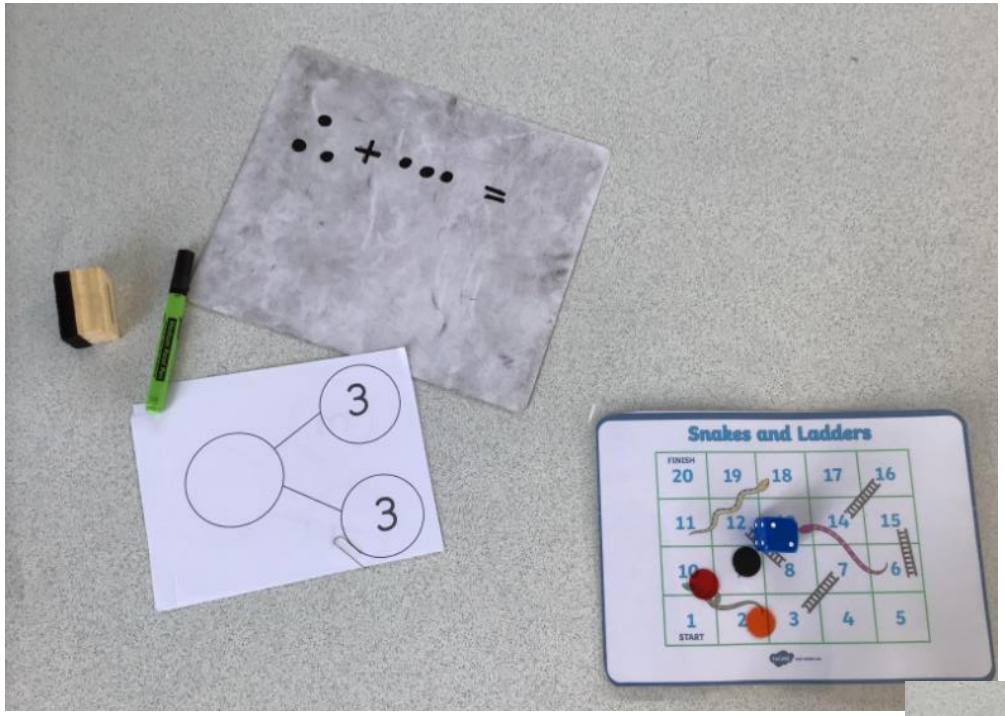
HOME HELP

- Seesaw homework
- Mathseeds
- Everyday “real life” maths
- White Rose Maths 1 minute maths)
- Topmarks maths games
- Time
- **Number bonds**
- Doubling and halving
- Subitising
- Board games and shape games
- Numberblocks and Numberjacks








3
3
Snakes and Ladders
FINISH
20 19 18 17 16
11 12 14 15
10 8 7 6
1 2 3 4 5
START

How many different ways can you make 10?
7 - 4 =
Number Line
0 - 10