



Emma
(primary)

Maths parent workshop

Tuesday 7th May 2-3

- How we teach maths
- use of manipulatives,
- how to support your children at home,
 - how we teach fundamentals, such as addition, subtraction etc, number bonds



Mike
(secondary)

Welcome

- Any questions?
- Any particular maths you'd like to look at today?

Mathematics

Each pupil should have the opportunity to take part in regular maths learning as a part of their 'My Thinking'. It is important for our pupils to access maths suited to their level of cognition and age profile. For some pupils this will be the opportunity to develop early mathematical skills through sensory experiences based on pupils' specific needs and motivations. For some pupils this will involve developing mental and written methods of solving calculations linked to everyday experiences.

All Pupils will be exposed to consistent numerical language alongside a varied maths curriculum that utilises physical equipment to demonstrate concepts in a tangible way. We provide practical opportunities to apply maths to real-life experiences to ensure that our pupils are equipped with key numerical skills that will support their transition into adulthood.

"Failure is an opportunity to grow"

GROWTH MINDSET

"I can learn to do anything I want"

"Challenges help me to grow"

"My effort and attitude determine my abilities"

"Feedback is constructive"

"I am inspired by the success of others"

"I like to try new things"

"Failure is the limit of my abilities"

FIXED MINDSET

"I'm either good at it or I'm not"

"My abilities are unchanging"

"I don't like to be challenged"

"I can either do it, or I can't"

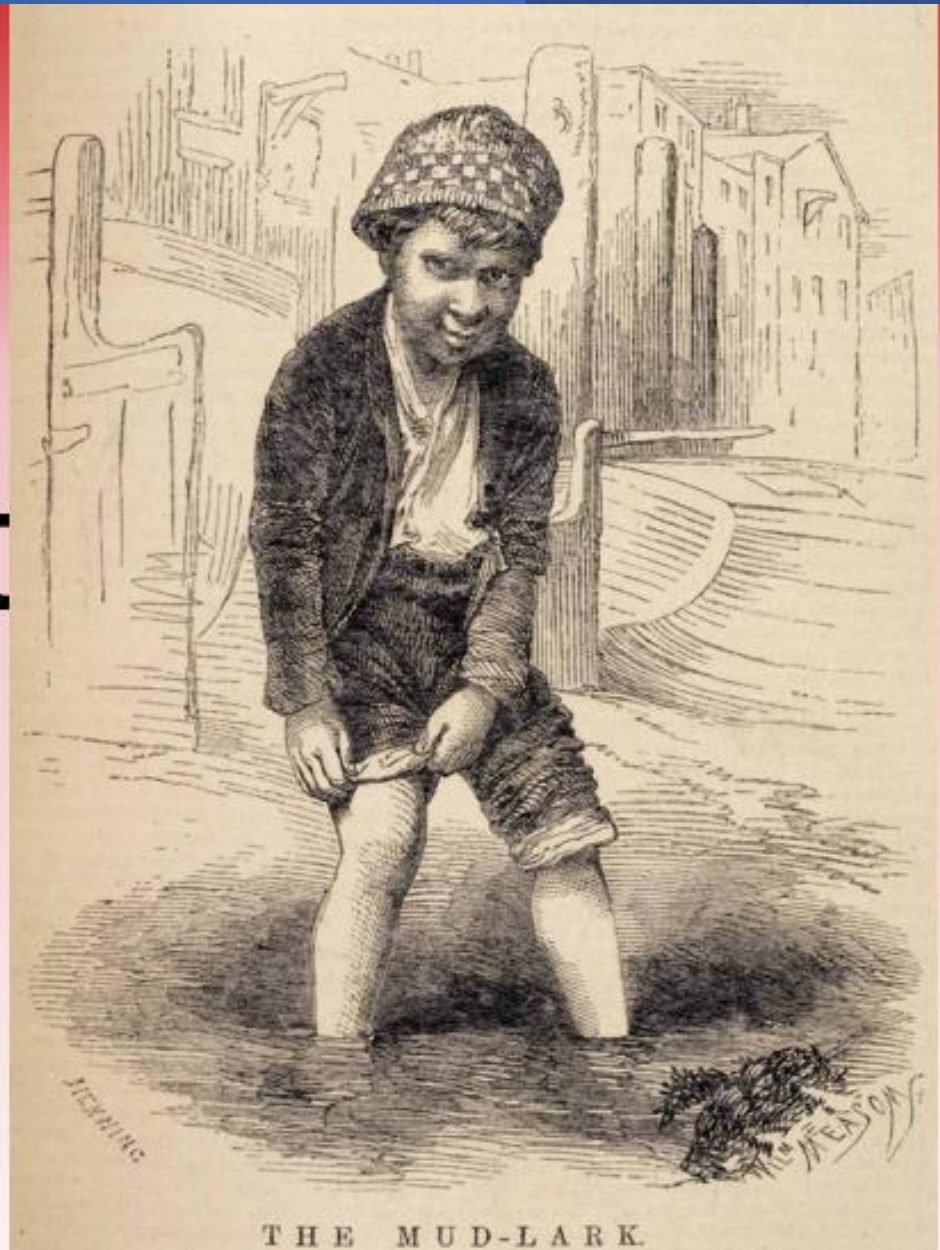
"My potential is predetermined"

