1x table	2x table	3x table	4x table	5x table	6x table
0 × 1 = 0	0 × 2 = 0	0 × 3 = 0	0 × 4 = 0	0 × 5 = 0	0 × 6 = 0
1 × 1 = 1	1 × 2 = 2	1 × 3 = 3	1 × 4 = 4	1 × 5 = 5	1 × 6 = 6
2 × 1 = 2	2 × 2 = 4	2 × 3 = 6	2 × 4 = 8	2 × 5 = 10	2 × 6 = 12
3 × 1 = 3	3 × 2 = 6	3 × 3 = 9	3 × 4 = 12	3 × 5 = 15	3 × 6 = 18
4 × 1 = 4	4 × 2 = 8	4 × 3 = 12	4 × 4 = 16	4 × 5 = 20	4 × 6 = 24
5 × 1 = 5	5 × 2 = 10	5 × 3 = 15	5 × 4 = 20	5 × 5 = 25	5 × 6 = 30
6 × 1 = 6	6 × 2 = 12	6 × 3 = 18	6 × 4 = 24	6 × 5 = 30	6 × 6 = 36
7 × 1 = 7	7 × 2 = 14	7 × 3 = 21	7 × 4 = 28	7 × 5 = 35	7 × 6 = 42
8 × 1 = 8	8 × 2 = 16	8 × 3 = 24	8 × 4 = 32	8 × 5 = 40	8 × 6 = 48
9 × 1 = 9	9 × 2 = 18	9 × 3 = 27	9 × 4 = 36	9 × 5 = 45	9 × 6 = 54
10 × 1 = 10	10 × 2 = 20	10 × 3 = 30	10 × 4 = 40	10 × 5 = 50	10 × 6 = 60
11 × 1 = 11	11 × 2 = 22	11 × 3 = 33	11 × 4 = 44	11 × 5 = 55	11 × 6 = 66
12 × 1 = 12	12 × 2 = 24	12 × 3 = 36	12 × 4 = 48	12 × 5 = 60	12 × 6 = 72

7x table	8x table	9x table	10x table	11x table	12x table
0 × 7 = 0	0 × 8 = 0	0 × 9 = 0	0 × 10 = 0	0 × 11 = 0	0 × 12 = 0
1 × 7 = 7	1 × 8 = 8	1 × 9 = 9	1 × 10 = 10	1 × 11 = 11	1 × 12 = 12
2 × 7 = 14	2 × 8 = 16	2 × 9 = 18	2 × 10 = 20	2 × 11 = 22	2 × 12 = 24
3 × 7 = 21	3 × 8 = 24	3 × 9 = 27	3 × 10 = 30	3 × 11 = 33	3 × 12 = 36
4 × 7 = 28	4 × 8 = 32	4 × 9 = 36	4 × 10 = 40	4 × 11 = 44	4 × 12 = 48
5 × 7 = 35	5 × 8 = 40	5 × 9 = 45	5 × 10 = 50	5 × 11 = 55	5 × 12 = 60
6 × 7 = 42	6 × 8 = 48	6 × 9 = 54	6 × 10 = 60	6 × 11 = 66	6 × 12 = 72
7 × 7 = 49	7 × 8 = 56	7 × 9 = 63	7 × 10 = 70	7 × 11 = 77	7 × 12 = 84
8 × 7 = 56	8 × 8 = 64	8 × 9 = 72	8 × 10 = 80	8 × 11 = 88	8 × 12 = 96
9 × 7 = 63	9 × 8 = 72	9 × 9 = 81	9 × 10 = 90	9 × 11 = 99	9 × 12 = 108
10 × 7 = 70	10 × 8 = 80	10 × 9 = 90	10 × 10 = 100	10 × 11 = 110	10 × 12 = 120
11 × 7 = 77	11 × 8 = 88	11 × 9 = 99	11 × 10 = 110	11 × 11 = 121	11 × 12 = 132
12 × 7 = 84	12 × 8 = 96	12 × 9 = 108	12 × 10 = 120	12 × 11 = 132	12 × 12 = 144

