Buckingham Primary Academy
BELIEVE PERSEVERE ACHIEVE
part of the **enquire** learning trust

Outline of expectations term by term. The National Curriculum expectation for Primary Schools across the UK is that, by the end of Year 4, pupils can recall all 12 times tables up to 12x12. This resource map was created to provide teachers with a schema for how to ensure that all pupils are capable of this by Year 4.

Process of teaching times table and division facts:

Each half-term teachers will have a new fact to focus on and teach. Staff will need to use the first week to support with the teaching of the facts.

1) Introduce new learning and division facts to children (no more than 10 minutes). This process will last for one week.

Ideas to think about-

Immersion lesson – what comes in groups of ___?
Pull out understanding, what do the children already know about the times table?
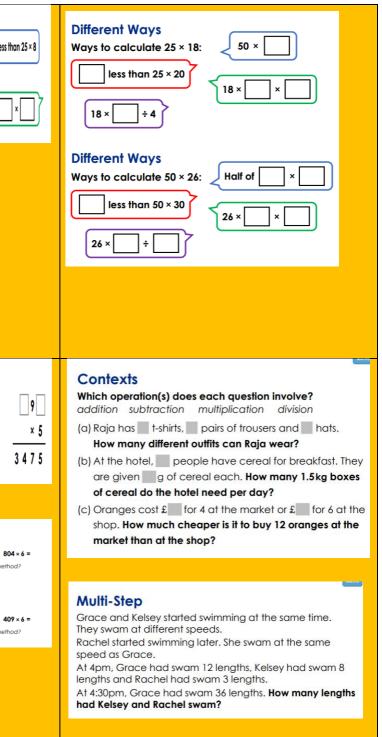Concrete resources lessons e.g. Numicon, Cuisenaire Rods, arrays

2) Use the 5 minutes before class begins after lunchtime to complete carousel learning based on your timetable fact. Staff to ensure this is set up and competed daily.
3) Staff to use carousel learning to support with gaps in knowledge and amend where required.

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS (FS2)	Experience in counting Looking at 1 more and 1 less (5)	Experience in counting Looking at 1 more and 1 less (5)	Experience in counting Looking at 1 more and 1 less (10)	Experience in counting Looking at 1 more and 1 less (10)	Experience in counting Looking at 1 more and 1 less (20)	Experience in counting Looking at 1 more and 1 less (20)
1	Experience of counting in 1s, 2s, 5s and 10s					
2	1x	(1x) 2x	5x	(5x) 10x	0x	Revision
3	(2x) 4x	(4x) 8x	3x	(3x) 6x	(6x) 12x	Revision
4	9x	7x	11x	Squares	Revision	Test
5	Complete an assessment using Carousel. Recall all multiplication and division facts up to 12x12	Squared and cubed number focus	Retrieval and recap of all multiplication and division facts up to 12x12 Using carousel to support with assessment	Using multiplication and division facts and applying to known facts	Known facts to continue	Retrieval and recap of all multiplication and division facts
6	Complete an assessment using Carousel. Recall all multiplication and division facts up to 12x12	Revision of facts and applying to known facts- building on year 5 and working towards arithmetic style questions	Assessment on carousel learning to determine gaps and put effective support and measures into place. Mixed multiplication and division used up to 12x to ensure children can confidently recall	Squared, Cubed and Prime Numbers to be focused	Revision and revisit of facts to ensure confidence	Revision and revisit of facts to ensure confidence

Year group	EYFS (FS2)	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
EYFS	Nursery Rhymes (Focusing on numbers to 5) *Five Little Speckled Frogs* *Five Currant Buns* *Five Little Ducks* *Hickory Dickory Dock*	Count in 2's up to 24, linking with even numbers and supporting doubles. Count in multiples of 10 in order up to 120.	Consolidate counting in steps of 2, 5 and 10 in order from 0 up to 12x. Children to work on spotting pattens of doubling (1x) to (2x)	Count and use knowledge of 2 x table to teach 4 x tables. Children to spot patterns of doubling. Children to be able to recall number facts of the 4x tables and division facts.	Introduce the 9x tables to children. Children to be able to recall and identify the 9x table both the multiplication and division facts.	Complete an assessment using carousel learning and identify and gaps. Recall multiples of 12 in any order, including missing numbers and related division facts fluently. Recall multiples of all times tables up to 12x12 in any order, including missing numbers and related division facts with growing fluency.	Complete an assessment using carousel learning and identify and gaps. Expectation is that all children are able to recall all multiplication and division facts up to 12x12
Autumn 2	Nursery Rhymes (Focusing on numbers	Count in 2's up to 24, linking with even numbers and supporting doubles. Count in multiples of 10 in order up to 120.	Count in steps of 2 from any given number and be able to begin writing the answers down. Recall multiples of 2 fluently and begin to identify missing numbers.	From introducing the 4x table teacher to then focus on the related facts of 8x table and again teach the process of doubling. Children to the recall the 8x table facts.	Introduce the 7x table- Teacher to teach and support children's understanding of the 7-x table so children can confidently recall both the multiplication and division facts up to 12 x.	Squared and cubed number focus Use carousel learning to support with assessment and gaps.	Revision of facts and a focus on extending this to known facts to support with the arithmetic preparations.

