'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 3 Autumn Term 1: Know all doubles to double 20 and halves to ½ of 50.

For example:

Number	Doubles
2	4
5	10
7	14
9	18
10	20
11	22
12	24
13	26
14	28
15	30
16	32
17	34
18	36
19	38
20	40

Number	Halves
50	25
46	23
41	20½
38	19
34	17
29	14½
26	13
22	11
19	9½
16	8
15	7½
12	6
9	4½
6	3
1	½

Practical ideas to help your child

- Encourage children to make links:

Doubling → multiplying by 2 Halving → dividing by 2

- Regular 5 / 10 minutes practice, quick-fire questions. 'Speed challenge': how many doubles and halves can you get right in 3 minutes? (using kitchen timer).

Progress to 'Beat your record': can you get 5 more right than yesterday?

Vocabulary

double multiply by 2 times by 2 x2
halve divide by 2 ÷ 2 partition
hundreds tens ones derive

Autumn Term 2: Know multiplication and division facts for x4 and x8 table

For example:

0 x 4 = 0	4 x 0 = 0		
1 x 4 = 4	4 x 1 = 4	4 ÷ 4 = 1	4 ÷ 1 = 4
2 x 4 = 8	4 x 2 = 8	8 ÷ 4 = 2	8 ÷ 2 = 4
3 x 4 = 12	4 x 3 = 12	12 ÷ 4 = 3	12 ÷ 3 = 4
4 x 4 = 16	4 x 4 = 16	16 ÷ 4 = 4	16 ÷ 4 = 4
5 x 4 = 20	4 x 5 = 20	20 ÷ 4= 5	20 ÷ 5 = 4
6 x 4 = 24	4 x 6 = 24	24 ÷ 4 = 6	24 ÷ 6 = 4
7 x 4 = 28	4 x 7 = 28	28 ÷ 4 = 7	28 ÷ 7 = 4
8 x 4 = 32	4 x 8 = 32	32 ÷ 4 = 8	32 ÷ 8 = 4
9 x 4 = 36	4 x 9 = 36	36 ÷ 4 = 9	36 ÷ 9 = 4
10 x 4 = 40	4 x 10 = 40	40 ÷ 4 = 10	40 ÷ 10 = 4
11 x 4 = 44	4 x 11 = 44	44 ÷ 4 = 11	44 ÷ 11 = 4
12 x 4 = 48	4 x 12 = 48	48 ÷ 4 = 12	48 ÷ 12 = 4

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 8 x 10 = 80 ..... I also know 10 x 8 = 80,
that 80 ÷ 8 = 10 and that 80 ÷ 10 =8

Vocabulary

times multiply multiple of
lots of groups of divided by
shared

Great computer programs:
Times table rock star

www.multiplication.com

https://www.topmarks.co.uk/maths-games/hit-the-button

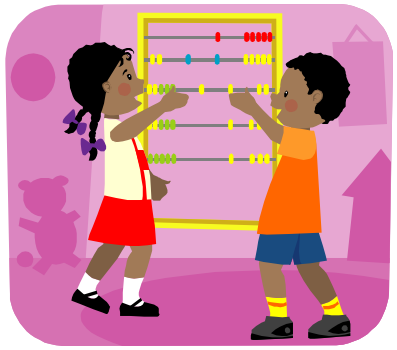
www.mathszone.co.uk has lots of links to interactive games e.g., 'hit the button' – multiplication, division facts, doubling and halving facts to select

https://www.ictgames.com/mobilePage/archeryDoubles/index.html

https://www.primaryresources.co.uk/maths/mathsC4.htm
- Doubling and halving

St Matthew's C.E. Primary Academy

Help your child to learn maths facts Year 3



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