Strategies to help children learn their times tables

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initio Learning Trust

Ways to support times table knowledge

- Count and look for patterns.
- Understand that multiplication is repeated addition.
- Remember that multiplication is commutative.
- Remember that multiplication is the inverse of division.
- Recall and utilise fact families.

<u>Use different representations to represent multiplication, such as:</u>

- Concrete manipulatives suck as multilink cubes or counters.
- Create pictorial representations such as arrays.

STRATEGIES FOR LEARNING MULTIPLICATION TABLES

Multiplication Strategies

See the different ways we used to find 6 x 4 = 24

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Use a numberline

6 jumps of 4

Skip count

Count in 4's

4, 8, 12, 16, 20, 24

Repeated addition

Keep adding the same number over and over

Add 4 together 6 times

4 + 4 + 4 + 4 + 4 + 4 = 24

Draw equal groups

Makes 6 groups of 4

Draw a picture

Draw an array

Makes 6 groups of 4

Spotting Patterns

- What do you notice when you multiply an even number by 6?

- 6 X 2 = 12
- 6 X 4 = 24
- 6 X 6 = 36
- 6 X 8 = 48
- 6 X 10 = 60
- 6 X 12 = 72

1 x 2 = 2	1 x 4 = 4
2 x 2 = 4	2 x 4 = 8
3 x 2 = 6	3 x 4 = 12
4 x 2 = 8	4 x 4 = 16
5 x 2 = 10	5 x 4 = 20
6 x 2 = 12	6 x 4 = 24
7 x 2 = 14	7 x 4 = 28
8 x 2 = 16	8 x 4 = 32
9 x 2 = 18	9 x 4 = 36
10 x 2 = 20	10 x 4 = 40
11 x 2 = 22	11 x 4 = 44
12 x 2 = 24	12 x 4 = 48

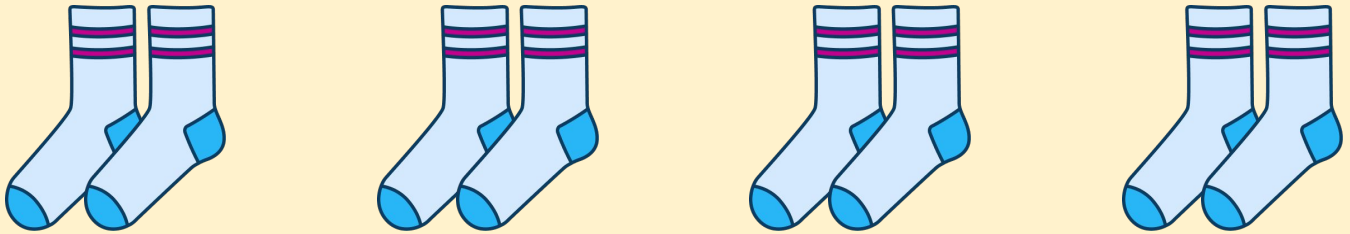
1 x 4 = 4	1 x 8 = 8
2 x 4 = 8	2 x 8 = 16
3 x 4 = 12	3 x 8 = 24
4 x 4 = 16	4 x 8 = 32
5 x 4 = 20	5 x 8 = 40
6 x 4 = 24	6 x 8 = 48
7 x 4 = 28	7 x 8 = 56
8 x 4 = 32	8 x 8 = 64
9 x 4 = 36	9 x 8 = 72
10 x 4 = 40	10 x 8 = 80
11 x 4 = 44	11 x 8 = 88
12 x 4 = 48	12 x 8 = 96

Counting and looking for patterns

Example: Counting in 2s

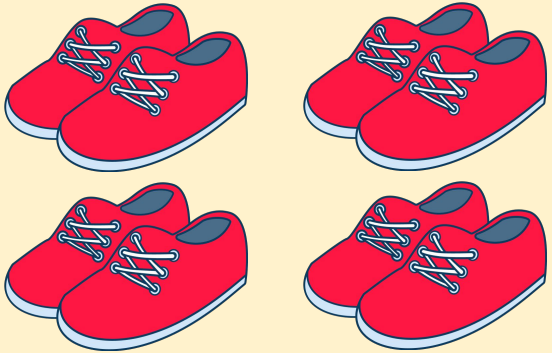
2, 4, 6, 8, 10…

- Ensure children have a strong understanding of counting in groups first.
- When children are secure with counting, they can then look for patterns.