	to 5 and 10) *Ten Green Bottles* *1, 2, 3, 4, 5 Once I Caught A Fish Alive* *Ten Fat Sausages* *Ten Little Monkeys*						
Spring 1	Count from 0- 10 (from any given number). Recall Number Bonds to 5.	Focus on counting in multiples of 5 up to 60, linking with knowledge of counting in 10s. Continue to develop fluency of counting in 2's and 10's.	Count in steps of 5 up to 12 x 5 and the division facts also. Children to identify the missing numbers and begin to spot the pattens. Complete a retrieval task once a week on 2- and 5-times table to recap knowledge	Introduce and teach the 3x table to the class. Identify the related number facts of the multiplication and division facts.	Introduce the 11x table- Teacher to teach and support children's understanding of the 11x table so children can confidently recall both the multiplication and division facts up to 12 x.	Children to confidently recall all facts both multiplication and division to be completed daily	Assessment on carousel learning to determine gaps and put effective support and measures into place. Mixed multiplication and division used up to 12x to ensure children can confidently recall
Spring 2	Count forwards and backwards 0-10. Recall Number Bonds to 5.	Focus on counting in multiples of 5 up to 60, linking with knowledge of counting in 10s. Continue to develop fluency of counting in 2's and 10's.	Children to begin focusing on their 10 x tables and look at spotting patterns of doubling and halving from 5 x tables. Children to be able to recall multiples of 10 and spot any missing numbers. Children to also be able to talk about related division facts	Children to be able to spot patterns and use the 3x table to support with the 6x tables. Children to be able to recall the facts from 0x to 12x. Children to also identify missing numbers.	Focus on square numbers with pupils. Children being able to identify the square numbers and be able to confidently explain what a squared number is.	Children to begin extending their knowledge to known facts and using their multiplication and division facts to support.	Squared, cubed and prime numbers to be a focus and for children to be able to confidently talk about these.
Summer 1	Count from 0-20 (from any given number) Begin to count forwards and backwards 0-20.	Count in multiples of 10, 2 and 5 in order with growing fluency.	Children to recap on knowledge of 2x, 5x and 10 x tables and be able to recall facts both multiplication and division. Teacher to support with 0x and what this means to support with misconceptions.	Children to use their knowledge of the 6x table to support with the teaching of the 12x table. Children to be able to recall the multiplication and division facts of the 12x tables.	Revision of all facts Children to confidently be able to recall all.	Known facts to continue	Revision and revisit the times tables to ensure confidence.
Summer 2	Begin to explore counting in 2s and 10s. Recall Number Bonds to 5 and 10.	Count in multiples of 10, 2 and 5 in order fluently.	Be able to confidently count and recall multiplication and division facts of 2's, 5's and 10 tables.	Revision of 2, 3, 4, 5, 6, 8 and 12	Revision of all facts Children to confidently be able to recall all.	Assessment on carousel learning and use of arithmetic test to inform next teach.	Revision of all facts Children to confidently be able to recall all.
Accuracy		Children being able to count in 2's to 24 and recognise what number come's next/before	Children knowing the order of the times tables for their strand knowing what comes before/after. Inverse operations.	Children knowing the order of the times tables for their strand knowing what comes before/after. Inverse operations.	Children knowing the order of the times tables for their strand knowing what comes before/after. Inverse operations.	Children knowing the order of the times tables for their strand knowing what comes before/after. Inverse operations.	Children knowing the order of the times tables for their strand knowing what comes before/after. Inverse operations.

Efficiency							

Which method is best and why?

Different ways

26 - 18 = ☐

Take away 20 then add ☐

Count on from ☐ to ☐

Do 26 take away 16 then take away ☐

Children should be able to identify which one they feel is the best method and be able to explain why this is.

Children to use their voice 21 strategies to support with Oracy and be able to explain their understanding/process

Explain
Joy and Zara calculate **18 ÷ 6**. Here are their methods:

Joy:
I shared 18 into 6 groups. There are 3 in each group.

Zara:
I had groups of 6. In 18, there are 3 groups of 6.