"When I'm frustrated, I give up"

"Feedback and criticism are personal"

"I stick to what I know"

They didn't
do it like that
in my day!



THE MUD-LARK.



Attitudes towards maths

- The best thing that parents and carers can do for children is to have a **positive attitude** towards maths. Please don't say things like "I can't do maths" or "I hated maths at school"; your child might start to think like that themselves.
- **Point out the maths in everyday life.** Include your child in activities involving maths such as using money, cooking and travelling.

1+4
23

WHY MATHEMATICS IS IMPORTANT FOR ADULTS.

COOKING.



TIMES.

HEAT.

MEASURING.

SPORT.

WEIGHT.

TIME.



DISTANCE.

POINTS SCORED.

EATING OUT.

CHANGE.



MENU.

WHAT TO PAY?

10% FOR A TIP.

SHOPPING.
BEST DEALS.



TOTAL.

GOOD VALUE!

TRANSPORT.

SPEED.

DISTANCE.

TIMETABLE.

COST.



HOME.
HELPING WITH HOMEWORK.

BUDGET.

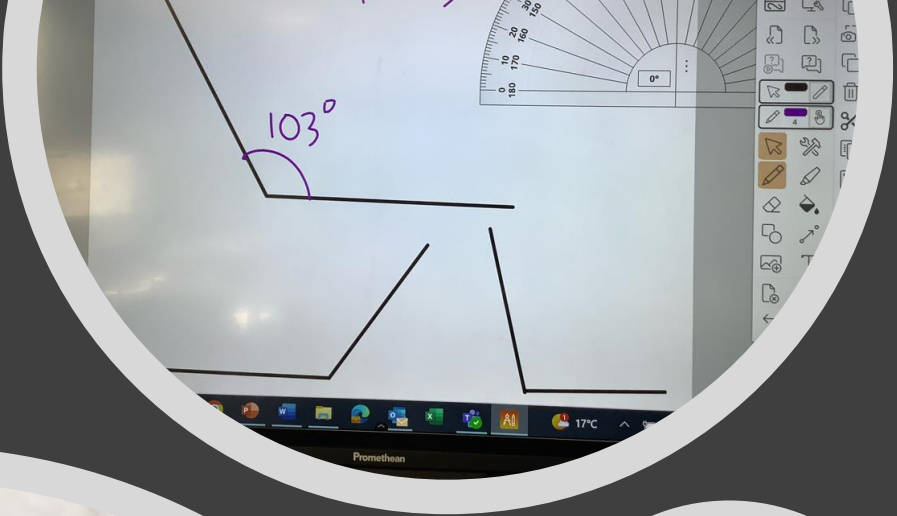


DECORATING.

