THE ASHBY FEDERATION

CALCULATION – DIVISION POLICY

Approved by:	Executive Head Teacher
Last reviewed on:	November 2021
Next review due by:	November 2023

DIVISION STAGE 1		
Progression	**Concrete**	**Pictorial**
Sharing objects in role play and real life contexts. Vocabulary: equal groups of, equal lots of, equal sets of, grouping, share equally, sharing, share.	 6 apples shared between 3 children. They get 2 apples each.	
Year 1 – Halves to 10. Year 2 – Halves to 20. Vocabulary: half, halves, halving, half as much/many.	Use practical activities to show how to halve a number. half of 8 is 4 $8 \div 2 = 4$ When cofident with halving introduce the concept that halving is the same as dividing by 2.	Draw pictures to show how to halve a number. Half of 8 is 4

Underlying skills	Active Learning Through Models and Images
- Accurate counting. - One to one correspondence. - Understanding that sharing means that everyone has the same.	You have 3 and I have 3. We have the same.

|	DIVISION STAGE 2	
Progression	**Concrete**	**Pictorial**
Sharing objects into groups.	I have 10 cubes, can you share them equally in 2 groups?	Children use pictures or shapes to share quantities. $8 \div 2 = 4$
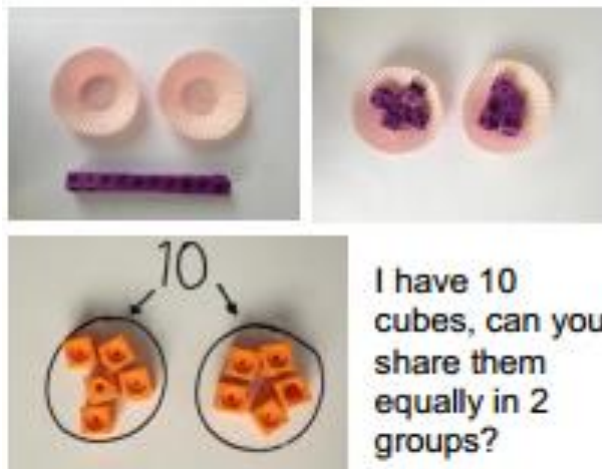
Division as grouping/repeated subtraction.

(Grouping objects to solve a problem faster than sharing.)

Vocabulary: arrays, row, column, patterns, division, divide, divided by, divided into, repeated subtraction, one each, two, three each... ten each, group in pairs, group in threes... group in tens, multiples, division facts, calculation, equation.

Divide quantities into equal groups. Use cubes, counters, objects or place value counters to aid understanding.
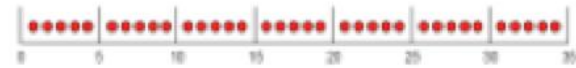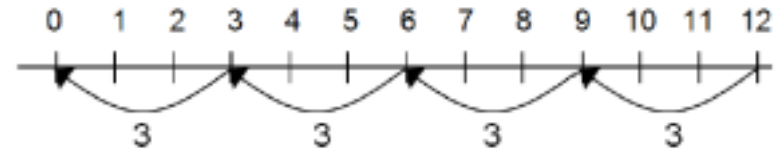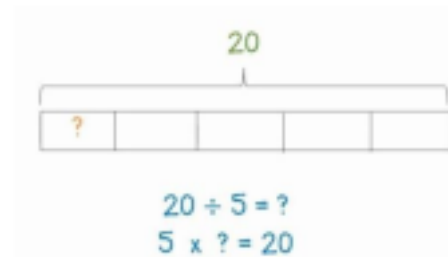

10 ÷ 2 = 5 because you are grouping in 2s.

35 ÷ 5 because you are grouping in 5s.

$12 \div 3 = 4$

Use a number line to show jumps in groups. The number of jumps equals the number of groups.

Think of the bar as a whole. Split it into the number of groups you are dividing by and work out how many would be within each group.

20 ÷ 5 = ?
5 x ? = 20

Underlying skills	Active Learning Through Models and Images	
• Recognise what small groups of an object looks like without needing to count.	**15 divided by 3 (grouping)** How many 3s in 15? 6 9 12 15 $15 \div 3 = 5$	

<p align="center">DIVISION STAGE 3</p>

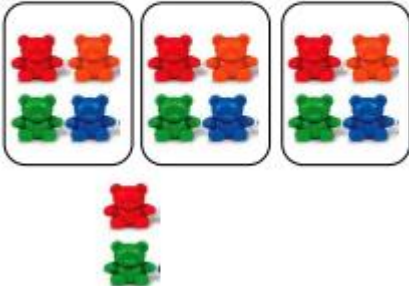| **Progression**	**Concrete**	**Pictorial**
Division within arrays. Vocabulary: inverse, factor, factor pair, product.	Link division to multiplication by creating an array and thinking about the number sentences that can be created. Eg $15 \div 3 = 5$ $5 \times 3 = 15$ $15 \div 5 = 3$ $3 \times 5 = 15$	 Draw an array and use lines to split the array into groups to make multiplication and division sentences. 21 divided by 7 = 3

Underlying skills	
• Reliable counting. • Organisation skills.	

