times tables KS2

top tips

why are times tables important?

You would be amazed at how much of our maths at school and in real life is based on tables. It is important that your child knows all of their times tables (up to 12x12) by the end of Year Four.

use a multiplication square

To use a multiplication square, choose a number from the first column and a number from the first row. Follow the row and column until they meet in the middle, for example, 6 x 7 = 42

Try blanking out some of the numbers. Does your child know what numbers are missing? Look for patterns! How many calculations have the same answer?

make it fun!

- Think of catchy rhymes to help your child remember a tricky table. Can you make some up?
- I skate and I skate on a slippery floor 8 x 8 = 64
- Look for patterns or clever tricks. For example, you can rearrange 7 x 8 = 56 to 56 = 7 x 8 The numbers are now in order - 5, 6, 7 and 8!
- If your child has learnt their four times tables, they can double these to learn the eight times tables.
- Say tricky tables in silly voices or even try singing them. Even young children learn song lyrics very quickly and easily!
- See if you can remember your times tables! Let your child test you! Remember, practice makes perfect!

useful tips to help your children to learn their tables at home

- When your child has begun to learn a table, practise the table for five minutes each day with them.
- It is important to say the whole table, not just the answers, again and again and again and again!
- Break down each table into manageable chunks. For example, ask them 1 x 6, 2 x 6 and 5 x 6 until they know the answers. Then add the next one.
- Work on pairs of tables, for example if your child is learning the two times table they can use their doubling facts to calculate the four times tables.
- Test your child by firing questions at them, out of order reminding them that they can use facts that they are confident with to work out trickier ones. For example if they know 4x6=24 just double to find 8x6.
- Keep checking that they still know the facts they have learnt and revisit previously learnt facts.
- Encourage your child to write out the table they are learning again and again, perhaps as a spider diagram grouping the facts that they are confident with and those which they are less confident with. Display tables around different parts of the house so that your child sees them everywhere (even in the bathroom!)
- Use a range of vocabulary - "times", "multiply", "lots of", "sets of".....

Keep scrolling to see helpful links below!

useful links

A wide range of interactive games collected from different websites. Fantastic!

https://www.multiplication.com/games/all-games

This website is used as a teaching tool to help your child to understand multiplication as repeated addition.

http://www.taw.org.uk/lic/itp/mult_facts.html

BBC Mega-Maths is an excellent site. You can play the games and read the top tips.

http://www.bbc.co.uk/schoolradio/maths/megamaths.shtml

This site uses different maths words to test the times tables. These are words we like to use in school too.

http://www.times-tables.com/

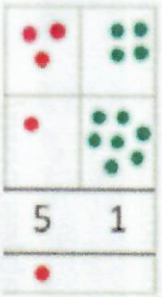
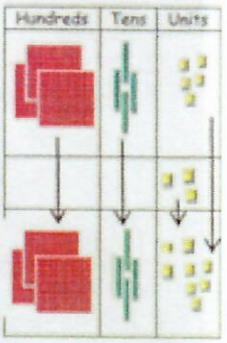
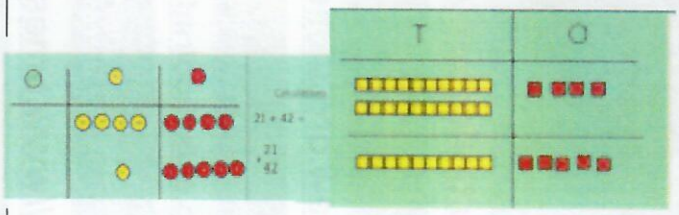
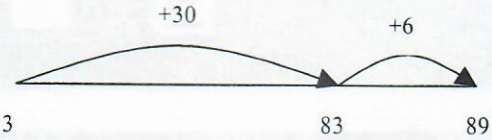
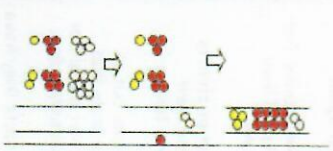
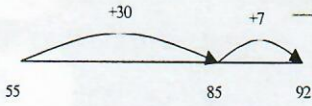
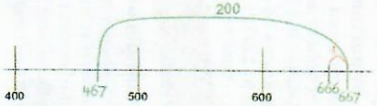
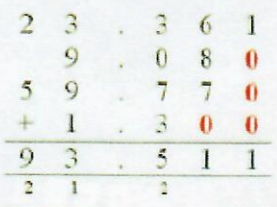
BBC skillswise is a variety of games to make and play

