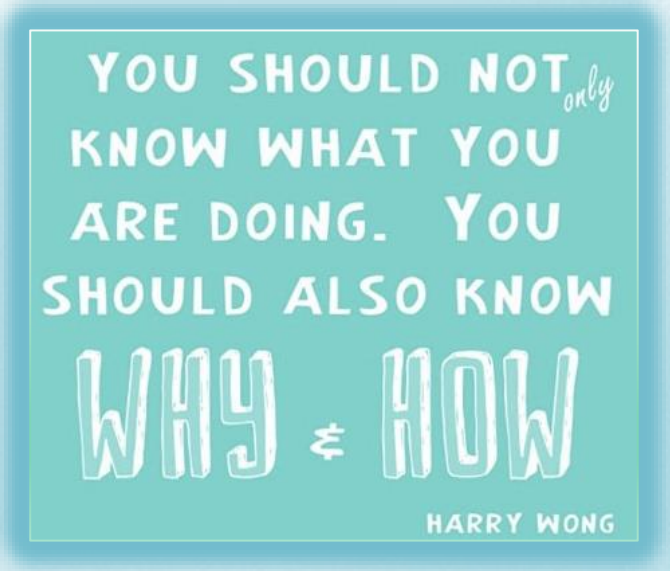
Key Stage 1
Maths Workshop



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What to expect in this workshop

1. How is Maths taught at Bishop Chavasse?
2. What does Maths look like in Key Stage 1?
3. How can my child be supported at home?
4. Questions

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How is Maths at Bishop Chavasse?

- Use of the CPA approach
- Mastery approach adopted
- White Rose Scheme followed - https://whiteroseeducation.com
- Develop fluency, reasoning and problem-solving skills

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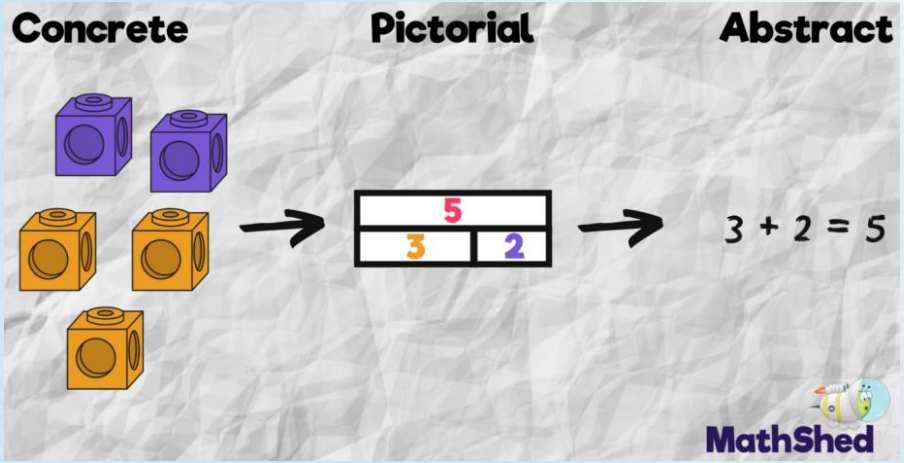
What is the CPA approach?



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Concrete Stage

- **Concrete resources, also known as manipulatives, are physical objects that children can pick up and manipulate to improve their maths knowledge.**
- **Handling and manipulating objects can enhance your child's understanding or different mathematical concepts.**

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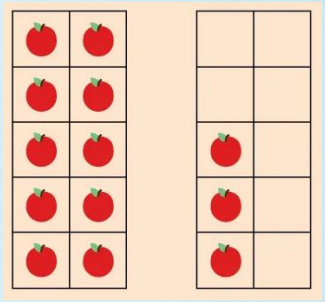
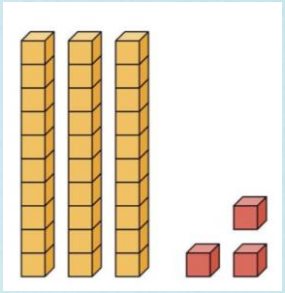
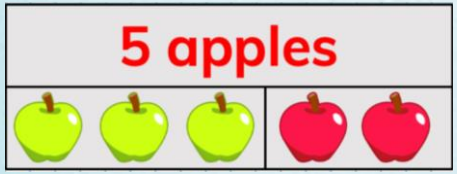
Pictorial Stage

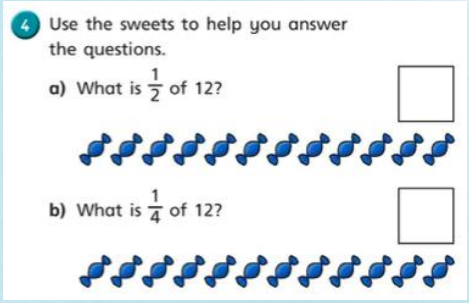
- **As the name suggests, this means that your child is looking at a picture (or visual representation) to help them solve a calculation.**

- **This could be a drawing of objects to be counted, but could also be a part-whole model, bar model or base 10 drawing.**









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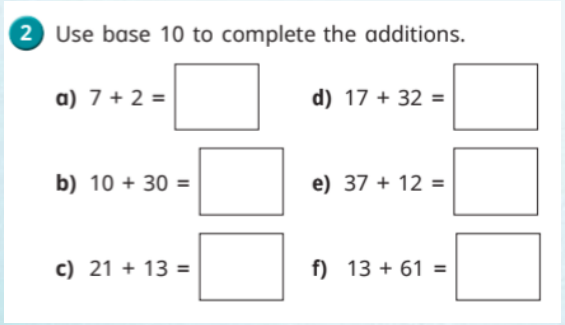
Abstract Stage

- **The abstract stage is when children face questions using numbers and symbols or key vocabulary alone.**
- **If children enter this stage before establishing secure links or points of reference as to what the numbers, operations or key words mean, they will find this stage challenging.**
- **At this stage, your children are expected to have a depth of knowledge that can now be applied without the need for concrete or pictorial support strategies.**



