

YEAR 5

M3a: Can recall and use multiplication and division facts for all the times tables.



= Teacher's Notes

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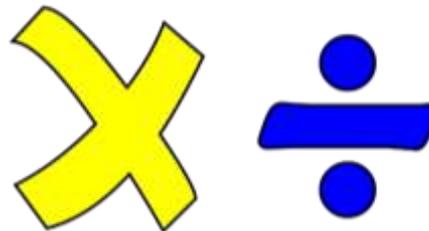
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Assessing understanding

- Describe some connections between 3, 5 and 15 using the words 'multiple' and 'factor'.
- Write three different multiplications with a product of 24.
- Write three different divisions with a quotient of 5.
- If you multiply me by 6 you get 30. What number am I?
- Multiples of 4 are always multiples of 2. Is this statement true or false? Explain your answer.
- Name the first 5 multiples of 8.
- Give two numbers that are multiples of 4 and 7.
- How do you know if a number is divisible by 3?
- What multiplication fact can we use to work out 30×5 ?

Key vocabulary

Multiplication, multiply, division,
divide, multiplied by, multiple of,
times, lots of, groups of, divided by,
divisible by, factor of, quotient,
array, inverse



Problem solving and reasoning

Can you relate division facts with finding fractions of quantities?

$1/3$ of 24 is equivalent to _____ x _____

$1/4$ of 48 = _____ x _____



You should know all your **times tables facts** up to 12×12 and the **related division facts**.

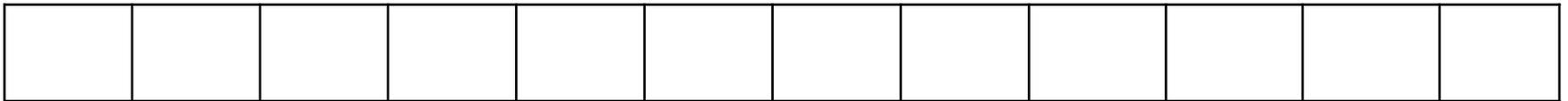
Which times tables are you confident with?

Which times tables do you need to work on?





Counting stick ideas for teachers (5x)



- Use a counting stick labelled with 'post its'.
- 'Chant' through the 'times table' together $1 \times 5 = 5$, $2 \times 5 = 10$ etc.
- Gradually remove 'post its' and 'chant' again.
- Finish with 'quick fire' questions. For Example:
What is $4 \times 5 = ?$
What is $40 \div 5 = ?$
- What number would go here? (pointing to a division on the counting stick).

We will now repeat these activities with some of the other times tables we need to revise. Let's try the **6 x table**.

0 6 12 18 24 30 36 42 48 54 60 66 72

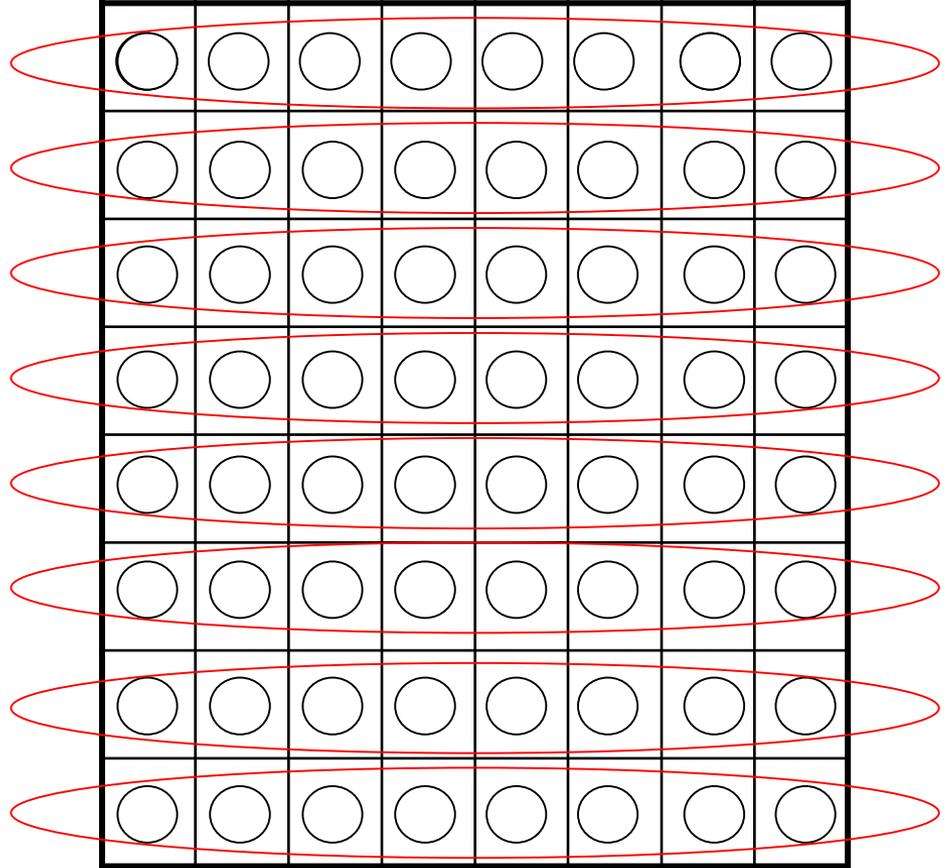
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What times table shall we work on next?