http://www.bbc.co.uk/skillswise/maths

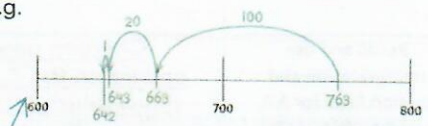
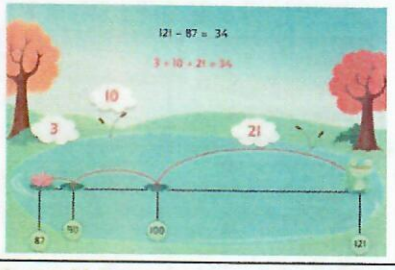
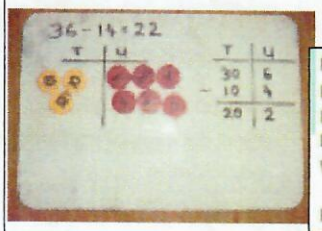
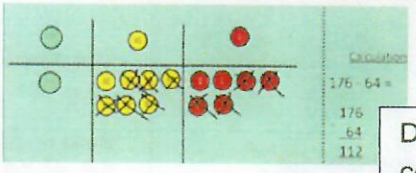
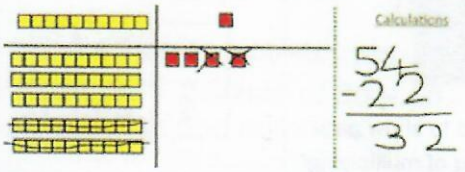
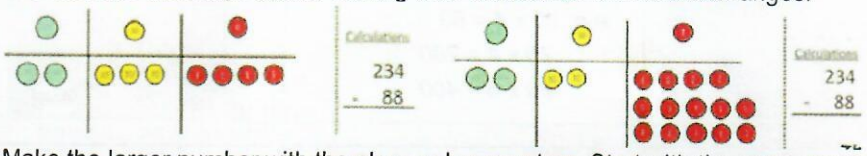
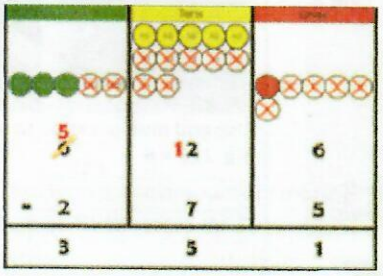
Games and activites to test yourself! When you look at the multiplication square, there are not actually that many times tables to learn.

http://www.gamequarium.com/multiplication.html

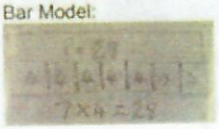
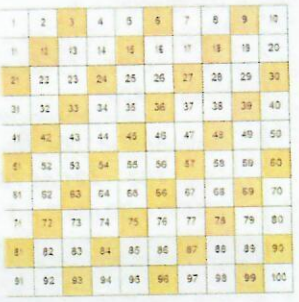
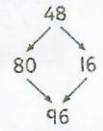
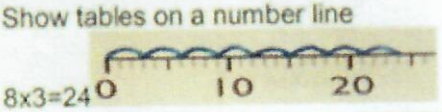
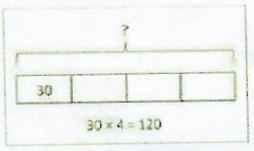
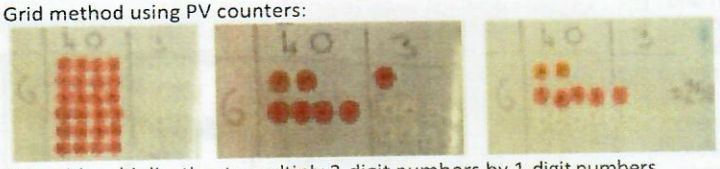
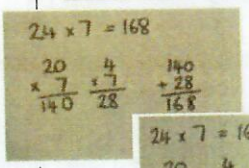
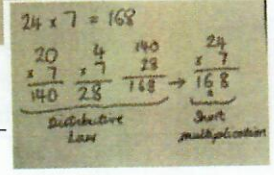
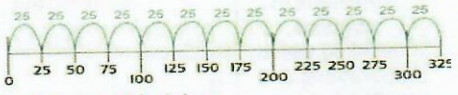
Developing an understanding of ADDITION - Parklands Junior School 2019

