

Year 1 & 2 Maths

Mrs Moran - Maths Subject
Lead

22.11.22



MATHS:

YOU SHOULD NOT ^{only}
KNOW WHAT YOU
ARE DOING. YOU
SHOULD ALSO KNOW

WHY = HOW

HARRY WONG

What are the aims of the session?

- **How is maths taught at Grange Infant School?**
- **How can children be supported at home?**
- **Opportunity for you to see maths in action.**

What do we want our learners to be able to do?

1. Become fluent (do the maths quickly and confidently).
2. Reason mathematically (explain, argue, justify, prove using mathematical language).
3. Solve problems (Apply the maths to find a solution).

Our curriculum is based on the National Curriculum, CanDo Maths and other materials, such as NCETM, that support the delivery of the curriculum.

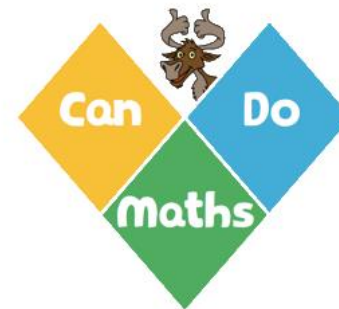


Mathematics
programmes of study:
key stages 1 and 2
National curriculum in England

September 2013

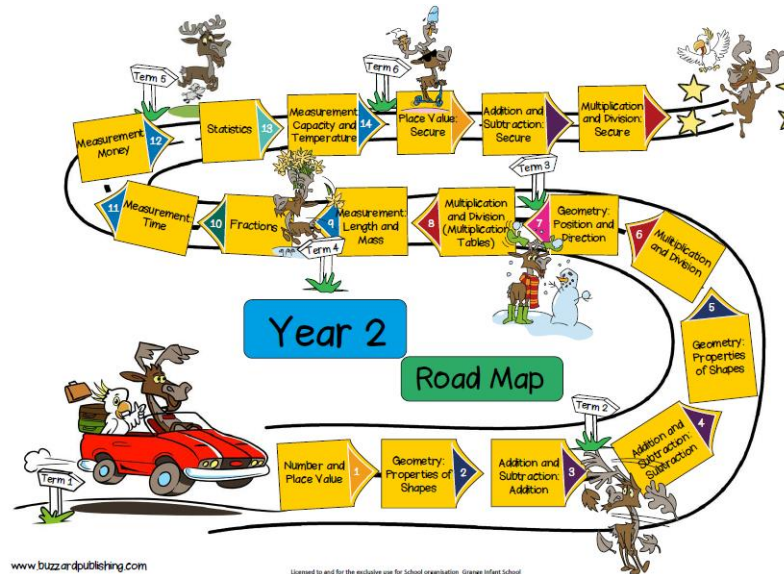
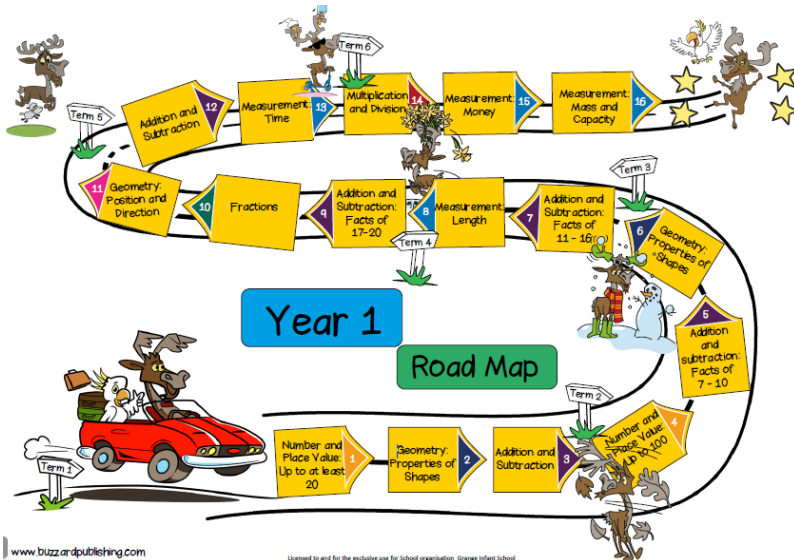
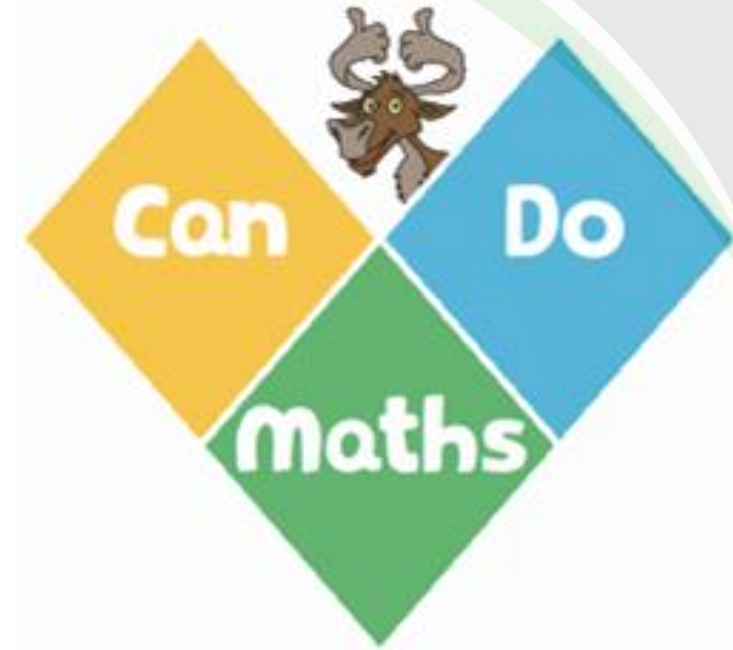


