

PROGRESSION THROUGH CALCULATIONS FOR DIVISION

MENTAL CALCULATIONS (ongoing)

These are a **selection** of mental calculation strategies:

See NNS Framework Section 5, pages 52-57 and Section 6, pages 58-65

Doubling and halving

Knowing that halving is dividing by 2

Deriving and recalling division facts

Once children have been taught tables in Year 2 these should be practised regularly, either as part of the mental oral starter or other times as appropriate within the day.

Year 2 2 times table
 5 times table
 10 times table

Year 3 2 times table
 3 times table
 4 times table
 5 times table
 6 times table
 10 times table

Using and applying division facts

Children should be able to utilise their tables knowledge to derive other facts.

e.g. If I know $3 \times 5 = 15$, what else do I know?

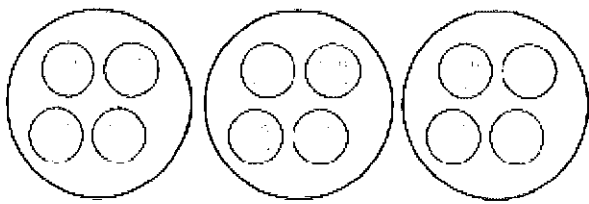
$3 \times 5 = 15$, $30 \times 5 = 150$, $15 \div 5 = 3$, $15 \div 3 = 5$ etc

MANY MENTAL CALCULATION STRATEGIES WILL CONTINUE TO BE USED. THEY ARE NOT REPLACED BY WRITTEN METHODS.

THE FOLLOWING ARE STANDARDS THAT WE EXPECT THE MAJORITY OF CHILDREN TO ACHIEVE.

YR

Children will understand equal groups and share items out during problem solving sessions and independent learning time. They will count in 2s and 10s and later in 5s.

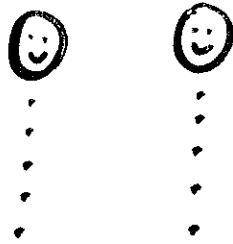


Children will use visual representations such as the bead strings or objects to share out equally.



Children will solve one-step problems involving division using concrete objects and pictorial representations with the support of the teacher.

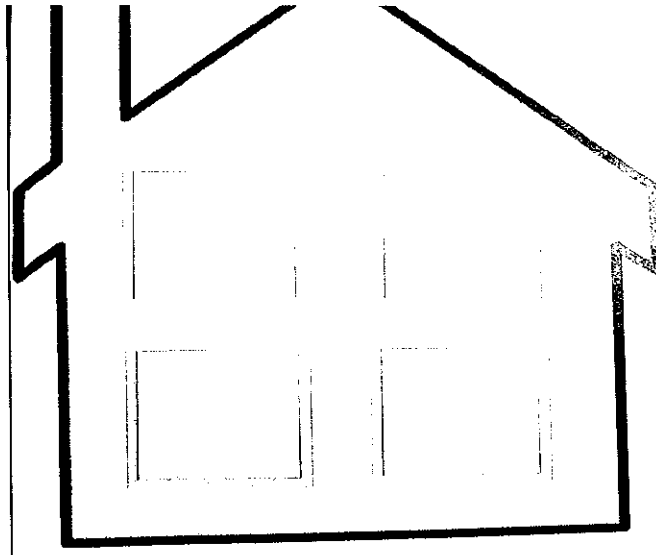
$$10 \div 2 = 5$$



Through grouping and sharing small quantities, pupils begin to understand division.

Children may start four objects and place one in each window of the house to illustrate the calculation

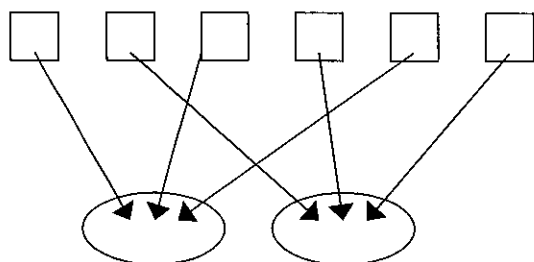
$$4 \div 1 = 4$$



Children will develop their understanding of division and use pictures, apparatus and jottings to support calculation

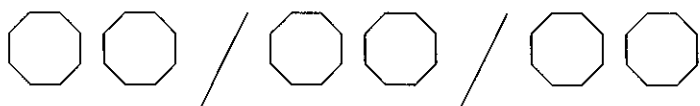
✓ **Sharing equally**

6 sweets shared between 2 people, how many do they each get? ($6 \div 2$)



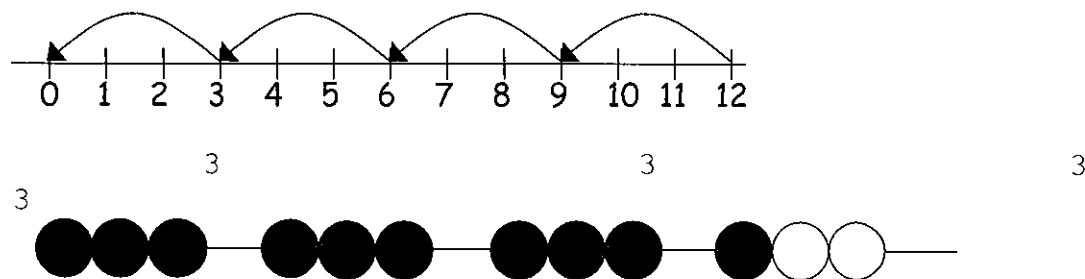
✓ **Grouping or repeated subtraction**

There are 6 sweets, how many people can have 2 sweets each? / Can I put the 6 sweets into groups of 2? ($6 \div 2$)



✓ **Repeated subtraction using a number line or bead bar**

$$12 \div 3 = 4$$



The bead bar will help children with interpreting division calculations such as $10 \div 5$ as 'how many 5s make 10?'

Emphasis should now be on dividing by grouping, not sharing.

✓ **Using symbols to stand for unknown numbers to complete equations using inverse operations**

$$\square \div 2 = 4 \quad 20 \div \triangle = 4 \quad \square \div \triangle = 4$$

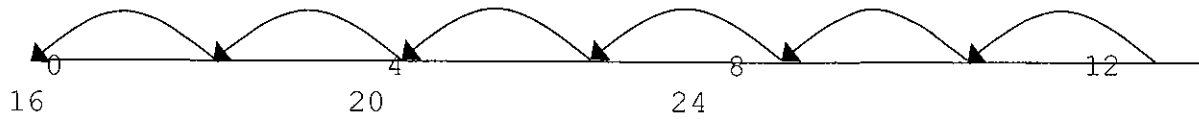
Y3

Children will continue to use:

✓ **Repeated subtraction using a number line**

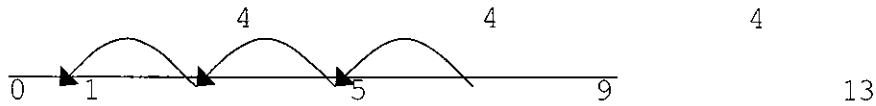
Children will use an empty number line to support their calculation.

$$24 \div 4 = 6$$



Children should also move onto calculations involving remainders.

$$13 \div 4 = 3 \text{ r } 1$$



✓ **Using symbols to stand for unknown numbers to complete equations using inverse operations**

$$26 \div 2 = \square$$

$$24 \div \triangle = 12$$

$$\square \div 10 = 8$$