EMPLOYMENT.



THERE ARE VERY FEW JOBS THAT DO NOT REQUIRE MATHS.



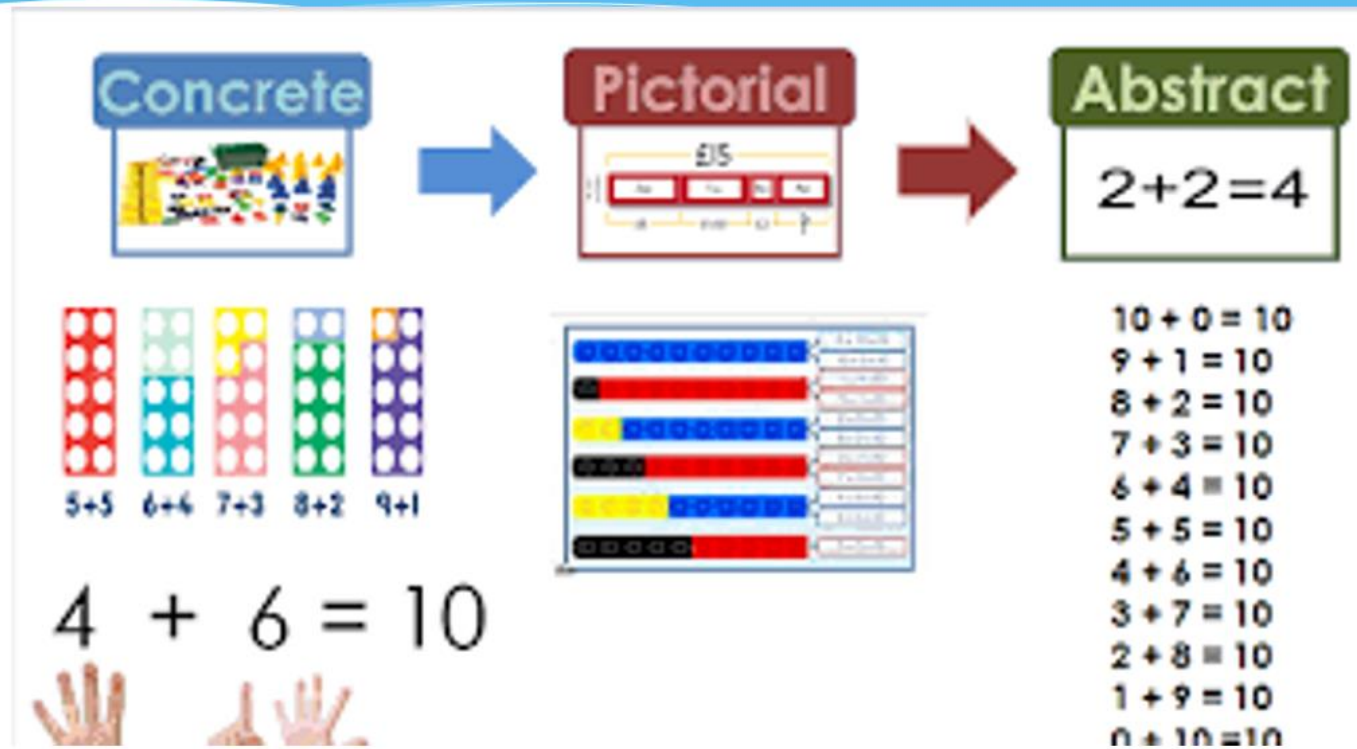
How we teach maths



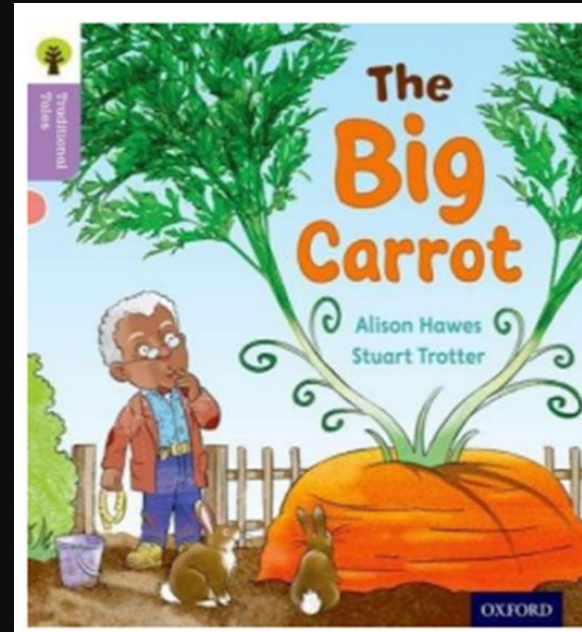
- Here at MBA we use the White Rose Hub as a resource and scheme to help the children understand and flourish within the Maths curriculum. They always learn with concrete materials first, then pictorially and then in an abstract way where they are required to use their knowledge and