Maths in Year 1

We focus on building conceptual understanding, and spending time on deepening fundamental knowledge and skills. If children have excellent understanding of basic number knowledge then they can use this to reason and solve problems.

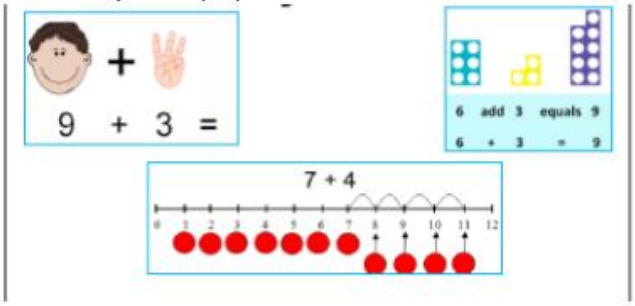
Developing a good "Number sense"

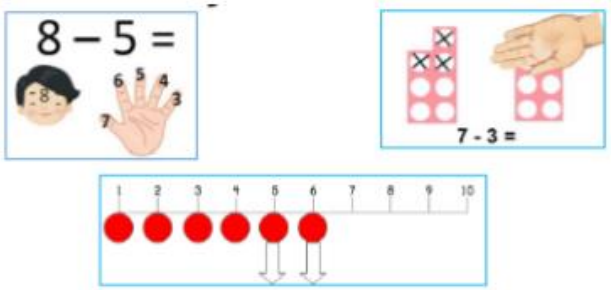
- For example - what is '7'?
- How can I make it? 7 + 0 , 6 + 1, 5 + 2, 4 + 3
- Is 4 + 3 the same as 3 + 4? So, do I know what 7 - 3 is? Or 7 - 4? (You get the idea!)
- Can I recall those number bonds easily?
- So if I'm adding 5 to 7 I know that 5 + 5 = 10 and then I need to add 2 more
- Or if I have to take 7 away from 24, I could visualise 20 - 4 - 3 which helps me get to the answer more quickly.
- What is double seven? What is the relationship between doubling and halving? And if I know that 7 + 7 = 14 then I know what 7 + 6 or 7 + 8 is because I recognise them as near doubles.

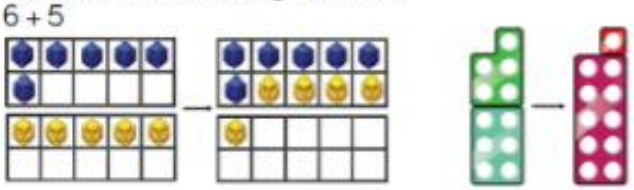
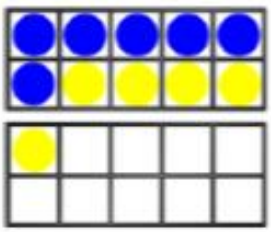
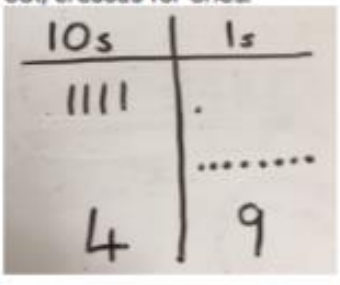
This is what we call number sense, and if children develop a real fluency with small numbers and understand them, they can use this knowledge to work with larger numbers very easily.

Year 1 Calculation expectations

Children in year 1 move to putting the big number in their head and count on or back from that number using a variety of equipment or a number line





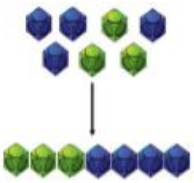
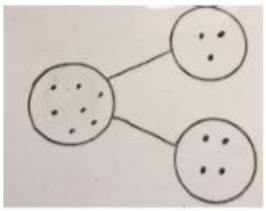
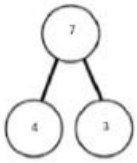
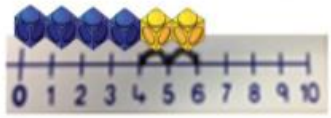
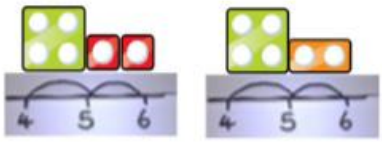
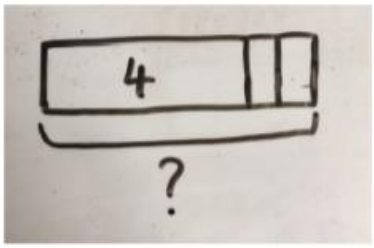
Regrouping to make 10; using ten frames and counters/cubes or using Numicon. 6 + 5 	Children to draw the ten frame and counters/cubes. 
TO + O using base 10. Continue to develop understanding of partitioning and place value. 41 + 8 	Children to represent the base 10 e.g. lines for tens and dot/crosses for ones. 

Concrete - Pictorial - Abstract

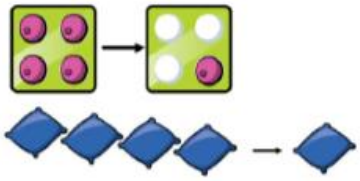
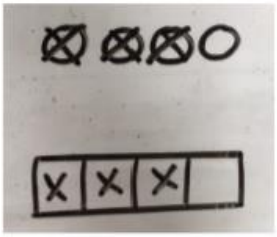
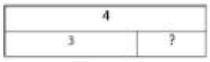
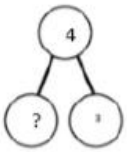
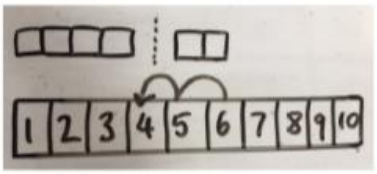
Children need to manipulate concrete objects before they start calculating on paper.
After seeing a real example they are then encouraged to make a pictorial representation of it: this helps children visualise number and develop their mental capacity to do calculations.
Finally children will be encouraged to record calculations more formally as algorithms (number sentences/calculations e.g. 3 + 4 = 7 or 8 = 5 + 3 etc.).

A child will be challenged by problem solving activities, and this does not always include larger numbers, but rather activities that develop thinking skills. We often ask children to 'prove it' - in other words explain how they got to an answer and why other answers would be wrong. Explaining your thinking is key to deepening your understanding.

Addition

Concrete	Pictorial	Abstract
Combining two parts to make a whole (use other resources too e.g. eggs, shells, teddy bears, cars). 	Children to represent the cubes using dots or crosses. They could put each part on a part whole model too. 	4 + 3 = 7 Four is a part, 3 is a part and the whole is seven. 
Counting on using number lines using cubes or Numicon.  	A bar model which encourages the children to count on, rather than count all. 	The abstract number line: What is 2 more than 4? What is the sum of 2 and 4? What is the total of 4 and 2? 4 + 2 

Subtraction

Concrete	Pictorial	Abstract
Physically taking away and removing objects from a whole (ten frames, Numicon, cubes and other items such as beanbags could be used). 4 - 3 = 1 	Children to draw the concrete resources they are using and cross out the correct amount. The bar model can also be used. 	4- 3 = □ = 4 - 3  
Counting back (using number lines or number tracks) children start with 6 and count back 2. 6 - 2 = 4 	Children to represent what they see pictorially e.g. 	Children to represent the calculation on a number line or number track and show their jumps. Encourage children to use an empty number line