Welcome!

Parent Workshop: Helping your child with maths

Always striving to be our best

Making S=P+A+C+E for learning

Tonight's Aim:

- To provide an insight on Maths at St. Thomas' (STOC),
- To highlight progression in counting, number bonds and times tables through the year groups,
- To give you strategies and games that can help your children learn their times tables.

S=P+A+C+E for learning

Believe in Yourself.

Confidence

A St Thomas' Learner...

Is happy

Knows they CAN

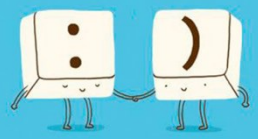
Believes in the power of yet

LEARNS FROM THEIR MISTAKES

Is happy to share

Knows they are valued and loved

Everyday is a new beginning. Take a deep breath, smile and start again.



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Maths at St. Thomas of Canterbury

- This is our third year of Teaching for Mastery in Mathematics
- In line with the National Curriculum, following a Mastery Approach
- Teaching blocks mapped out to allow for understanding at greater depth to be achieved
- Contextualised learning of maths through links with other curriculum areas.

What is Teaching for Mastery?

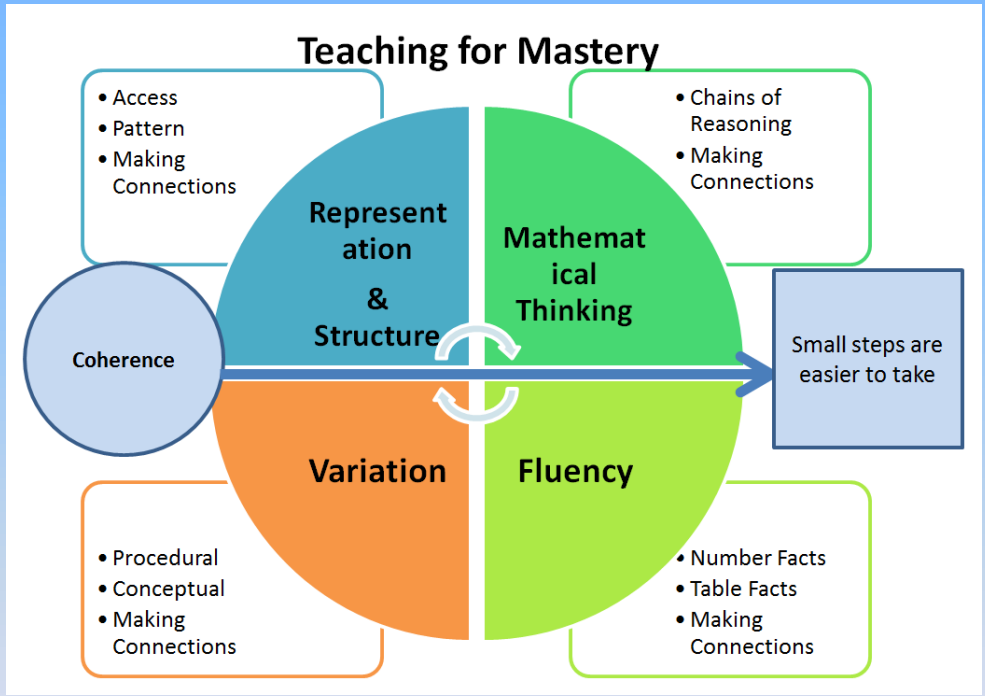
Teaching for mastery means enabling children to gain a secure, long-term, deep and adaptable understanding of mathematics.

At STOC, we follow a series of small steps, breaking down and building up each new concept we teach through maths lessons following elements of fluency, reasoning and problem solving.

Teaching for Mastery

The teaching for mastery model is comprised of five main elements.
To have a deep, lasting understanding of a particular mathematical concept, children need to be exposed to these five 'Big Ideas'.

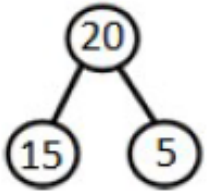
Making connections between learning is a vital part of this.



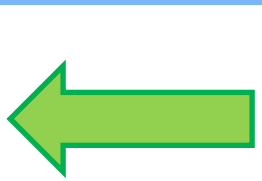
Teaching for Mastery

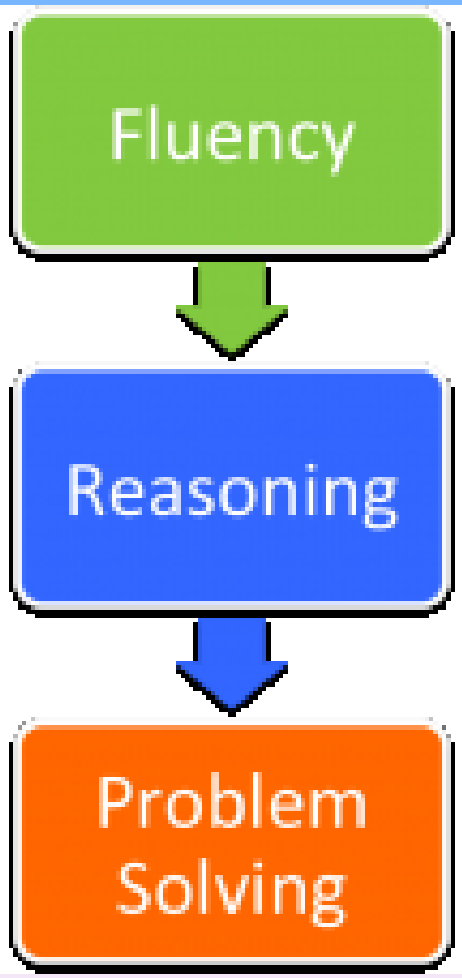
Fluency in mathematics is comprised of rapid and accurate recall and a conceptual understanding of a particular concept.

One relationship shown by this part whole model is
$15 + 5 = 20$
Can you write all associated fact facts in the sentences below?



Year 2, Addition and Subtraction.

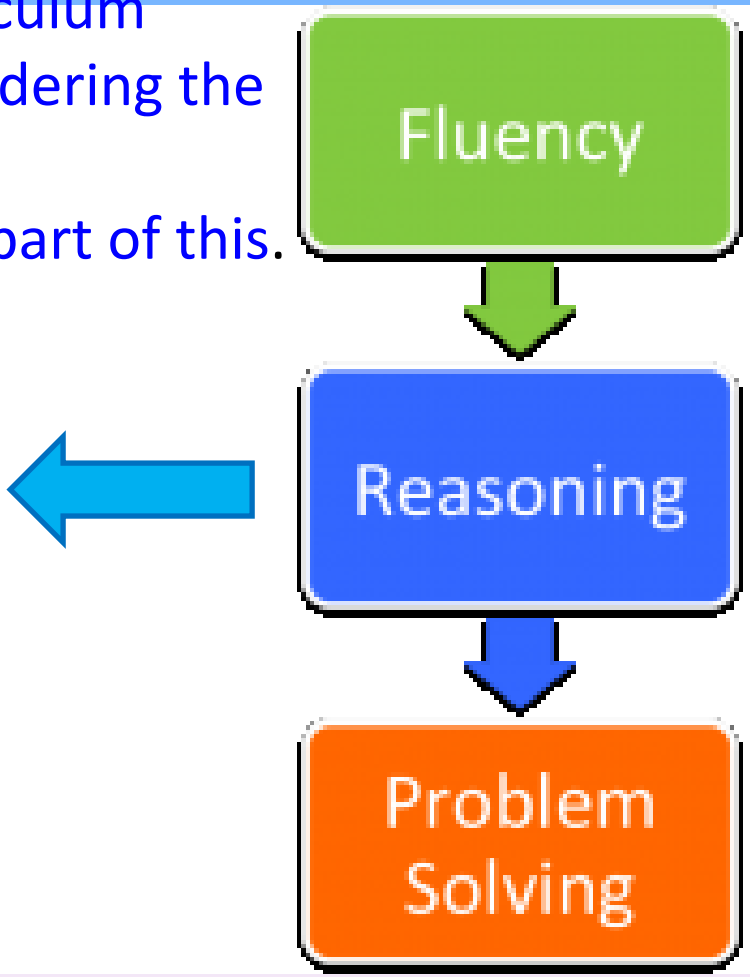




Fluency alone does not give children the opportunities to delve deeper into mathematics.