apply it to a new situation. We will have a look at some examples together.
- The teaching and expectations of Maths has dramatically changed since we all left school. Gone are the days where children are given worksheets and expected to do hundreds of 'sums.' Now it is all about understanding a concept then using and applying it in a variety of contexts.

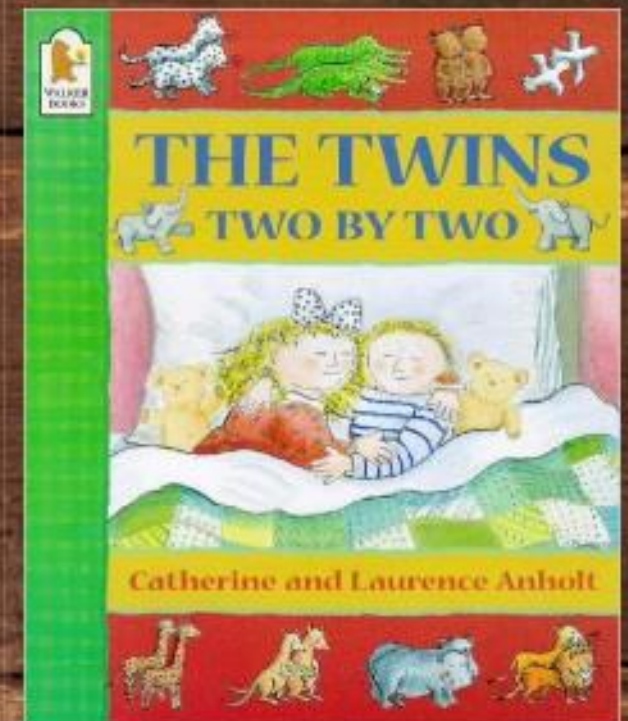
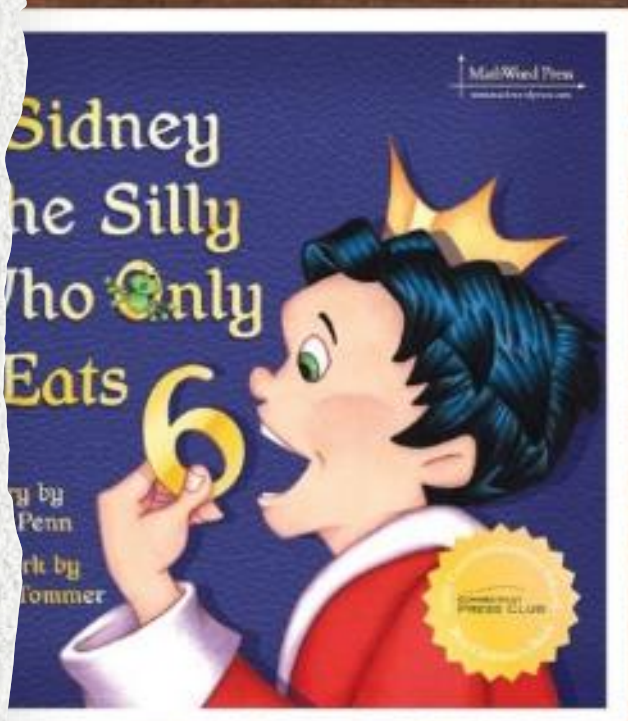
CPA Approach