NCETM
NATIONAL CENTRE FOR EXCELLENCE
IN THE TEACHING OF MATHEMATICS

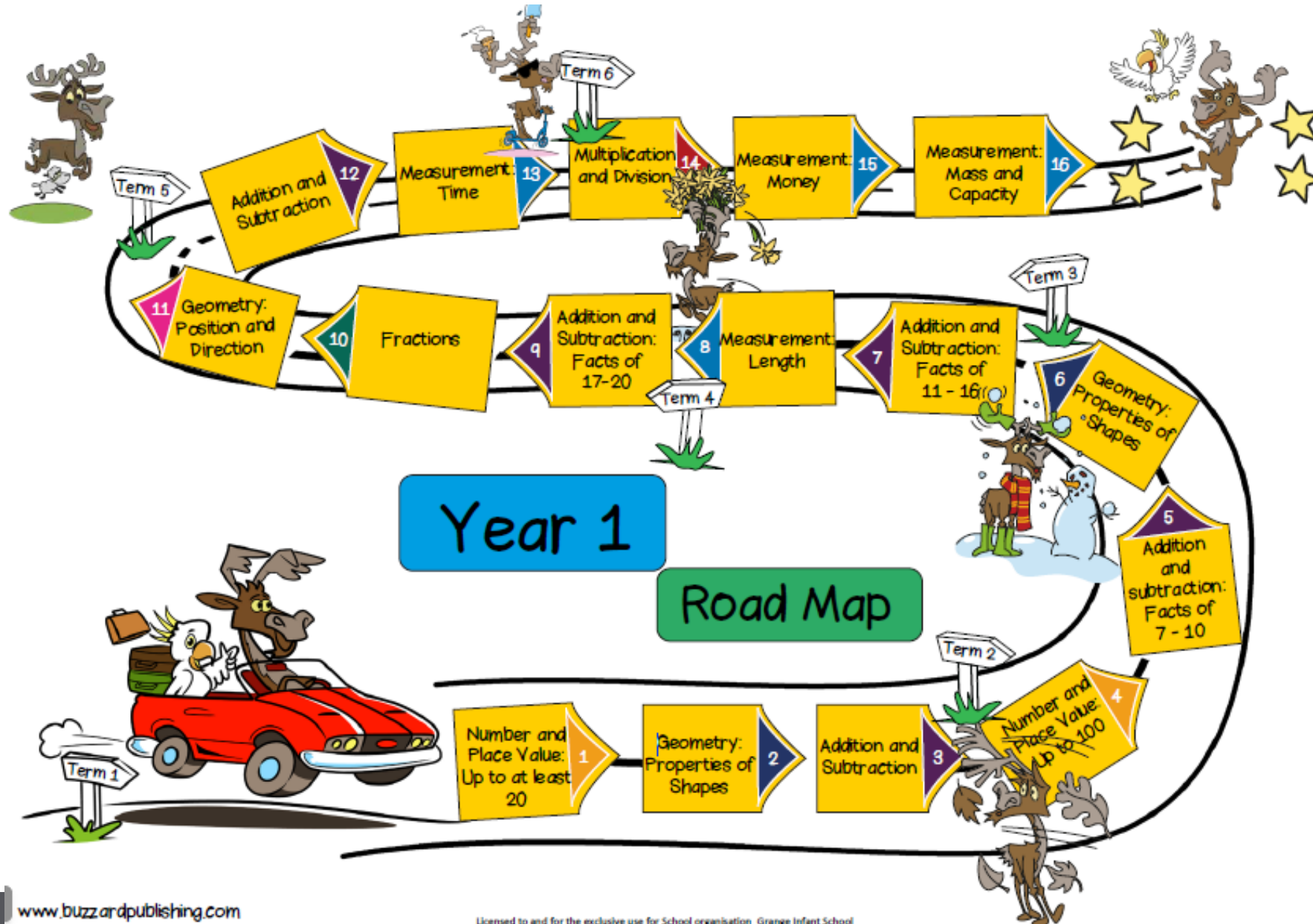


Why CanDoMaths?

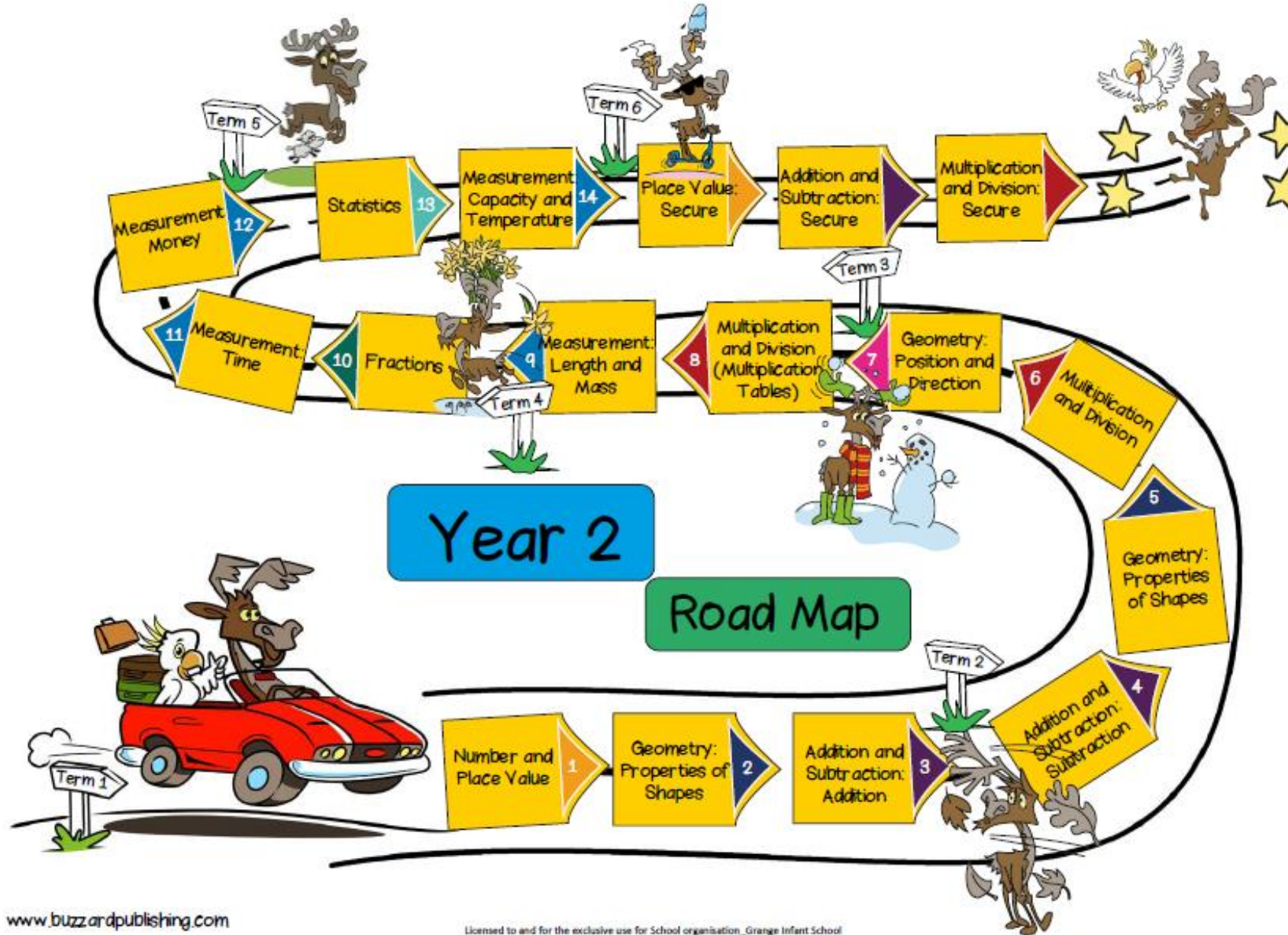
- Broken down into manageable steps.
 - Carefully crafted questions.
- Planned misconceptions to ensure children have a secure understanding.
- Provides opportunities for children to apply the learning to a range on situations.
 - ensures a consistent approach across all year groups.
 - Progressive across year groups.
 - Smooth transition into year 3