Teaching for Mastery

The reasoning element of a mastery curriculum requires children to think deeper by considering the relationships within a concept. The use of mathematical language is a fundamental part of this.



$8 - 5 = 3$

$8 - 3 = 5$

$8 = 5 - 3$

$3 = 8 - 5$

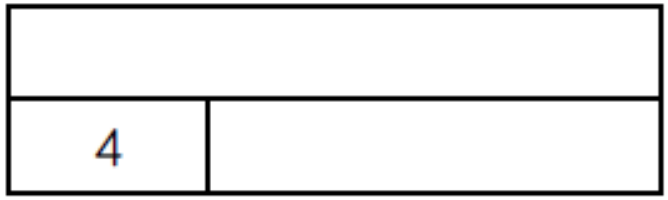
Laura says, "I think that all of these facts are correct because the numbers are related."
Sam disagrees.
Who is correct? Can you prove it?

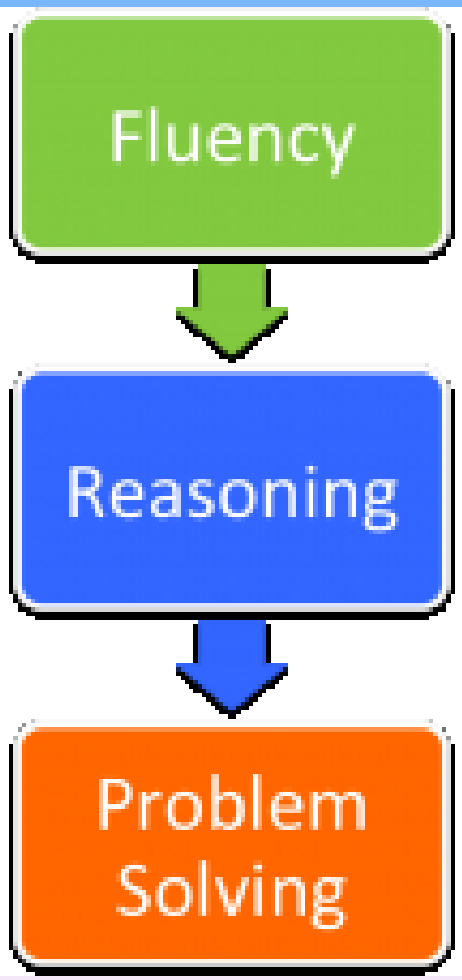
Teaching for Mastery

Problem solving allows children to apply this new mathematical thinking to contextualised situations, making maths meaningful.

Problem solving requires children to break down problems and persevere when challenged to solve them.

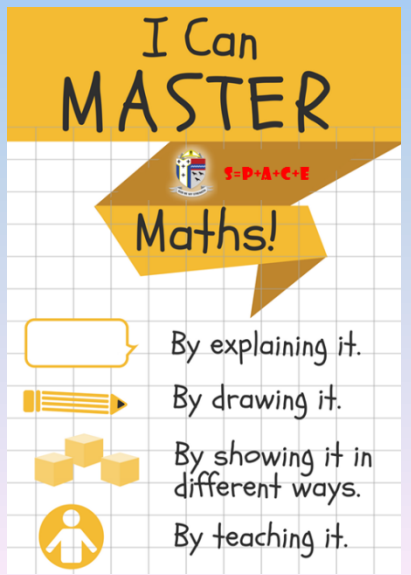
Here is an incomplete bar model.
The total is greater than 10 but less than 20
What could the numbers be?
How many different combination scan you find?





How does teaching for mastery impact my child's learning?

- Each new concept is unpicked and broken down into small steps that the sequential maths lessons will follow.
- Every child is exposed to each concept.
- Challenge and depth for all.
- Longer periods of time spent on each new concept.
- Children become mathematically literate.



Mathematical Vocabulary

In Teaching for Mastery, there is a huge emphasis on Mathematical language.

Ensuring children are using the correct mathematical language is key to ensuring progress.

When working with your child at home, don't simplify the language of the task.

Early Maths

Early Learning Goal

ELG12 – Shape, space and measures

Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

ELG11 – Numbers

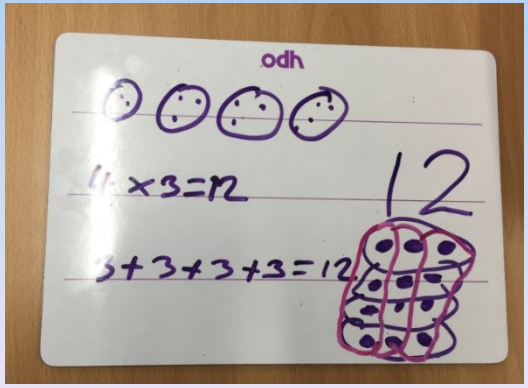
Children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer. They solve problems, including doubling, halving and sharing.

Key Stage 1 Maths

- recall all number bonds to and within 10 and use these to reason with and calculate bonds to and within 20, recognising other associated additive relationships (e.g. If 7 + 3 = 10, then 17 + 3 = 20; if 7 – 3 = 4, then 17 – 3 = 14; leading to if 14 + 3 = 17, then 3 + 14 = 17, 17 – 14 = 3 and 17 – 3 = 14)
- recall multiplication and division facts for 2, 5 and 10 and use them to solve simple problems, demonstrating an understanding of commutativity as necessary
- recall and use multiplication and division facts for 2, 5 and 10 and make deductions outside known multiplication facts

Can we recognise and make equal groups?

- I can count the number shown in a group.
- I can count the number of groups.
- I can count the total value shown.
- I can split a value into equal groups.
- I can recognise numbers that can be split into equal groups of 2, 5 and 10.



Key Stage 2 Maths

Statutory requirements Year 3

Pupils should be taught to:

- recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables
- write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods
- solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

Statutory requirements Year 6

Pupils should be taught to:

- multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
- divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
- divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
- perform mental calculations, including with mixed operations and large numbers
- identify common factors, common multiples and prime numbers

End of Key Stage Expectations – Ks1

6 $3 \times 10 =$ ☐

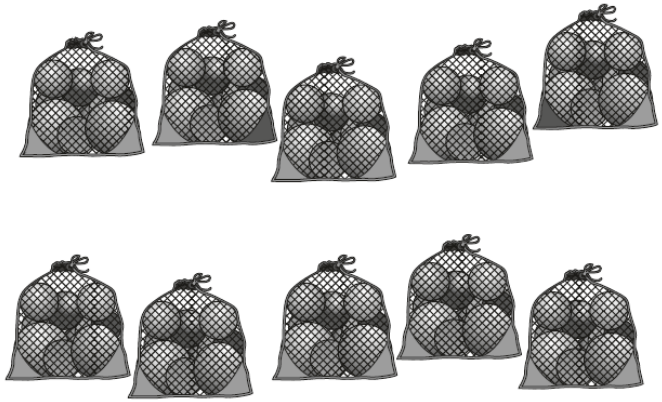
1 mark

15 $8 \div 2 =$ ☐

1 mark

5 ☐ × ☐ = 25

10 Sita puts **10** balls in each bag.



How many balls are in the bags **altogether**?

