MATHEMATICS AT

OVERCHURCH INFANT SCHOOL

J.Wilson and A.Cromby

JUNE 2026

Early number sense

For many people the subject of Mathematics has negative connotations – memories of experiences that want to be forgotten or difficult lessons that have resulted in feelings of confusion or inadequacy. Adults are often heard saying things such as 'I can't do Maths' or 'I hated Maths'. The message that these phrases give to our children is that Maths is something too difficult and that they may also not be able to 'do' it. In reality, Maths is something that everyone can enjoy and a subject that everyone can learn. At Overchurch Infants (like many schools in the UK) we use the government recommended White Rose Maths scheme. It is based on years of research from countries such as Singapore. Their strap line is 'everyone can do maths'.

Everyone can

Together, we're building a whole new culture of deep understanding, confidence and competence in maths – a culture that produces strong, secure learning and real progress. No matter what their starting points, we help teachers and learners everywhere to achieve excellence.

Our mantra is simple:

EVERYONE CAN DO MATHS: EVERYONE CAN!

As we prove this to pupils and teachers alike, we're shaping assured, happy and resilient mathematicians who relish the challenge of maths. They become independent, reflective thinkers, whose skills not only liberate them in maths but also support them across the curriculum.

We're committed to working together to be and give the very best, and to make a difference to every pupil.

White Rose Maths

Early number sense

In Maths it is believed that children need to reach a level of mastery, by which they have achieved a deep understanding of a concept. As such they can use their knowledge to explain to others and to use it to solve other problems. In the words of the NCETM (National Centre for Excellence in the Teaching of Mathematics)

Mastering maths means pupils acquiring a deep, long-term, secure and adaptable understanding of the subject.

The phrase 'teaching for mastery' describes the elements of classroom practice and school organisation that combine to give pupils the best chances of mastering maths.

Achieving mastery means acquiring a solid enough understanding of the maths that's been taught to enable pupils to move on to more advanced material.

As such, in line with National Curriculum guidance, a mastery approach ensures that children are not rushed through concepts and knowledge e.g. jumping to larger numbers. Rather they are shown how to explore numbers and concepts carefully to gain a thorough understanding- an understanding that can then be used across other concepts. For example – it is not enough to know that a 5 is a 5. To fully understand what 5 is, a child needs to explore and see that it can be 5+0 or 0+5, it can also be 4+1 or 1+4, 2+3 or 3+2. In turn it can be used to subtract, multiply and divide to give knowledge that way. It can then be something that is added on to 10s numbers to create 15, 25, 35 etc. The list of ongoing concepts is huge, but without that initial understanding of the 'fiveness of five' children will not have the secure foundations by which to progress.

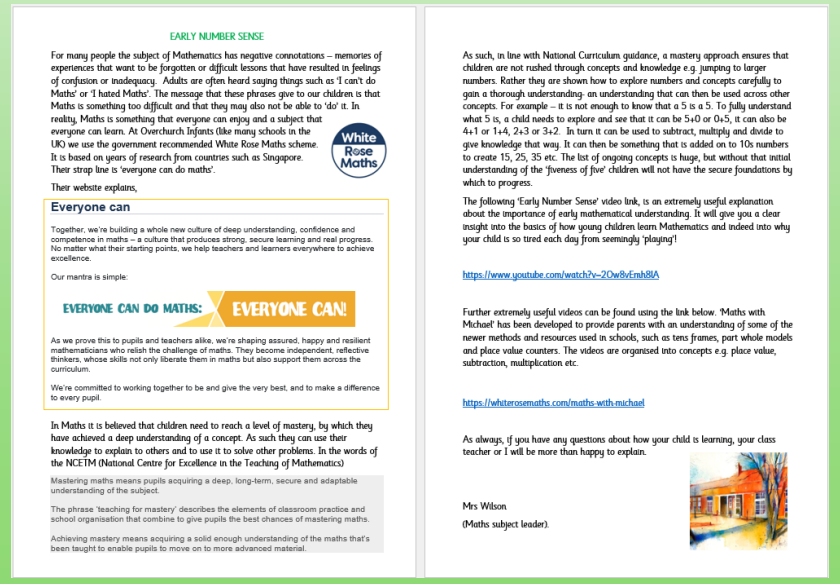
Early number sense

The following 'Early Number Sense' video link, is an extremely useful explanation about the importance of early mathematical understanding. It will give you a clear insight into the basics of how young children learn Mathematics and indeed into why your child is so tired each day from seemingly 'playing'!

https://www.youtube.com/watch?v=2Ow8vEmh8lA

Further extremely useful videos can be found using the link below. 'Maths with Michael' has been developed to provide parents with an understanding of some of the newer methods and resources used in schools, such as tens frames, part whole models and place value counters. The videos are organised into concepts e.g. place value, subtraction, multiplication etc.

https://whiterosemaths.com/maths-with-michael



EARLY NUMBER SENSE

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As always, if you have any questions about how your child is learning, your class teacher or I will be more than happy to explain.

Mrs Wilson

(Maths subject leader).

ELGs for Mathematics

Children at the expected level of development will:

1. Number

Children at the expected level should have a deep understanding of numbers up to 10, including composition. They are expected to subitise up to 5 and automatically recall number bonds up to 5 (including subtraction) and some bonds up to 10, along with doubles.

2. Numerical Patterns

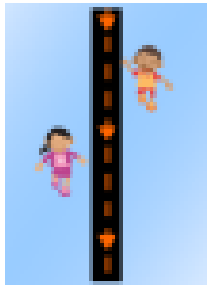
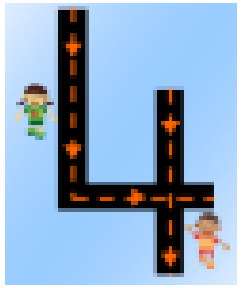
Children should be able to count verbally beyond 20 and recognize patterns in the number system. Furthermore, they should compare quantities up to 10, identifying greater than, less than, or equal to, and explore patterns like evens, odds, and doubling.

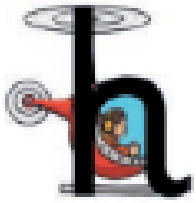
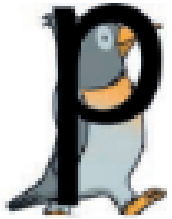
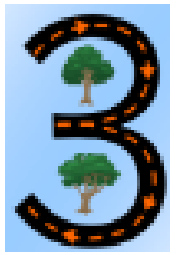
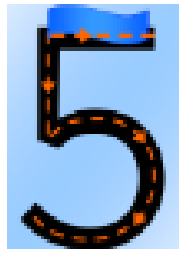
Ready To Progress Criteria for Mathematics

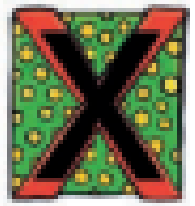
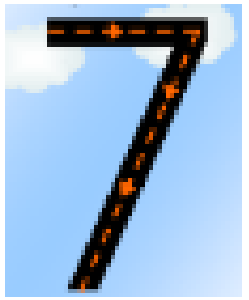
Previous Experience	Year 1
Number and Place Value	
Begin to develop a sense of the number system by verbally counting forward to and beyond 20, pausing at each multiple of 10.	**1NPV–1** Count within 100, forwards and backwards, starting with any number.
Play games that involve moving along a numbered track, and understand that larger numbers are further along the track.	**1NPV–2** Reason about the location of numbers to 20 within the linear number system, including comparing ~~using q G~~ and =
Number Facts	
Begin to experience partitioning and combining numbers within 10.	**1NF–1** Develop fluency in addition and subtraction facts within 10.
Distribute items fairly, for example, put 3 marbles in each bag. Recognise when items are distributed unfairly.	**1NF–2** Count forwards and backwards in multiples of 2, 5 and 10, up to 10 multiples, beginning with any multiple, and count forwards and backwards through the odd numbers.
Calculation	
Understand the cardinal value of number words, for example understanding that 'four' relates to 4 objects. Subitise for up to 5 items. Automatically show a given number using fingers.	**1AS–1** Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers.
Devise and record number stories, using pictures, numbers and symbols (such as arrows).	**1AS–2** Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts.
Geometry	
See, explore and discuss models of common 2D and 3D shapes with varied dimensions and presented in different orientations (for example, triangles not always presented on their base).	**1G–1** Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another.
Select, rotate and manipulate shapes for a particular purpose, for example: • rotating a cylinder so it can be used to build a tower • rotating a puzzle piece to fit in its place	**1G–2** Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations.