YEAR	NC OBJECTIVES	EXAMPLES	MODELS AND IMAGES
YR 3	Add and subtract numbers mentally, including: a three-digit number and 1s, a three digit number and 10s, a three digit number and 100s. Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction. Estimate the answer to a calculation and use inverse operations to check answers. Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction	Children need to be secure on place value with two digit numbers before moving on to 3 digit numbers. Children need to be moving between concrete and pictorial methods before attempting the abstract Misconception Child does not understand what each number represents. 2 3 7 + 8 9 1127 Complete these calculations. What do you notic 3 + 7 = 8 + 2 = 6 + 4 = 30 + 70 = 80 + 20 = 60 + 40 = 33 + 7 = 88 + 2 = 66 + 4 = 333 + 7 = 888 + 2 = 666 + 4 = 300 + 700 = 800 + 200 = 600 + 400 =	 Children can draw a representation of the grid to further support their understanding, carrying the ten underneath the line. Model using Dienes or numicon. Add together the ones first, then the tens.    Build on partitioning to develop expanded column addition with two 3-digit numbers e.g. 466 + 358 400 60 6 + 300 50 8 700 110 14 = 824 400 60 6 300 50 8 + 100 10 800 20 4 Use expanded column addition where digits in a column add to more than the column value e.g. 466 + 358 36 + 53 = 53 + 30 + 6 = 83 + 6 = 89 
4	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	Children will continue to apply their knowledge of place value to add larger numbers. Misconception Child does not understand what each number represents. 1 2 3 7 + 1 8 9 2 1 2 7 Children need to be moving between concrete and pictorial methods before attempting the abstract	  Model using Dienes/PV counters to show the carrying into the next column. Build on expanded column addition to develop compact column addition with larger numbers e.g. *1466 + 4868* 1000 400 60 6 4000 800 60 8 + 1000 100 10 6000 300 30 4 Compact column addition with larger numbers e.g. *5347 + 2286 + 1495* 5347 2286 + 1495 121 9128 Partition into tens and ones and recombine Either partition both numbers and recombine or partition the second number only e.g. 55 + 37 = 55 + 30 + 7 = 85 + 7 = 92  467 + 199=  

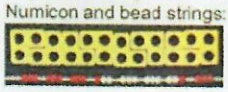
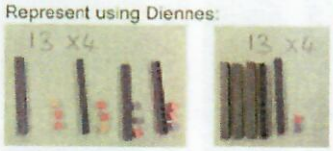
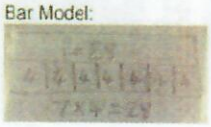
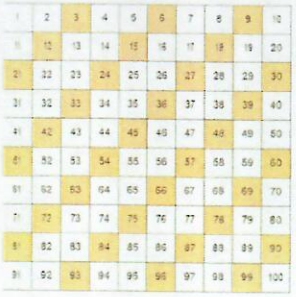
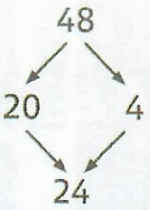
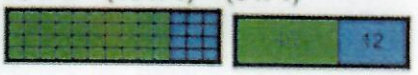
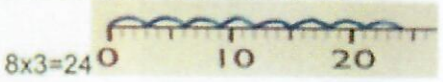
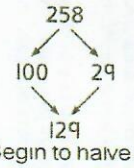
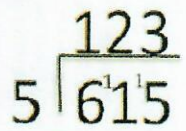
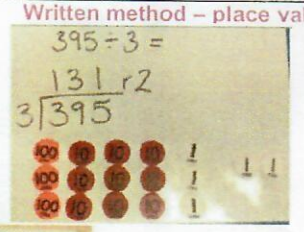
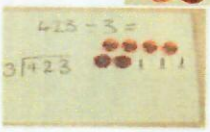
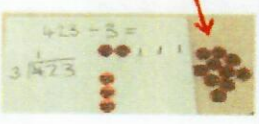
Developing an understanding of SUBTRACTION - Parklands Junior School 2019

