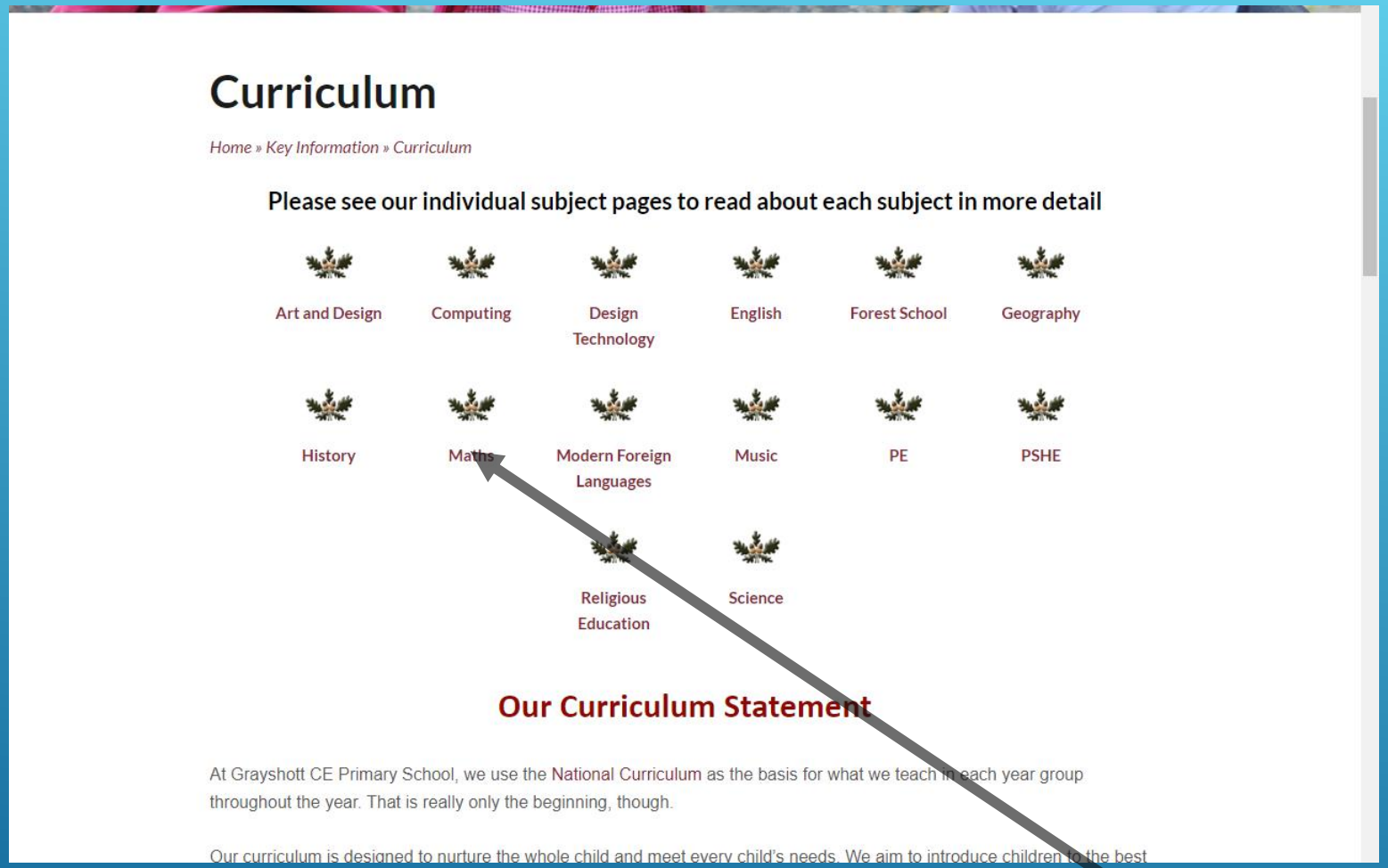
MATHS CALCULATION WORKSHOP

Thursday 1st February and Thursday 8th February 2024

AIMS

- Understand the progression of multiplication and division through the years 1 -6.
- Understand mental methods that children can use.

SCHOOL WEBSITE



Curriculum

Home » Key Information » Curriculum

Please see our individual subject pages to read about each subject in more detail

Art and Design | Computing | Design Technology | English | Forest School | Geography

History | Maths | Modern Foreign Languages | Music | PE | PSHE

Religious Education | Science

Our Curriculum Statement

At Grayshott CE Primary School, we use the National Curriculum as the basis for what we teach in each year group throughout the year. That is really only the beginning, though.

Our curriculum is designed to nurture the whole child and meet every child's needs. We aim to introduce children to the best

Curriculum page on website.