End of Key Stage Expectations – Ks2

3 $2 \times 45 =$

1 mark

23 $0.5 \times 28 =$

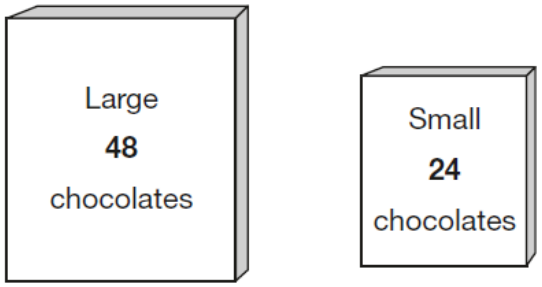
1 mark

5 $99 \div 11 =$

1 mark

8 Ken buys 3 large boxes and 2 small boxes of chocolates.

Each large box has 48 chocolates. Each small box has 24 chocolates.



How many **chocolates** did Ken buy altogether?

Show your method

chocolates

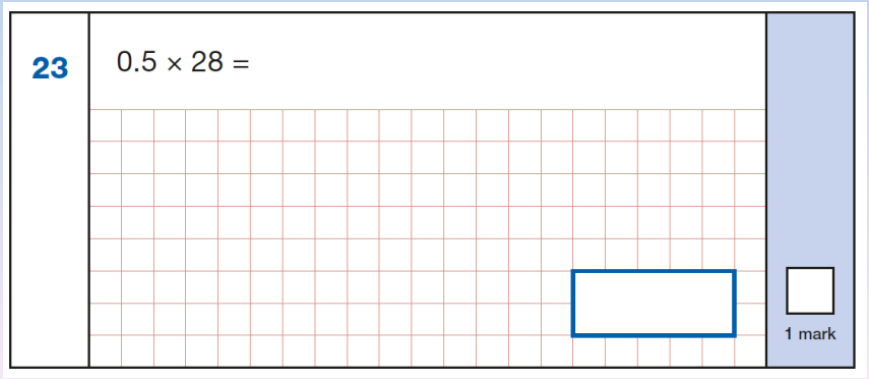
Mastery vs. Learning by 'rote'

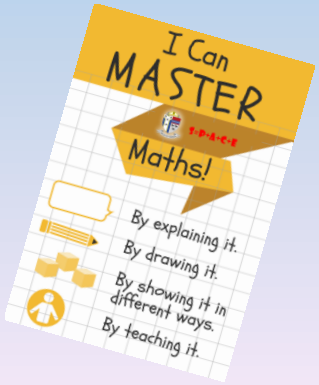
- **I can use a formal method.**

- Children learn by repetition of methods or facts that they can recall for a period of time.

- **I can make links between my learning.**

- Children are able to recall and use knowledge and apply their thinking to solve problems out of the context in which they were taught.





Times Tables and Number Bonds

By the end of Ks1 (Year 2) children are expected to know:

- **Number bonds within 20 and tens bonds to 100.**
- **2, 5, and 10 times table (including related division facts).**

By the end of Ks2 (Year 6) children are expected to know:

- **All tables facts (including related division facts) for all tables 1 – 12.**

Learning Opportunities

- At school
- During lessons,
- Times tables challenges,
- Daily practice.

- At home
- Games
- Songs
- In the car
- Online
- Challenges

Top tips for helping your children at home

1. Be positive!
2. Identify in context

   (this keeps it fun!)
3. Don’t be afraid to make mistakes.

Early Maths

3 rules of counting

1. Count everything once
2. Say the numbers in the right order
3. The last number you say is how many there are

-> the stopping number

Early Maths

Maximise opportunities for counting… in a fun way and with a purpose

- Counting steps/ stairs / jumps– forwards and backwards
- Tidying up - How many things can you pick up?
- Laying the table – Fetch 4 spoons etc.
- Count things around us - How many blue cars are in the car park? How many shoes are lined up in the hallway?
- Aural counting – Count as you hear a noise
- Counting games – ‘Ten Nice Things’

Early Maths

Story books

- Meg's eggs
- Room on the Broom
- Aliens love Underpants
- Ten in a Bed

Songs and rhymes

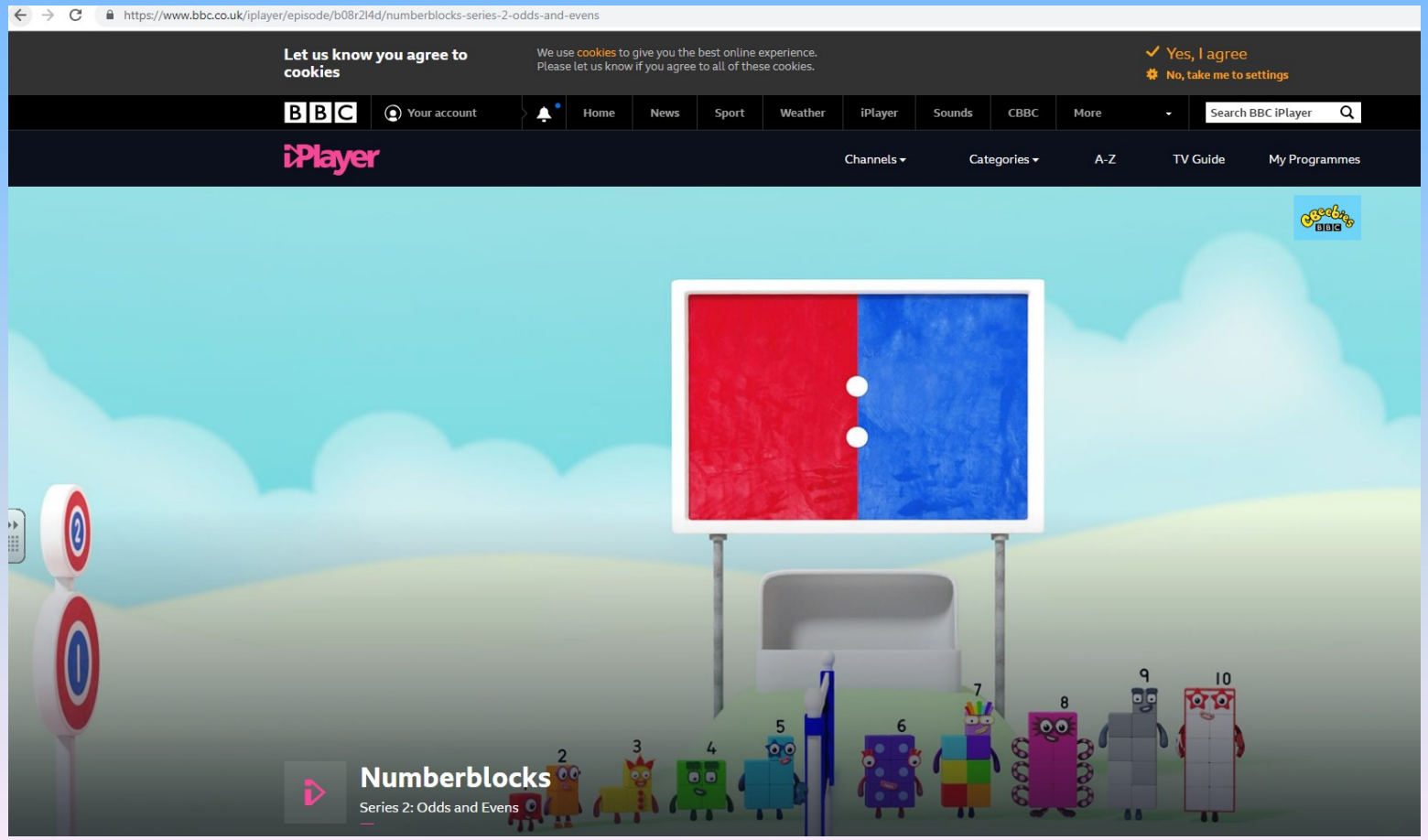
- Five Little Ducks
- Five Little Men in a Flying Saucer
- Five Little Speckled Frogs
- Ten Fat Sausages
- One, Two Three, Four, Five, Once I caught a fish alive