2 Use base 10 to complete the additions.

a) 7 + 2 = ☐

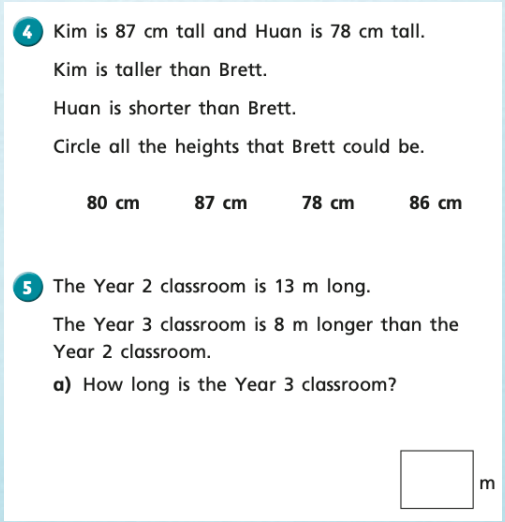
b) 10 + 30 = ☐

c) 21 + 13 = ☐

d) 17 + 32 = ☐

e) 37 + 12 = ☐

f) 13 + 61 = ☐



4 Kim is 87 cm tall and Huan is 78 cm tall.

Kim is taller than Brett.

Huan is shorter than Brett.

Circle all the heights that Brett could be.

80 cm **87 cm** **78 cm** **86 cm**

5 The Year 2 classroom is 13 m long.

The Year 3 classroom is 8 m longer than the Year 2 classroom.

a) How long is the Year 3 classroom?

☐ m

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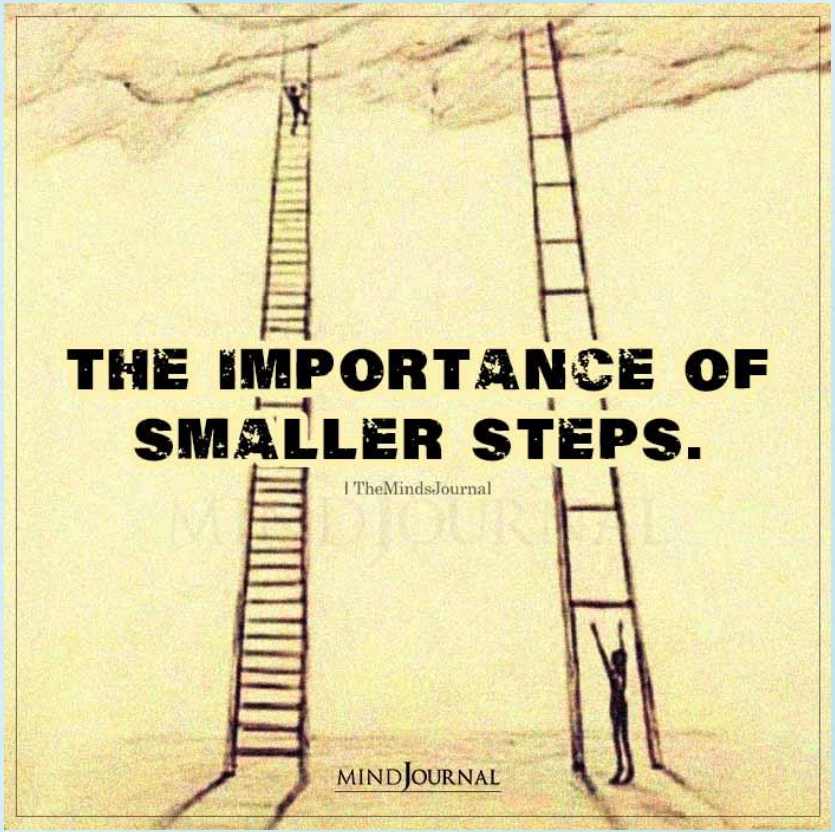


Not racing up the ladder!

- When children learn a new concept, it is important not to race up the ladder.
- Just because they might know their addition facts to 20 does not mean we need to rush and start adding numbers to 50 or 100.
- Spending time embedding what they know and taking small steps is vital.

The Five Big Ideas Behind Teaching for Mastery

Pupils are taught through whole-class interactive teaching (involving demonstrations, explanations, questioning, discussions and short tasks) where the focus is on **all pupils working together on the same lesson content at the same time**. This ensures that all can master concepts before moving to the next part of the curriculum sequence, allowing no pupil to be left behind. Children work in mixed ability pairings with differentiation occurring via the support and intervention provided.

Representation & Structure

Representations are used to expose the structure of a concept being taught and act as a scaffold. In the end, the children need to be able to do the maths without the representation.

Mathematical Thinking

Mathematical thinking involves:

- Looking for patterns in order to discern structure;
- Looking for relationships and connecting ideas;
- Reasoning logically, explaining, conjecturing and proving

It is vital that **all children in all year groups** develop their mathematical thinking.

Coherence

Small steps are easier to take. Focussing on one key point each lesson allows for deep and sustainable learning.

Variation

The essential features of a concept are highlighted through varying the non-essential features.

Conceptual variation - When giving examples of a mathematical concept, add variation to emphasise: What it is (as varied as possible) and what it is not.

Procedural variation - When constructing a set of activities/questions, consider what connects the examples; what mathematical structures are being highlighted?

Fluency

Fluency demands more of learners than memorisation of a single procedure or collection of facts. It encompasses a mixture of accuracy, flexibility and efficiency. *Number bonds, doubling and halving, multiplication tables etc.*

What is is my child learning?