THE CPA APPROACH

Concrete

Using physical objects to solve maths problems

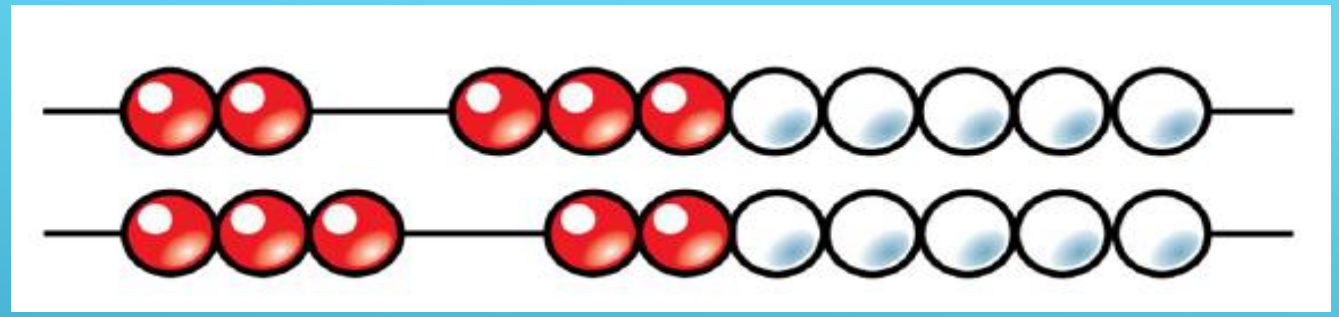
Pictorial

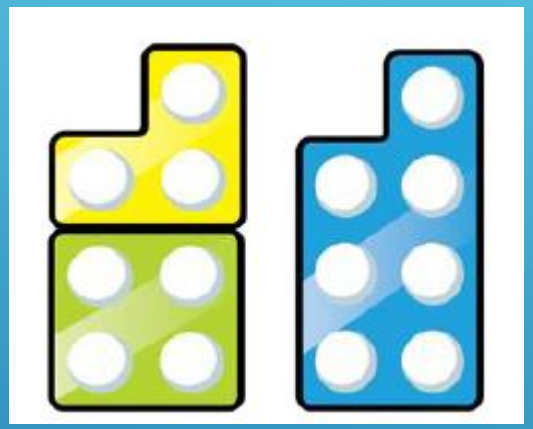
Drawing or using ready-made representations of physical objects.

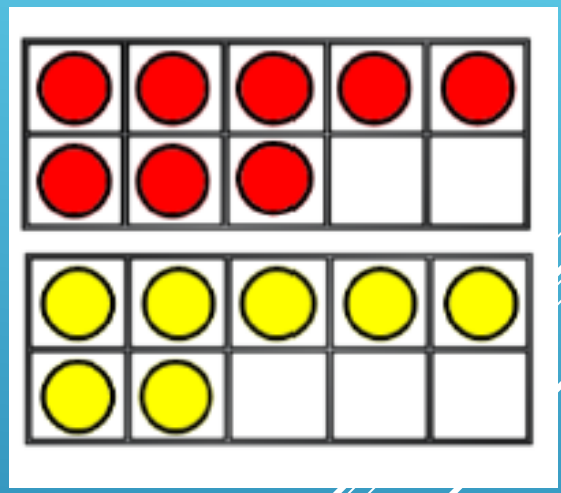
Abstract

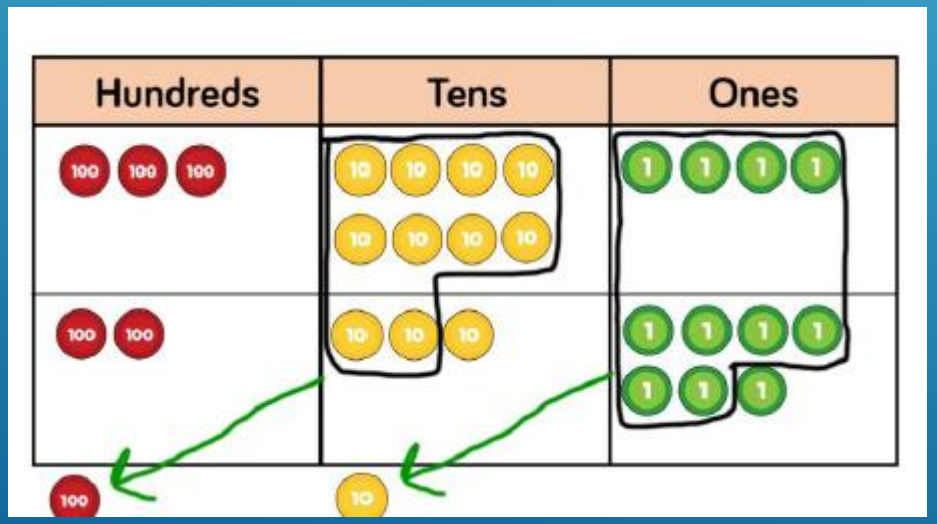
Using numbers or symbols.