Track games

- Board games, eg Snakes and Ladders
- Home-made track games – inside and outdoors!
- Orchard Toys – eg Insey Winsey Spider

Early Maths

Numberblocks



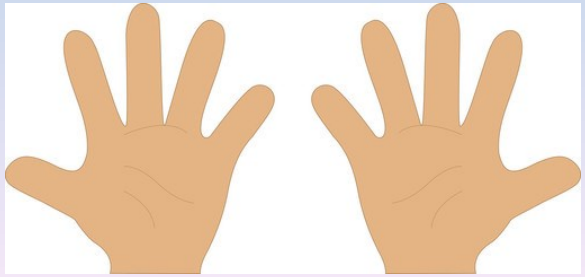
Number Bonds

- **Bonds within ten,**
- **Bonds to ten,** (1 + 9, 2 + 8, 3 + 7, 4 + 6, 5 + 5)
- **Bonds to 20,** (1 + 19, 2 + 18, 3 + 17, 4 + 16, 5 + 15)
- **Bonds to 100.**

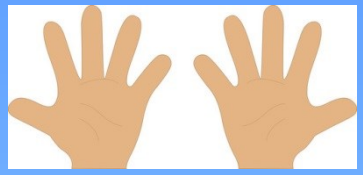
- **Expectation at the end of Ks1.**

Fun ways to help children learn bonds to (and within 10)

- **Games**
- **Songs**
- **Quick recall**
- **Online resources**



Number Bonds



Teaching for mastery builds through using concrete representations, then pictures, then the abstract. (CPA Approach)

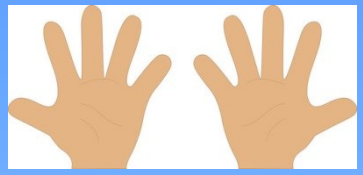
Concrete – using resources

- Fingers!
- Counters
- Lego
- raisins
- Cereal

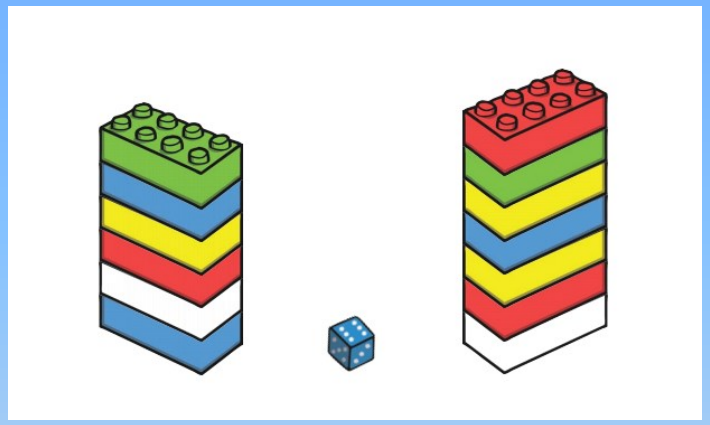
Give your child ten counters (Lego bricks, past shapes, buttons, sweets) and ask them questions such as: What do you add to 3 to make 10? What do you add to 2 to make 10? Encourage them to use the counters to work it out.

Resources can be anything at all, as long as your child can manipulate and move them to build their understanding.

Number Bonds



Concrete – using resources



Build a Tower Game

You will need:

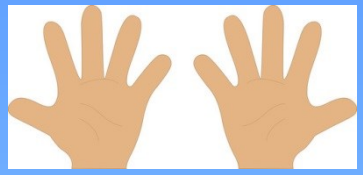
- **Building blocks**
- **Dice**

How to play:

1. **Roll the dice and choose the correct number of bricks,**
2. **Add the bricks to your tower,**
3. **The turn then passes to the next player.**

The first player to build a tower of ten wins!

Number Bonds



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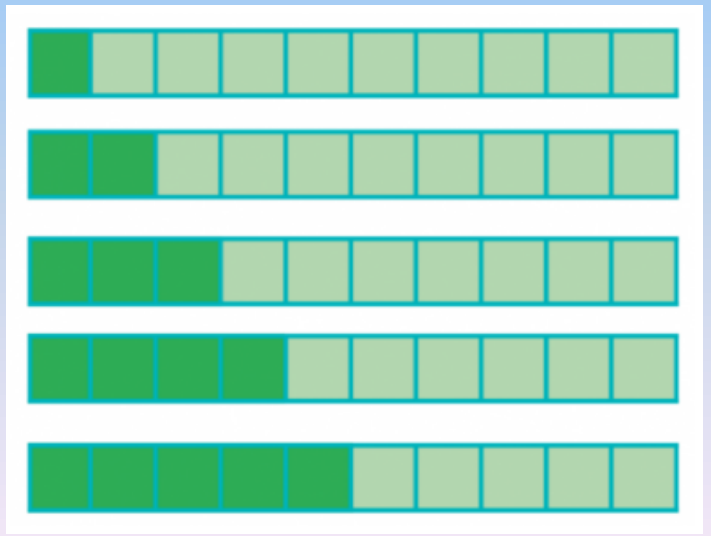
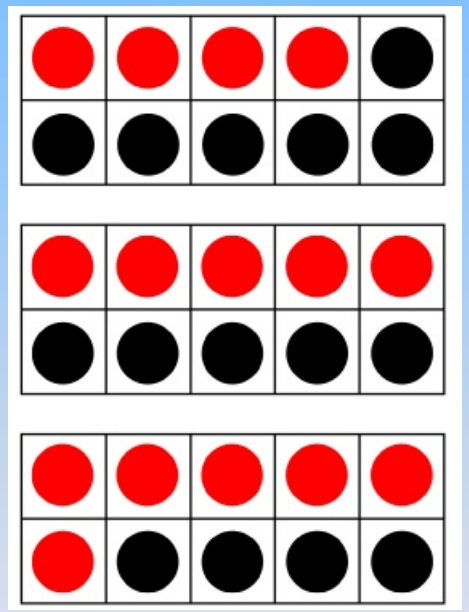
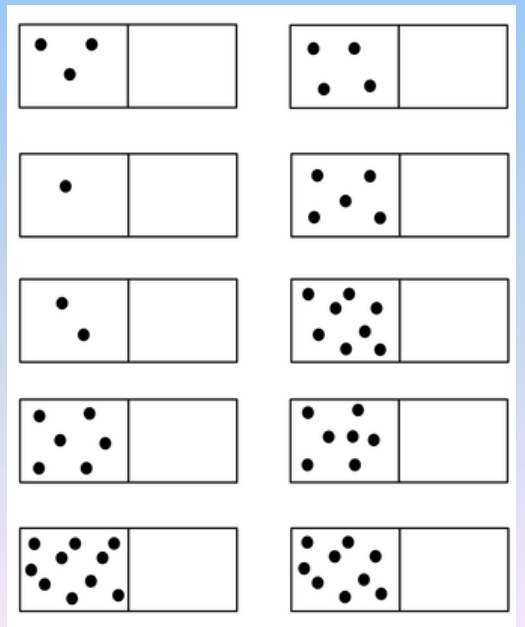
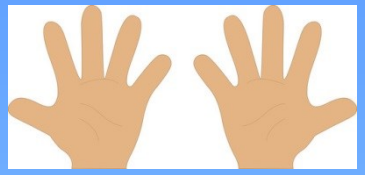
Pictures







Number Bonds



Teaching for mastery builds through using concrete representations, then pictures, then the abstract. (CPA Approach)

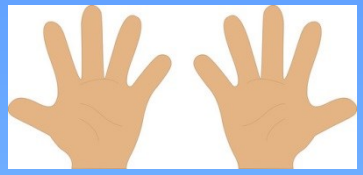
Abstract

Songs:

To the tune of I can sing a rainbow:

Ten and zero or nine and one (to red and yellow and pink and green)
Eight and two make ten (purple and orange and blue)
Seven and Three-eee (I can sing a rainbow)
Six and Four (sing a rainbow)
Five and five make ten!