YEAR	NC OBJECTIVES	EXAMPLES	MODELS AND IMAGES
YR 3	Add and subtract numbers mentally, including: a three-digit number and 1s, a three digit number and 10s, a three digit number and 100s. Add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction. Estimate the answer to a calculation and use inverse operations to check answers. Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction	Children need to be secure on place value with two digit numbers before moving on to 3 digit numbers. Children need to be moving between concrete and pictorial methods before attempting the abstract **Misconception** Child does not understand what each number represents. 237 - 89 667 47 − 24 = 23 40 + 7 − 20 + 4 20 + 3 32 − 12 20 This will lead to a clear understanding below.	Take away multiples of 10, 100 and £1 e.g. *476 – 40 = 436* e.g. *476 – 300 = 176* e.g. *£4·76 – £2 = £2·76* Partitioning e.g. *68 – 42 as 60 – 40 and 8 – 2* e.g. *£6·84 – £2·40 as £6 – £2 and 80p – 40p* Count back in 100s, 10s then 1s e.g. *763 – 121 as 763 – 100 (663) – 20 (643) – 1 = 642*    Flo and Jim are answering a problem: Danny has read 62 pages of the class book, Jack has read 43. How many mor pages has Danny read than Jack? Flo does the calculation 62 + 43. Jim does the calculation 62−43. Who is correct? Explain how you know.   Draw the Base 10 or PV counters alongside the written calculation to help show working.
4	Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. Estimate and use inverse operations to check answers to a calculation. Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	Children will continue to apply their knowledge of place value to add larger numbers. **Misconception** Child does not understand what each number represents. 1237 - 189 0667 Children need to be moving between concrete and pictorial methods before attempting the abstract	Start with one exchange before moving onto subtraction with two exchanges.  Make the larger number with the place value counters. Start with the ones, can I take away 8 from 4 easily? I need to exchange one of tens for ten ones.  Draw counters onto a PV grid and show what you have taken away by crossing the counters out as well as clearly showing the exchanges you make. Expanded column subtraction with 3- and 4-digit numbers e.g. 726 – 358  Begin to develop compact column subtraction e.g. 726 – 358  Children will have a clear understanding of which each number represents and the idea behind 'borrowing' a number. Use counting up subtraction to find change from £10, £20, £50 and £100 e.g. Buy a computer game for £34·75 using £50 

Developing an understanding of MULTIPLICATION - Parklands Junior School 2019

YEAR	NC OBJECTIVES	EXAMPLES	MODELS AND IMAGES
YR 3	Recall and use multiplication and division facts for 3,4, and 8 multiplication tables Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods Solve problems, including missing number problems, involving multiplication and division , including positive integers and scaling Key language: Multiply, multiplication, times, repeated addition, groups of, equal, doubling, product, factor, larger, scaling, ¼ of the size.	**Children need to be secure on the 2,3,4,5,and 8 times tables by the end of the year.** **Children with poor times table skills will find it difficult to apply this to bigger numbers** Children need to visually see what happens when a number is multiplied before moving on to the columnar method. Represent multiplication facts using Numicon and bead strings: 8x3=24  Represent using Diennes:  Bar Model:  Children need to show an understanding of multiplying with multiples of 10. e.g. *20 x 4 = 80* *70 x 4 = 280* *80 x 5 = 400*	Counting in steps ('clever' counting) Count in 2s, 3s, 4s, 5s, 8s and 10s  Doubling and halving Find doubles of numbers to 50 using partitioning e.g. *double 48*  Use doubling as a strategy in multiplying by 2 e.g. *18 × 2 is double 18 = 36* Build on partitioning to develop grid multiplication e.g. 23 × 4 × | 20 | 3 4 | 80 | 12 = 92  Roger is laying tiles. He has 84 tiles altogether. How many complete rows of tiles can he make? Show multiplication using arrays: 13 x 4 = (10 x 4) + (3 x 4)  Build multiplication facts on counting stick: 12x3=36  0 3 6 9 12 15 18 21 24 27 30 33 36 Show tables on a number line  8x3=24 0 10 20
4	Recall multiplication and division facts for multiplication tables up to 12x12 Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers. Recognise and use factor pairs and commutatively in mental calculations. Multiply two digit and three digit numbers by a one-digit number using formal written layout. Key language: Multiply, multiplication, times, repeated addition, groups of, equal, doubling, product, factor, larger, scaling, ¼ of the size. Ratio proportion	It is an expectation that children know up to and including their 12x tables by the end of year 4. 2 4 7 x 1428 Children not understanding what is being multiplied. Children will continue to apply their knowledge of place value to add larger numbers. Children will also solve complex addition of fraction and decimals.  ? 30 30 × 4 = 120	Grid method using PV counters:  Use grid multiplication to multiply 3-digit numbers by 1-digit numbers e.g. *253 × 6* × | 200 | 50 | 3 6 | 1200 | 300 | 18 = 1518 × | 10 | 6 40 | 400 | 240 = 640 8 | 80 | 48 = 128 768  24 x 7 = 168 20 x 7 = 140 4 x 7 = 28 140 + 28 = 168  24 x 7 = 168 20 x 7 = 140 4 x 7 = 28 140 + 28 = 168 → 24 x 7 = 168 Distributive Law Short multiplication Counting in steps (sequences) Count in 2s, 3s, 4s, 5s, 6s, 7s, 8s, 9s, 10s, 11s, 12s, 25s, 50s, 100s and 1000s  0 25 50 75 100 125 150 175 200 225 250 275 300 325 Doubling and halving Find doubles to double 100 and beyond using partitioning  126 200 52 252 e.g. *double 126*