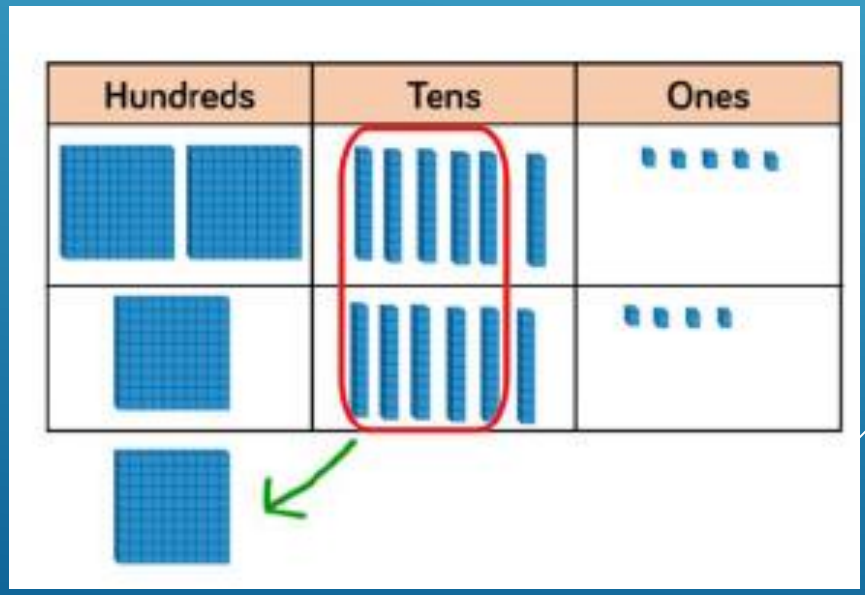
CONCRETE



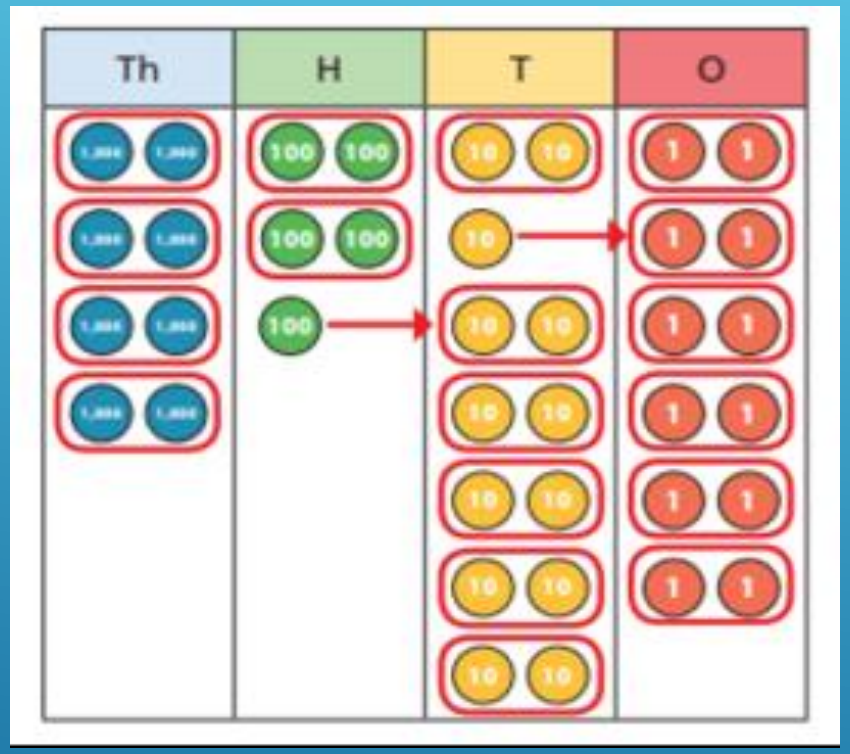


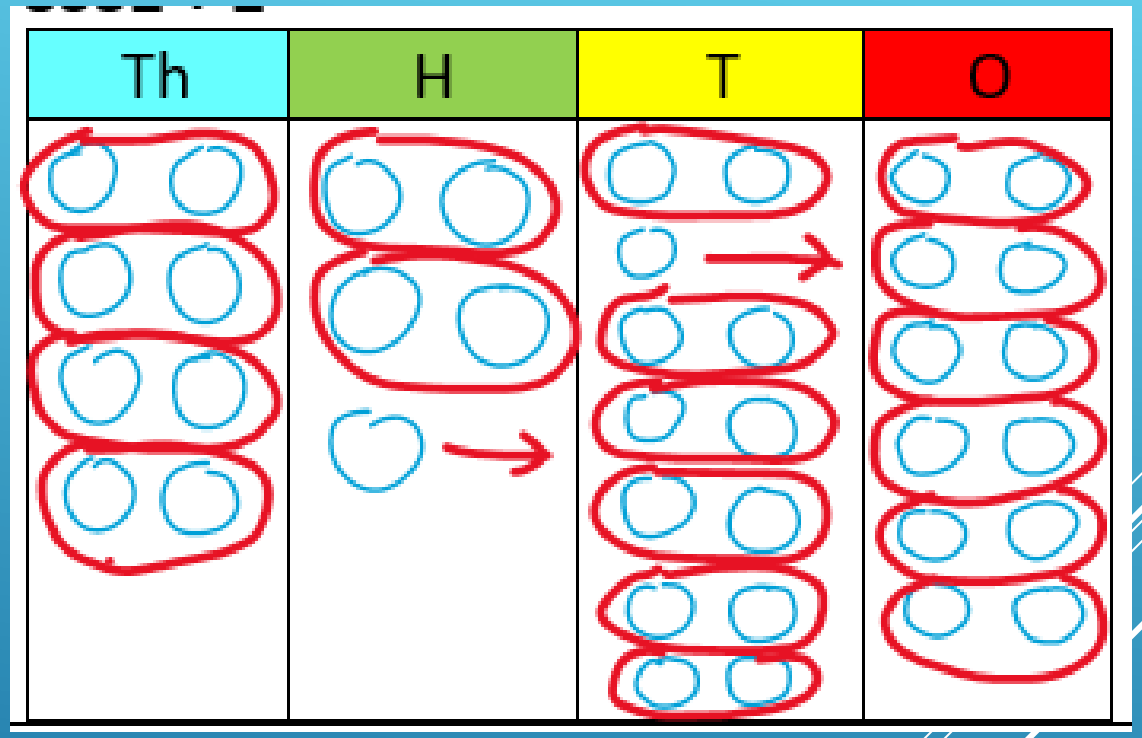






CONCRETE → PICTORIAL





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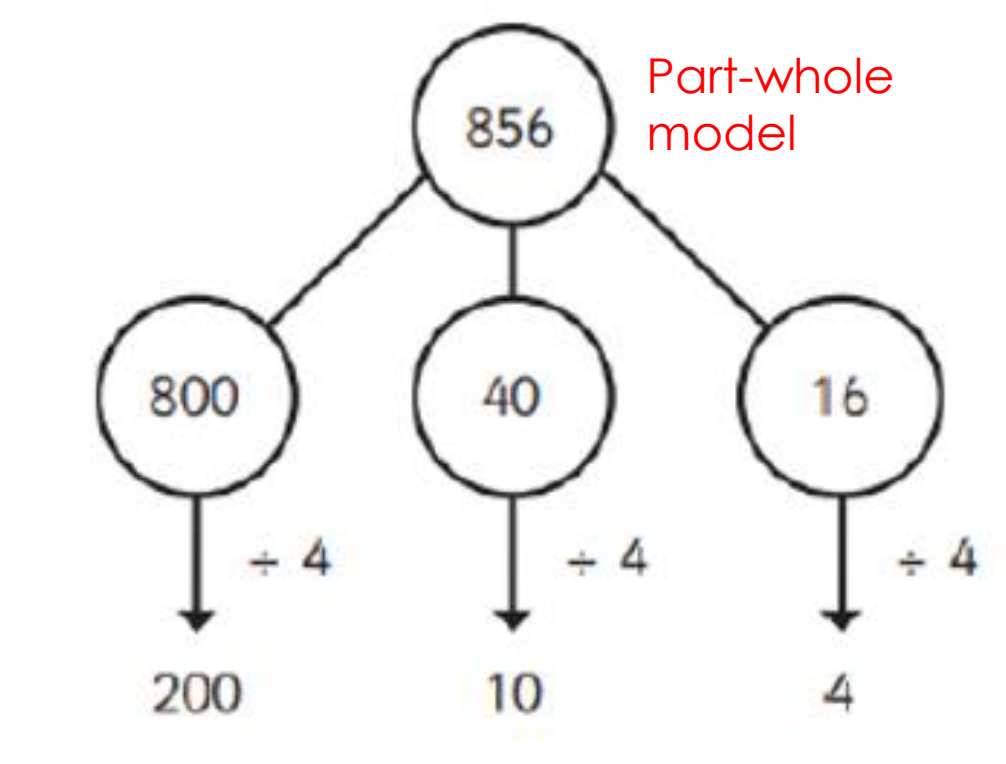