Further guidance for teachers

Use alongside arrays if necessary to visually show multiplication and division facts.



Problem solving and reasoning

Which pairs of numbers could be written in the spaces?

a) $\underline{\quad} \times \underline{\quad} = 32$

b) $24 = \underline{\quad} \times \underline{\quad}$





Further guidance for teachers

Another visual that could be used when the children are at the beginning of their journey to becoming fluent with a specific times table is a hundred square. It allows pupils to see the patterns that the numbers make as they go through the multiples.

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

Let's think about how we can use multiplication & division facts to **multiply** and **divide** numbers including **decimals...**

Problem solving and reasoning

Here is a number fact: $7 \times 25 = 175$

How can you use this to find

a) 7×26 ?

b) 15×25 ?



Decimal numbers

This can help us use our **multiplication and division facts** to work with **decimals**.

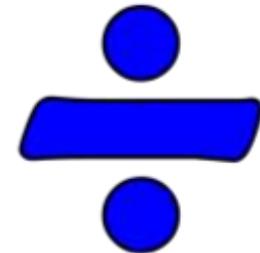
$$32 \div 4 = 8$$

$$3.2 \div 4 = 0.8$$

3.2 is **10 times smaller** than 32
 so our answer will also be

10 times smaller:
8 becomes 0.8

H	T	O	.	10th	100th
			.		
			.		



Decimal numbers

This can help us use our **multiplication and division facts** to work with **decimals**.

Another example is

$$8 \times 0.5 = ?$$

$$8 \times 5 = 40$$

so

$$8 \times 0.5 = 4$$

H	T	O	.	10th	100th
			•		
			•		



Problem solving and reasoning

Can you complete these missing number calculations?

a) $6 \times 0.9 = \underline{\quad\quad} \times 0.3$ b) $6 \times 0.04 = 0.08 \times \underline{\quad\quad}$



Problem solving and reasoning

Making links

How can you use $5 \times 7 = 35$ to solve:

- a) 0.5×7 ?
- b) 5×0.7 ?
- c) 0.5×0.7 ?
- d) 50×0.7 ?



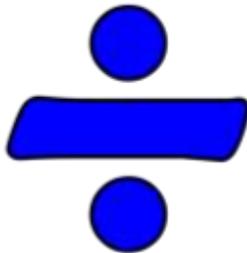
Decimal numbers

Remember how we can **multiply** and **divide** numbers by **10**.

$$32 \div 10 = ?$$

H	T	O	.	10th	100th
	3	2	.		
		3	.	2	

Arrows indicate the movement of digits: from T to O, and from O to 10th.



If we divide 32 by 10, the number becomes **10 times smaller**.

Each digit therefore moves one place to the **right**.

So $32 \div 10 = 3.2$

M3a: Activities

- Chanting times tables with question and answer – forwards, backwards and random. Use also the corresponding division facts.
- Link $\times 2$ with doubling and halving which they have previously learnt to do; make links between 2, 4 and 8 and highlight the links between 3 and 6.
- Matching games – times table question and answer cards to play snap or pairs.
- Use coins and get them to give the multiple related to that coin (10p and the $3\times$ table would be 30p).
- Packs of cards can be used as random question generators. You can take out the ones they are fluent with and leave those they need more practice in tens frames and hundred squares for children to see the pattern as they are chanting.
- Counting stick with post it notes - remove the scaffold of the post it notes as children become fluent with some of them. Children could have individual counting sticks and then the scaffold could be differentiated accordingly.
- Complete multiplication grids with missing parts.
- Multiplication or division number sentences with missing numbers.
- Use related number facts and link with numbers which are 10 times larger or smaller.

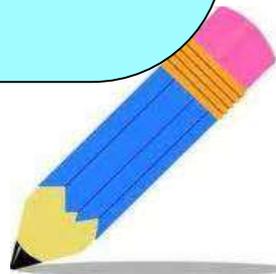
M3a. Your Turn

Test 1

1. _____ $\times 9 = 63$

2. $84 \div 4 =$

3. Explain how you can use $12 \times 9 = 108$ to work out $15 \times 9 = ?$



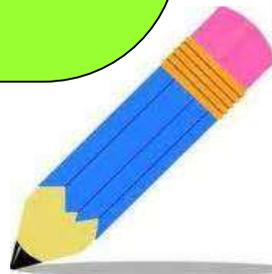
M3a. Your Turn

Test 2

1. Explain how you can use $8 \times 7 = 56$ to help you find $80 \times 0.7 = 56$

2. $6 \times \underline{\hspace{2cm}} = 420$

3. $97 \div 3 =$



M3a. Your Turn

Test 3

1. $320 \div \underline{\hspace{2cm}} = 4$

2. Explain how you can use $12 \times 7 = 84$ to help you work out $7 \times 24 = ?$

3. $\underline{\hspace{2cm}} \times 50 = 4500$