YEAR 1

Autumn Term
- Number and Place Value (within 10)
- Addition and Subtraction (within 10)
- Shape

Spring Term
- Place Value (within 20)
- Addition and Subtraction (within 20)
- Place Value (within 50)
- Length and Height
- Mass and Volume

Summer Term
- Multiplication and Division
- Fractions
- Position and Direction
- Place Value (within 100)
- Money
- Time

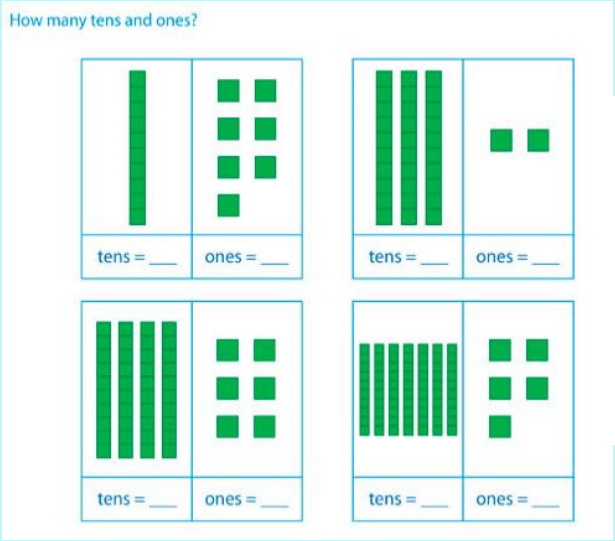
YEAR 2

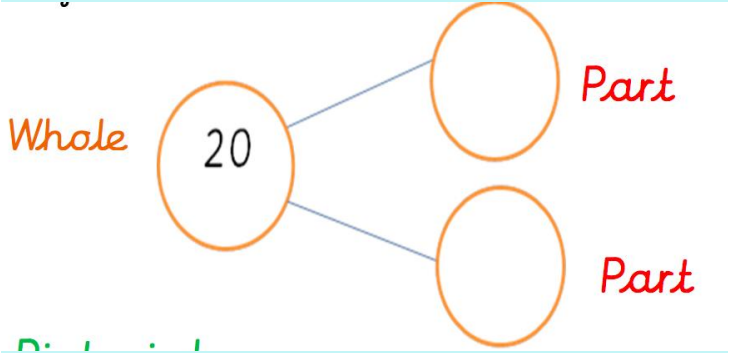
Autumn Term
- Number and Place Value
- Addition and Subtraction
- Shape

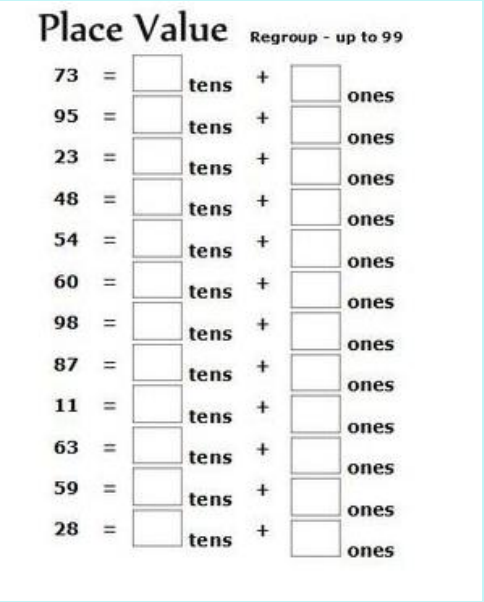
Spring Term
- Money
- Multiplication and Division
- Length and Height
- Mass, Capacity and Temperature

Summer Term
- Fractions
- Time
- Statistics
- Position and Direction

Place value







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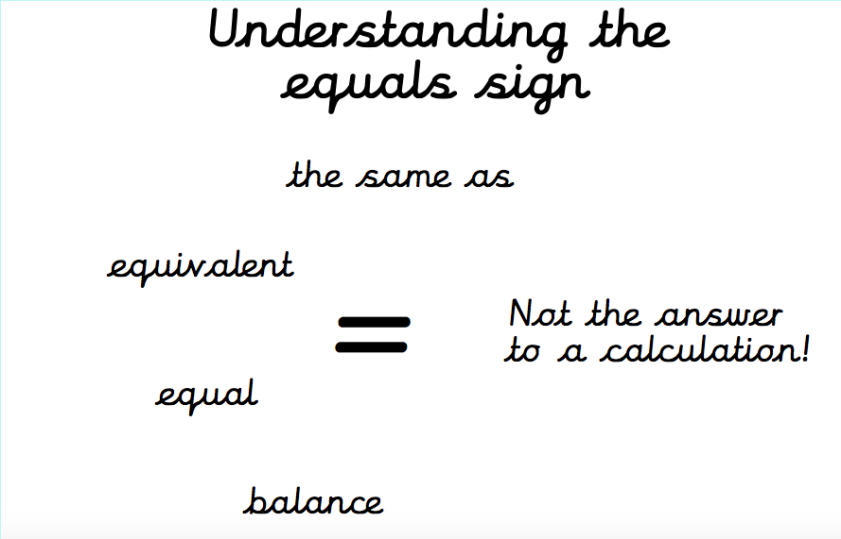
Understanding Equivalence



Addition

Addition

Plus

Add

More

Commutitative

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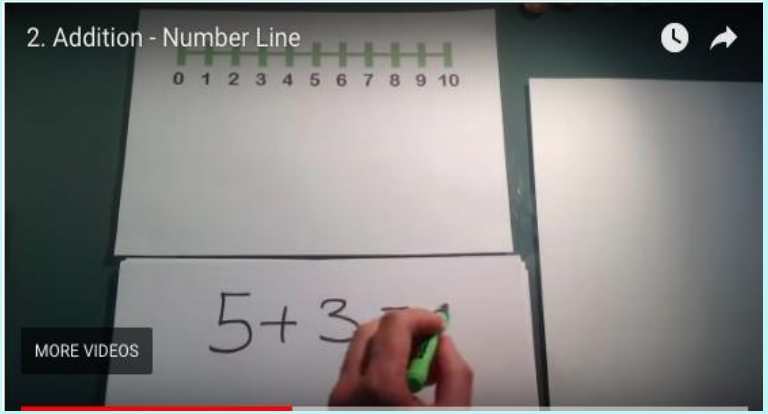
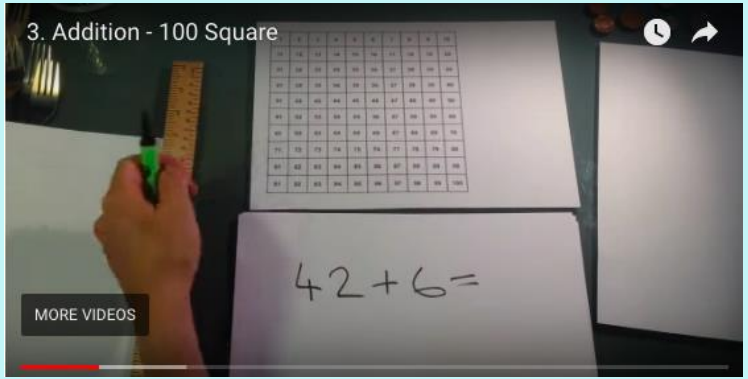
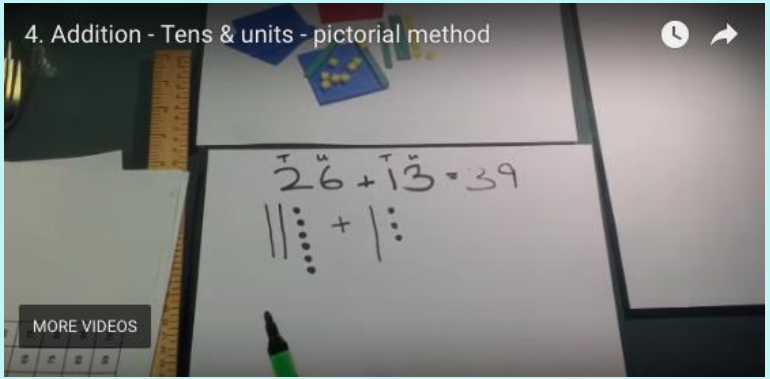
Stages of teaching addition