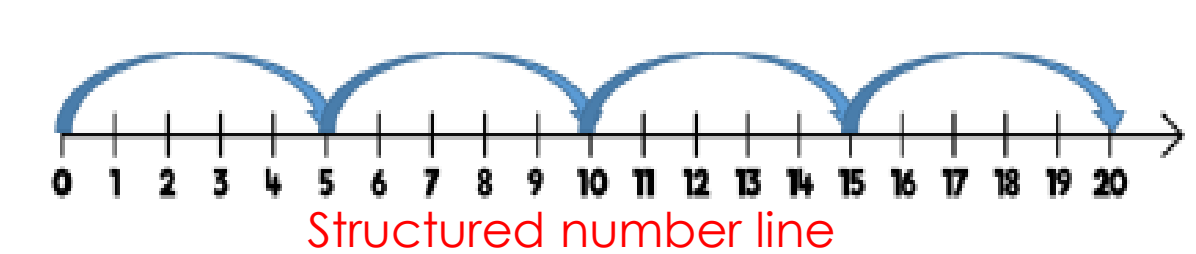


Part-whole model



Structured number line

Acorns to Mighty Oaks

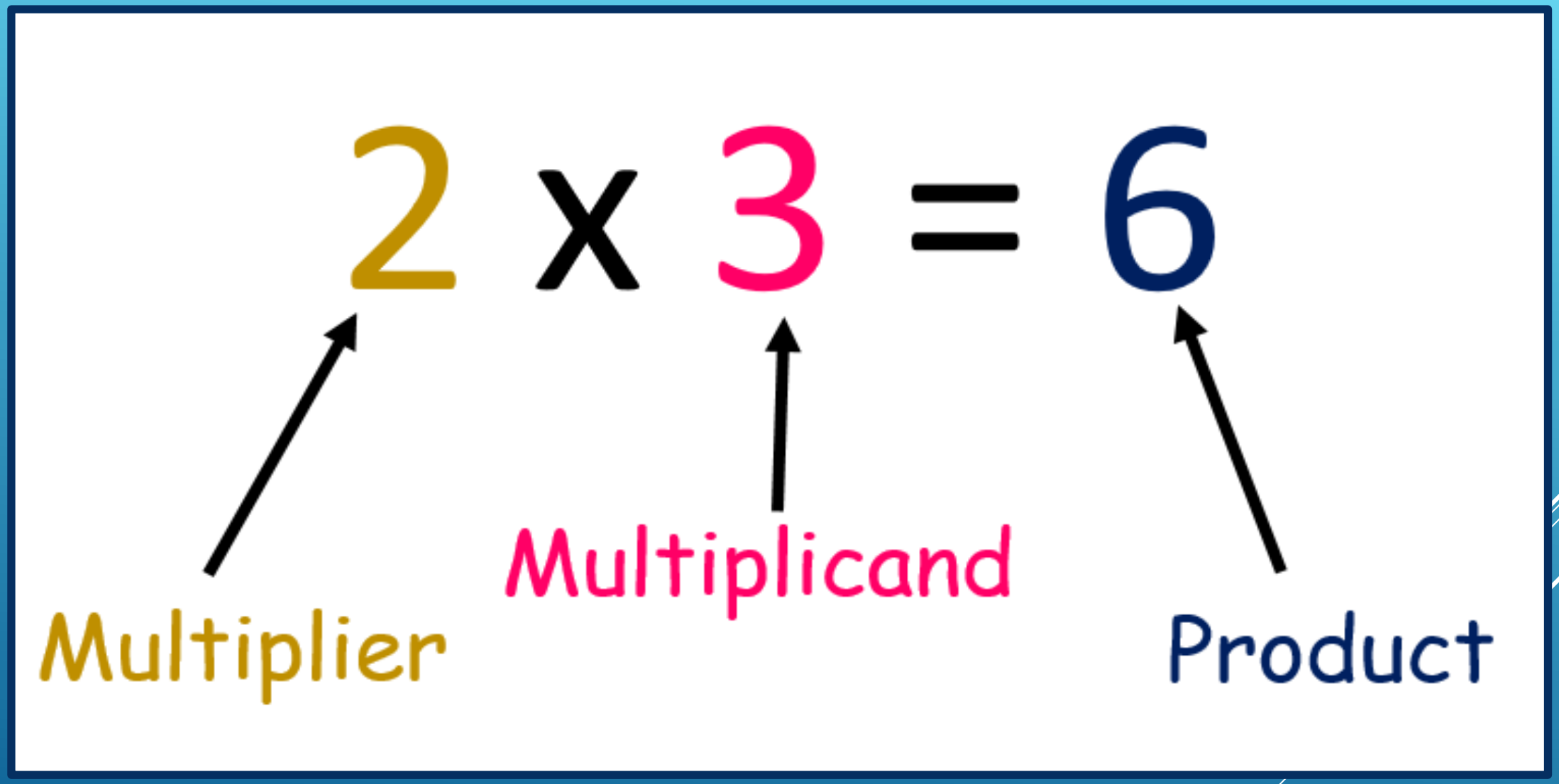
Grayshott Church of England Primary School Calculation Policy