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Multiplication Square

×	1	2	3	4	5	6	7	8	9	10	11	12
1	1	2	3	4	5	6	7	8	9	10	11	12
2	2	4	6	8	10	12	14	16	18	20	22	24
3	3	6	9	12	15	18	21	24	27	30	33	36
4	4	8	12	16	20	24	28	32	36	40	44	48
5	5	10	15	20	25	30	35	40	45	50	55	60
6	6	12	18	24	30	36	42	48	54	60	66	72
7	7	14	21	28	35	42	49	56	63	70	77	84
8	8	16	24	32	40	48	56	64	72	80	88	96
9	9	18	27	36	45	54	63	72	81	90	99	108
10	10	20	30	40	50	60	70	80	90	100	110	120
11	11	22	33	44	55	66	77	88	99	110	121	132
12	12	24	36	48	60	72	84	96	108	120	132	144

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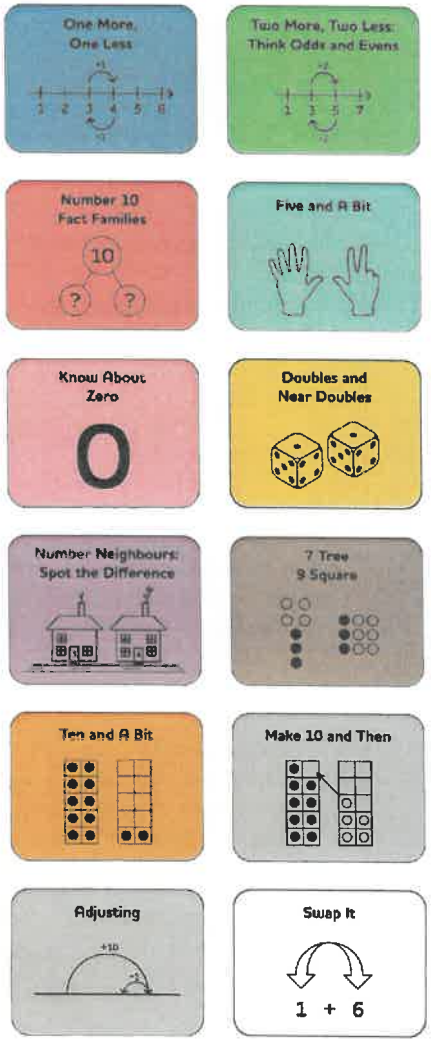
Addition Grid Facts

+	0	1	2	3	4	5	6	7	8	9	10
0	0+0	0+1	0+2	0+3	0+4	0+5	0+6	0+7	0+8	0+9	0+10
1	1+0	1+1	1+2	1+3	1+4	1+5	1+6	1+7	1+8	1+9	1+10
2	2+0	2+1	2+2	2+3	2+4	2+5	2+6	2+7	2+8	2+9	2+10
3	3+0	3+1	3+2	3+3	3+4	3+5	3+6	3+7	3+8	3+9	3+10
4	4+0	4+1	4+2	4+3	4+4	4+5	4+6	4+7	4+8	4+9	4+10
5	5+0	5+1	5+2	5+3	5+4	5+5	5+6	5+7	5+8	5+9	5+10
6	6+0	6+1	6+2	6+3	6+4	6+5	6+6	6+7	6+8	6+9	6+10
7	7+0	7+1	7+2	7+3	7+4	7+5	7+6	7+7	7+8	7+9	7+10
8	8+0	8+1	8+2	8+3	8+4	8+5	8+6	8+7	8+8	8+9	8+10
9	9+0	9+1	9+2	9+3	9+4	9+5	9+6	9+7	9+8	9+9	9+10
10	10+0	10+1	10+2	10+3	10+4	10+5	10+6	10+7	10+8	10+9	10+10