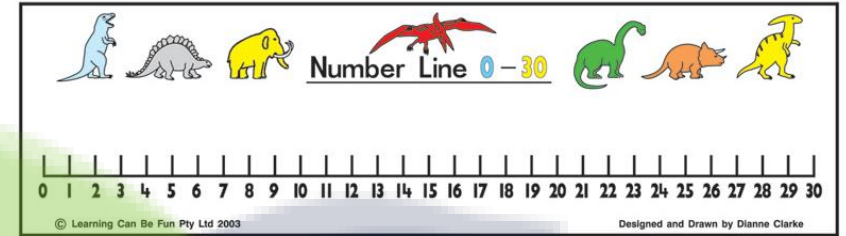
How we
teach maths



Maths through stories



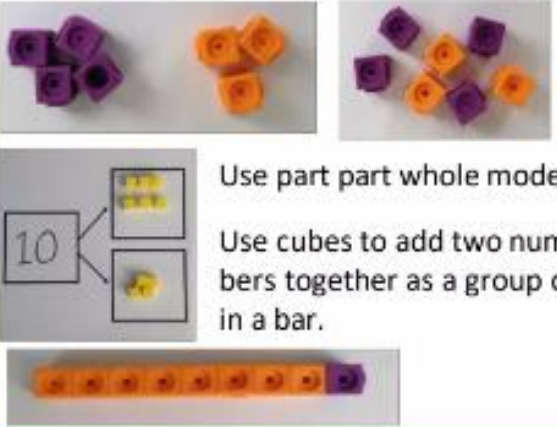
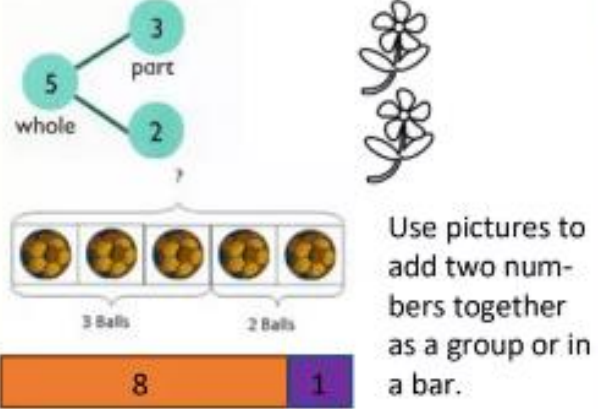
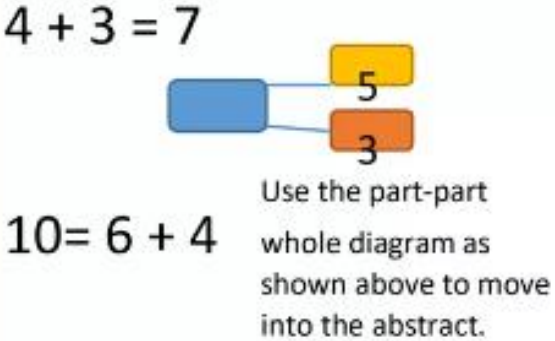




Have a look at the manipulatives on your table.
Which have you used/ seen before?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