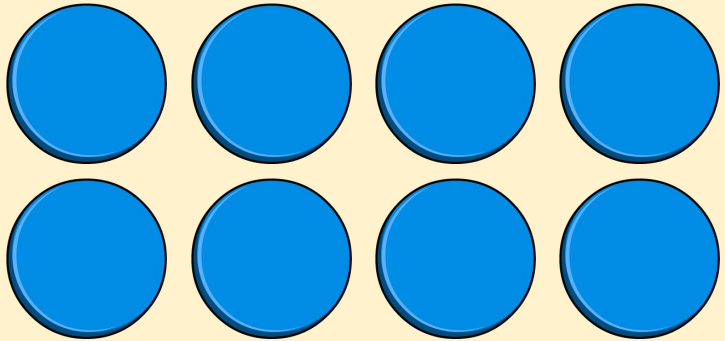


Repeated addition

Knowing that 2 + 2 + 2 + 2 is equal to 2 x 4



2 + 2 + 2 + 2 = ?

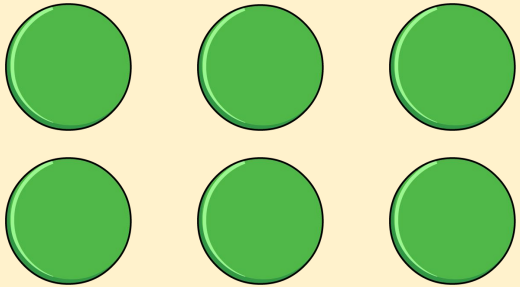


2 x 4 = ?

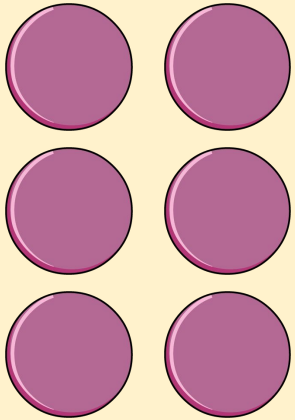
Multiplication is commutative

3 x 2 is equal to 2 x 3

Children need to understand that multiplication can be completed in any order to produce the same answer. Sometimes this link needs to be made explicit.