Units covered in Year 1



Units covered in Year 2



Main Lesson Structure:

Structure (Same Aim for the whole lesson):

- Arithmetic starter – Five and fly - i.e number bonds with 10.
- Hook it – Contextualise learning, make the connections to what we already know.
- Teach it – Watch me do it
- Practise it – Practise together
- ***Explore it*** - Your turn to independently have a go at the skill.
- ***Embed it*** – What it is not – testing children’s understanding
- Extend it - Applying the skill to a problem

Not all children
will access all
parts and that is
ok.

CP in Year 1

Children in year 1 don't follow the main lesson structure just yet as they are transitioning between EYFS and KS1

In Year One we follow the main lesson structure:

- Arithmetic starter – Five and fly - i.e number bonds with 10.
- Hook it – Contextualise learning, make the connections to what we already know.
- Teach it – Watch me do it
- Practise it – Practise together
- **Explore it** - Your turn to independently have a go at the skill.
- **Embed it** – What it is not – testing children's understanding

Maths within the Continuous Provision

The Maths area has Maths activities based on the Maths taught from the previous week so the children can consolidate and extend their learning during discovery time. Children have access to a range of manipulatives in the Maths area which they can access at all times.

Structure of an MoT Session:

45 mins	Main Lesson		
5 - 10 mins	Input for previously taught concept / facts		Targeted intervention for SEN children
10-15 mins	Practise previously taught skill or facts	Immediate intervention from Main Lesson / time to complete 'Embed'	

How do we achieve that?