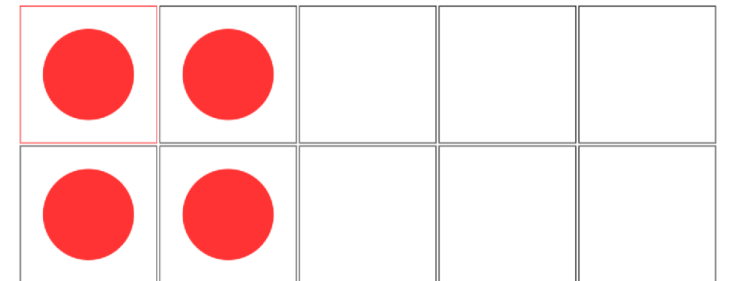
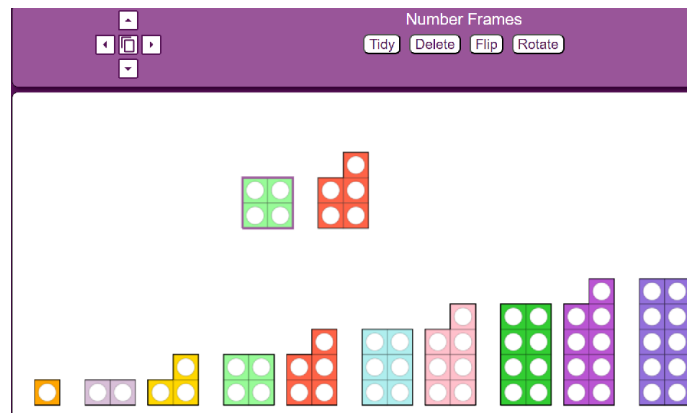
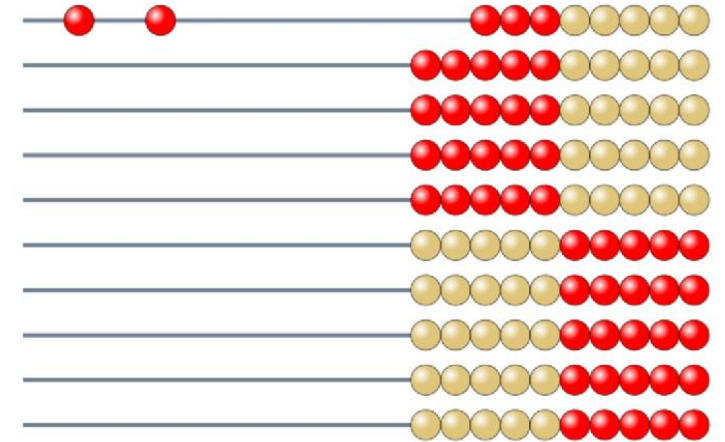
Objective & Strategy	Concrete	Pictorial	Abstract
Combining two parts to make a whole: part- whole model	 <p>Use part part whole model.</p> <p>Use cubes to add two numbers together as a group or in a bar.</p>	 <p>Use pictures to add two numbers together as a group or in a bar.</p>	 <p>Use the part-part whole diagram as shown above to move into the abstract.</p>