Writing numerals

								
Curl around the cat.	All around the octopus.	Around the astronaut's head and down.	Around the duck's body, up and down.	Around the goat's head and down under its chin.	Around the elephant's head and down the trunk.	Down the snake from head to tail.	Down the flamingo and across its wings.	Around the queen's head, down and flick.
								
			Down we go and make a loop, number six makes a hoop.	Make an s and do not wait. When it's joins up you have an eight.	Make a loop and then a line, that's the way to make a nine.			

							
Under the yo-yo and down the string.	Down the tiger and across its neck.	Under the umbrella and back to the ground.	Down the jellyfish and dot its head.	Down the lollipop stick.	Down the iguana and dot the leaf.	Start at the top, down we run, that's the way we make a one.	Down and across, down some more, that's the way to make a four.

									
Down, up and over the net.	Down, up and over the mouse's ears.	Down, up and over the helicopter.	Down, up and over the rainbow.	Down, up and around the belly.	Down, up and around the kite.	Down, up and around the penguin's head .	Around and back on the railway track, two ,two.	Around the tree, around the tree, that's the way you make a three.	Down and around then a flag on high, that's the way we make a five.

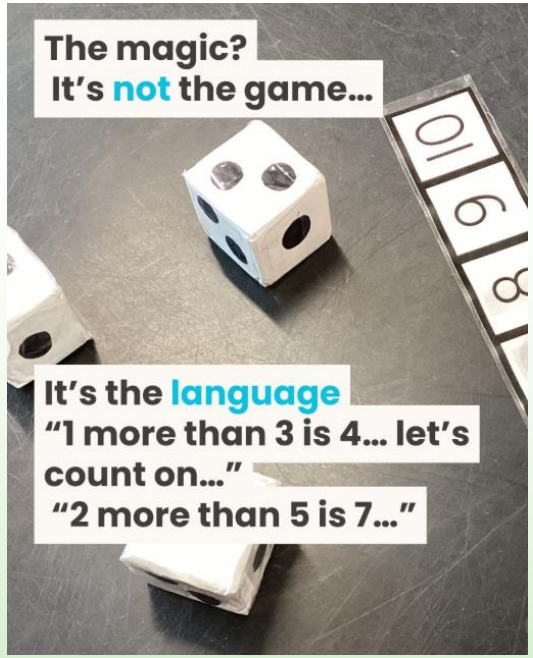
				
Down and up and down and up the waves.	Down the volcano and up.	Zig-zag down the zebra.	Across the box.	Across the sky and down from heaven, that's the way we make a seven.

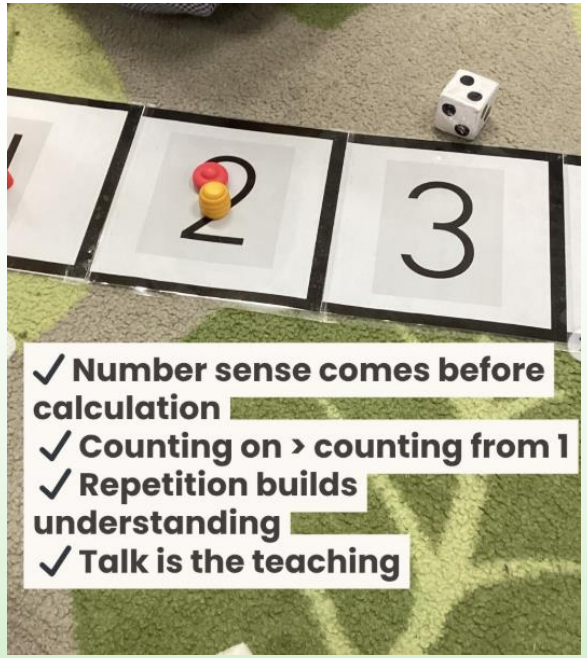
Small steps

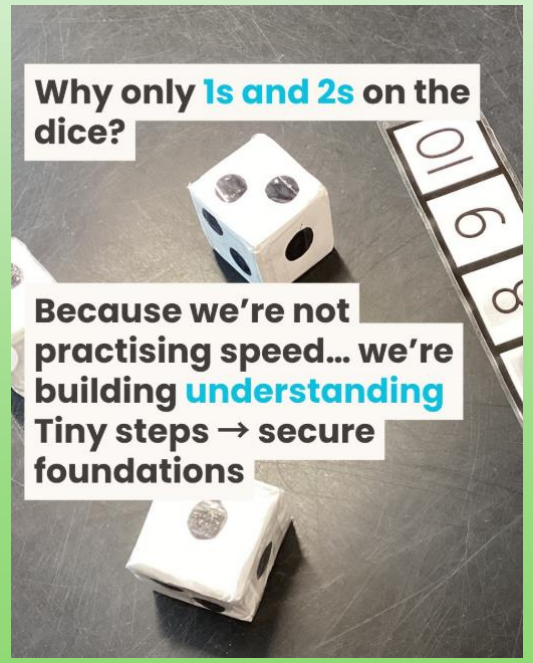
=

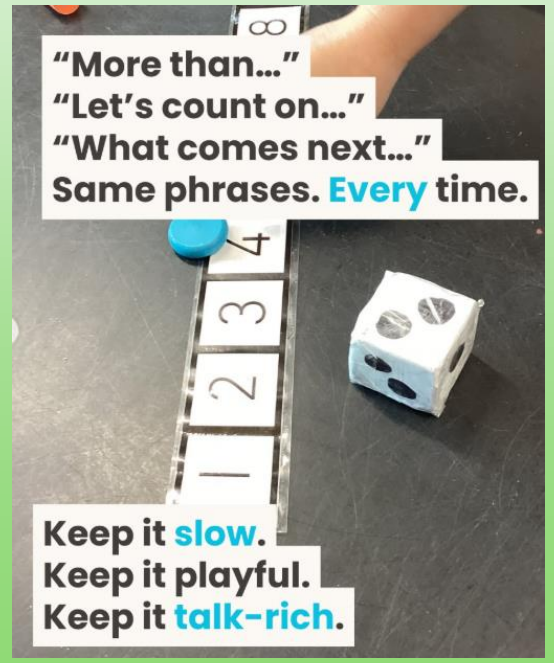
big / deep
understanding

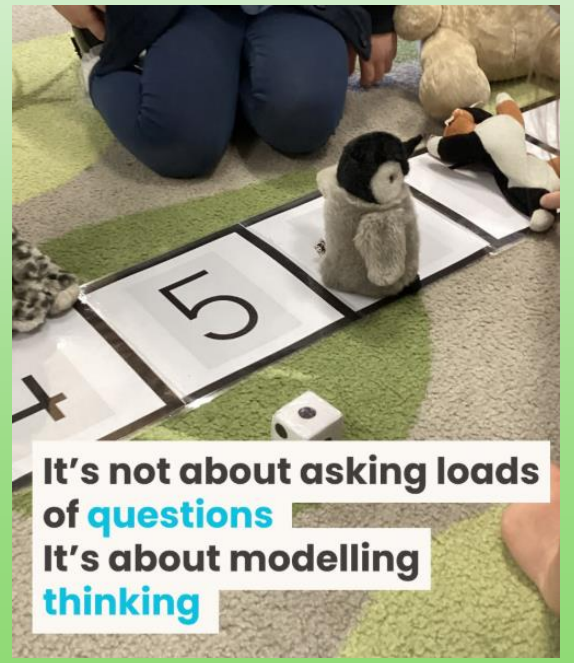

This simple number track game does everything
Children:
• start off the track
• roll 1 or 2
• move forward
• count on from where they are


The magic?
It's not the game...
It's the language
"1 more than 3 is 4... let's count on..."
"2 more than 5 is 7..."