Multiplication and Division

This policy has been largely adapted from the White Rose Maths Hub Calculation Policy with further material added from Hampshire calculation guidance. It is a working document and will be revised and amended as necessary. Many variations have been included to provide teachers with a range of tools to support pupils in their grasp of number and calculation. To ensure consistency for pupils, it is important that that the mathematical language used in maths lessons reflects the vocabulary used throughout this policy.

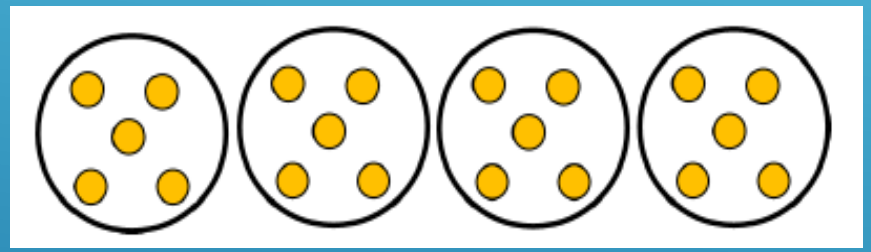
Hampshire Services
HIAS SCHOOL IMPROVEMENT

White Rose Maths


2 x 3 = 6
Multiplier
Multiplicand
Product

MULTIPLICATION

Multiplication is repeated addition.

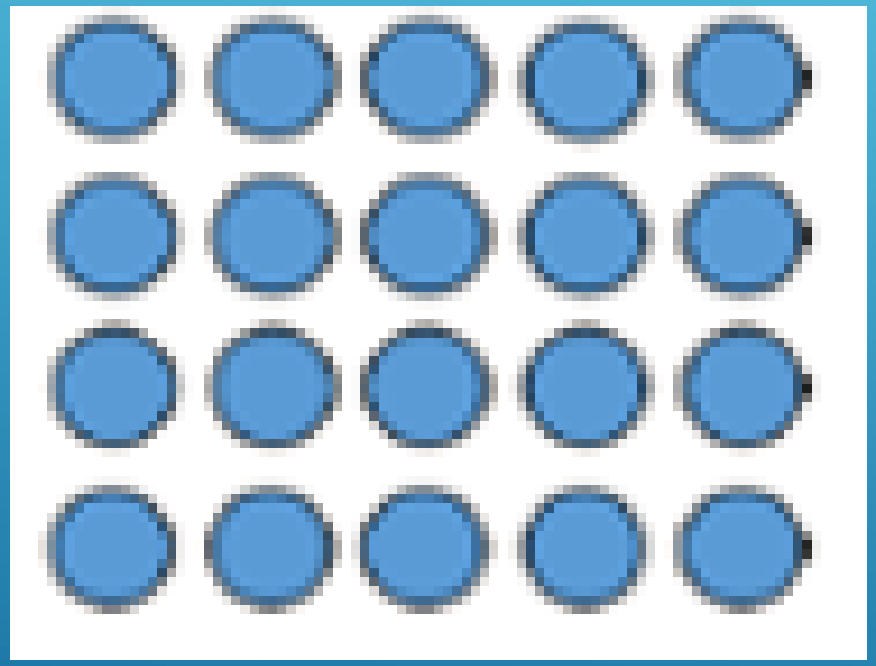


5 + 5 + 5 + 5

4 groups of 5

4 x 5

ARRAYS

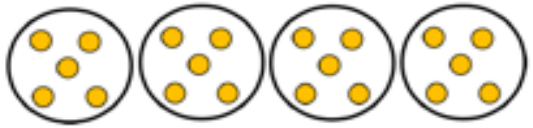
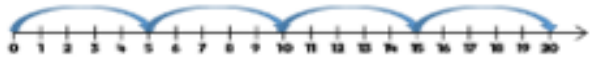
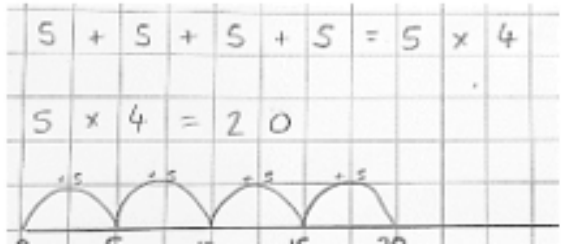


4 rows of 5

Year 2

National Curriculum Objectives

- Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers.
- Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs.
- Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.
- Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.