Number Bonds



Teaching for mastery builds through using concrete representations, then pictures, then the abstract. (CPA Approach)

Abstract

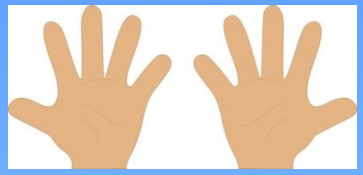
Songs:

To the tune of Frere Jacques.
You sing it then the children repeat it.....

2 AND 8 *repeat* 2 and 8
8 and 2 *repeat* 8 and 2
Add them both together *repeat*
That makes 10 *repeat*

To the tune of row, row, row your boat.
9 and 1 are number bonds,
8 and 2 are friends,
7 and 3
6 and 4
5 and 5 are twins!

Number Bonds



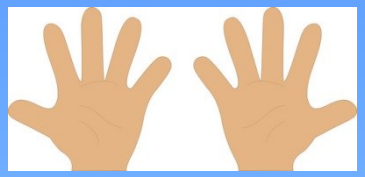
Teaching for mastery builds through using concrete representations, then pictures, then the abstract. (CPA Approach)

Abstract (these can all be used for all bonds)

- Matching number games (match the bonds)
- Ping – Pong Bonds
- Cheeka Cheeka
- Write a list of ten numbers – can your child make them into number sentences for the bonds?
- Number card snap

- Online games

Number Bonds



When your child has ‘mastered’ bonds to ten, making connections is the best way to teach other bonds and related facts.

1 + 9 = 10

Times Tables

Break down by Year Group:

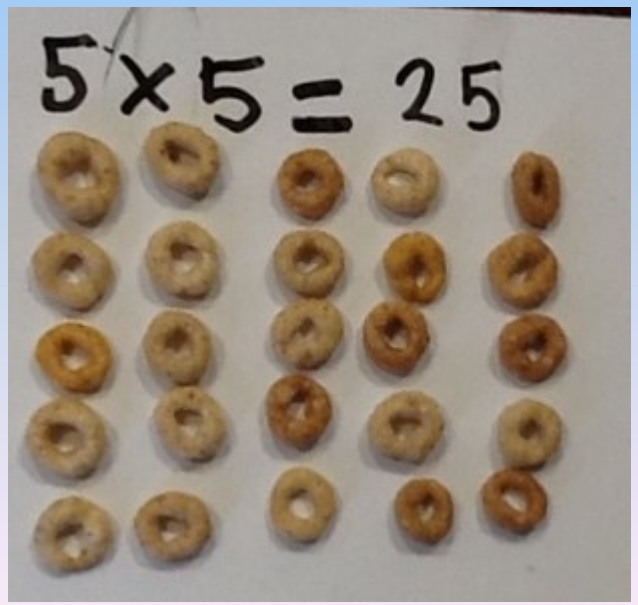
Year 1	Children are taught the simplest form of multiplication, counting up in 2s, 5s and 10s.
Year 2	Children are formally introduced to multiplication, related division facts and repeated addition for the numbers 2, 5 and 10.
Year 3	Children are expected to learn multiplication and division facts for the 3, 4 and 8 times tables.
Year 4	A ‘completing’ year for all multiplication facts up to 12 x 12.
Years 5 and 6	Children will be expected to be really confident in all their times tables (up to the 12 times table).

Times Tables

Teaching for mastery builds through using concrete representations, then pictures, then the abstract.
(CPA Approach)

Learning the times tables using resources

- The finger trick! (works for 2s, 5s, 10s and 9s!)
- Making equal groups
- Using arrays
  - very useful for division facts too



Times Tables

Learning the times tables – Where to start

- Begin by working through the multiplication facts from the beginning (say it out loud, in a rhythm)
- When secure, jumble those facts up (can children recognise them out of 'order')
- Only when your child is secure on the multiplication facts, begin learning the division facts
- Start with them in order (saying them out loud, in a rhythm)

- Take them out of context; make them fun!

Times Tables

Making connections between known tables facts already is a great place to start.

When Learning the 4 times tables, begin with recording all the facts you already know…

Drawing children's attention to what they already know can improve their confidence and attitude towards learning.

0 x 4 = 0
1 x 4 = 4
2 x 4 = 8
3 x 4 = 12
4 x 4 =
5 x 4 = 20
6 x 4 =
7 x 4 =
8 x 4 =
9 x 4 =
10 x 4 = 40
11 x 4 = 44
12 x 4 =

Times Tables

2x

0 x 2 = 0 *0 ÷ 2 = 0*	2 x 0 = 0 *2 ÷ 0 = 0*
1 x 2 = 2 *2 ÷ 2 = 1*	2 x 1 = 2 *2 ÷ 1 = 2*
■ 2 x 2 = 4 *4 ÷ 2 = 2*	
3 x 2 = 6 *6 ÷ 2 = 3*	2 x 3 = 6 *6 ÷ 3 = 2*
4 x 2 = 8 *8 ÷ 2 = 4*	2 x 4 = 8 *8 ÷ 4 = 2*
5 x 2 = 10 *10 ÷ 2 = 5*	2 x 5 = 10 *10 ÷ 5 = 2*
6 x 2 = 12 *12 ÷ 2 = 6*	2 x 6 = 12 *12 ÷ 6 = 2*
7 x 2 = 14 *14 ÷ 2 = 7*	2 x 7 = 14 *14 ÷ 7 = 2*
8 x 2 = 16 *16 ÷ 2 = 8*	2 x 8 = 16 *16 ÷ 8 = 2*
9 x 2 = 18 *18 ÷ 2 = 9*	2 x 9 = 18 *18 ÷ 9 = 2*
10 x 2 = 20 *20 ÷ 2 = 10*	2 x 10 = 20 *20 ÷ 10 = 2*
11 x 2 = 22 *22 ÷ 2 = 11*	2 x 11 = 22 *22 ÷ 11 = 2*
12 x 2 = 24 *24 ÷ 2 = 12*	2 x 12 = 24 *24 ÷ 12 = 2*

■ These are Square numbers

5x

0 x 5 = 0 *0 ÷ 5 = 0*	5 x 0 = 0 *5 ÷ 0 = 0*
1 x 5 = 5 *5 ÷ 5 = 1*	5 x 1 = 5 *5 ÷ 1 = 5*
2 x 5 = 10 *10 ÷ 5 = 2*	5 x 2 = 10 *10 ÷ 2 = 5*
■ 5 x 5 = 25 *25 ÷ 5 = 5*	
6 x 5 = 30 *30 ÷ 5 = 6*	5 x 6 = 30 *30 ÷ 6 = 5*
7 x 5 = 35 *35 ÷ 5 = 7*	5 x 7 = 35 *35 ÷ 7 = 5*
8 x 5 = 40 *40 ÷ 5 = 8*	5 x 8 = 40 *40 ÷ 8 = 5*
9 x 5 = 45 *45 ÷ 5 = 9*	5 x 9 = 45 *45 ÷ 9 = 5*
10 x 5 = 50 *50 ÷ 5 = 10*	5 x 10 = 50 *50 ÷ 10 = 5*
11 x 5 = 55 *55 ÷ 5 = 11*	5 x 11 = 55 *55 ÷ 11 = 5*
12 x 5 = 60 *60 ÷ 5 = 12*	5 x 12 = 60 *60 ÷ 12 = 5*

Answers in red you have already learnt!

