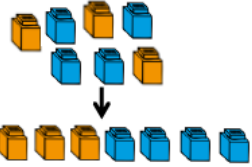

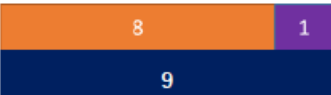
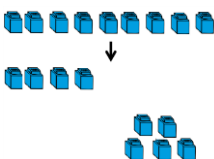
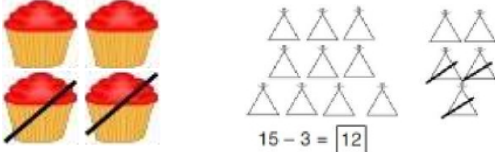
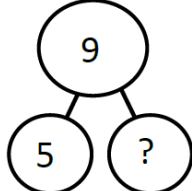


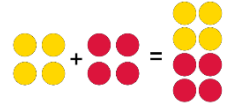
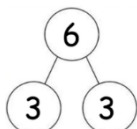


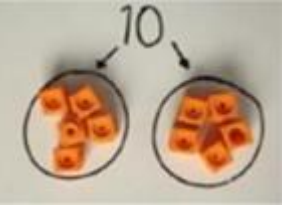
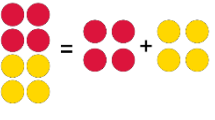
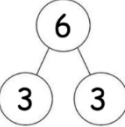
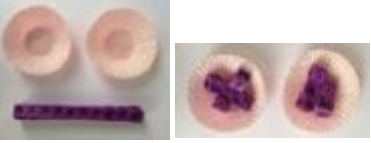

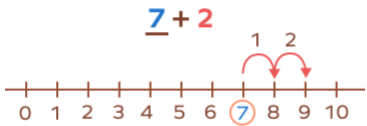


Addition	Subtraction	Multiplication	Division
<p><b>Counting and Combining sets of Objects</b> Combining two sets of objects (aggregation) which will progress onto adding on to a set (augmentation)</p> <p><b>Concrete</b> </p> <p><b>Pictorial</b> <math>8 + 5 = 13</math> </p> <p><b>Abstract</b>  <math>3 + 2 = 5</math> <math>7 = 3 + \square</math></p> <p><b>Understanding of counting on</b> Starting with the larger number and counting on to find a total.</p>	<p><b>Taking away ones</b> Physically taking away and removing objects from a whole.</p> <p><b>Concrete</b> </p> <p><b>Pictorial</b>  <math>15 - 3 = 12</math></p> <p><b>Abstract</b> <math>9 - 5 = 4</math> </p> <p><b>Understanding of counting back</b> Starting with the larger number and counting on to find a total.</p> <p><b>Concrete</b> </p>	<p><b>Multiplication related to doubling</b></p> <p><b>Concrete</b> Use a range of practical resources: Numicon, bead strings, multi-link etc...  <math>5 \text{ and } 5 \text{ is } 10</math></p> <p><b>Pictorial</b> Draw pictures to show doubling </p> <p><b>Abstract</b>  2 equal groups of 3 is 6 <math>3 + 3 = 6</math></p> <p><b>Multiplication is related to groups of the same size (with support)</b></p> <p><b>Concrete</b> Use a range of practical resources: Numicon, bead strings, multi-link and explain equal groupings There are 3 equal groups with 4 in each group. </p> <p> There are 4 equal groups of 5 There are 2 equal groups of 10</p>	<p><b>Division related to halving</b> Use a range of practical resources: Numicon, bead strings, multi-link etc...</p> <p><b>Concrete</b> </p> <p><b>Pictorial</b> Draw pictures to show halving </p> <p><b>Abstract</b>  6 shared into 2 groups equals 3 in each group.</p> <p><b>Group and share small quantities - understanding the difference between the two concepts.</b> Use a range of practical resources: Numicon, bead strings, multi-link etc...</p> <p><b>Concrete</b> Sharing </p> <p>Grouping </p>

**Concrete**



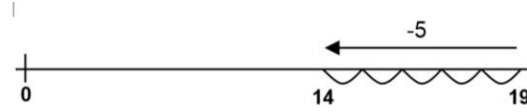
**Pictorial**



**Abstract**

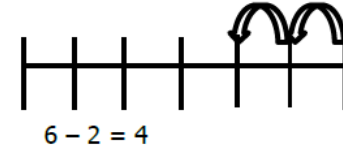
Counting on mentally

**Pictorial**



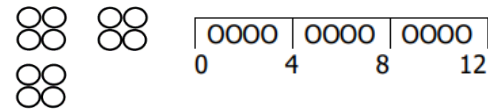
**Abstract**

Counting back mentally or using a blank number line for support.



3 hops of 4 is equal to 12

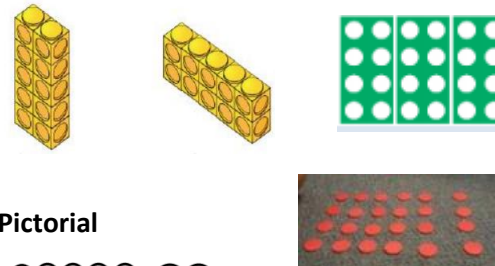
**Pictorial**



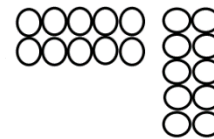
Use arrays to begin to understand that multiplication is commutative

**Concrete**

Use a range of resources to show arrays in different orientations.

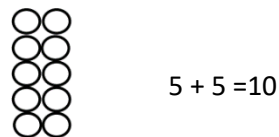
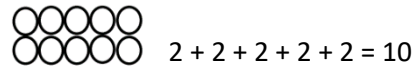


**Pictorial**



**Abstract**

Write the repeated addition calculations linked to the array.



**Pictorial**

Draw out objects to share or group and move to more structured pictorial representations such as number lines and bar models.

Sharing



Grouping