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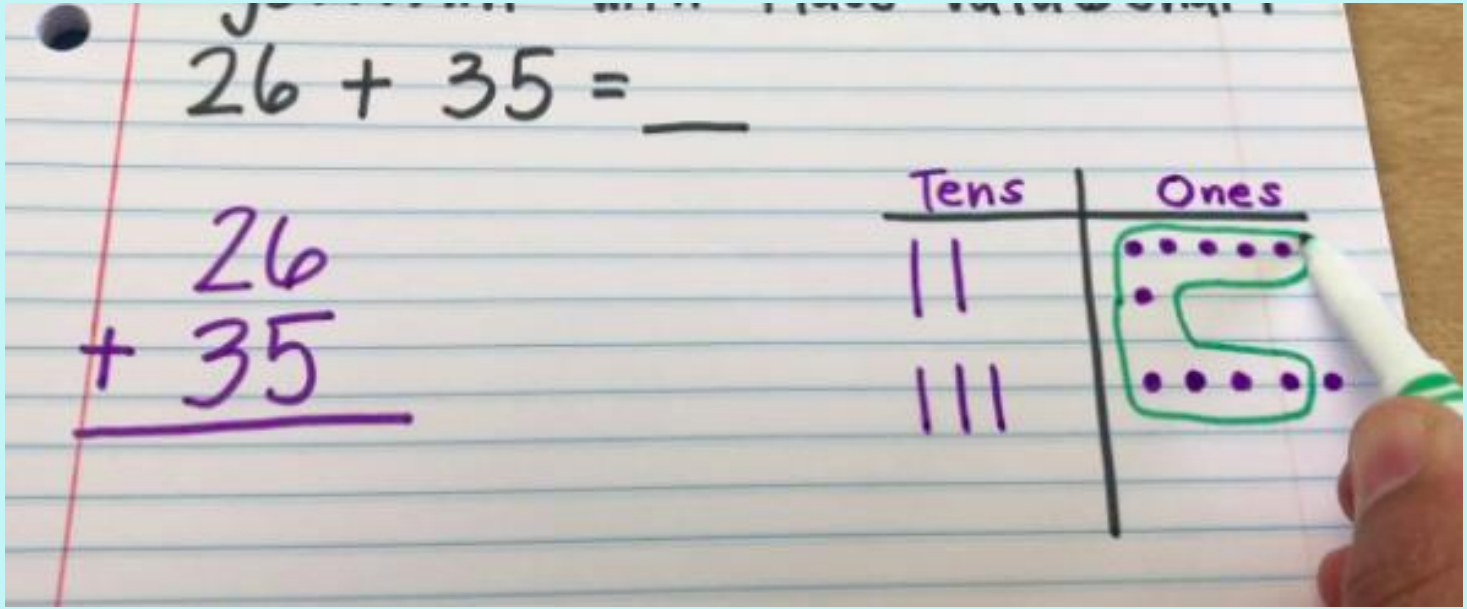
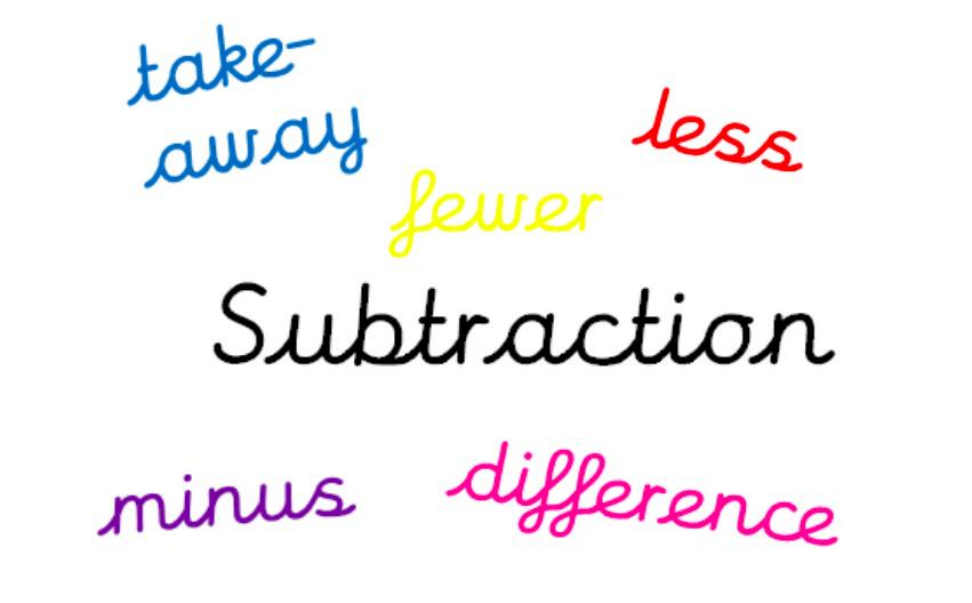
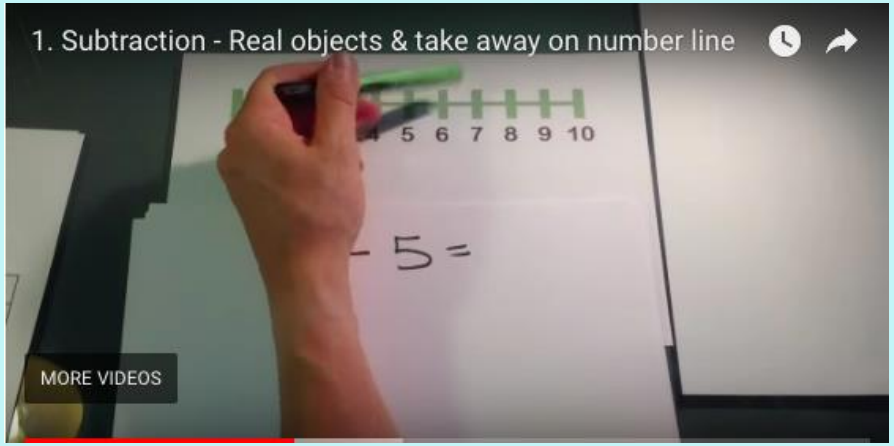
Moving on to more formal methods