10x

0 x 10 = 0 *0 ÷ 10 = 0*	10 x 0 = 0 *10 ÷ 0 = 0*
1 x 10 = 10 *10 ÷ 10 = 1*	10 x 1 = 10 *10 ÷ 1 = 10*
2 x 10 = 20 *20 ÷ 10 = 2*	10 x 2 = 20 *20 ÷ 2 = 10*
3 x 10 = 30 *30 ÷ 10 = 3*	10 x 3 = 30 *30 ÷ 3 = 10*
4 x 10 = 40 *40 ÷ 10 = 4*	10 x 4 = 40 *40 ÷ 4 = 10*
5 x 10 = 50 *50 ÷ 10 = 5*	10 x 5 = 50 *50 ÷ 5 = 10*
6 x 10 = 60 *60 ÷ 10 = 6*	10 x 6 = 60 *60 ÷ 6 = 10*
7 x 10 = 70 *70 ÷ 10 = 7*	10 x 7 = 70 *70 ÷ 7 = 10*
8 x 10 = 80 *80 ÷ 10 = 8*	10 x 8 = 80 *80 ÷ 8 = 10*
9 x 10 = 90 *90 ÷ 10 = 9*	10 x 9 = 90 *90 ÷ 9 = 10*
■ 10 x 10 = 100 *100 ÷ 10 = 10*	
11 x 10 = 110 *110 ÷ 10 = 11*	10 x 11 = 110 *110 ÷ 11 = 10*
12 x 10 = 120 *120 ÷ 10 = 12*	10 x 12 = 120 *120 ÷ 12 = 10*

Make sure you really know your 2x, 5x and 10x tables - use the separate Learning Sheet to help you😎

3x

0 x 3 = 0 *0 ÷ 3 = 0*	3 x 0 = 0 *3 ÷ 0 = 0*
1 x 3 = 3 *3 ÷ 3 = 1*	3 x 1 = 3 *3 ÷ 1 = 3*
2 x 3 = 6 *6 ÷ 3 = 2*	3 x 2 = 6 *6 ÷ 3 = 2*
■ 3 x 3 = 9 *9 ÷ 3 = 3*	
4 x 3 = 12 *12 ÷ 3 = 4*	3 x 4 = 12 *12 ÷ 4 = 3*
5 x 3 = 15 *15 ÷ 3 = 5*	3 x 5 = 15 *15 ÷ 5 = 3*
6 x 3 = 18 *18 ÷ 3 = 6*	3 x 6 = 18 *18 ÷ 6 = 3*
7 x 3 = 21 *21 ÷ 3 = 7*	3 x 7 = 21 *21 ÷ 7 = 3*
8 x 3 = 24 *24 ÷ 3 = 8*	3 x 8 = 24 *24 ÷ 8 = 3*
9 x 3 = 27 *27 ÷ 3 = 9*	3 x 9 = 27 *27 ÷ 9 = 3*
10 x 3 = 30 *30 ÷ 3 = 10*	3 x 10 = 30 *30 ÷ 10 = 3*
11 x 3 = 33 *33 ÷ 3 = 11*	3 x 11 = 33 *33 ÷ 11 = 3*
12 x 3 = 36 *36 ÷ 3 = 12*	3 x 12 = 36 *36 ÷ 12 = 3*

■ These are Square numbers

4x

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

Answers in red you have already learnt!

8x

0 x 8 = 0 *0 ÷ 8 = 0*	8 x 0 = 0 *8 ÷ 0 = 0*
1 x 8 = 8 *8 ÷ 8 = 1*	8 x 1 = 8 *8 ÷ 1 = 8*
2 x 8 = 16 *16 ÷ 8 = 2*	8 x 2 = 16 *16 ÷ 2 = 8*
3 x 8 = 24 *24 ÷ 8 = 3*	8 x 3 = 24 *24 ÷ 3 = 8*
4 x 8 = 32 *32 ÷ 8 = 4*	8 x 4 = 32 *32 ÷ 4 = 8*
5 x 8 = 40 *40 ÷ 8 = 5*	8 x 5 = 40 *40 ÷ 6 = 8*
6 x 8 = 48 *48 ÷ 8 = 6*	8 x 6 = 48 *48 ÷ 6 = 8*
7 x 8 = 56 *56 ÷ 8 = 7*	8 x 7 = 56 *56 ÷ 7 = 8*
■ 8 x 8 = 64 *64 ÷ 8 = 8*	
9 x 8 = 72 *72 ÷ 8 = 9*	8 x 9 = 72 *72 ÷ 9 = 8*
10 x 8 = 80 *80 ÷ 8 = 10*	8 x 10 = 80 *80 ÷ 10= 8*
11 x 8 = 88 *88 ÷ 8 = 11*	8 x 11 = 88 *88 ÷ 11 = 8*
12 x 8 = 96 *96 ÷ 8 = 12*	8 x 12 = 96 *96 ÷ 12 = 8*

Times Tables

Make sure you really know your 2x, 3x, 4x, 5x, 8x and 10x tables - use the separate Learning Sheets to help you😊

6x

0 x 6 = 0 | 6 x 0 = 0
0 ÷ 6 = 0 | *6÷ 0 = 0*

1 x 6 = 6 | 6 x 1 = 6
6 ÷ 6 = 1 | *6 ÷ 1 = 6*

2 x 6 = 12 | 6 x 2 = 12
12 ÷ 6 = 2 | *12 ÷ 2 = 6*

3 x 6 = 18 | 6 x 3 = 18
18 ÷ 6 = 3 | *18 ÷ 3 = 6*

4 x 6 = 24 | 6 x 4 = 24
24 ÷ 6 = 4 | *24 ÷ 4 = 6*

5 x 6 = 30 | 6 x 5 = 30
30 ÷ 6 = 5 | *30 ÷ 5 = 6*

■ 6 x 6 = 36
36 ÷ 6 = 6

7 x 6 = 42 | 6 x 7 = 42
42 ÷ 6 = 7 | *42 ÷ 7 = 6*

8 x 6 = 48 | 6 x 8 = 48
48 ÷ 6 = 8 | *48 ÷ 8 = 6*

9 x 6 = 54 | 6 x 9 = 54
54 ÷ 6 = 9 | *54 ÷ 9 = 6*

10 x 6 = 60 | 6 x 10 = 60
60 ÷ 6 = 10 | *60 ÷ 10 = 6*

11 x 6 = 66 | 6 x 11 = 66
66 ÷ 6 = 11 | *66 ÷ 11 = 6*

12 x 6 = 72 | 6 x 12 = 72
72 ÷ 6 = 12 | *72 ÷ 12 = 6*

■ These are Square numbers

7x

0 x 7= 0 | 7 x 0 = 0
0 ÷ 7= 0 | *7 ÷ 0 = 0*

1 x 7 = 7 | 7 x 1 = 7
7 ÷ 7 = 1 | *7 ÷ 1 = 7*

2 x 7 = 14 | 7 x 2 = 14
14 ÷ 7 = 2 | *14 ÷ 2 = 7*

3 x 7 = 21 | 7 x 3 = 21
21 ÷ 7 = 3 | *21 ÷ 3 = 7*

4 x 7 = 28 | 7 x 4 = 28
28 ÷ 7 = 4 | *28 ÷ 4 = 7*

5 x 7 = 35 | 7 x 5 = 35
35 ÷ 7 = 5 | *35 ÷ 5 = 7*

6 x 7 = 42 | 7 x 6 = 42
42 ÷ 7 = 6 | *42 ÷ 6 = 7*

■ 7 x 7 = 49
49 ÷ 7 = 7

8 x 7 = 56 | 7 x 8 = 56
56 ÷ 7 = 8 | *56 ÷ 8 = 7*

9 x 7 = 63 | 7 x 9 = 63
63 ÷ 7 = 9 | *63 ÷ 9 = 7*

10 x 7 = 70 | 7 x 10 = 70
70 ÷ 7 = 10 | *70 ÷ 10 = 7*

11 x 7 = 77 | 7 x 11 = 77
77 ÷ 7 = 11 | *77 ÷ 11 = 7*

12 x 7 = 84 | 7 x 12 = 84
84 ÷ 7= 12 | *84 ÷ 12 = 7*

Answers in red you have already learnt!

