

## Last Reviewed: March 2022

At Bradshaw, we follow the White Rose Maths scheme of learning. The scheme aims to build a strong sense of number before calculation is introduced. This includes:

- Understanding the link between numbers and quantity
- Investigating how quantities are composed of smaller parts
- Knowing how the numbers relate to one another and being able to compare and order them

To help the children to achieve this, there is a big focus on counting which is underpinned by five counting principles:

1. The one-to-one principle. This involves children assigning one number name to each object that is being counted. Children need to ensure that they count each object only once ensuring that they have counted every object.
2. The stable-order principle. Children understand when counting, the numbers have to be said in a certain order.
3. The cardinal principle. Children understand that the number name assigned to the final object in a group is the total number of objects in that group.
4. The abstraction principle. This involves children understanding that anything can be counted including things that cannot be touched including sounds and movements e.g. jumps.
5. The order-irrelevance principle. This involves children understanding that the order we count a group of objects is irrelevant. There will still be the same number.

## Calculation Early Learning Goals

## Addition and subtraction:

Mental calculations - Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10 , including double facts.
Solve Problems - Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly.

| Skills | Models and Representations |
| :---: | :---: |
| Combining two groups | - Lots of different contexts using real-life objects and pictures. <br> - Part-whole model |
| Number bonds to 10 | - Explore number bonds to ten using real objects in different contexts. <br> - Ten Frames <br> - Fingers <br> - Bead strings <br> - Numicon <br> - Double-sided counters |
| Counting Patterns beyond 10 | - Representations which clearly show the full 10s and the part of 10 e.g. 14 is one full ten and four <br> - Number tracks <br> - Hundred squares <br> - Numicon <br> - Ten frames <br> - Multilink |
| Adding more | - Use real objects to see that the quantity of a group can be changed by adding more. <br> - Ten frames <br> - Number tracks <br> - Fingers |
| Taking away | - Use real objects to see that the quantity of a group can be changed by taking away <br> - Ten frames |


|  | - Number Tracks <br> - Fingers |
| :---: | :---: |
| Doubling | - Build doubles using real objects and mathematical equipment <br> - Ten frames <br> - Mirrors <br> - Numicon |
| Sharing and grouping | - Real life contexts and objects <br> - Bead string <br> - Ten Frames |
| Even and odd | - Ten frames <br> - Numicon <br> - Objects and plates |
| Deepening understanding | - Problems can be linked to familiar stories or come from the children's suggestions or real problems that arise as they play. <br> - Pictures <br> - Models and representations linked to the skill needed to solve the given problem |