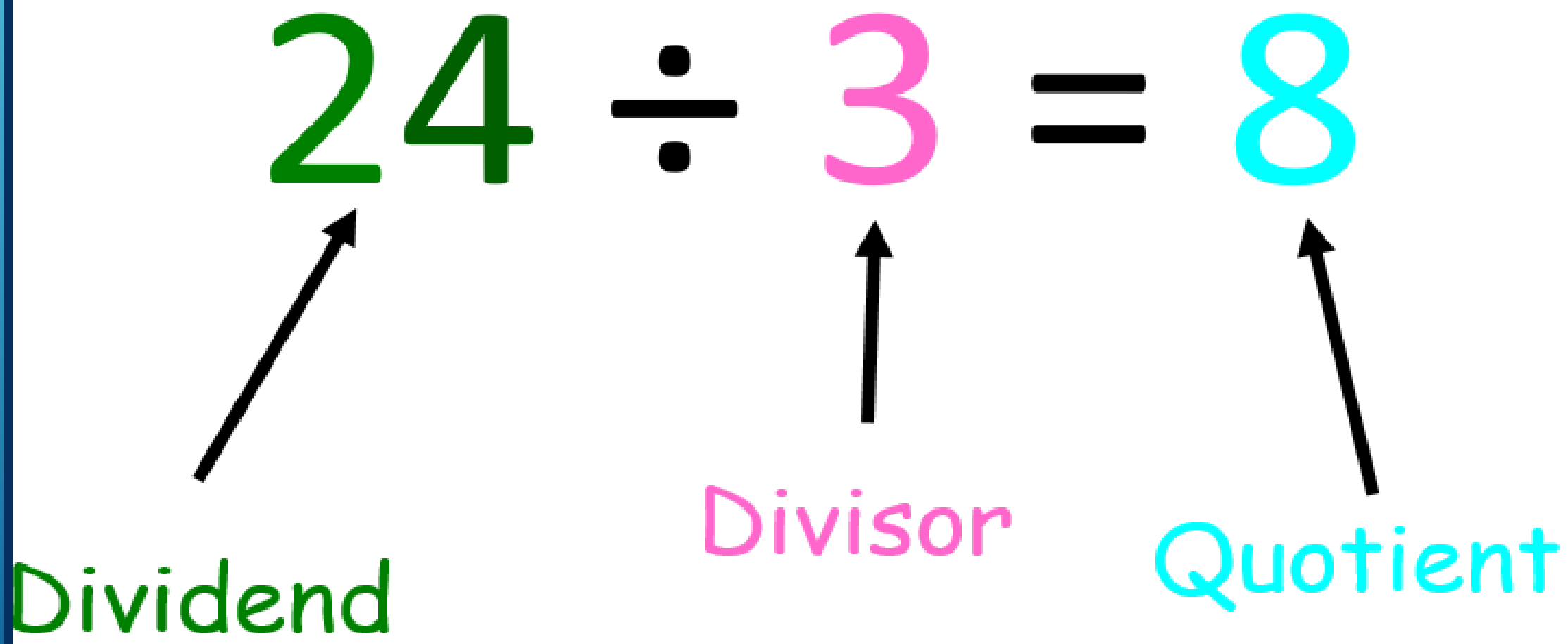
Multiplication (Year 2) Objective/ skill	Concrete	Pictorial	Abstract
Count in steps of two, five from 0 and in tens from any number, forward and backward.	Children learn to count in 2s, 5s, 10s building on their learning in year 1. 	Children will begin to use pictorial representations and a number line to support them in counting both forwards and backwards in multiples of 2, 5 and 10.  	Children will be able to say what the next number in a sequence is: *What are the next two numbers in these sequences?* a) 2, 4, 6, 8, ? b) 1, 11, 21, 31, ? c) 30, 25, 20, ?
Understand that multiplication is repeated addition. **Write repeated addition as a multiplication number sentence.**	Children use concrete materials to add the same number together in the form of repeated addition. Children will be introduced to the multiplication symbol.  5 + 5 + 5 + 5 = 20 **4 groups of 5 is 20.** **4 x 5 = 20**	Children will be introduced to arrays to help them visualise a multiplicaton number sentence.  4 groups of 5 is 20. Children will then begin to represent this on a numberline. 	Children will then be able to record a repeated addition number sentence or pictorial representation as a multiplication number sentence. One bag holds 5 apples. How many apples do 4 bags hold? 5 x 4 = 20.

Tips for using document:

- Always look at the year group **before** your child's current year group.

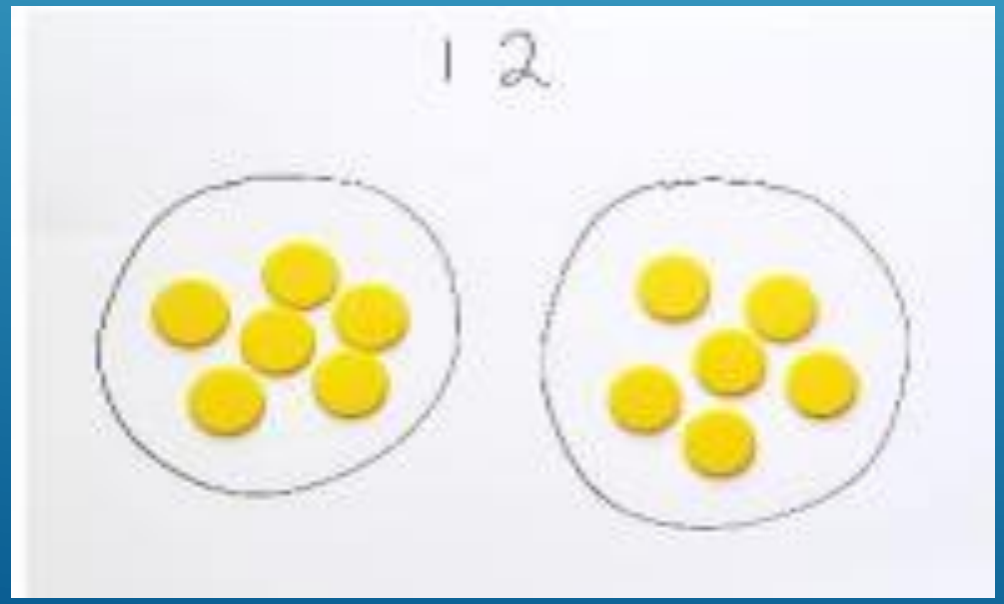
Please take some time to now look through the multiplication part of the policy.