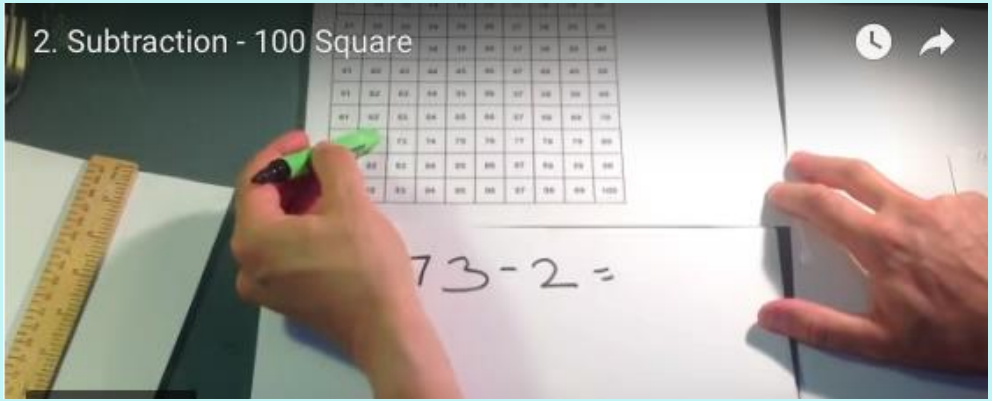


Subtraction



Stages for teaching subtraction





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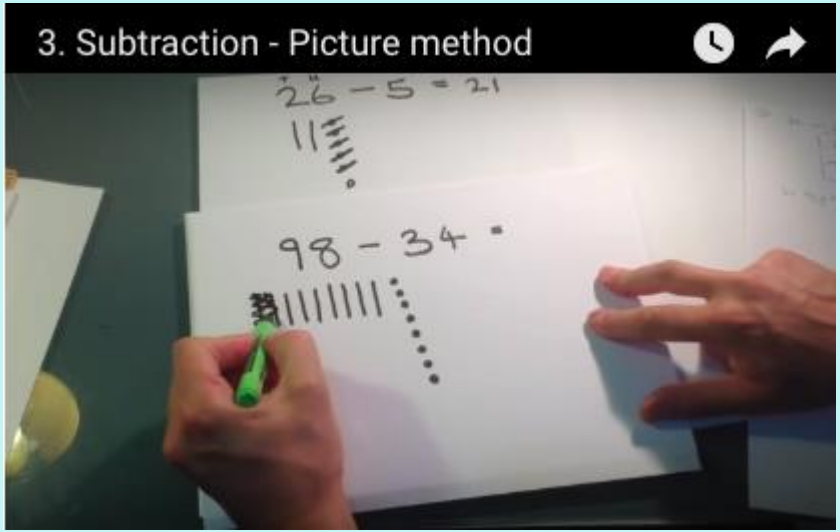
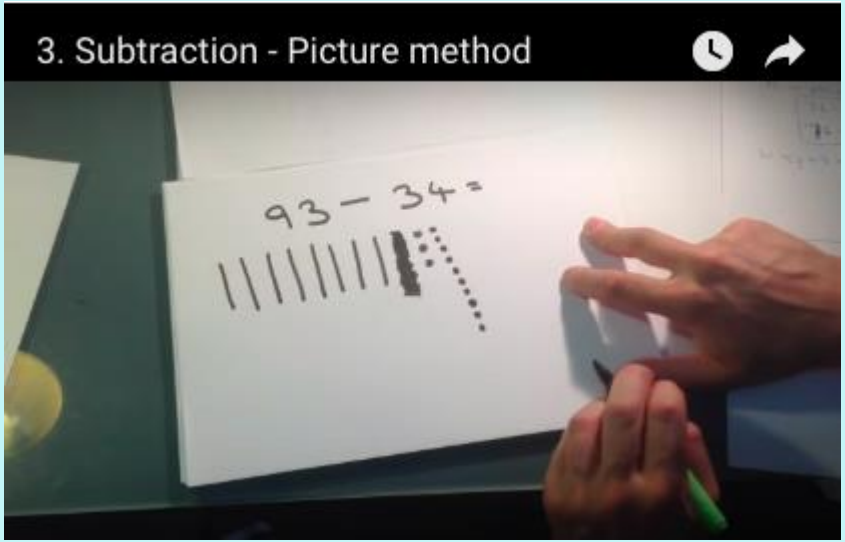
Stages for teaching subtraction