✓ Number sense comes before calculation
✓ Counting on > counting from 1
✓ Repetition builds understanding
✓ Talk is the teaching

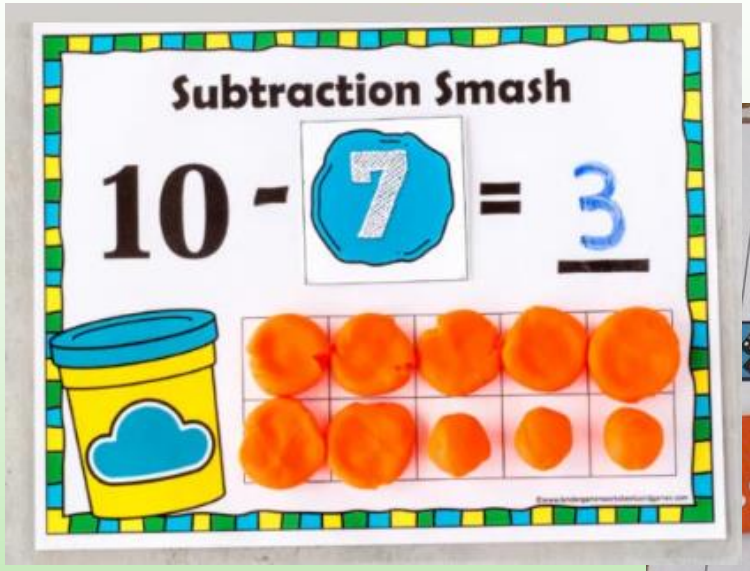

Why only 1s and 2s on the dice?
Because we're not practising speed... we're building understanding
Tiny steps → secure foundations


"More than..."
"Let's count on..."
"What comes next..."
Same phrases. Every time.
Keep it slow.
Keep it playful.
Keep it talk-rich.

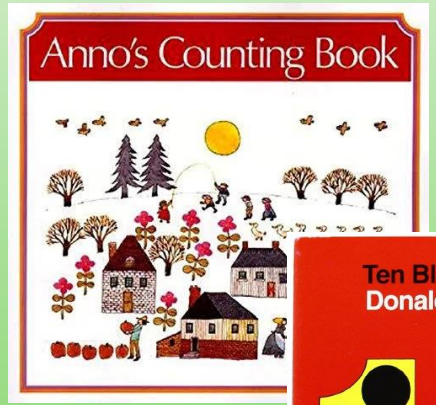

It's not about asking loads of questions
It's about modelling thinking

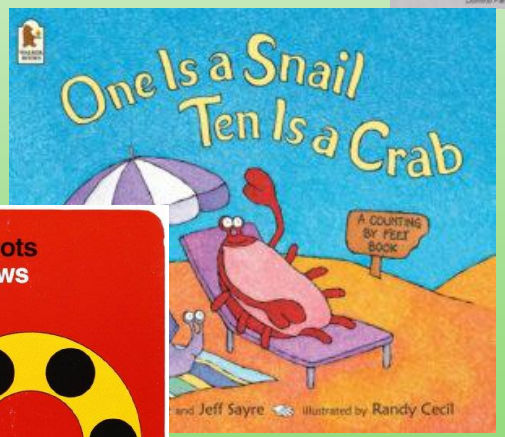
What does Mathematics look like in school?

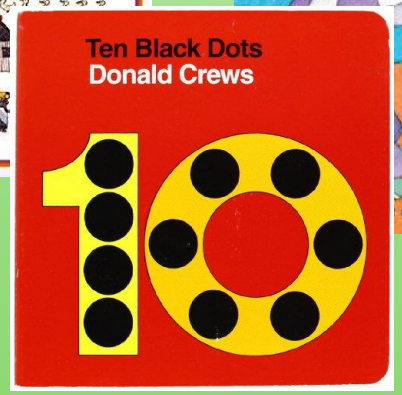
games



inside







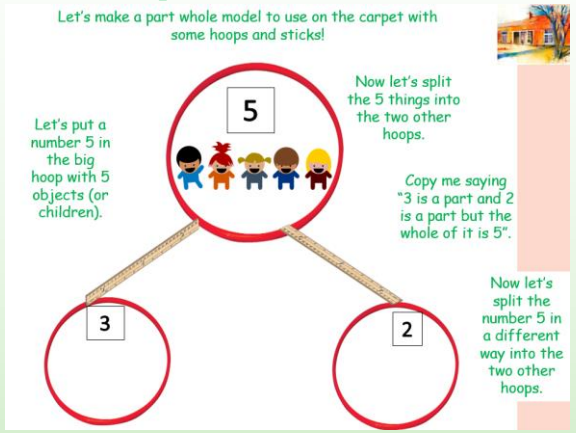
stories

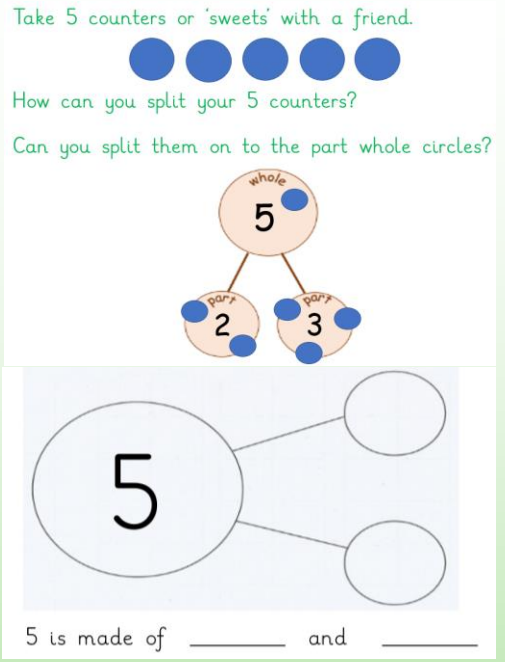
outside

What resources and representations do we use?