Developing an understanding of DIVISION - Parklands Junior School 2019

YEAR	NC OBJECTIVES	EXAMPLES	MODELS AND IMAGES
YR 3	Recall and use multiplication and division facts for 3,4, and 8 multiplication tables Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods Solve problems, including missing number problems, involving multiplication and division , including positive integers and scaling Key language: Divide, multiplication, inverse, times, repeated, subtraction, groups of, equal, doubling, product, factor, larger, scaling, 4x larger, ¼ of the size.	**Children need to be secure on the 2,3,4,5,and 8 times tables by the end of the year.** **Children with poor times table skills will find it difficult to apply to division** **Children not realising that ÷10 l making a number a tenth of the size. Link to scaling.** **Use multiplication to investigate the inverse.** Represent multiplication facts using Numicon and bead strings: 8x3=24  Represent using Diennes:  Bar Model: 	Counting in steps ('clever' counting) Count in 2s, 3s, 4s, 5s, 8s and 10s  Doubling and halving Find half of even numbers to 100 using partitioning e.g. *find half of 48*  Use halving as a strategy in dividing by 2 e.g. *36 ÷ 2 is half of 36 = 18* Find half of odd numbers Show multiplication using arrays: 13 x 4 = (10 x 4) + (3 x 4)  Build multiplication facts on counting stick: 12x3=36  Show tables on a number line 
4	Recall multiplication and division facts for multiplication tables up to 12x12 Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together 3 numbers. Recognise and use factor pairs and commutatively in mental calculations. Multiply two digit and three digit numbers by a one-digit number using formal written layout. Key language: Divide, multiplication, inverse, times, repeated, subtraction, groups of, equal, doubling, product, factor, larger, scaling, 4x larger, ¼ of the size	It is an expectation that children know up to and including their 12x tables by the end of year 4. **Children not understanding the 'partitioning' aspect of short division and only using this method.** Count in 2s, 3s, 4s, 5s, 6s, 7s, 8s, 9s, 10s, 11s, 12s, 25s, 50s, 100s and 1000s  Sally has 9 times as many football cards as Sam. Together they have 150 cards. How many more cards does Sally have than Sam?	Doubling and halving Find half of even numbers to 200 and beyond using partitioning e.g. *find half of 258*  Begin to halve amounts of money e.g. *£9 halved is £4·50* Use halving as a strategy in dividing by 2, 4 and 8 e.g. *164 ÷ 4 is half of 164 (82)* *halved again = 41* **Written method:**  Written method – place value   Create the dividend using Place Value counters.  Group the hundreds counters according to the divisor. Write the number of groups above the line in the hundreds column.  Exchange the left over 100s counter for ten 10s counters and represent this beneath the line in the tens column.