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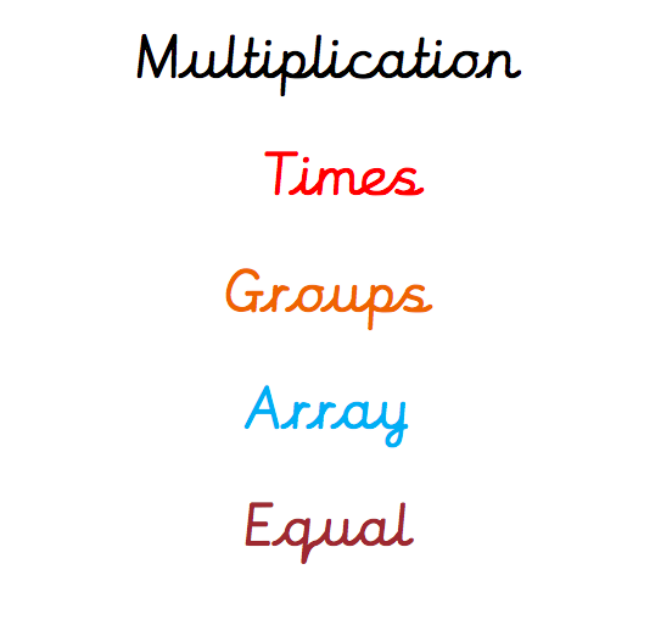
Multiplication



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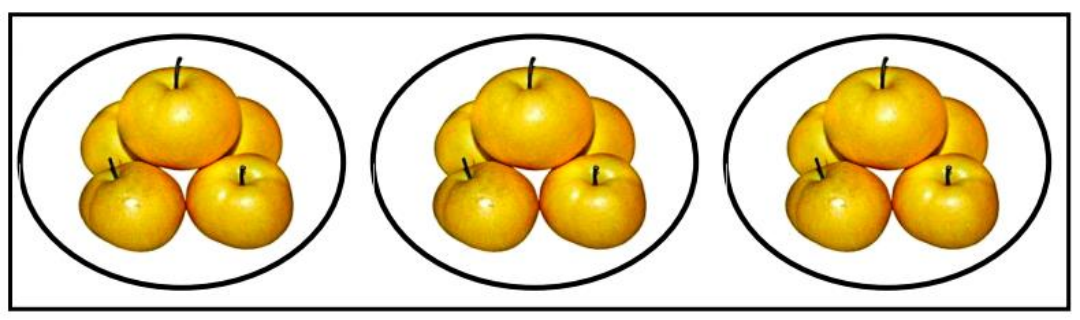
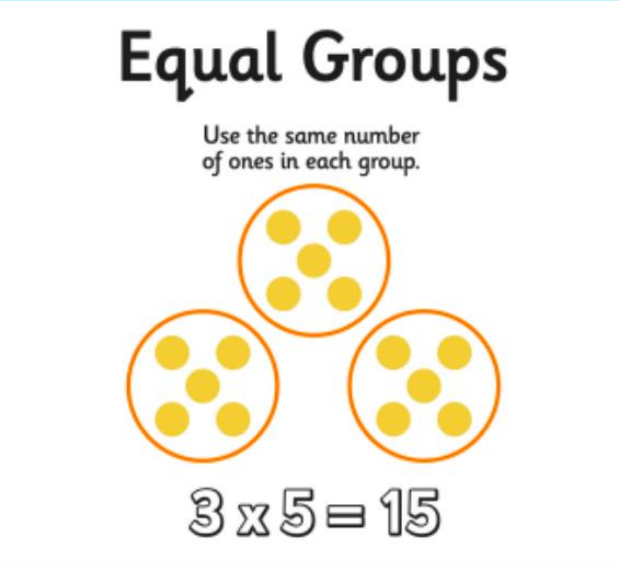
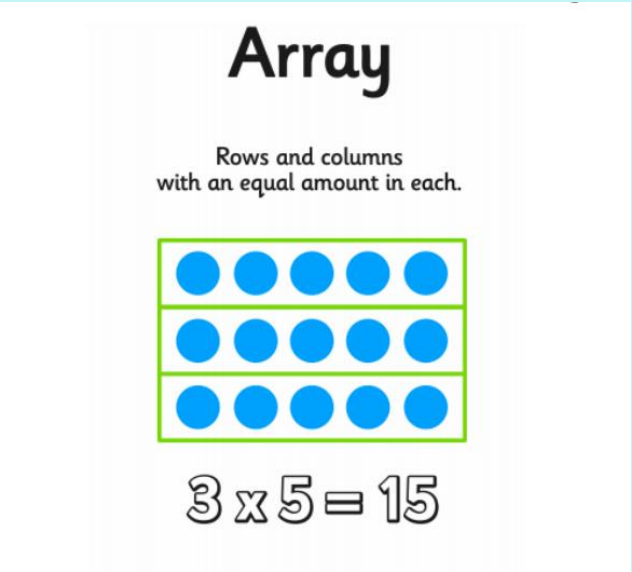
Repeated addition