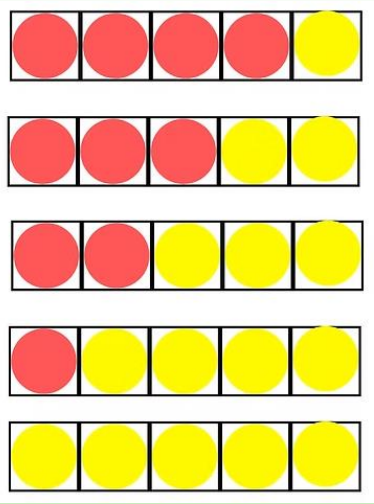
tens frames

part wholes

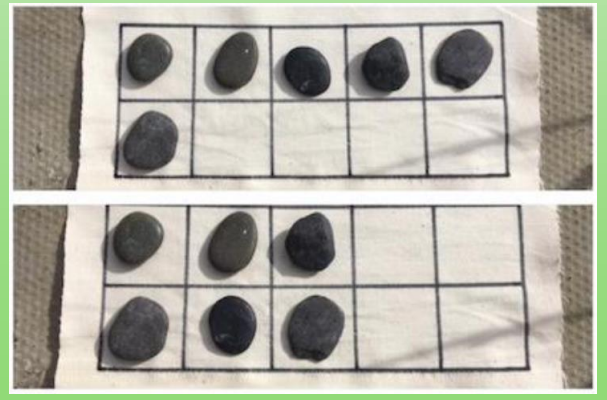




counters

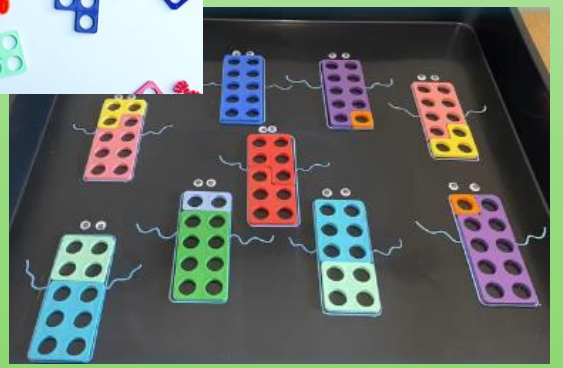


real objects



Numberblocks and lego

Numicon

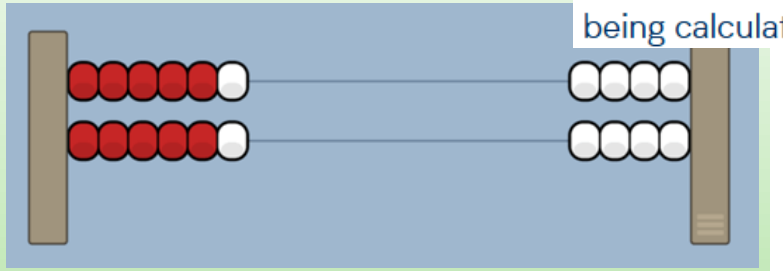


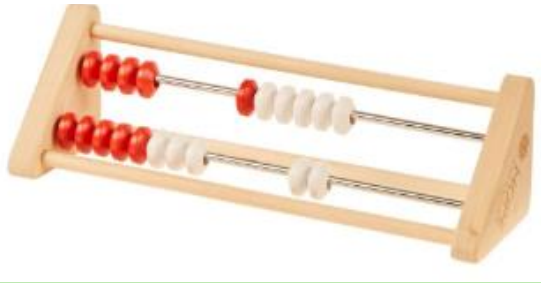
What place value resources and representations do we use in KS1?

rekenreks

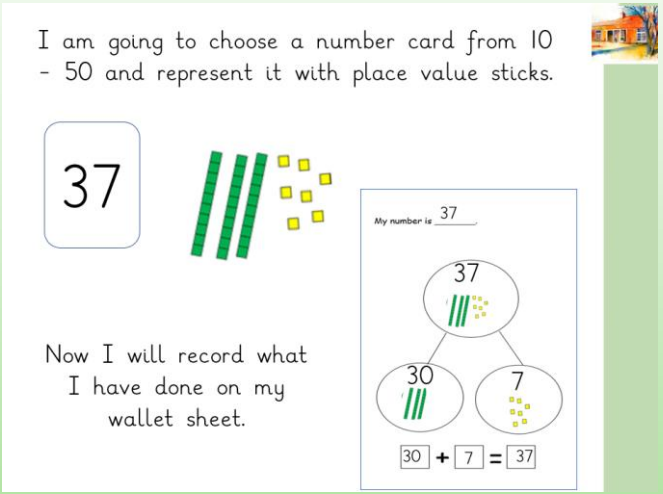
The creation of the rekenrek is attributed to Adrian Treffers at the Freudenthal Institute in the Netherlands, with the word rekenrek translating from Dutch as 'reken' meaning calculate and 'rek' meaning frame.

The primary aim of the rekenrek is not to calculate the answer to a question, but to allow the children to **see** the maths and understand what happens as an answer is being calculated.

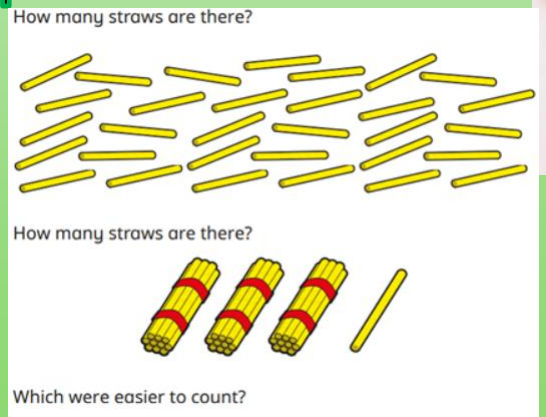




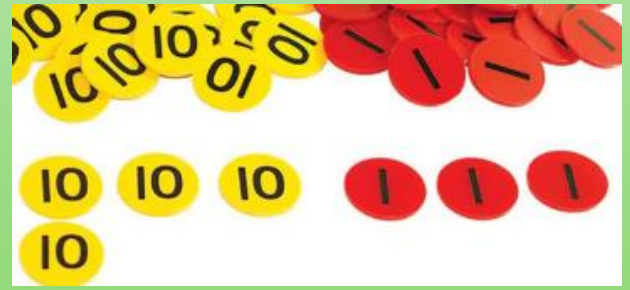
dienes / place value sticks



plastic straws



place value charts



place value counters

What shall we use to help us?

Mathematical vocabulary

Vocabulary for the week.

altogether add more

is the same as
equals total

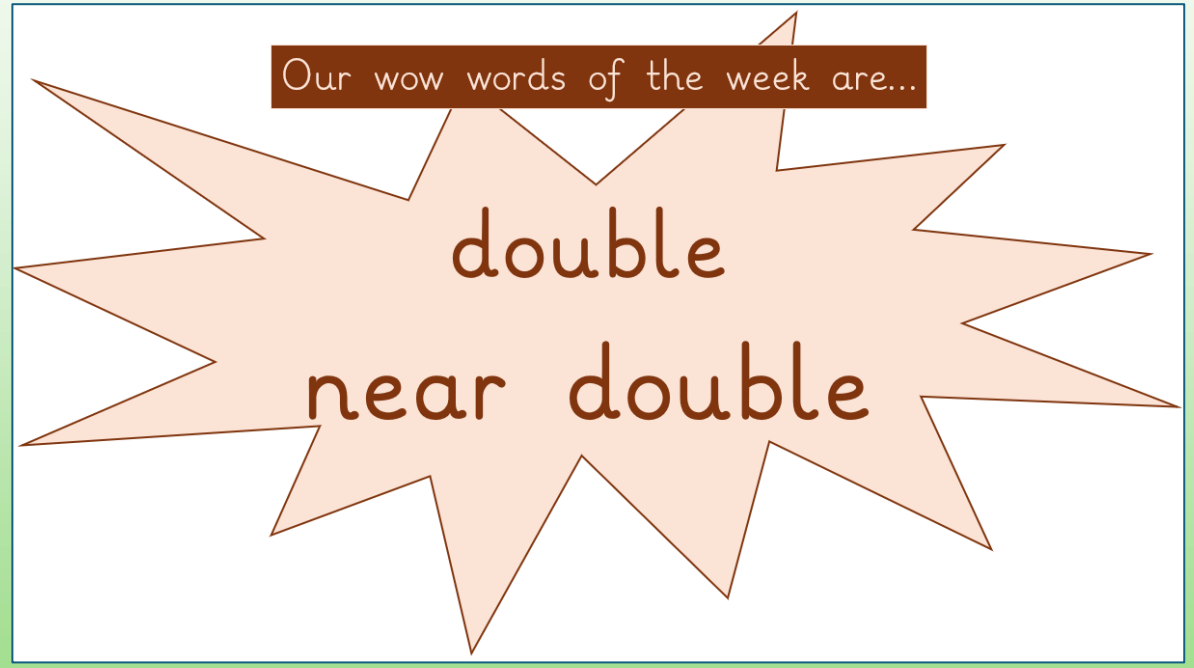
partition part whole

calculation number bond

take away less
subtract minus fewer

double

near double



YEAR 2 SPECIFIC VOCABULARY

NUMBER

1-digit number	quantity	turn
2-digit number	set	units
digit	tally	value
predict	tens	

PLACE VALUE & ORDER

column	hundred less/more	ones column	position
decrease	increase	partition	recombine
halfway between	interval(s)	pattern	tens column
higher	lower	placeholder	twenty-first
hundreds	multiples of (ten)	place value	twenty-second

ADDITION & SUBTRACTION

adding sentence/story	in total	number facts	smaller
balances/balancing	inverse	numeral	sum
column(s)	larger	part-whole model	whole tens
count back	multiple	row	

MULTIPLICATION & DIVISION

altogether	equivalent	part	times
balances	group (equally/between)	product	times table
combinations	groups of	scale up	total
divide	inverse	set	twice as big/small as
each	left over	share (equally/between)	
equal/unequal	lots of...	signs/symbols	
equation	multiplication table	split (equally/between)	

ESTIMATING

about	halfway between	round to the nearest ten
almost	less than	round up/down
greater than	nearer to	

REASON

calculate/calculation	first I need to...	mental calculation	rule(s)
complete/completing	I know this, so I know/	missing	symbol
cycle	predict/think that...	order	then I need to...
describe the pattern	it could (not) be... because...	prove	written calculation
describe the rule	link/linked	repeat/repeating	

Overchurch Infant School

F2 Maths Vocabulary

March 2025

(based on the OUP publication 'Oxford Vocabulary Framework for Maths')

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Y1 Maths Vocabulary

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Addition & Subtraction

RECEPTION

add	double	minus	subtraction
adding	how many fewer is... than...?	more	subtracting
adding more	how many left/left over?	one/two/ten less	sum
addition	how many more is... than...?	one/two/ten more	take (away)
altogether	how many more to make...?	plus	taking away
and	make	subtract	total

YEAR 1

add(ed)	difference (between)	minus	plus
addition	equals	missing number	subtract/subtracting
altogether	fact family	near doubles	subtraction
calculation	half/halve	number bonds/pairs	take away
combine/combination	how many...?	number sentence	total

YEAR 2

adding sentence/story	in total	number facts	smaller
balances/balancing	inverse	numeral	sum
column(s)	larger	part-whole model	whole tens
count back	multiple	row	

GLOSSARY OF MATHEMATICAL VOCABULARY

approximate
An approximate number or measurement is near enough the exact answer. Similar words to approximate are nearly, round about and near enough.

