'Learning by Heart'

Developing children's knowledge of mathematical facts so that they know them 'by heart' is a valuable tool to support calculation strategies, and also helps to build confidence. Regular practice is needed to secure knowledge and help children instantly recall facts.

We encourage children to think 'Can I do this in my head?' Having a range of number facts at their fingertips really empowers the children and enables them to approach tasks with confidence.

Year 6 Autumn Term 1: Consolidate all number bonds work including decimals 1-10

Focus on quick recall of number bonds to 50 and 100, this means that the children can quickly work out pairs of numbers that total 50 or 100 e.g. 15 + 35 = 50 or 29 + 71 = 100

Extend to focus on decimals that total 1 and 10 e.g. know that 0.3 + 0.7 = 1 and that 2.5 + 7.5 = 10

Practical ideas to help your child

- Encourage children to use their knowledge of number bonds to 10 to support number bonds to 100 e.g count quickly to the next multiple of 10 (tens number) then count on in tens until they reach 100
  36 → 4 more makes 40 then 60 more makes 100 = 64

When working with decimals encourage the children to make links to number bonds to 10 and number bonds to 100. Many children find it easier to relate decimals to money e.g. 0.7 is the same as £0.70 → no pounds and 70 pence

- Regular 5 / 10 minute practice, quick-fire questions where you give your child a number and they have to tell you the other number to make up the target number e.g. make 100, give a number like 74 and see how quickly your child can think of the partner number 26

Vocabulary

number bond	whole number	decimal
pair	less than 1	derive

Autumn Term 2: Consolidate multiplication and division facts to 12 x 12 and 10 x 100

- Step 1 - Consolidate knowledge of times tables from x2 → x10, recalling the times tables in order

- Step 2 - Ask random times tables questions requiring a deeper knowledge and understanding of the number facts. Add the element of a 'time challenge' as your child becomes more efficient e.g. How many can you get right in 1 minute? or give a 10 second time limit per answer. Challenge your child to work out the answer before you can – adding some competition.

- Step 3 – Give the multiplication fact and ask for a linked division fact e.g. 3 x 4 = 12 …. child could answer with 12 ÷ 3 = 4 or 12 ÷ 4 = 3

- Step 4 – Recall of division facts 45 ÷ 9 = ?

For example:

0 x 9 = 0	9 x 0 = 0		
1 x 9 = 9	9 x 1 = 9	9 ÷ 9 = 1	9 ÷ 1 = 9
2 x 9 = 18	9 x 2 = 18	18 ÷ 9 = 2	18 ÷ 2 = 9
3 x 9 = 27	9 x 3 = 27	27 ÷ 9 = 3	27 ÷ 3 = 9
4 x 9 = 36	9 x 4 = 36	36 ÷ 9 = 4	36 ÷ 4 = 9
5 x 9 = 45	9 x 5 = 45	45 ÷ 9= 5	45 ÷ 5 = 9
6 x 9 = 54	9 x 6 = 54	54 ÷ 9 = 6	54 ÷ 6 = 9
7 x 9 = 63	9 x 7 = 63	63 ÷ 9 = 7	63 ÷ 7 = 9
8 x 9 = 72	9 x 8 = 72	72 ÷ 9 = 8	72 ÷ 8 = 9
9 x 9 = 81	9 x 9 = 81	81 ÷ 9 = 9	81 ÷ 9 = 9
10 x 9 = 90	9 x 10 = 90	90 ÷ 9 = 10	90 ÷ 10 = 9

Practical ideas to help your child

Chanting is still an effective way to learn multiplication tables. Musical times tables tapes are also quite useful – children often learn the 'rhythm and rhyme' of a song quite quickly and therefore learn to recite and recall the facts.
It is really important that children are as confident with division facts as they are with multiplication facts.

Practice the idea of 'Family of facts' e.g.

if I know that 4 x 9 = 36 ..... I also know 9 x 4 = 36,

that 36 ÷ 9 = 4 and that 36 ÷ 4 = 9

Vocabulary

times	multiply	multiple of
lots of	groups of	divided by
shared	product	squared

http://www.math-play.com/Decimals-Jeopardy/decimals-jeopardy-game_html5.html

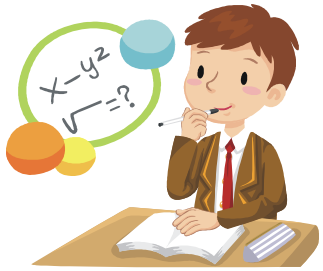
https://www.math-salamanders.com/decimal-number-bonds-to-1.html

http://www.snappymaths.com/multdiv/1to12xtab/interactive/newlook/timestablesintd.htm

https://www.primaryresources.co.uk/maths/mathsC2.htm

St Matthew's C.E. School and Nursery

Rapid Recall and Deriving Facts Year 6



Parent's and carer's guide to support children with the 'Learning by Heart' programme

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