Subtraction Grid Facts

−	0	1	2	3	4	5	6	7	8	9	10
0	0−0										
1	1−0	1−1									
2	2−0	2−1	2−2								
3	3−0	3−1	3−2	3−3							
4	4−0	4−1	4−2	4−3	4−4						
5	5−0	5−1	5−2	5−3	5−4	5−5					
6	6−0	6−1	6−2	6−3	6−4	6−5	6−6				
7	7−0	7−1	7−2	7−3	7−4	7−5	7−6	7−7			
8	8−0	8−1	8−2	8−3	8−4	8−5	8−6	8−7	8−8		
9	9−0	9−1	9−2	9−3	9−4	9−5	9−6	9−7	9−8	9−9	
10	10−0	10−1	10−2	10−3	10−4	10−5	10−6	10−7	10−8	10−9	10−10
11		11−1	11−2	11−3	11−4	11−5	11−6	11−7	11−8	11−9	11−10
12			12−2	12−3	12−4	12−5	12−6	12−7	12−8	12−9	12−10
13				13−3	13−4	13−5	13−6	13−7	13−8	13−9	13−10
14					14−4	14−5	14−6	14−7	14−8	14−9	14−10
15						15−5	15−6	15−7	15−8	15−9	15−10
16							16−6	16−7	16−8	16−9	16−10
17								17−7	17−8	17−9	17−10
18									18−8	18−9	18−10
19										19−9	19−10
20											20−10

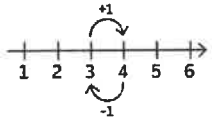
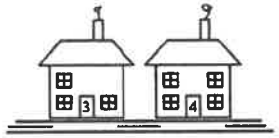
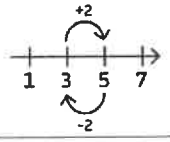
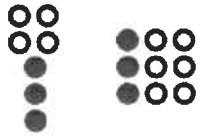
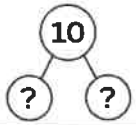
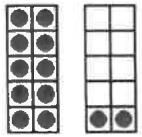
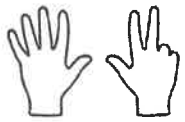
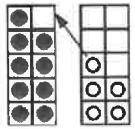
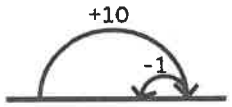
Calculation Strategies



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NSM Number Facts Calculation Strategies

One More, One Less 	When we add one, we get the next counting number. When we subtract one, we get the previous counting number (e.g. 5 – 1 = 4).	**Number Neighbours: Spot the Difference** 	Adjacent numbers have a difference of 1. Adjacent odds and evens have a difference of 2. Spot number neighbours (adjacent, odds or evens) to solve subtractions of adjacent numbers (e.g. 5 – 4 = 1), of adjacent odds (e.g. 9 – 7 = 2) or adjacent evens (e.g. 6 – 4 = 2)
Two More, Two Less: Think Odds and Evens 	If we add two to a number, we go from odd to next odd or even to next even. If we subtract two from a number, we go from odd to previous odd or even to previous even.	**7 Tree and 9 Square** 	Use these visual images to remember addition and subtractions fact families that children can find tricky. For example, visualising the 7 tree helps remember that 7 – 3 = 4. Visualising the 9 square helps remember that 3 + 6 = 9.
Number 10 Fact Families 	Go beyond just recalling the pairs of numbers that add to 10. Make sure that we can also spot additions and subtractions which we can use number bonds to 10 to solve.	**Ten and A Bit** 	The numbers 11 – 20 are made up of 'Ten and a Bit'. Recognising and understanding the 'Ten and a Bit' structure of these numbers enables addition and subtraction facts involving their constituent parts (e.g. 3 + 10 = 13, 17 – 7 = 10, 12 – 10 = 2).
Five and A Bit 	The numbers 6, 7, 8 and 9 are made up of 'five and a bit'. This can be shown on hands, and supports decomposition of these numbers into their five and a bit parts (e.g. 5 + 3 = 8, 9 – 5 = 4).	**Make Ten and Then...** 	Additions which cross the 10 boundary can be calculated by 'Making Ten' first, and then adding on the remaining amount (e.g. 8 + 6 can be calculated by thinking '8 + 2 = 10 and 4 more makes 14'). The same strategy can be applied to subtractions through 10.
Know about 0 0	When we add 0 to or subtract 0 from another number, the total remains the same. If we subtract a number from itself, the difference is 0.	**Adjust It** 	Any addition and subtraction can be calculated by adjusting from a fact you know already, (e.g. 6 + 9 is one less than 6 + 10).
Doubles and Near Doubles 	Memorise doubles of numbers to 10, using a visual approach. Then use these known double facts to calculate near doubles and hidden doubles. Once we know 6 + 6 = 12 then 6 +7 and 5 + 7 is easy.	**Swap It**  1 + 6	When the order of two numbers being added (addends) is exchanged the total remains the same. E.g. 1 + 8 = 8 + 1. Sometimes reversing the order of the two addends makes addition easier to think about conceptually.