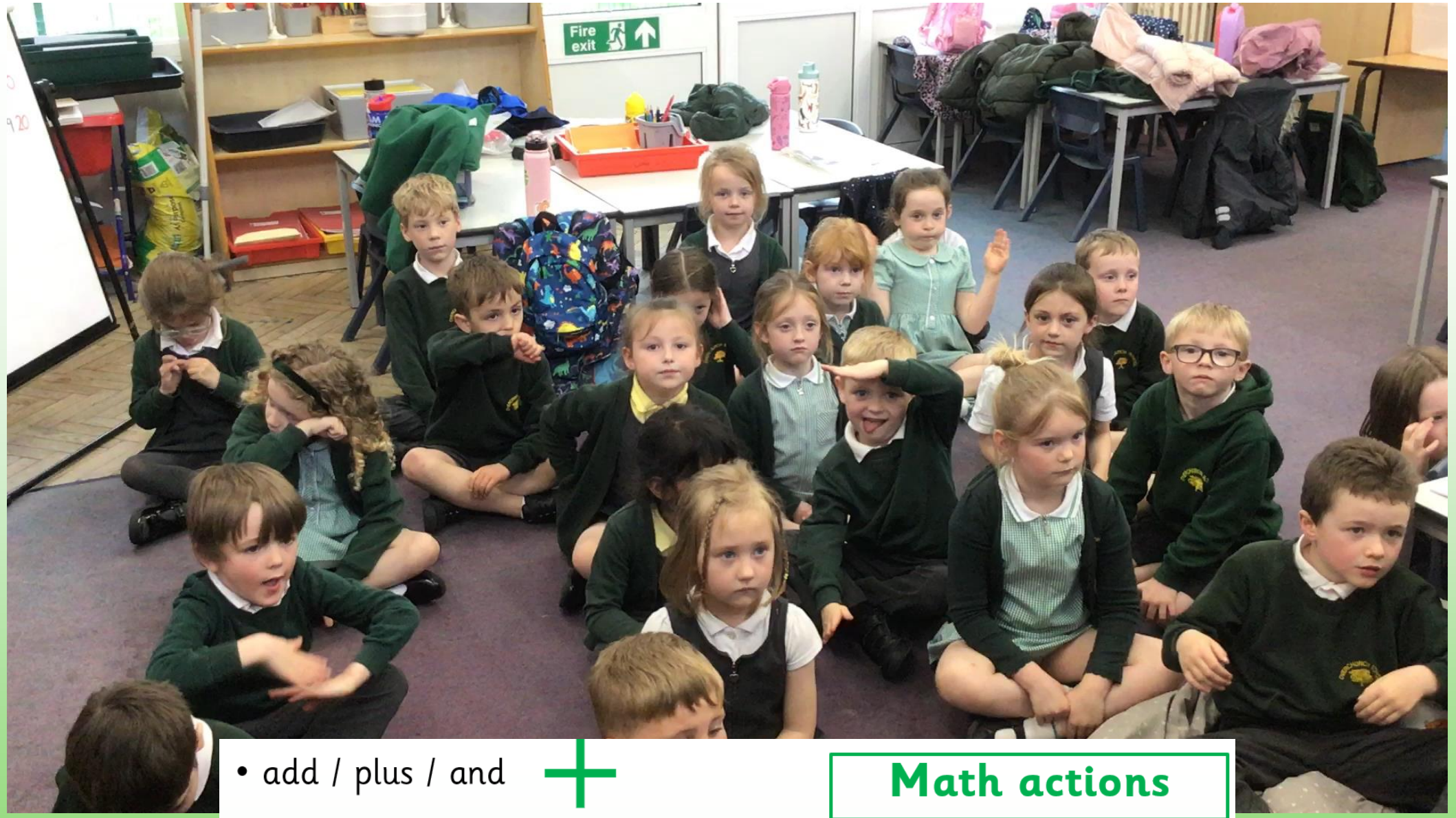
array
An array is an arrangement of numbers or objects into a rectangle. The rows and columns of an array are used to help work out totals in multiplication problems.

bar model
A representation of a problem using rectangle bars or boxes to help make sense of the problem.

digit
There are ten digits. They are 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. These digits are used to build up other numbers.

Math actions

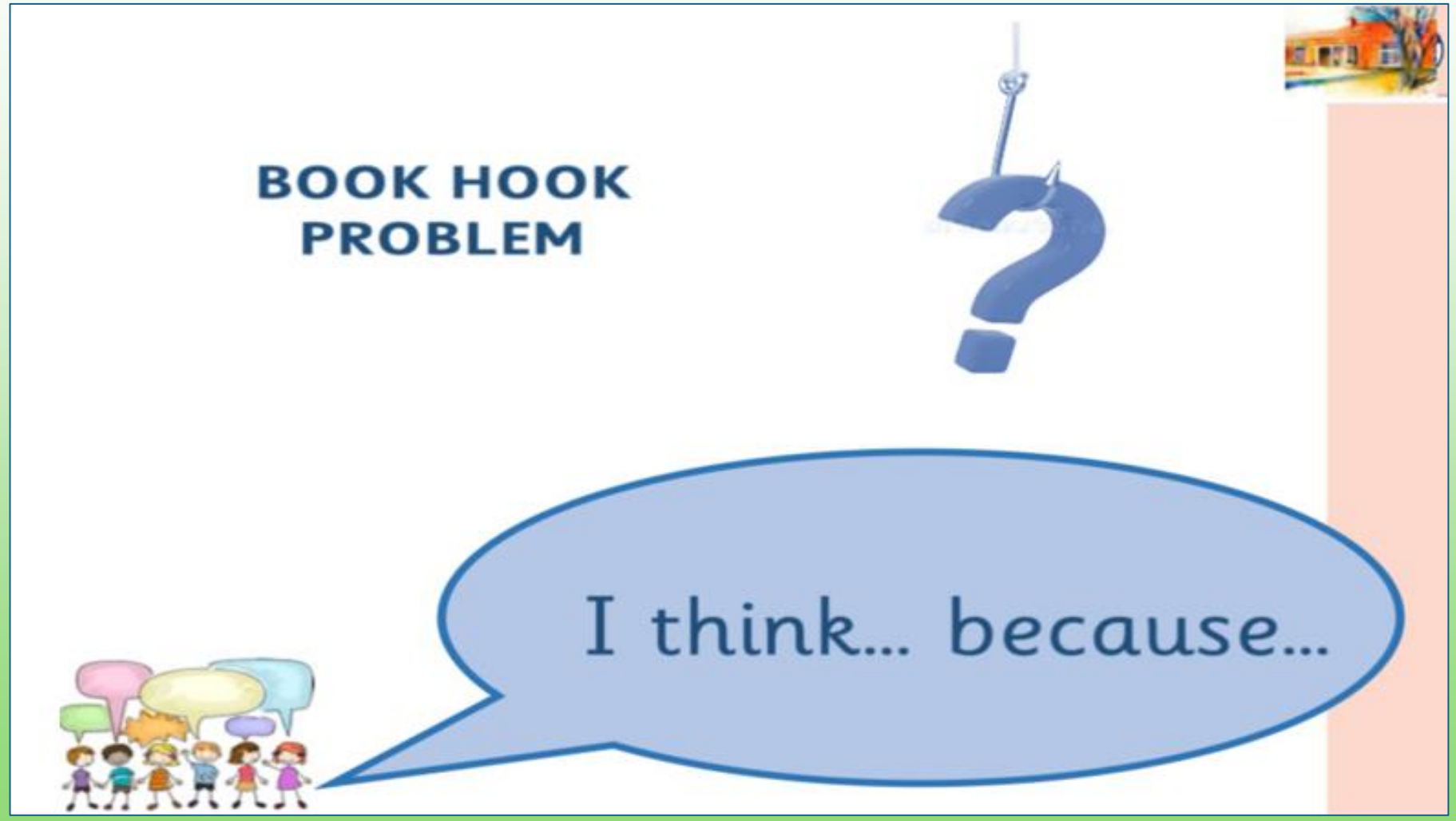
- add / plus / and +
- subtract / minus / take away −
- is the same as / is equal to / total / altogether makes =
- multiplied by / groups of / lots of / times by ×
- divided by / shared ÷
- more / greater /bigger / larger >
- less / fewer / smaller <
- greater than / less than