I agree with…   For this question, the best method is…

Small Difference Questions

7 × 3 = ☐	2 × 8 = ☐	5 × 7 = ☐
3 × 7 = ☐	4 × 8 = ☐	10 × 7 = ☐
6 × 7 = ☐	6 × 8 = ☐	9 × 7 = ☐
12 × 7 = ☐	12 × 4 = ☐	9 × 14 = ☐
12 × 6 = ☐	14 × 4 = ☐	9 × 13 = ☐

…is the same as…   …is double…   is 7 less than…

Different Ways

Ways to calculate 12 × 8:

10 × 8 + ☐ × ☐

☐ less than 12 × 10

Double ☐ × 8

Different Ways

Ways to calculate 24 × 8:

☐ less than 25 × 8

☐ less than 24 × 10

Double ☐ × ☐

Different Ways

Ways to calculate 25 × 18:

50 × ☐

☐ less than 25 × 20

18 × ☐ × ☐

18 × ☐ ÷ 4

Different Ways

Ways to calculate 50 × 26:

Half of ☐ × ☐

☐ less than 50 × 30

26 × ☐ × ☐

26 × ☐ ÷ ☐

Flexibility							

Complete the patterns:

| 5 | 0 | 5 | | 5 | | 0 | |

| 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 |

☐ ◯ ⬭ ◇ | ▽ ☐

☐ ◯ ◇ ▽ ✚ | | ✚

| 0 | | 4 | 6 | 8 | 0 | 2 | | 8 | 0 |

Applying it to a range of problems which could be spotting patterns/completing patters for the 2-x table

Dice Patterns

True or False? ✓ or ✗

3 lots of 4   4 lots of 5

Applying knowledge of multiplication and division facts to a visual approach and being able to explain if it is true/false and use their knowledge to evidence and support.

Spot the Patterns
Fill the boxes, working in alphabetical order:

0 ... 10
f h b c e g d a

4
a i b h c g d f e

0 ... 3
g f c b h e d i a

… is 4 less than…   … is 3 more than…   …is half…

Read the Pictures
7 × 5 can be broken down into:

5 × 5 + ☐ × ☐   ☐ × ☐ + ☐ × ☐   ☐ × ☐ + ☐ × ☐

Agree or Disagree? ✓ or ✗

This means 9 × 3 = 27   3 × 9 = 27   This means 27 ÷ 3 = 9

This means 3 × 27 = 9   This means 27 = 9 × 3

This means 8 ÷ 32 = 4   32 ÷ 4 = 4   This means 32 = 8 ÷ 4

This means 32 ÷ 4 = 8

I know… so…

10 10 10	20 × 7 = ☐	30 × 8 = ☐
10 10 10		60 × 7 = ☐
10 10 10	30 × 7 = 210	
10 10 10	70 × 3 = 210	70 × 4 = ☐
	☐ × 700 = 2100	
	300 × 7 = ☐	

Children can apply their knowledge to a know fact to support with their understanding.

Rank by Difficulty

99 × 4 = ☐   250 × 6 = ☐

38 × 8 = ☐   205 × 6 = ☐

…can be answered mentally by…
I used a written method for…

Rank by Difficulty

48 × 7 = ☐   5 × 198 = ☐

56 × 8 = ☐   312 × 3 = ☐

Extend: design your own Rank by Difficulty questions. It must be possible to answer some of these questions mentally.

Missing Digits

☐2   5☐4   ☐9
× 6   × ☐   × 5
2 5 6 8   4 1 9 2   3 4 7 5

Rank by Difficulty

37 × 6 = ☐   45 × 6 = ☐

98 × 6 = ☐   804 × 6 = ☐

To answer, did you use the same method? Or different methods?

Rank by Difficulty

32 × 50 = ☐   46 × 7 = ☐

99 × 4 = ☐   409 × 6 = ☐

To answer, did you use the same method? Or different methods?

Contexts
Which operation(s) does each question involve?
addition subtraction multiplication division

(a) Raja has ☐ t-shirts, ☐ pairs of trousers and ☐ hats.
How many different outfits can Raja wear?

(b) At the hotel, ☐ people have cereal for breakfast. They are given ☐ g of cereal each. **How many 1.5kg boxes of cereal do the hotel need per day?**

(c) Oranges cost £☐ for 4 at the market or £☐ for 6 at the shop. **How much cheaper is it to buy 12 oranges at the market than at the shop?**

Multi-Step
Grace and Kelsey started swimming at the same time. They swam at different speeds.
Rachel started swimming later. She swam at the same speed as Grace.
At 4pm, Grace had swam 12 lengths, Kelsey had swam 8 lengths and Rachel had swam 3 lengths.
At 4:30pm, Grace had swam 36 lengths. **How many lengths had Kelsey and Rachel swam?**

The National Curriculum expectation is that by the end of Year 4, children are able to recall all 12 tables up to 12x12.

To secure this, we recommended that the first term of Year 5 be used to consolidate by continuing your practice. It is also an opportunity for teachers to carryout and use assessment to think about the next steps of learning and building on prior knowledge.

As children progress throughout year 5 and 6 opportunities to extend knowledge further have been put into place through squared, cubed and prime numbers and using know facts to support with arithmetic style questions.

If you find that your children are working below the structure outlined in this document, we recommend tracking back to where your children are.

Ideas and ways to teach multiplication-