Division Vocabulary



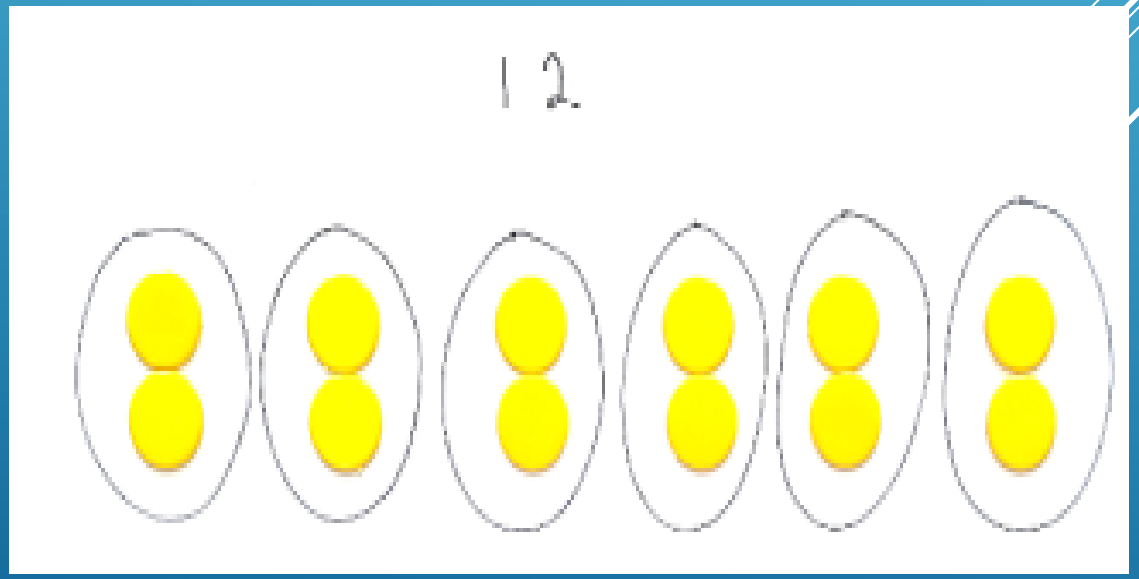
Sharing

I have 12 sweets and share them between myself and a friend (2 people), how many will we each have?



Grouping

I have 12 cookies to put in bags. If I put 2 in each bag how many bags will I need?

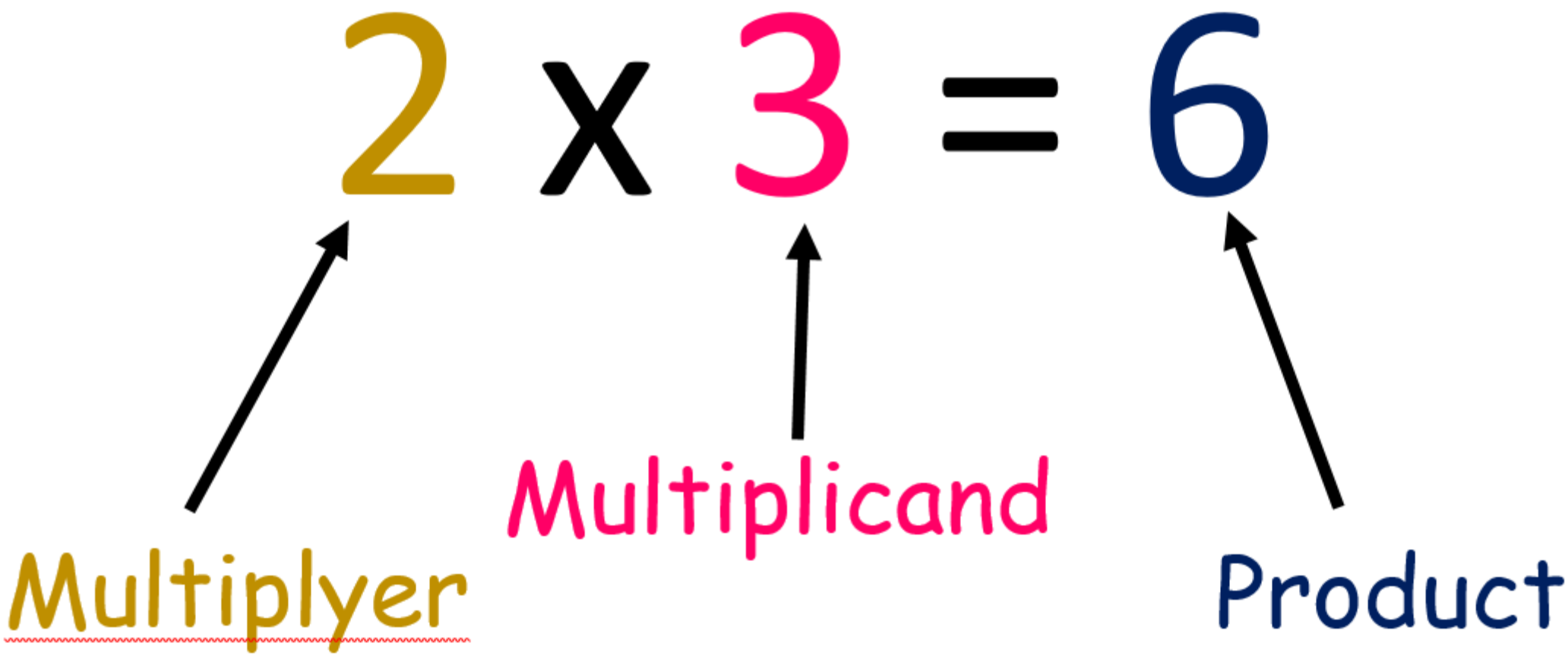


Please take some time to now look through the divison part of the policy.

MENTAL METHODS

- We want children to be efficient and fluent mathematicians.
- We want them to choose their method!