- *Everyone can do maths, if they have the right attitude and teachers support and challenge them appropriately*
- *Teachers are experts in mathematics, who model a positive attitude to towards maths.*
- *We only learn our own year group content and we make progress by going deeper and securing understanding of that content.*
- *Everyone has the same opportunities to be successful in maths.*
- *We learn maths together.*
- *Nobody is just good at maths, success come through effective teaching and hard work.*
- *We seek out challenge*
- *Maths is enjoyable and is an opportunity to be creative.*

Our approach involves:

- ***Teaching all pupils in class together, about an age-related concept;***
- ***Reasoning about concepts in every part of every lesson;***
- ***Immediate, verbal feedback and highlighting of correct concepts within lessons;***
- ***Ongoing assessment of learning (AfL) during lessons;***
- ***Spending longer on one concept, which is taught through well sequenced manageable steps;***
- ***Adults being deployed flexibly, according to the needs of the children in the current lesson;***
- ***Providing support for pupils who needs it over shorter, more intense timescales to prevent gaps in learning occurring.***
- ***Regular, low stake assessments which inform future teaching.***

Knowledge Organisers



Knowledge Organisers are on the website to show methods and key vocabulary which are used in school.

There are broken down into terms.

42
forty-two
4 tens and 2 ones

42 = 40 + 2
42 = 30 + 12
42 = 20 + 22
42 = 10 + 32

number digit
less
greater
ones
tens

Stop and look.
What do you notice?

10 less than 42 is 32
10 more than 42 is 52

35 + 20
Add multiples of ten

If I know 3 + 2 then I also know.

37 + 19
Round then adjust

Add 20 then subtract 1

35 + 23
Partition and recombine

addend
sum
plus
total

35 + 23 = 23 + 35
Addition is commutative

Year 2 Term 1

Pentagons - 5 straight sides

Hexagons - 6 straight sides

Octagons - 8 straight sides

A vertex is the corner of a 3D shape.
This cube has 8 vertices.

An edge joins 2 vertices.
This cube has 12 edges.

The flat surface is a face.
This cube has 6 faces.

pentagon
hexagon
octagon
vertex
edge
face

Importance of Resources

Resources can be powerful tools to support sense making, mathematical thinking and reasoning skills.

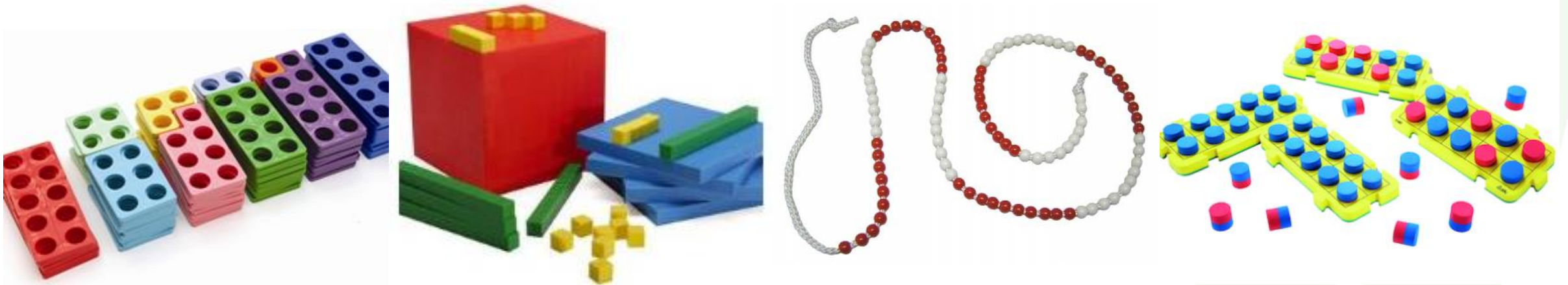
They help our children to be able to practically engage with new learning and to support their ability to visualise new concepts and knowledge.

We apply a CPA approach to Maths learning which embeds the importance of using physical resources to support learning opportunities.

Read on to find out more about this approach.