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Hundreds Place Value Mat

Hundreds	Tens	Ones

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Thousands Place Value Mat

Thousands	,	Hundreds	Tens	Ones

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Ten Thousands Place Value Mat

Ten Thousands	Thousands	,	Hundreds	Tens	Ones

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Decimals Place Value Mat

	Millions
	Hundred Thousands
	Ten Thousands
	Thousands
	Hundreds
	Tens
	Ones
	Decimal Point
	Tenths
	Hundredths
	Thousandths
	Ten Thousandths
	Hundred Thousandths
	Millionths

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Millions Place Value Mat

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Millions	,	Hundred Thousands	Ten Thousands	Thousands	,	Hundreds	Tens	Ones

Hundred Thousands Place Value Mat

Hundred Thousands	Ten Thousands	Thousands	,	Hundreds	Tens	Ones

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100 Number Square

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

KIRFs Progression Map

Bridgetown Primary School 2022-23

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 1	I know number bonds to 5.	I know number bonds to 10.	I can recognise numbers to 50.	I know the doubles and halves of numbers to 10.	I know addition and subtraction facts within 10.	I can tell the time to the nearest half an hour.
Year 2	I know number bonds to 20.	I know the doubles and halves of numbers to 20.	I know the 2 times table (x and ÷).	I know the 10 times table (x and ÷).	I know the 5 times table (x and ÷).	I can tell the time to the nearest 5 minutes.
Year 3	I know number bonds for each number up to 20.	I know the 3 times table (× and ÷).	I know the 4 times table (× and ÷).	I know the 8 times table (× and ÷).	I can recall facts about durations of time.	I can tell the time to the nearest minute.
Year 4	I know number bonds of 100.	I know the 6 & 9 times tables (x and ÷).	I know the 7 & 11 times tables (x an ÷).	I know times table facts to 12x12 (x and ÷).	I can multiply and divide a single digit by 10 & 100.	I can recognise simple equivalent fractions.
Year 5	I can find factor pairs of a number.	I can identify prime numbers up to 50	I can recognise equivalent fractions and decimals.	I know decimal number bonds to 1 and 10.	I can recall metric conversions.	I can recall square numbers up to 12^2 and their square roots.
Year 6	I can instantly recall ALL times table facts and related division facts to 12x12 and use these to derive facts including decimal numbers.	I can identify common factors of a pair of numbers.	I can convert between decimals, fractions and percentages.	I can find a fraction of an amount.	I can find a percentage of an amount.	I know the formulae for finding the area of different shapes.

KIRF: I know number bonds for each number up to 20

Number bonds show us how numbers join together. They are very important for addition and subtraction. This half term, the children will be learning number bonds for all numbers up to 20; they should be able to recall these independently.

Year Three – Autumn 1

The children should know the number bonds to all numbers up to 20

e.g. Number bonds to 15: 0 + 15 = 15,

1 + 14 = 15, 2 + 13 = 15, etc.

