

## '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 4 Autumn Term 1: Know all pairs of numbers that total 100**

$10 + 90 = 100$	$5 + 95 = 100$	$3 + 97 = 100$
$20 + 80 = 100$	$15 + 85 = 100$	$12 + 88 = 100$
$30 + 70 = 100$	$25 + 75 = 100$	$24 + 76 = 100$
$40 + 60 = 100$	$35 + 65 = 100$	$39 + 61 = 100$
$50 + 50 = 100$	$45 + 55 = 100$	$47 + 53 = 100$
$60 + 40 = 100$	$55 + 45 = 100$	$51 + 49 = 100$
$70 + 30 = 100$	$65 + 35 = 100$	$66 + 34 = 100$
$80 + 20 = 100$	$75 + 25 = 100$	$78 + 22 = 100$
$90 + 10 = 100$	$85 + 15 = 100$	$89 + 11 = 100$
	$95 + 5 = 100$	$93 + 7 = 100$

### Practical ideas to help your child

- Encourage your child to quickly identify multiples of 10 as numbers which have 0 or 50 in the units column.
- Encourage links with number bonds to 10 e.g.  $2 + 8 = 10$  so  $20 + 80 = 100$ , etc
- Link to money – how to make £1.00 or change from £1.00 – play shops.
- Help your child to be logical and work through the numbers in a sequence as this helps speed and accuracy. Once able to list the facts, then challenge them by giving them a number and they have to think of its partner.

### Vocabulary

add    addition    number bonds  
total 100    pairs    altogether make

## **Autumn Term 2: Know multiplication and division facts for x3 and x6 table**

For example:

$0 \times 6 = 0$	$6 \times 0 = 0$		
$1 \times 6 = 6$	$6 \times 1 = 6$	$6 \div 6 = 1$	$6 \div 1 = 6$
$2 \times 6 = 12$	$6 \times 2 = 12$	$12 \div 6 = 2$	$12 \div 2 = 6$
$3 \times 6 = 18$	$6 \times 3 = 18$	$18 \div 6 = 3$	$18 \div 3 = 6$
$4 \times 6 = 24$	$6 \times 4 = 24$	$24 \div 6 = 4$	$24 \div 4 = 6$
$5 \times 6 = 30$	$6 \times 5 = 30$	$30 \div 6 = 5$	$30 \div 5 = 6$
$6 \times 6 = 36$	$6 \times 6 = 36$	$36 \div 6 = 6$	$36 \div 6 = 6$
$7 \times 6 = 42$	$6 \times 7 = 42$	$42 \div 6 = 7$	$42 \div 7 = 6$
$8 \times 6 = 48$	$6 \times 8 = 48$	$48 \div 6 = 8$	$48 \div 8 = 6$
$9 \times 6 = 54$	$6 \times 9 = 54$	$54 \div 6 = 9$	$54 \div 9 = 6$
$10 \times 6 = 60$	$6 \times 10 = 60$	$60 \div 6 = 10$	$60 \div 10 = 6$
$11 \times 6 = 66$	$6 \times 11 = 66$	$66 \div 6 = 11$	$66 \div 11 = 6$
$12 \times 6 = 72$	$6 \times 12 = 72$	$72 \div 6 = 12$	$72 \div 12 = 6$

### 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  $3 \times 6 = 18$ ... I also know  $6 \times 3 = 18$ ,  
that  $18 \div 3 = 6$  and that  $18 \div 6 = 3$

### Vocabulary

times                    multiply                    multiple of  
lots of                    groups of                    divided by                    shared

Great computer programs:  
Times table rock star



[www.multiplication.com](http://www.multiplication.com)



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

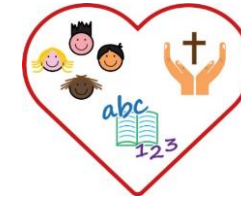


[www.mathszone.co.uk](http://www.mathszone.co.uk) has lots of links to interactive games e.g., 'hit the button' – multiplication, division facts, number bonds to select

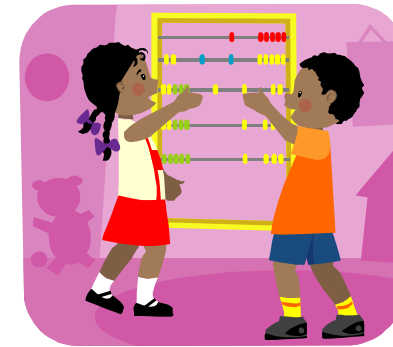


<https://www.studyzone.tv/game275-code13fe7c386fa4ad7bb0ecd4f05c8cec747>

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# Help your child to learn maths facts Year 4



Parent's and carer's guide to support  
children with the 'Learning by Heart'  
programme  
Autumn 2021