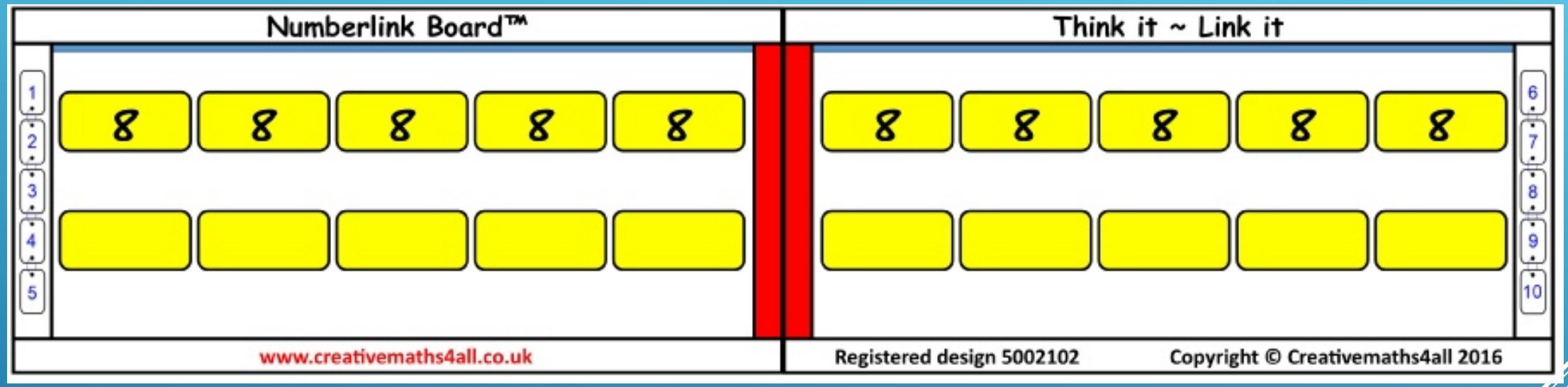
Multiplication Vocabulary



JUST NEED TO REMEMBER.....

1 , 10 , 5 derive

HOW DOES A NUMBERLINK BOARD WORK?



PARTITIONING

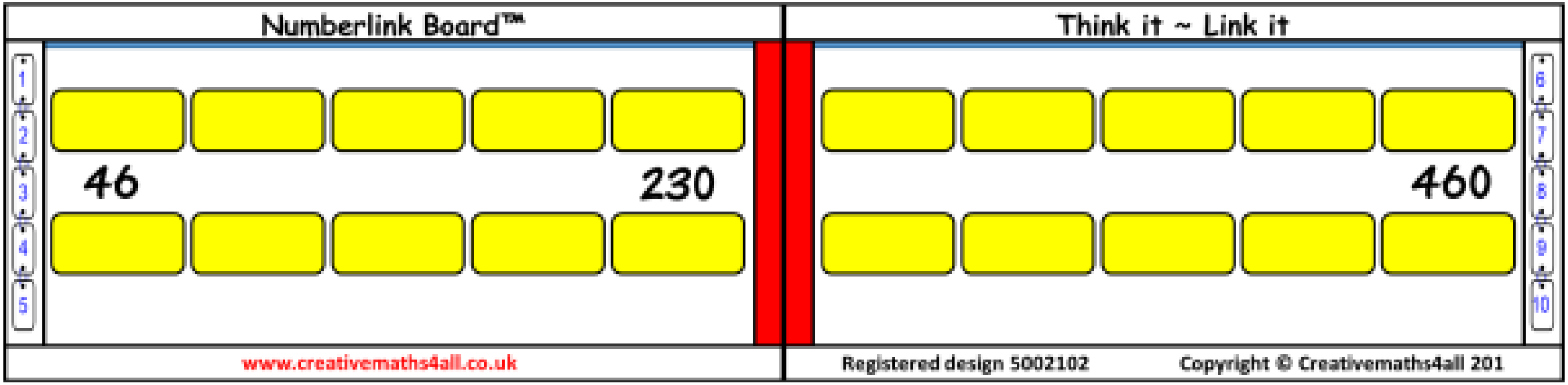
23 X 15

23 X 10 = 230
23 X 5 = 115

115 + 230 = 345

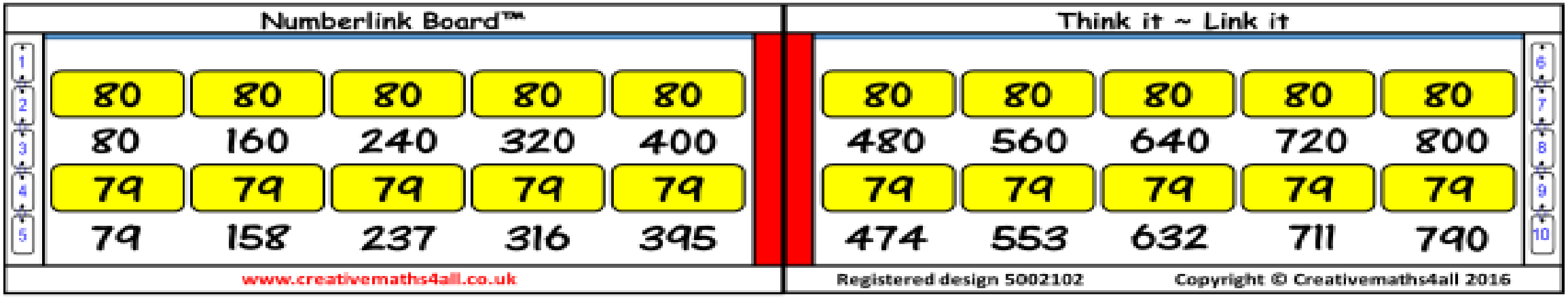
DOUBLING/HALVING

46 X 5



Using ‘Rounding and Adjusting’

4 x 79



SUMMARY

Multiplication Mental Strategies:

- Partitioning
- Doubling/Halving
- Rounding and adjusting

THANK YOU!