Number bonds to 16: 0 + 16 = 16,

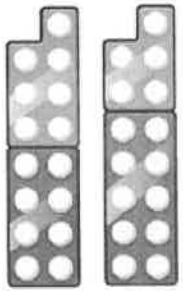
1 + 15 = 16, 2 + 14 = 16, etc.

The children should know all the number bonds that total 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19 and 20

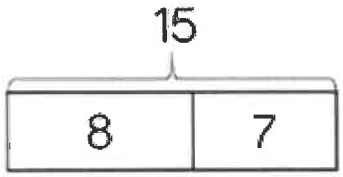
What can this look like?

Examples to 15

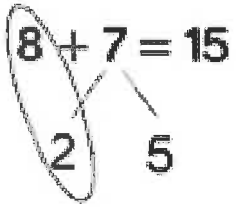
Concrete:



Pictorial:



Abstract:



Questions to ask at home

What do we need to add to 7 to make 20?

If I have 15, how many more do I need to get to 18?

What is the difference between 19 and 7?

Key vocabulary

2 **add** 11 **equals** 13

5 **plus** 12 is **the same as** 17

16 **take away** 7 equals 9

19 **subtract** 3 makes 16

18 **minus** 9 equals 9

Things to try

Everyday Objects- Gather together objects e.g pasta, pencils or straws and separate them in as many different ways as possible, write the calculation to match each one.

Make a poster – We use lots of concrete, pictorial and abstract methods in school. Your child could make a poster on any number 1-20 showing different methods to make the number bonds.

Ask your child to make part whole models for each number to 20. How many different models can they make for each number?

Take a pack of playing cards with picture cards removed. Think of a target number e.g 16, turn over a card. What number needs to be added to turned over card to make the target number? Alternatively turn over two playing cards and add the numbers together – who can find the total the quickest?

Active Learn

Seaside Scuffle https://www.activelearnprimary.co.uk/resource/1100338

Starfish Strike https://www.activelearnprimary.co.uk/resource/1100238

Cave Commotion https://www.activelearnprimary.co.uk/resource/1100341

Websites

https://www.topmarks.co.uk/maths-games/hit-the-button for number bonds to 20.

https://www.mathplayground.com/number_bonds_20.html for number bonds on different numbers.

If your child feels confident with their number bonds then these resources from nrich will help challenge and develop their thinking: https://nrich.maths.org/7819 https://nrich.maths.org/strike-it-out https://nrich.maths.org/6227 https://nrich.maths.org/10328 https://nrich.maths.org/1272

KIRF: I know number bonds to total 100

Number bonds show us how numbers join together. They are very important for addition and subtraction. This half term, the children will be learning number bonds of 100; they should be able to recall these independently.

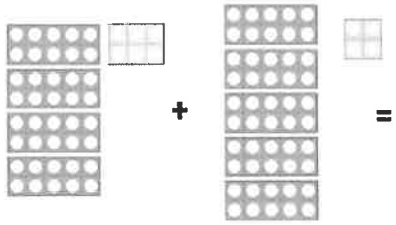
Year Four – Autumn 1

The children should know number bonds to 100. Some of these may include:

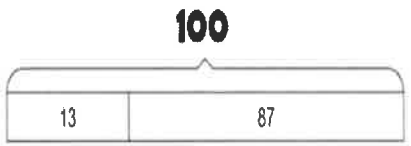
60 + 40 = 100	37 + 63 = 100
40 + 60 = 100	63 + 37 = 100
100 – 40 = 60	100 – 63 = 37
100 – 60 = 40	100 – 37 = 63
75 + 25 = 100	48 + 52 = 100
25 + 75 = 100	52 + 48 = 100
100 – 25 = 75	100 – 52 = 48
100 – 75 = 25	100 – 48 = 52

What can this look like?

Concrete:



Pictorial:



Abstract:

49 + ◯ = 100

100 – ◯ = 72

Questions to ask at home

What do we need to add to 70 to make 100?

If I have 36, how many more do I need to get to 100?

What is the difference between 100 and 74?

