



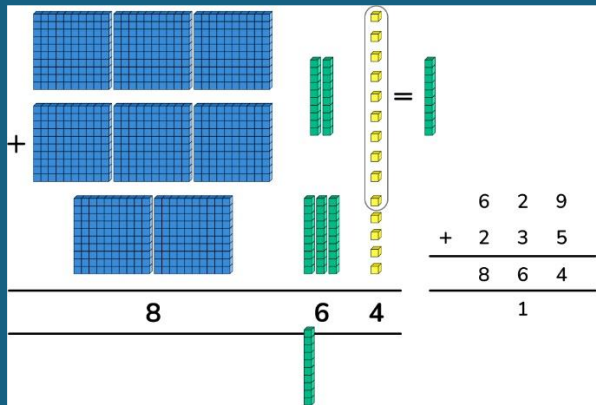
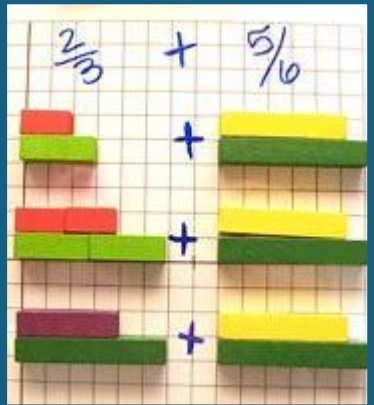
Using manipulatives

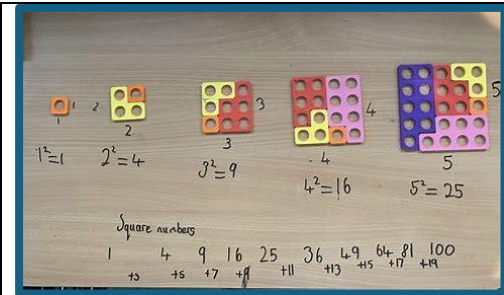
Guidance documents can be found here:

Using mathematical representations at KS3 | NCETM

<https://www.ncetm.org.uk/classroom-resources/secmm-using-mathematical-representations-at-ks3/>

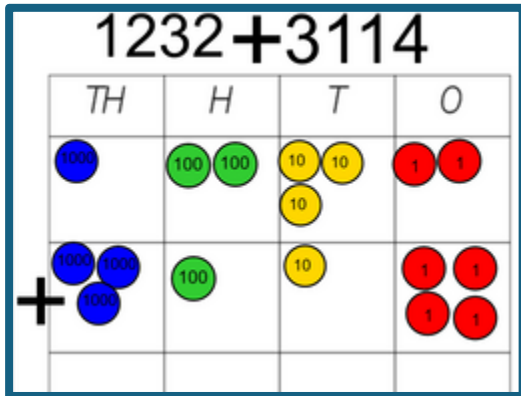
Useful video links:

<p>Dienes</p> 	<p>Using Dienes for Maths https://www.youtube.com/watch?v=rf3svedl7iq</p> <p>Place Value https://youtu.be/VHhOfkGUFxY</p> <p>Addition using Dienes https://youtu.be/WlImn4U-oxs https://youtu.be/l0dAjSj6q64</p> <p>Addition and subtraction using Dienes https://youtu.be/BavcFqGSroA</p> <p>Subtraction using Dienes https://youtu.be/NXCSEkMLWtY</p> <p>Using Dienes cubes for multiplication https://youtu.be/TyewMYZjb48</p> <p>How to divide using Dienes https://youtu.be/qJxt-kSzfbo https://youtu.be/XE7F7rFwB64</p>
<p>Cuisinaire</p> 	<p>What are Cuisinaire Rods? https://youtu.be/d1jQDONmSIA (NCETM video) https://youtu.be/ZqWozw-Dung</p> <p>Teaching addition with Cuisinaire https://youtu.be/IYR7Na7mC30</p> <p>Addition and Subtraction with Cuisinaire https://youtu.be/tuMdYPB8zt0</p> <p>Cuisinaire Rods and fractions https://youtu.be/rjtYFrn3KbU https://youtu.be/QuJayqMsXE0</p> <p>Equivalent Fractions with Cuisinaire https://youtu.be/0u8UeWlfdRE</p> <p>Ratio and Proportion https://youtu.be/q58VQPLOok4</p>
<p>Numicon https://www.youtube.com/oxfordeducation/numicon</p>	<p>Numicon Videos from Oxford Education: Numicon: maths in your hands https://www.youtube.com/watch?v=rxd-ERFK0yE&list=PLBF1015962E7C299D</p> <p>5 ways to use Numicon in the classroom https://youtu.be/Ob1XW_1H4_I</p> <p>Basic addition and subtraction with Numicon https://youtu.be/sqRmidn9i7c</p> <p>Multiplication with Numicon (KS1)</p>



https://youtu.be/LMJ_0VmitTc

Place Value Counters



Introduction to place value counters – place value/partitioning

<https://youtu.be/NNf4gXqTv7I>

Place value counters to explain millions to thousandths

<https://youtu.be/UeqxiOUCTIq>

Add and subtract with place value counters

<https://youtu.be/d6lbb5yDGkl>

Multiply and divide with place value counters

<https://youtu.be/IXGcy6PFqEM>