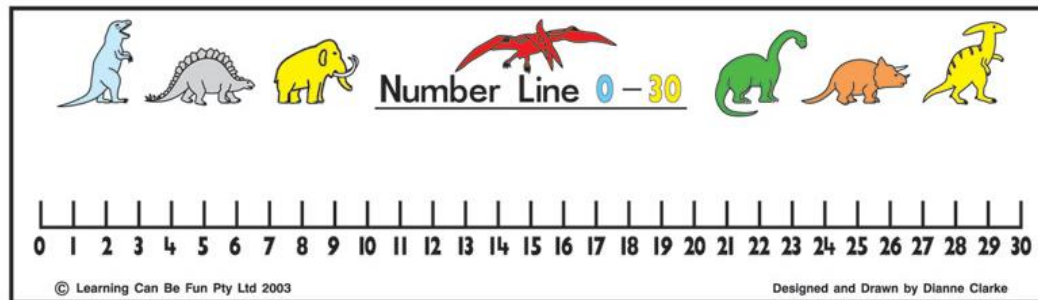
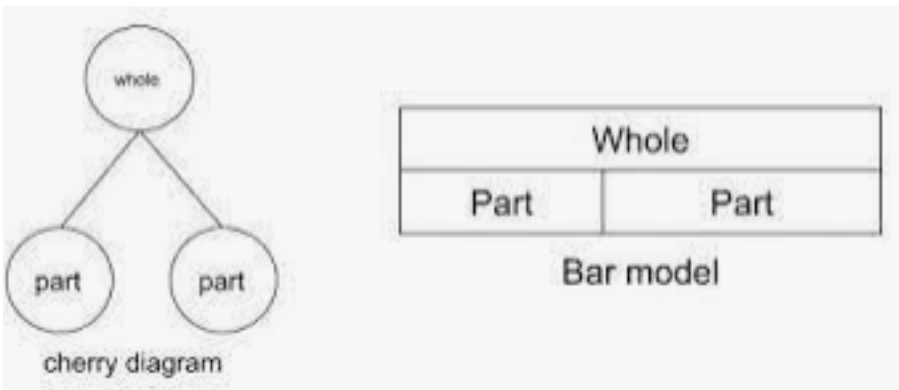
What is CPA?

C is for concrete. New concepts are introduced through the use of physical objects or practical equipment. These can be physically handled, enabling children to explore different mathematical concepts. These are sometimes referred to as maths manipulatives and can include ordinary household items such as straws or dice, or specific mathematical resources such as dienes or Numicon.



What is CPA?

P is for pictorial. Once children are confident with a concept using concrete resources, they progress to pictorial representations. By doing this, they are no longer manipulating the physical resources, but still benefit from the visual support the resources provides.



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

What is CPA?

A is for abstract. Once children have a secure understanding of the concept through the use of concrete resources and visual images, they are then able to move on to the abstract stage. Here, children are using symbols to solve problems. To be able to access this stage effectively, children need access to the previous two stages alongside it.

$8 + 2$

$20 - 5$

3×10

1 less than 38

How can you help at home?



- Practise spotting and recognising numbers in the environment. Add/multiply/subtract/divide door numbers, numbers on car registration plates, road signs and at the shop.
- Flicking through the TV guide? Ask your child to calculate the length of their favourite programmes. How long is it until the next programme?
- Use food packaging to discuss 2D and 3D shapes. What are the properties of these shapes e.g. how many faces, sides, vertices?
- Measuring up for new furniture? Want to make sure the Christmas tree will fit in your living room? These are really good opportunities to encourage your child to see the value of careful measuring skills in everyday life.
- Practise telling the time with your child. Can they read both the digital and analogue clock?
- Board Games supply endless opportunities for Maths – Snakes and Ladders, Monopoly, Bingo, Connect Four, Battle Ships etc

Websites to support children's Maths skills



- [CBeebies](#) have lots of fun and interactive games and activities to help get our younger children excited about Maths
- [I See Maths](#) – a useful site with a plethora of ideas for fun games that all the family
- [Primary Games Arena](#) - It is a free website that encourages children to play online maths games linked to their home learning. It breaks the games down into concepts which is really helpful.
- [Hit the Button](#) – children love this game as it helps to increase confidence through practising times tables and number bonds.
- [Maths Zone](#) – this site is jam-packed with fun ways to learn more about maths.
- [BBC Bitesize](#) – lots of information alongside short videos help to make the learning enjoyable and accessible for all children.