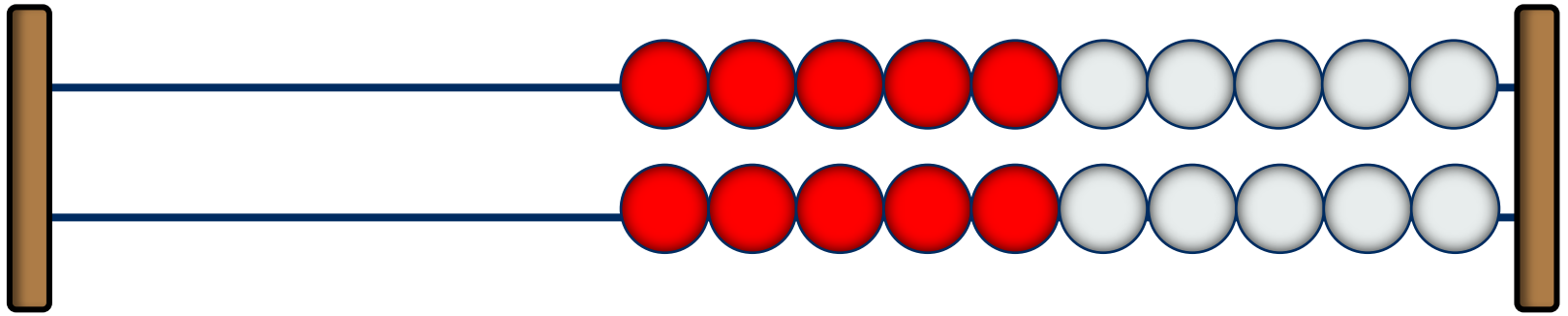
Math actions

- add / plus / and +
- subtract / minus / take away −
- is the same as / is equal to / total / altogether makes =

Using sentence stems – oracy icon



Complete the stem sentences.



10 is made of 5 and 5

5 and 5 make 10

Mathematics at home

Supporting your child's mathematical development

In the street

- Recognising bus numbers.
- Number plate hunt. Who can find a 7? Add the numbers up.
- Comparing door numbers.
- Counting – how many lampposts on the way to school?

Doing the washing

- Counting in 2s – matching shoes.
- Sorting by colour and size.
- Matching/pairing up socks.
- Find four shoes that are different sizes. Can you put them in order?

Time

- What day is it yesterday, today, tomorrow?
- Use timers, phones and clocks to measure short periods of time.
- Count down 10/ 20 seconds to get to the table/ into bed etc.
- Recognising numbers on the clock. If you cover a number, what number was missing?

Food!

- Can you cut your toast into 4 pieces? Can you cut it into triangles?
- Setting the table. Counting the right number of plates etc. How many more do we need?
- Can you make shapes/ patterns out of the knives and forks. Can you put them in the right place in the drawers?
- Helping with the cooking by measuring and counting ingredients.
- Setting the timer.
- Positional language at dinner time: what is on the rice, where are the carrots etc?

Going shopping

- Reading price tags.
- Counting items into the basket.
- Finding and counting coins.
- Comparing weights – which is heavier?

Measuring

- Are you taller than a …?
- Marking height on the wall.
- Cut hand shapes out of paper. How many hands long is the couch? How long is the table? Which is longer?
- Who has the biggest hands in our family?
- How many steps from the gate to the front door?

Shapes

- Cut a potato into shapes (circles, triangle etc). Use with paint to make pictures and patterns.
- Cut out shapes from coloured paper/ newspaper and arrange into pictures.
- Shape hunt: Can you find a square in your house (windows etc), a circle …?

Number rhymes and songs

Eg: 5 little monkeys jumping on the bed
One fell off and bumped his head
Mummy called the doctor and the doctor said
"No more monkeys jumping on the bed!"
4 little monkeys jumping on the bed …

Your child can teach you lots more or try this website which has the words and sings it for you:
http://www.nurseryrhymes4u.com/NURSERY_RHYMES/COUNTING.html

Games

- Putting cards into piles
- Jigsaws (you can make your own by cutting up a magazine picture)
- Snap (matching pairs) or Happy Families (collect 4 of a kind)
- Snakes and ladders or other simple dice games.

- Adding numbers on two dice.
- Bingo, with numbers or shapes
- Hopscotch

Playdough

Here's a simple recipe:

1 cup of plain flour
1 cup of water
1 tablespoon cooking oil
2 teaspoons cream of tartar
Half a cup of salt
food colouring and essences (optional)

Put all ingredients in a large saucepan, and heat slowly, stirring all the time until it forms a ball. Keep it wrapped in clingfilm or in a covered tub to stop it drying out.

Then ….

- Make numerals and shapes
- Sort shapes into groups, or order by size
- Make long and short wiggly snakes.

Internet maths games:

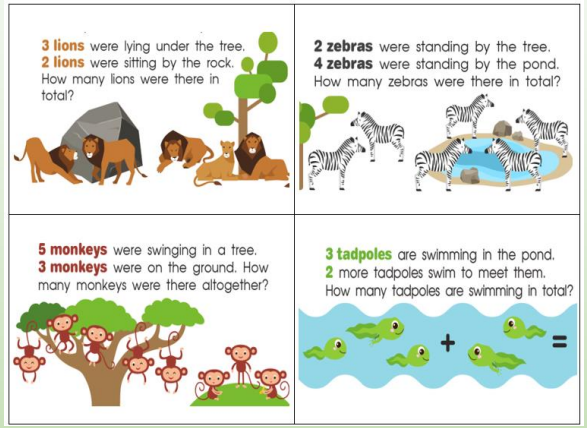
https://www.topmarks.co.uk/maths-games

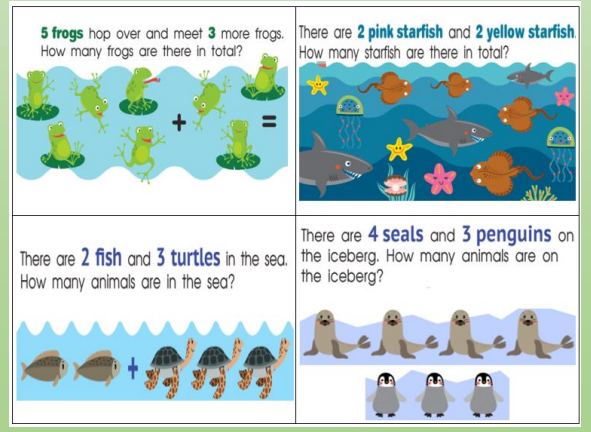
https://www.bbc.co.uk/bitesize/subjects/zjxhfg8

https://ictgames.com/mobilePage/index.html

Task time!