5+5+5 = 15

Introducing the multiplication sign x

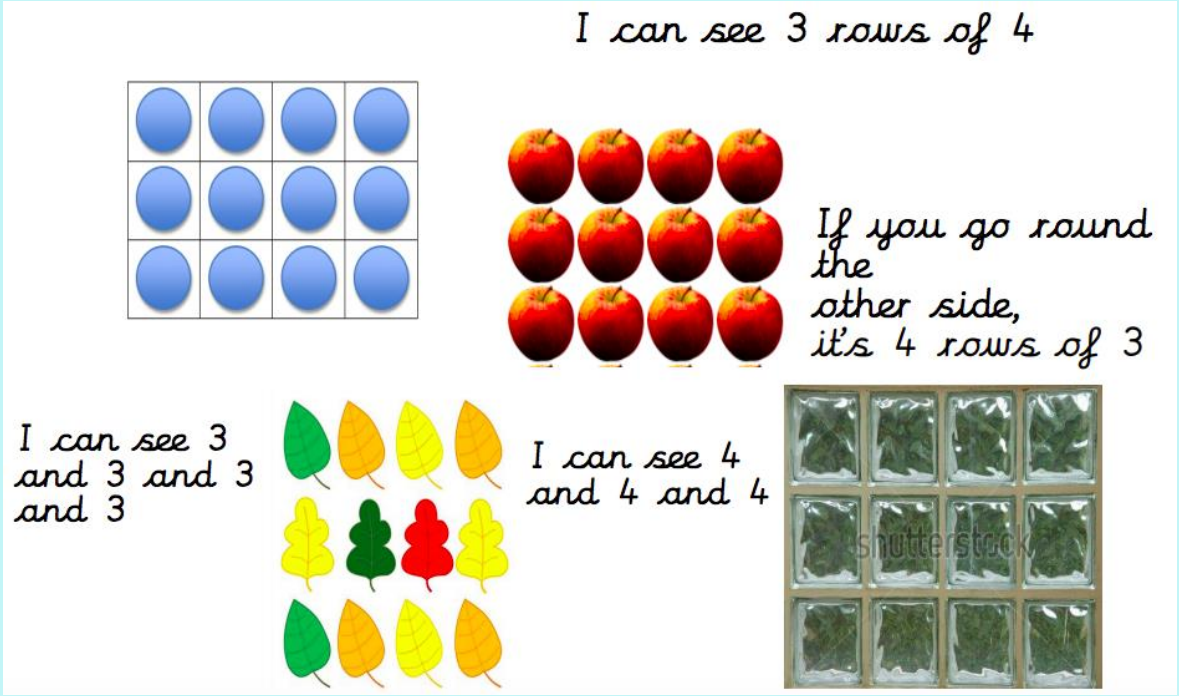




5+5+5 = 15 is the same as 3x5=15

Year 2 Times Tables

Helping children see links



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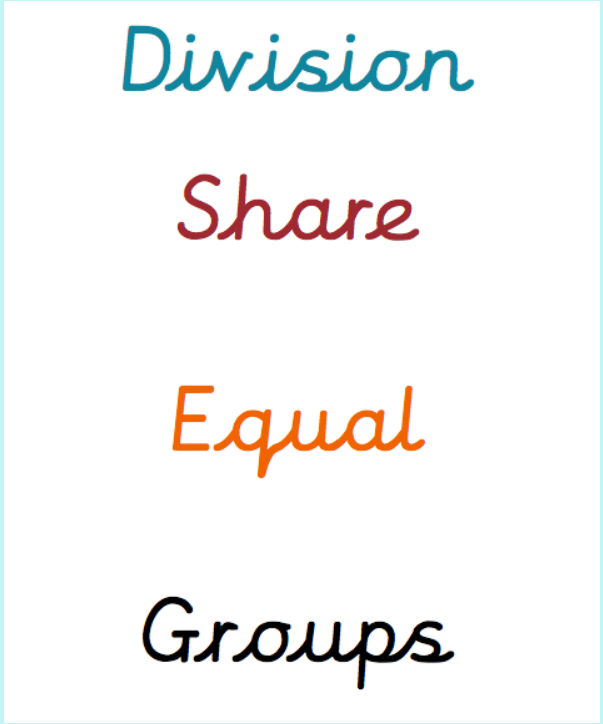
Division



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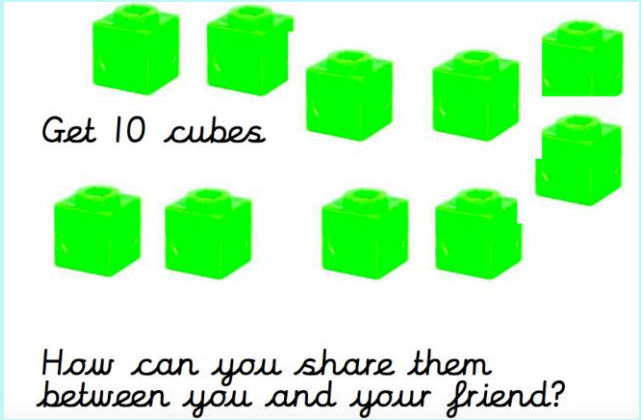
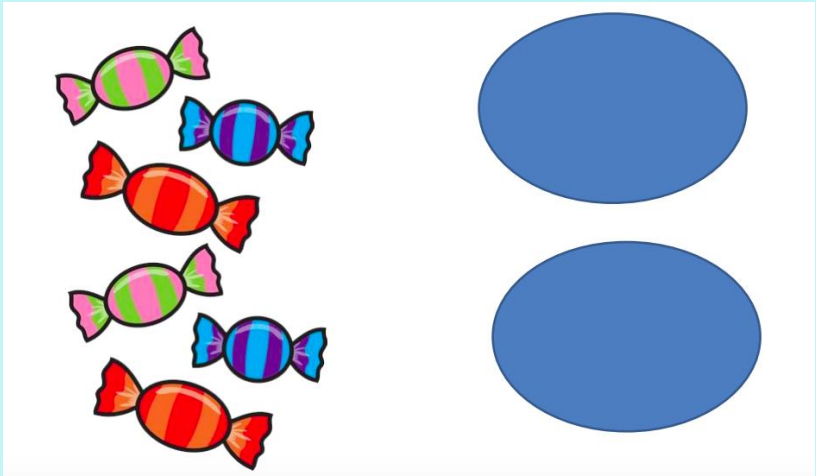
Division is an introduction to sharing equally and fractions.

- Break a bar of chocolate into two equal pieces.
- In KS1, we build on these skills and link them to fractions and division.

E.g. If we share 12 smarties between 3 people equally, each person gets 4. So 1/3 of 12 is 4.





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Before introducing the division sign.

$10 \div 2 =$

$15 \div 3 =$

$20 \div 5 =$

Maths – What can we access at home?

Year 2 | Autumn term | Block 1 – Place value | Step 1

Numbers to 20

Key learning

- Complete the number tracks.

0	1	2								
10	11	12								
	7	8					13			

- What numbers are shown?

Give your answers in numerals and words.

- Use words to complete the sentences.

The number after four is _____

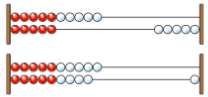
The number before eight is _____

The number after nine is _____

- What numbers are shown?

Give your answers in numerals and words.

- What number is shown on each Rekenrek?



Give your answers in numerals and words.

Make each number in three different ways.