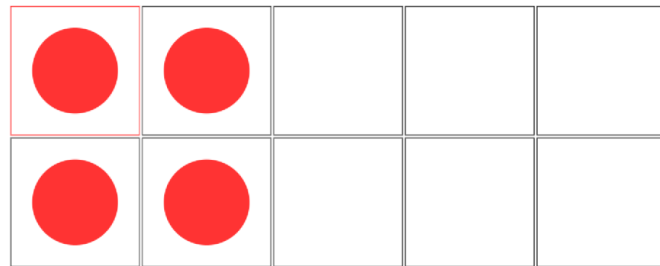
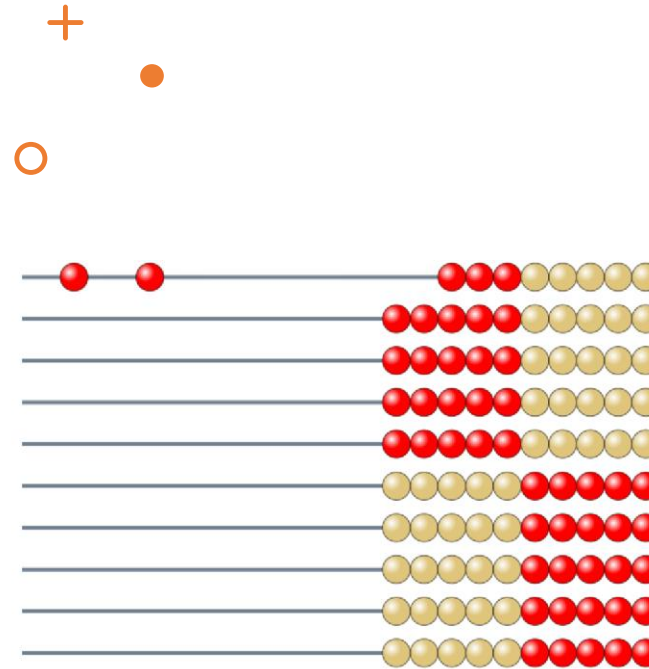
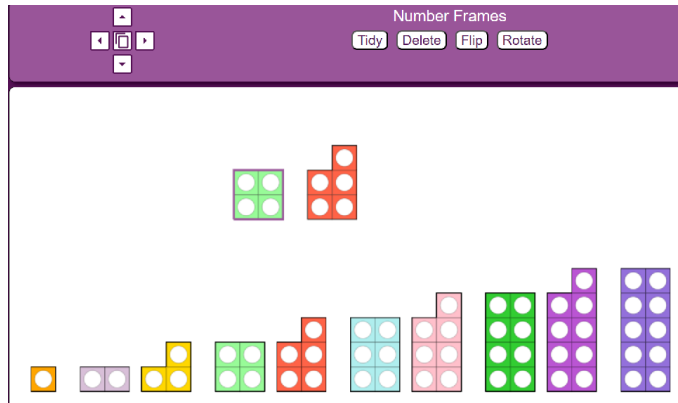
Part whole model

Subtraction

<https://mathsbot.com/manipulatives/numberFrames>

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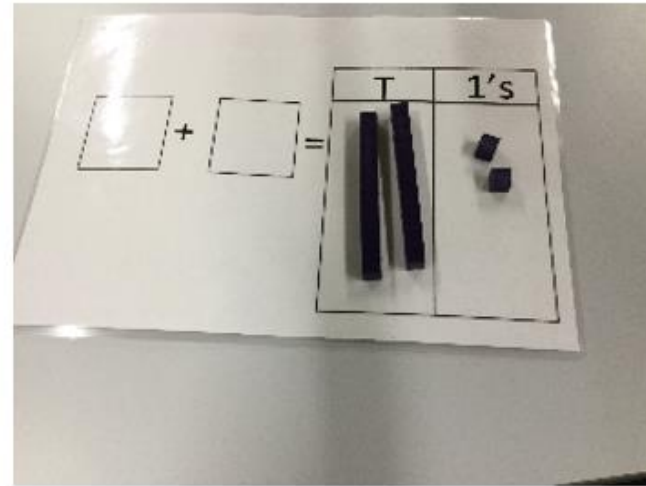
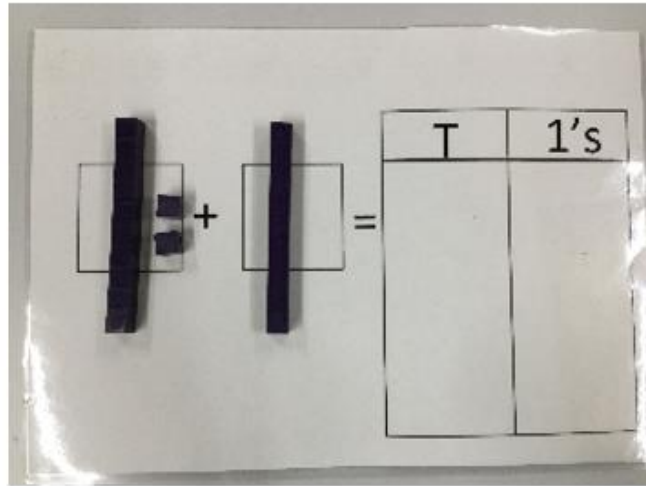
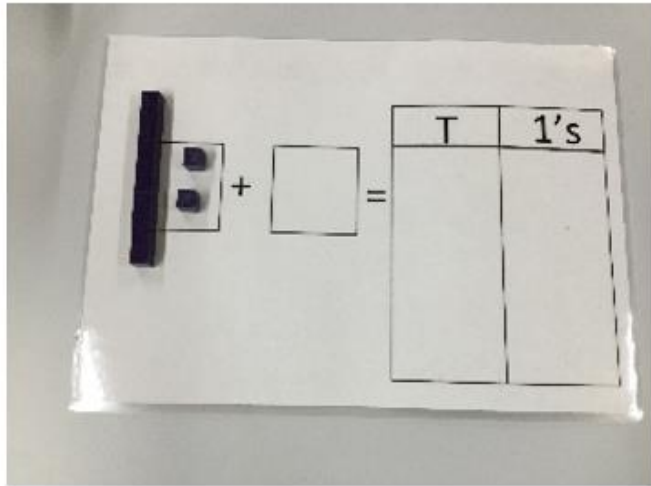
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Multiplication and division