Key vocabulary

25 **add** 75 **equals** 100

55 **plus** 45 is **the same as** 100

100 **take away** 6 equals 94

100 **subtract** 37 makes 63

The **difference between** 91 and 100 is 9

Things to try

Make a set of 1 -10 digit cards. Lay them face down and turn over 2 digits e.g 4 and 9. Make a number by putting the digits together e.g 49 or 94, how quickly can your child derive the bond to 100?

Make a poster – We use lots of concrete, pictorial and abstract methods in school. Your child could make a poster showing different methods to make the number bonds to 100 e.g part whole models, bar models.

Daily Practice https://www.topmarks.co.uk/maths-games/daily10 10 questions each day, select Level 2 Bonds to 100.

Active Learn

Cave commotion https://www.activelearnprimary.co.uk/resource/1100341

Balloon Pop https://www.activelearnprimary.co.uk/resource/1100382 **Websites**

https://www.topmarks.co.uk/maths-games/hit-the-button for number bonds to 100.

If your child feels confident with complements to 100 then these resources from nrich will help challenge and develop their thinking:

https://nrich.maths.org/consecutivenumbers https://nrich.maths.org/1130

https://nrich.maths.org/91 https://nrich.maths.org/1056

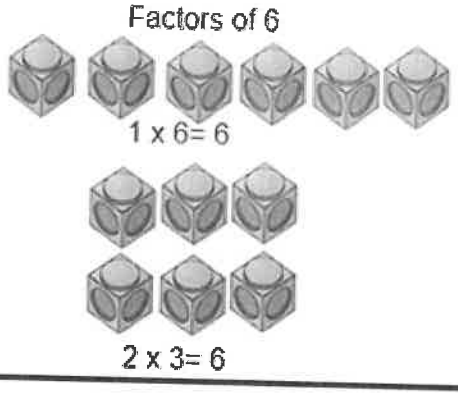
KIRF: I can find factor pairs of a number.

Year Five – Autumn 1

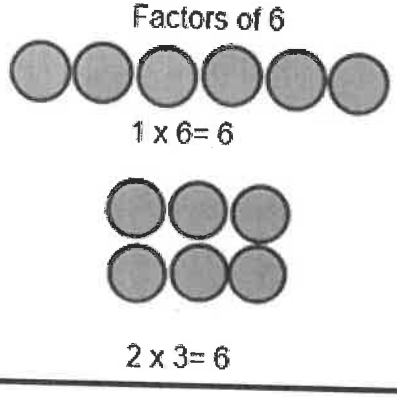
Children should now know all multiplication and division facts up to 12 × 12. When given a number in one of these times tables, they should be able to state a factor pair which multiply to make this number.

What can this look like?

Concrete:



Pictorial:



Abstract:

Factors of 6

1 x 6 = 6

factor factor product

2 x 3 = 6

factor factor product

1, 2, 3, 6

Questions to ask at home

Can you find a **factor** of 28?

Find two numbers whose **product** is 20. How many **factors** does 25 have?

Key vocabulary

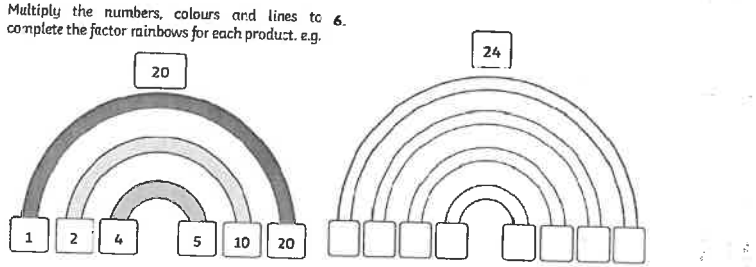
Array- An ordered collection of counters, cubes or other item in rows and columns.

Factor- A number that multiplies with another to make a product.

Product- The result of multiplying one number by another.

Things to try

Factor Rainbows- children can draw, paint or chalk factor rainbows.