19	fifteen	16	eleven

Year 2 | Autumn term | Block 1 – Place value | Step 1

Numbers to 20

Reasoning and problem solving

Use a Rekenrek in the ready position.

Ask children to show a number on their Rekenrek.

Can they write the number in numerals?

Can they write the number in words?

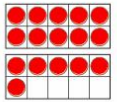
Can they say the number out loud?

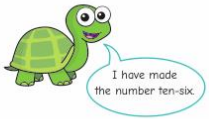
Get children to work with a partner to make numbers and write them in both numerals and words.

Encourage them to talk about how they have made the number, for example to make 13, they need to push 1 whole ten and then 3 more.

Answers will vary, depending on the number chosen.

Tiny uses counters and ten frames to make a number.





Do you agree with Tiny?

Talk about it with a partner.

No

Tiny has made sixteen.

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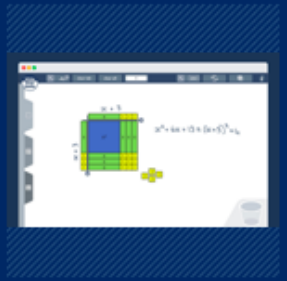
Maths – What can we access at home?

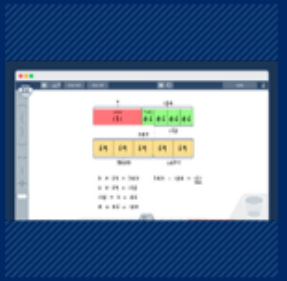
Free digital tools

Place value chart

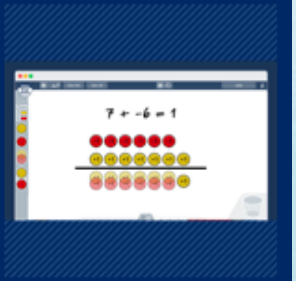


Algebra tiles

Rekenrek



Bar model



Double-sided counters

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Maths – What can we access at home?

Get the free workbooks

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					
Autumn Block 1 **Place value (within 10)**	Autumn Block 2 **Addition and subtraction (within 10)**	Autumn Block 3 **Shape**	Autumn Block 4 **Place value (within 20)**	Spring Block 1 **Addition and subtraction (within 20)**	

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Resources you can use at home

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Alternatives to school maths resources

Counters

or you could use……

Smarties

3D shapes

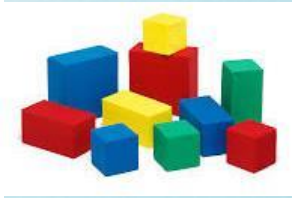
or you could use……

groceries

Counting Bears

or you could use……

anything you have a lot of!



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Counting in 2s, 5s and 10s

Numicon

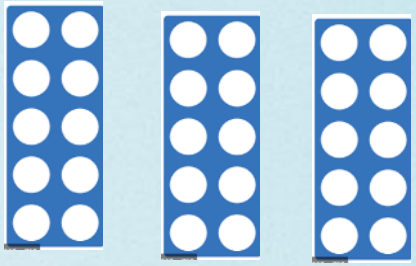
or you could use…

gloves

or

socks

Numicon

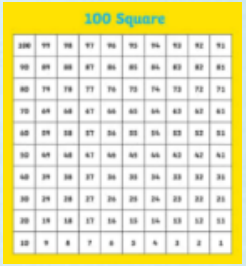


or you could use…

egg boxes

Numbers

100 Square



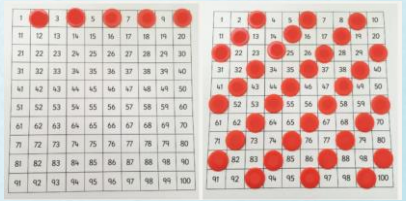
or you could use…

100 square splat online game

Games you could play:

Cover Up: Cover up one or more squares using counters. The child has to guess which numbers are hidden under the counter/s.

Patterns: Cover the multiples of 2, 3, 5 and 10 etc (one multiple at a time). Use the patterns to predict which numbers will be in the sequence.



Dice

or you could use…

Online Dice

Games you could play:

Use dice to help your child recognise numbers at speed.

Knock Out: Each player chooses a “knock out number” – either 6, 7, 8, or 9. More than one player can choose the same number. Players take turns throwing both dice, once each turn. Add the number of both dice for the score. If a player throws a 6, 7, 8 or 9, they are knocked out of the game until the next round.

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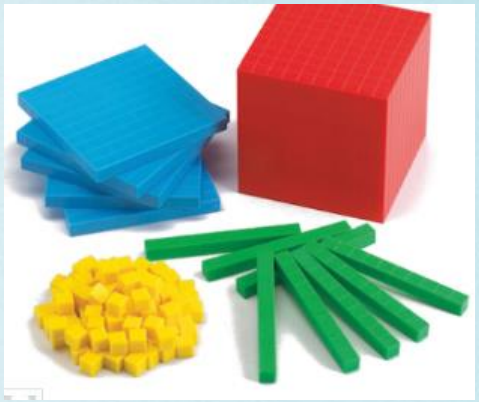
Addition and Subtraction using sweets or sticks and stones instead of base 10



In Year 2 we use dienes for addition and subtraction. Instead of tens and ones you could use sweets.

A whole pack are the tens and individual sweets are the ones. E.g. 18 = 1 tens and 8 ones

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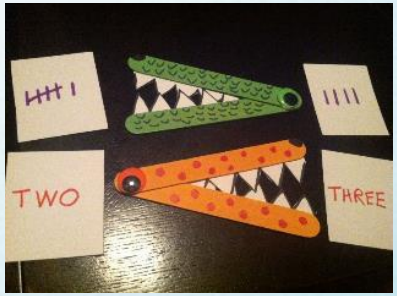
For greater, less than or equal to you could use lolly sticks.



For money work or problems you could use your own coins/ notes.

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You can use anything you have around the house to make it fun!

Pasta, sweets etc. for counting

Cards or magnetic numbers for number recognition, writing and counting

Toys to put in size order

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Don’t forget outside!

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Maths is all around us!

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Any questions?

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Church of England Primary School