3 lots of 2 = 6

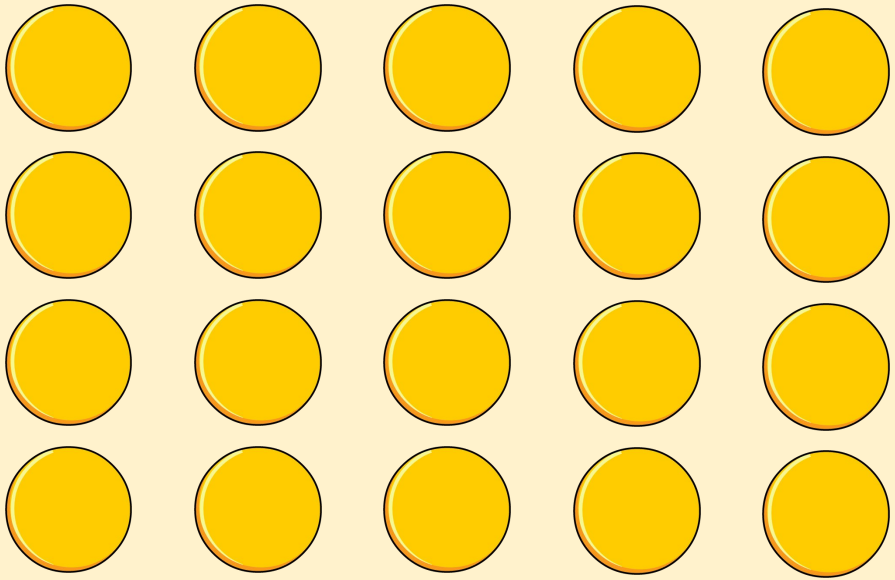


2 lots of 3 = 6

Multiplication is the inverse of division

20 ÷ 5 = 4 can be worked out because 5 x 4 = 20

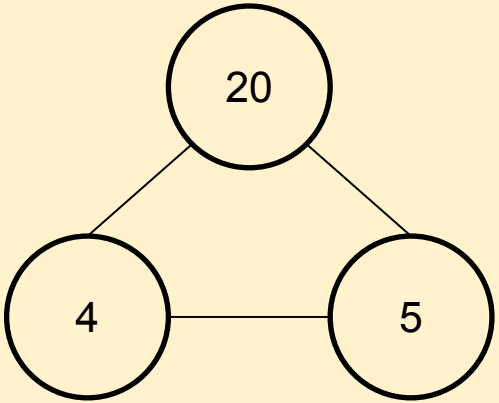
Using pictorial representations (such as arrays) is useful here for children to see the link between multiplication and division.



Fact families

$$4 \times 5 = 20,\ 5 \times 4 = 20,\ 20 \div 5 = 4,\ 20 \div 4 = 5$$

Due to their commutative understanding, children should also be able to see whole number families. For many children this will need to be pointed out and discussed.



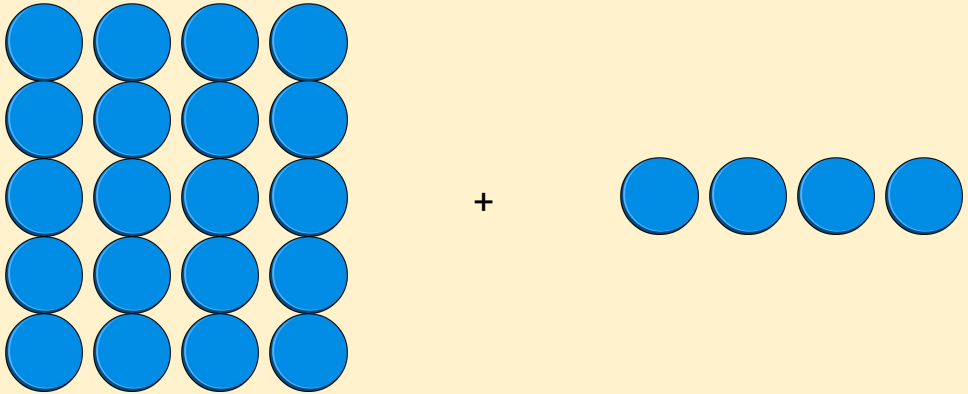
Using known facts

4 x 6 = ?

I know 4 x 5 = 20

Therefore, 20 + 4 = 24

By using known facts from ‘easier’ times tables, children should be able to find answers with increasing speed.



9 Times Tables on fingers

9 x

9 x 1	= 9
9 x 2	= 18
9 x 3	= 27
9 x 4	= 36
9 x 5	= 45
9 x 6	= 54
9 x 7	= 63
9 x 8	= 72
9 x 9	= 81
9 x 10	= 90
9 x 11	= 99
9 x 12	= 108

What can you do to support your child?

Encourage your child to use TTRS as often as they can.

Show an interest and ask to see their heat map and celebrate their success with them!

Ask them questions on the way to school.

Physical Resources

Using playing cards to multiply numbers together. *Can you make the answer with cards?*

Make a fortune teller with the multiplication facts that are tricky.

Rolling two 12 face dice and multiplying the numbers.

Make a game to play.


6
TIMES
TABLE
COVER OF
SHAKE IT OFF BY
TAYLOR SWIFT

Thank You for your time.

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