Use counters or other small objects e.g pasta, choose a number e.g 32, show all the factor pairs using the objects organised into arrays for example 8 rows of 4, 2 rows of 16.

If your child feels confident with factors then these resources from nrich will help challenge and develop their thinking. https://nrich.maths.org/1011 https://nrich.maths.org/factorsandmultiples https://nrich.maths.org/1138

Active Learn

Reel it in https://www.activelearnprimary.co.uk/resource/1100263

Websites

https://www.topmarks.co.uk/maths-games/multiples-and-factors

https://www.mathnook.com/math/math-speed-racing-factors.html https://www.math-play.com/Factors-Millionaire/factors-millionaire-game_html5.html

KIRF: I can instantly recall ALL times table facts and related division facts to 12x12 and use these to derive facts including decimal numbers.

This is a chance for Year 6 children to consolidate their knowledge of multiplication and division facts and to increase their speed of recall. Children who have already mastered their times tables should apply this knowledge to answer questions including decimals e.g. 0.7 x ☐ = 4.2 or ☐ ÷ 60 = 0.7

Year Six – Autumn 1

Questions to ask at home

What is 12 multiplied by 6?
What is 7 times 0.8?
The product is 20, what could be the question?
32 ÷ ☐ = 0.8

Key vocabulary

12 **multiplied** by 6 is equal to 72
12 times 4 and 4 times 12 are **equivalent**
132 **divided** by 12 equals 11
The **product** of 6 and 3 is 18.
The **quotient** of 18 and 6 is 3.

What can this look like?

Concrete:

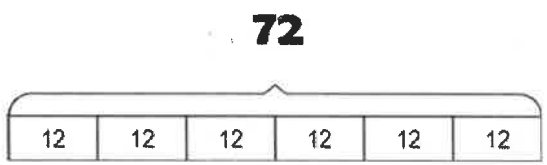


12 × 2 = 24

12 × ◯ = 72

◯ ÷ 12 = 5

Pictorial:



Abstract:

Twelve multiplied by _____is equal to sixty

_____divided by eight is equal to twelve

Things to try

Speed Challenge – Take two packs of playing cards and remove the kings. Shuffle the packs and turn over two cards and ask your child to multiply the numbers together (Ace=1, Jack = 11, Queen = 12). How many questions can they answer correctly in 2 minutes? Practice regularly and see if you can beat your high score.

TT Rock Stars – try to log on as much a possible - just 5 minutes practice a day makes a big difference.

Active Learn

Diamond Demolition Diamond demolition 6.14a (activelearnprimary.co.uk)Get the Yeti Get the Yeti 6.6b (activelearnprimary.co.uk)

Websites

BBC Maths KS2 - Guardians: Defenders of Mathematica
https://www.bbc.co.uk/bitesize/topics/zd2f7nb/articles/zn2y7nb

If your child feels confident with their times tables then these resources from nrich will help challenge and develop their thinking: https://nrich.maths.org/mobile https://nrich.maths.org/1783 https://nrich.maths.org/6434 https://nrich.maths.org/92 https://nrich.maths.org/1785

×	0	1	2	3	4	5	6	7	8	9	10	11	12
0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10	11	12
2	0	2	4	6	8	10	12	14	16	18	20	22	24
3	0	3	6	9	12	15	18	21	24	27	30	33	36
4	0	4	8	12	16	20	24	28	32	36	40	44	48
5	0	5	10	15	20	25	30	35	40	45	50	55	60
6	0	6	12	18	24	30	36	42	48	54	60	66	72
7	0	7	14	21	28	35	42	49	56	63	70	77	84
8	0	8	16	24	32	40	48	56	64	72	80	88	96
9	0	9	18	27	36	45	54	63	72	81	90	99	108
10	0	10	20	30	40	50	60	70	80	90	100	110	120
11	0	11	22	33	44	55	66	77	88	99	110	121	132
12	0	12	24	36	48	60	72	84	96	108	120	132	144

×	0.2	
5		1.5
		1.2