9x

0 x 9 = 0 | 9 x 0 = 0
0 ÷ 9 = 0 | *9 ÷ 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
81 ÷ 9 = 9

10 x 9 = 90 | 9 x 10 = 90
90 ÷ 9 = 10 | *90 ÷ 10 = 9*

11 x 9 = 99 | 9 x 11 = 99
99 ÷ 9 = 11 | *99 ÷ 11 = 9*

12 x 9 = 108 | 9 x 12 = 108
108 ÷ 9 = 12 | *108 ÷ 12 = 9*

Make sure you really know your 2x, 3x, 4x, 5x, 6x, 7x, 8x, 9x and 10x tables - use the separate Learning Sheets to help you😊

11x

0 x 11 = 0 | 11 x 0 = 0
0 ÷ 11 = 0 | *11 ÷ 0 = 0*

1 x 11 = 11 | 11 x 1 = 11
11 ÷ 11 = 1 | *11 ÷ 1 = 11*

2 x 11 = 22 | 11 x 2 = 22
22 ÷ 11 = 2 | *22 ÷ 2 = 11*

3 x 11 = 33 | 11 x 3 = 33
33 ÷ 11 = 3 | *33 ÷ 3 = 11*

4 x 11 = 44 | 11 x 4 = 44
44 ÷ 11 = 4 | *44 ÷ 4 = 11*

5 x 11 = 55 | 11 x 5 = 55
55 ÷ 11 = 5 | *55 ÷ 5 = 11*

6 x 11 = 66 | 11 x 6 = 66
66 ÷ 11 = 6 | *66 ÷ 6 = 11*

7 x 11 = 77 | 11 x 7 = 77
77 ÷ 11 = 7 | *77 ÷ 7 = 11*

8 x 11 = 88 | 11 x 8 = 88
88 ÷ 11 = 8 | *88 ÷ 8 = 11*

9 x 11 = 99 | 11 x 9 = 99
99 ÷ 11 = 9 | *99 ÷ 9 = 11*

10 x 11= 110 | 11 x 10 = 110
110 ÷ 11 = 10 | *110 ÷ 10 = 11*

■ 11 x 11 = 121
121 ÷ 11 = 11

12 x 11 = 132 | 11 x 12 = 132
132 ÷ 11 = 12 | *132 ÷ 12 = 11*

■ These are Square numbers

12x

0 x 12 = 0 | 12 x 0 = 0
0 ÷ 12 = 0 | *12 ÷ 0 = 0*

1 x 12 = 12 | 12 x 1 = 12
12 ÷ 12 = 1 | *12 ÷ 1 = 12*

2 x 12 = 24 | 12 x 2 = 24
24 ÷ 12 = 2 | *24 ÷ 2 = 12*

3 x 12 = 36 | 12 x 3 = 36
36 ÷ 12 = 3 | *36 ÷ 3 = 12*

4 x 12 = 48 | 12 x 4 = 48
48 ÷ 12 = 4 | *48 ÷ 4 = 12*

5 x 12 = 60 | 12 x 5 = 60
60 ÷ 12 = 5 | *60 ÷ 5 = 12*

6 x 12 = 72 | 12 x 6 = 72
72 ÷ 12 = 6 | *72 ÷ 6 = 12*

7 x 12 = 84 | 12 x 7 = 84
84 ÷ 12 = 7 | *84 ÷ 7 = 12*

8 x 12 = 96 | 12 x 8 = 96
96 ÷ 12 = 8 | *96 ÷ 8 = 12*

9 x 12 = 108 | 12 x 9 = 108
108 ÷ 12 = 9 | *108 ÷ 9 = 12*

10 x 12 = 120 | 12 x 10 = 120
120 ÷ 12 = 10 | *120 ÷ 10 = 12*

11 x 12 = 132 | 12 x 11 = 132
132 ÷ 12 = 11 | *132 ÷ 11 = 12*

■ 12 x 12 = 144
144 ÷ 12= 12

Answers in red you have already learnt!

Times Tables

Make the trickier facts memorable

- 3 x 7 is lots of fun, 3 x 7 is 21
- 3 x 8 shut the door, 3 x 8 is 24
- 6 x 4 dancing on the shore, 6 x 4 is 24
- 4 x 7 the boys are late, 4 x 7 is 28
- 4 x 8 put on your shoe, 4 x 8 is 32
- 6 x 7, stuck in glue, 6 x 7 is 42
- 6 x 8 is really great, 6 x 8 is 48
- 7 x 7 men on the line, 7 x 7 is 49
- 7 x 8 is full of tricks, 7 x 8 is 56
- 8 x 8   I ate and I ate I got sick on the floor, 8 x 8 = 64

Times Tables

The Power of Patterns

Patterns can be turned into shortcuts and tricks that make it easy to ace the entire table.

Mastering the fours table is as easy as doubling numbers. Just take the number being multiplied by four and double it twice.

With 4 x 8, double 8 once: 8 + 8 = 16.

Now double that answer: 16 + 16 = 32.

And voilà! 4 x 8 = 32.

Times Tables

The Power of Patterns

Patterns can be turned into shortcuts and tricks that make it easy to ace the entire table.

To begin, write out the first ten multiples of nine:

9	18	27	36	45	54	63	72	81	90

They have a pattern! 9 and 90. 18 and 81. 27 and 72. 36 and 63. 45 and 54.

The first number in each multiple is the number you would multiply by nine to get that answer, minus one: 9 x 2 = 18 (2 - 1 = 1). 9 x 3 = 27 (3 - 1 = 2), and so on.

This pattern can be applied to a nifty nines table hand trick. Have students hold up their hands and think of each finger as a number, from one to ten, in order from left to right.

For example, 5 x 9, you would hold down your fifth finger, any digit before the fifth finger represents a ten and any digit after represents a one.

Times Tables

The Power of Patterns

Patterns can be turned into shortcuts and tricks that make it easy to ace the entire table.

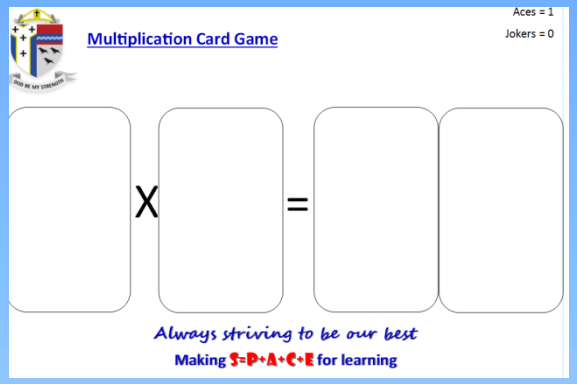
- Any number multiplied by zero is zero. This rule is always true, no matter what!
- Any number multiplied by one is itself. It may help to depict the number one as a mirror.
- Any number multiplied by two will be an even number. For students who prefer addition, they can always double the number that's being multiplied: 2 x 12 = (12 + 12) = 24.
- For those who are really comfortable with addition, one can multiply by eight by doubling the other factor three times: 8 x 12 = (12 + 12 = 24; then 24 + 24 = 48; then 48 + 48) = 96. A little advanced, but it works!
- Any number multiplied by five will always end in zero or five.
- To multiply a number by ten, simply make the number ten times larger by using a zero in the ones place (add a zero to the end!)

Times Tables

Making learning fun

There are so many different games you can play with your child to consolidate their knowledge of tables facts.

Times Tables



Multiplication Card Game

You will need:

- A pack of cards, numbers and jokers only (take out all picture cards)
- Multiplication Mat (Optional)

How to play:

1. Each player is dealt seven cards, the remaining cards are put into a pile. The player who can make a full multiplication sentence goes first.
2. They lay their cards down to make a multiplication sentence and pick up four more cards from the pile.
3. The next player can choose between putting four more cards down to make a completely new calculation, or only putting a couple of cards down to change the multiplication sentence slightly.
4. Each player must always have at least 7 cards so as many as you put down, you must pick up.
5. Take it in turns to lay cards onto the multiplication mat.
6. If a player cannot go they must pick up a card from the pile and their turn is missed.
7. The game ends when all cards have been picked up from the pile and no one can make a change to the multiplication sentence. They player with the least amount of cards left in their hand, wins!