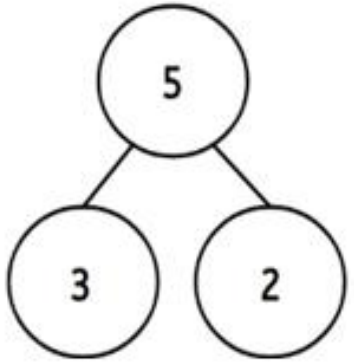
Task 1





Can you choose a picture story and complete a part-whole model to match it?

3 tadpoles are swimming in the pond.
2 more tadpoles swim to meet them.
How many tadpoles are swimming in total?



Say "3 is a part and 2 is a part and the whole of it is 5".

OVERCHURCH INFANT SCHOOL

Task 2

Can you play the roll and circle game?

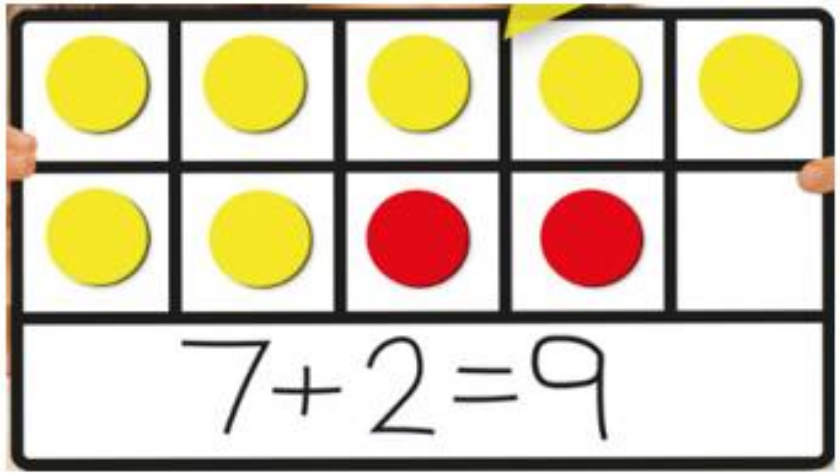
- Roll a die, count the dots and circle that many spots of the wallpaper.
- Can you write the number next to your group?
- To extend your child, you may wish to roll the dice twice to find a total and circle that many dots e.g. 5 + 4 = 9 so circle 9 dots.

OVERCHURCH INFANT SCHOOL

Task 3

Can you play the tens frame addition game?

- Roll a die and put that number of yellow counters on the tens frame.
- Repeat with red counters.
- How many counters can you see altogether?
- Can you say what you have done or write it as a number sentence (equation)?

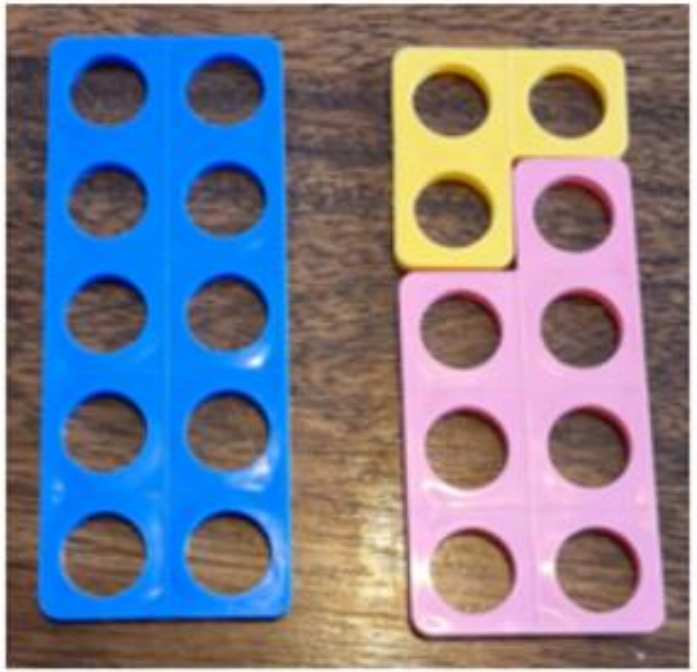


OVERCHURCH INFANT SCHOOL

Task 4

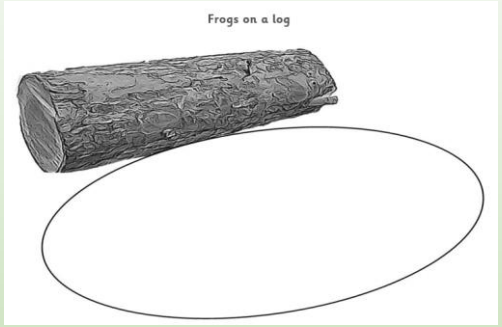
Can you play use the Numicon to make 10?

- Choose 2 pieces of Numicon that will match a tens piece.
- Can you tell a grown up what you have done? e.g. "3 and 7 is the same as 10".
- Can you write it as an equation on a wipe board?



OVERCHURCH INFANT SCHOOL

Task 5



Five Green and Speckled Frogs

Five green and speckled frogs sat on a speckled log
Eating some most delicious bugs -- YUM YUM!
One jumped into the pool where it was nice and cool
Then there were four green and speckled frogs.

Four green and speckled frogs sat on a speckled log
Eating some most delicious bugs -- YUM YUM!
One jumped into the pool where it was nice and cool
Then there were three green and speckled frogs.

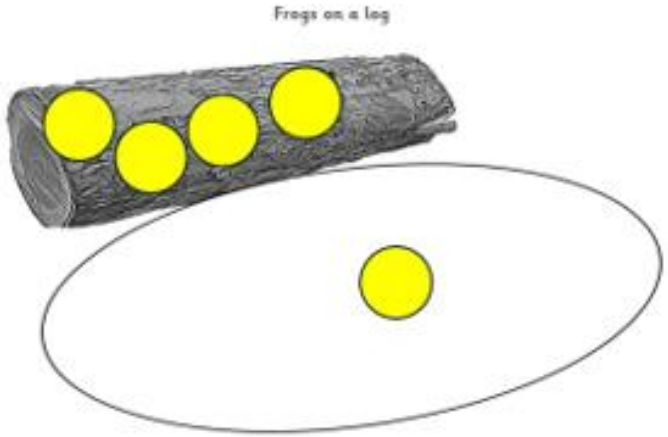
Three green and speckled frogs sat on a speckled log
Eating some most delicious bugs -- YUM YUM!
One jumped into the pool where it was nice and cool
Then there were two green and speckled frogs.

Two green and speckled frogs sat on a speckled log
Eating some most delicious bugs -- YUM YUM!
One jumped into the pool where it was nice and cool
Then there was one green and speckled frogs.

One green and speckled frogs sat on a speckled log
Eating some most delicious bugs -- YUM YUM!
One jumped into the pool
where it was nice and cool
Then there were
no green and speckled frogs.

Can you sing the speckled frogs song to help you to subtract?

- Put 5 frogs (counters) on the log.
- Begin to sing the song and move one counter. Say what you have done e.g. "First there were 5 frogs, then one jumped off, now there are 4 frogs.
- Can you write it as an equation?
- Continue the song and repeat.