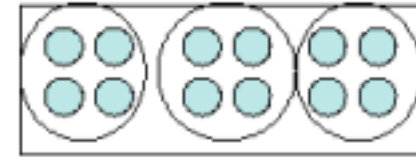| DIVISION STAGE 4		
Progression	**Concrete**	**Pictorial**
Division with a remainder. Vocabulary: remainder.	14 ÷ 3 = Divide objects between groups and see how much is left over 	13 ÷ 4 = 3 r 1 Jump forward in equal jumps on a number line then see how many more you need to jump to find a remainder. Draw dots and group them to divide an amount and clearly show a remainder. 14 ÷ 4 = 3 r 2

DIVISION STAGE 5		
Progression	**Concrete**	**Pictorial**

Short division.

Vocabulary: short division, dividend, divisor, quotient, divisible by.

$42 \div 3 =$

$3\overline{)42}$

$3\overline{)42}$ (with 14 above)
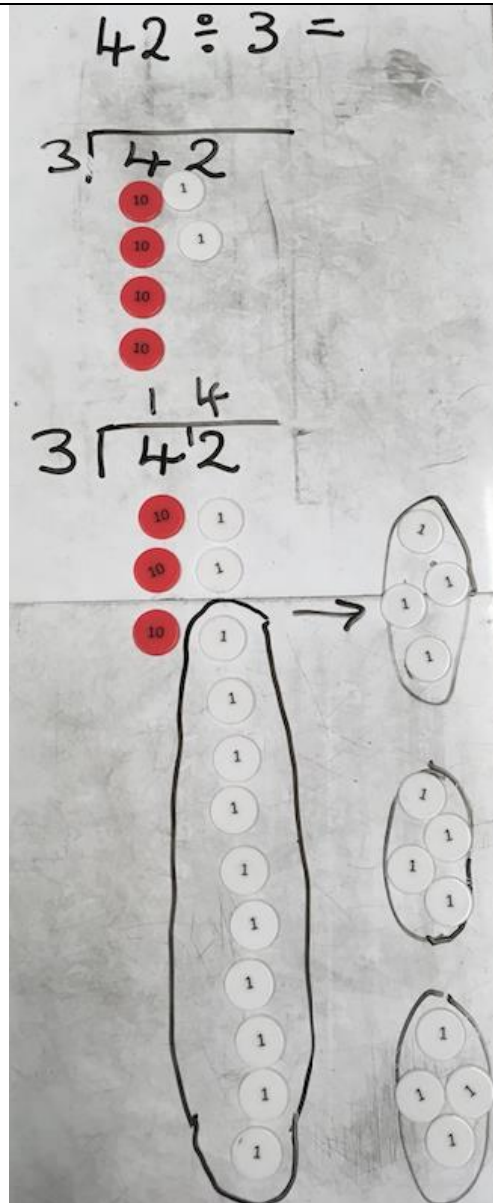
Students can continue to use drawn diagrams with dots or circles to help them divide numbers into equal groups.

Encourage them to move towards counting in multiples to divide more efficiently.

$12 \div 3 = 4$

Underlying Skills		
• Rapid recall of multiplication facts. • Understanding of the relationship between x and $\div$.	$1 \times 4 = 4$ $2 \times 4 = 8$ $3 \times 4 = 12$	$4 \div 4 = 1$ $8 \div 4 = 2$ $12 \div 4 = 3$

DIVISION STAGE 6		
Progression	**Concrete**	**Pictorial**

Long division.
2544 ÷ 12
How many groups of 12 thousands do we have?
None

Exchange 2 thousand for 20 hundreds.

$$12\overline{)2544}$$
with 0 above

How many groups of 12 are in 25 hundreds? 2 groups. Circle them.
We have grouped 24 hundreds so can take them off and we are left with one.

$$12\overline{)2544}$$
$$\underline{24}$$
$$1$$
with 02 above

Exchange the one hundred for ten tens so now we have 14 tens. How many groups of 12 are in 14? 1 remainder 2

$$12\overline{)2544}$$
$$\underline{24}$$
$$14$$
$$\underline{12}$$
$$2$$
with 021 above

Exchange the two tens for twenty ones so now we have 24 ones. How many groups of 12 are in 24? 2
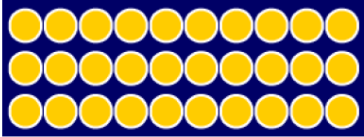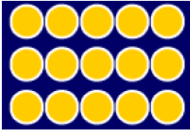
$$12\overline{)2544}$$
$$\underline{24}$$
$$14$$
$$\underline{12}$$
$$24$$
$$\underline{24}$$
$$0$$
with 0212 above | Instead of using physical counters, students can draw the counters and circle the groups on a whiteboard or in their books.

Use this method to explain what is happening and as soon as they have understood what move on to the abstract method as this can be a time consuming process. |
| **Underlying Skills**

- Rapid recall of | | |

	multiplication facts. • Using known number facts and knowledge of place value to help work out others.	 10 x 3 = 30 5 x 3 = 15 So… 15 x 3 = 45 3 x 4 = 12 so 30 x 4 = 120	
			DIVISION STAGE 7
Progression		**Concrete**	**Pictorial**
Division with decimals.			
Underlying Skills		As above	