Times Tables

Egg Box Multiplication Game

You will need:

- An empty 6x2 egg box
- Pens
- 2 sets of 2 matching counters

How to play:

1. Write the numbers 1 – 12 in each empty section of the egg box.
2. Each player puts their two matching counters in the egg box and the lid is closed.
3. Take it in turns to shake the egg box and then open it up to see where your counters have fallen.
4. Call out or write down the multiplication sentence(s) your numbers can make. The person who calls out first is the winner!

Possible variations

Keep a running total of the products and the person with the highest score at the end of 10 rounds wins! (Great for practicing addition too!)

Times Tables

Multiplication Squares Game

You will need:

- A multiplication squares game board
- Two dice
- Two different coloured markers

How to Play

1. During a player's turn, he/she rolls both dice and multiplies the two numbers showing on the dice. The player looks for the product on the board and draws a line to connect any two dots that form part of the square around that product. Since each product appears multiple times on the board, the player can be very strategic about where he/she draws a line.

2. When a player draws a line that closes a square, that player gets to colour in the square with his/her marker. That player rolls the dice again and takes another turn.

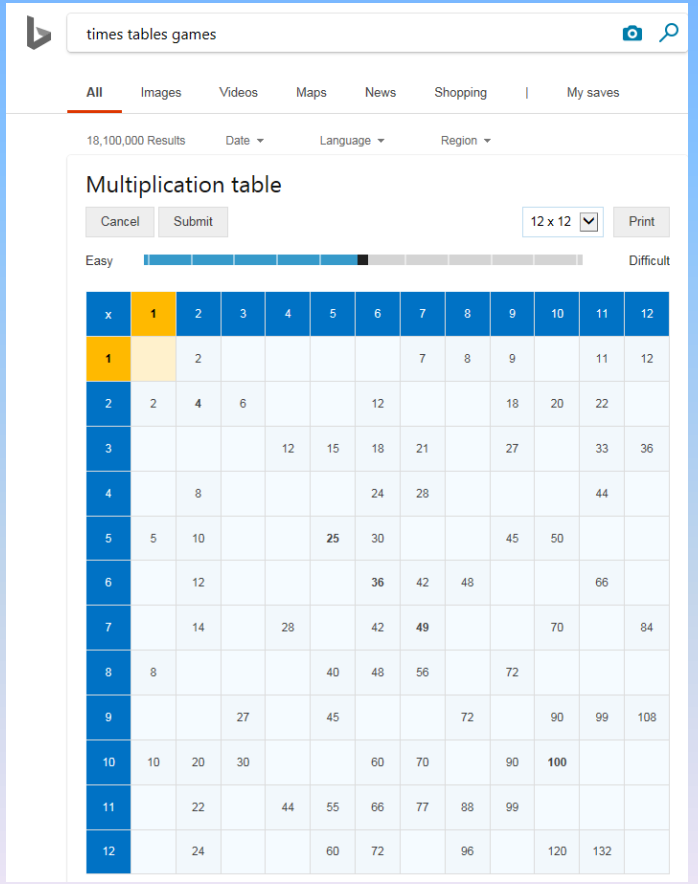
3. When all of the dots have been connected, the player with the most squares coloured in wins!

Click here to download the PDF - https://games4gains.com/blogs/teaching-ideas/multiplication-squares-game

Times Tables

Teaching for mastery builds through using concrete representations, then pictures, then the abstract.
(CPA Approach)

Other ideas for consolidation

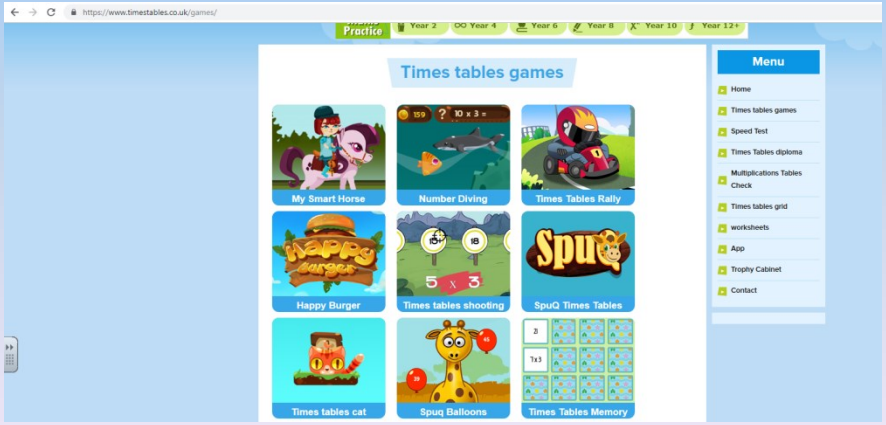


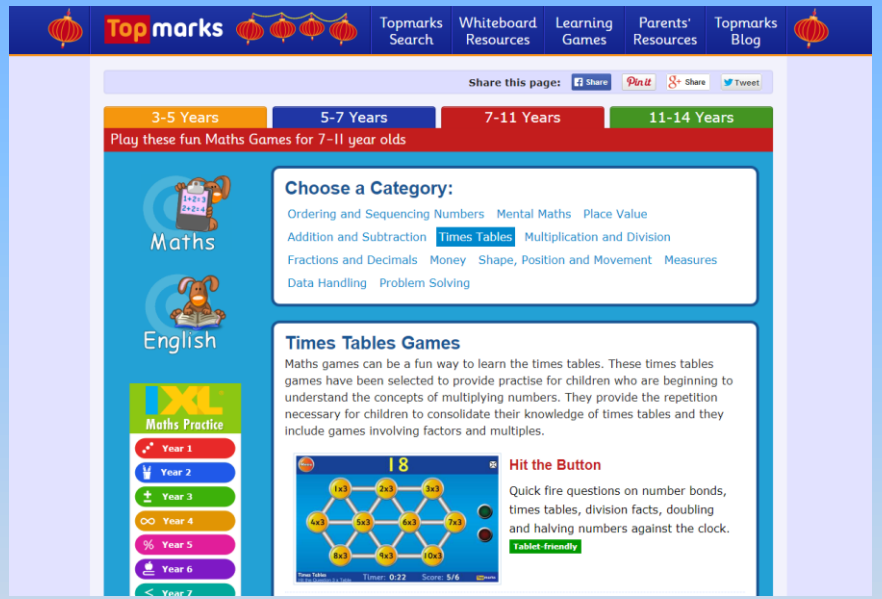
x	1	2	3	4	5	6	7	8	9	10	11	12
1		2					7	8	9		11	12
2	2	4	6			12			18	20	22	
3				12	15	18	21		27		33	36
4		8				24	28				44	
5	5	10			25	30			45	50		
6		12				36	42	48			66	
7		14		28		42	49			70		84
8	8				40	48	56		72			
9			27		45			72		90	99	108
10	10	20	30			60	70		90	100		
11		22		44	55	66	77	88	99			
12		24			60	72		96		120	132	

Times Tables

Teaching for mastery builds through using concrete representations, then pictures, then the abstract.
(CPA Approach)

Other ideas for consolidation





Looking Ahead

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News story

Multiplication tables check trials to begin in schools

Government follows up phonics success with new multiplication tables trial.

This year the tables check is optional, as a school we are choosing to do it.

It will become mandatory in June 2020.

To Finish…

‘ PLEASE, PLEASE… NEVER say that you are bad at maths … not anywhere within a 100-mile radius of any child you ever want to influence.’

Naomi Sani

‘How to do maths so your child can too’

Thank You

- **Questions**

Always striving to be our best

Making **S=P+A+C+E** for learning