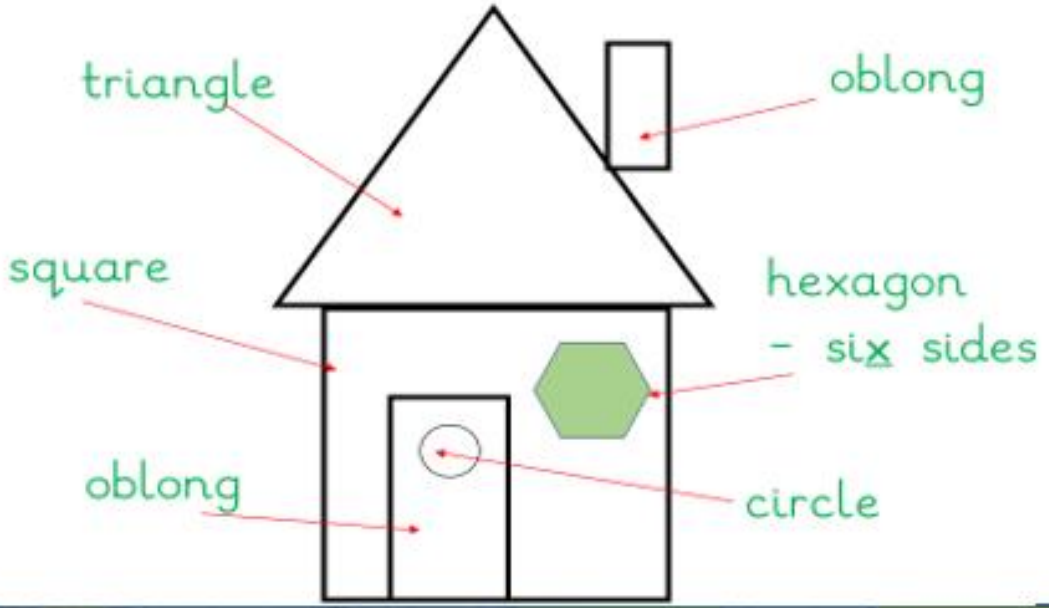
5 - 1 - 4

OVERCHURCH INFANT SCHOOL

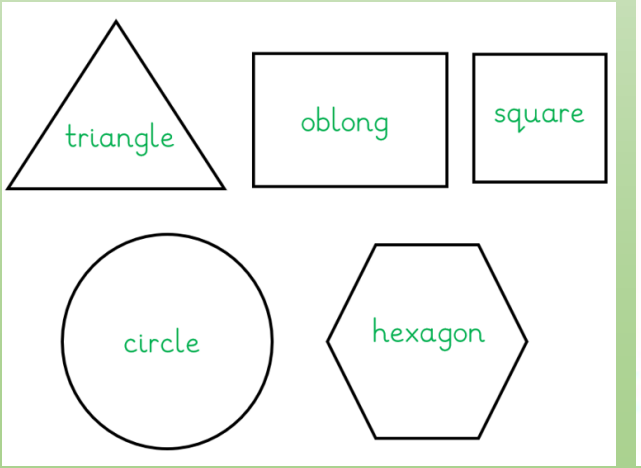
Task 6

Can you create a 2D shape picture?

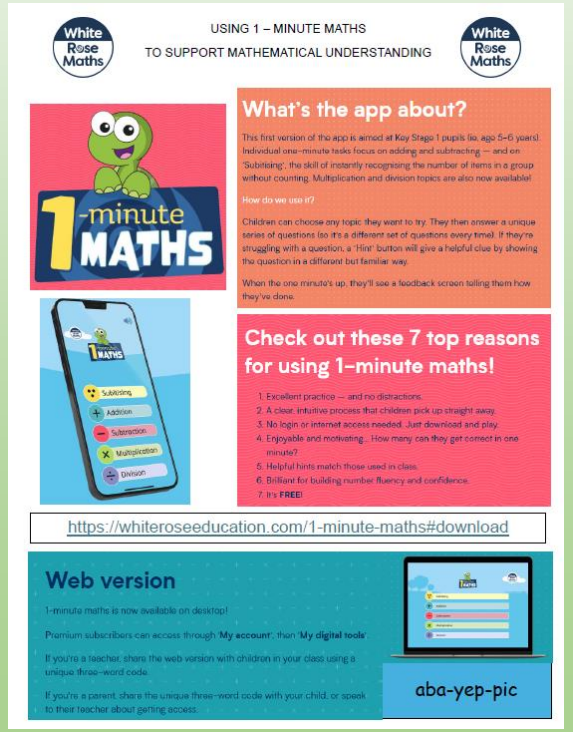
- Can you create a picture using thin 3D shapes? When you draw round them you will create 2D shapes!
- Can you label the shapes that you have used?



OVERCHURCH
INFANT SCHOOL



Task 7

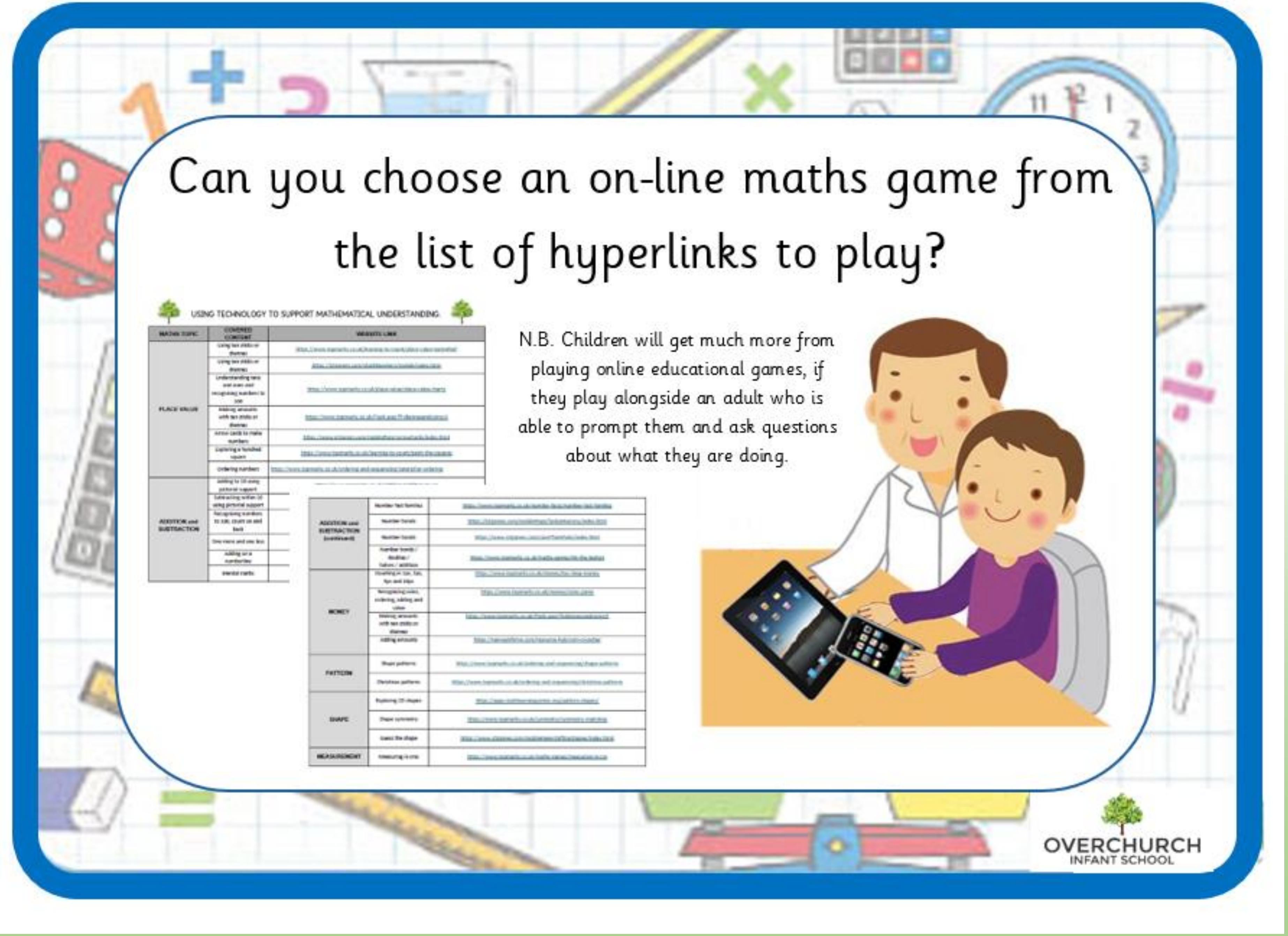


Can you choose a task to do on the one-minute maths app?

N.B. Children will get much more from playing online educational games, if they play alongside an adult who is able to prompt them and ask questions about what they are doing.

OVERCHURCH INFANT SCHOOL

Task 8


Can you choose an on-line maths game from the list of hyperlinks to play?
USING TECHNOLOGY TO SUPPORT MATHEMATICAL UNDERSTANDING
N.B. Children will get much more from playing online educational games, if they play alongside an adult who is able to prompt them and ask questions about what they are doing.
OVERCHURCH
INFANT SCHOOL

Thank you for listening!

Now it's time to have a go at
some tasks with your child!