- What is multiplication?
- the repeated addition of groups of equal sizes.
- <https://www.mathsisfun.com/numbers/division.html>

An example of an addition word problem being solved using dienes. This could be solved using sweets (e.g. Chewits)

Big skeleton goes to the shop to buy cakes. He buys 12 chocolate cakes and 10 cream cakes. How many does he buy altogether?



You could also use sticks as tens and stones as ones.



Alternatives to maths resources

Counters



or you could use.....

Smarties



3D shapes



or you could use.....

groceries

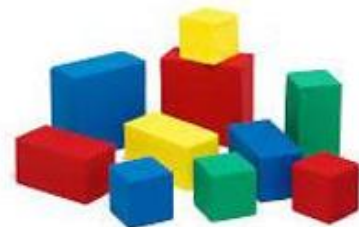


Counting Bears



or you could use.....

anything you have a lot of!



You can use anything you have around the house

Pasta for counting



Cards for number recognition and counting



Chewits for counting



Toys to put in size order



Magnetic numbers for number recognition



Don't Forget Outside





Numbers are all around us!



Counting in 2s and 10s

Numicon

or you could use.....

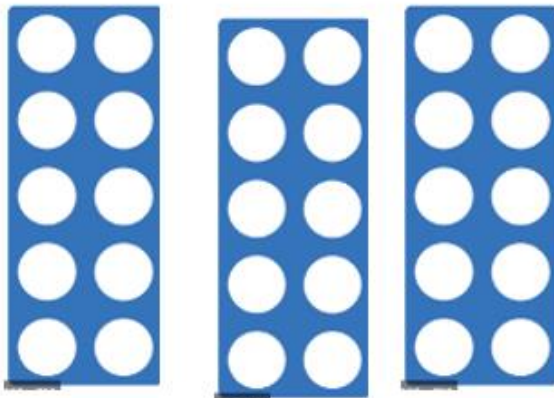
socks



Numicon

or you could use.....

gloves



How can students show us they understand a mathematical concept?

A pupil really understands a mathematical concept, idea or technique if he or she can:

- describe it in his or her own words;
- represent it in a variety of ways (e.g. using concrete materials, pictures and symbols – the CPA approach)⁸
- explain it to someone else;
- make up his or her own examples (and non-examples) of it;
- see connections between it and other facts or ideas;
- recognise it in new situations and contexts;
- make use of it in various ways, including in new situations.⁹

