

Maths At Europa

YEAR 3 - YEAR 4

Introduction to Teaching and Learning

Mrs Durkin (Maths coordinator)

This Session

Run through some elements of Teaching and Learning calculation skills in Y3 & Y4

Fractions

Home Support Request

School Support Request

Mastery in Maths

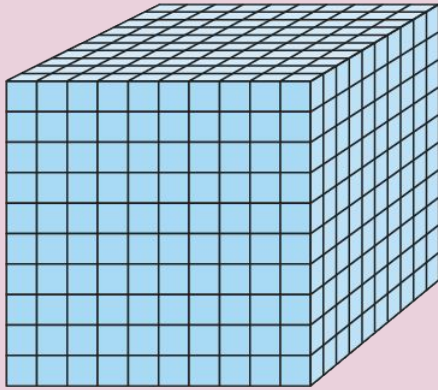
At Europa we believe children's chances of success are maximised if they develop deep and lasting understanding of mathematical procedures and concepts.

We deliver lessons based around the most recent pedagogy in mathematics - focusing on a mastery approach which ensures a concrete and pictorial exploration of number. This leads to a familiarity and understanding of the base ten system and a basic fluency which should enable success in their mathematical future.

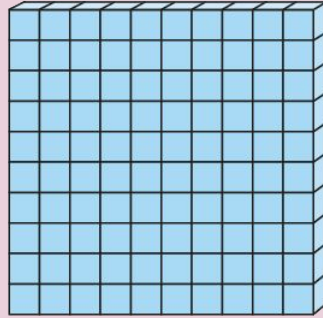
The curriculum gives access to concepts for all, with an acquisition of depth rather than acceleration through content.

It allows for Mathematical talk, Exploration and Problem Solving & Reasoning to take place.

Place Value used for addition / subtraction and scaling



Thousands



Hundreds



Tens



Ones

one-tenth of the size one-tenth of the size one-tenth of the size

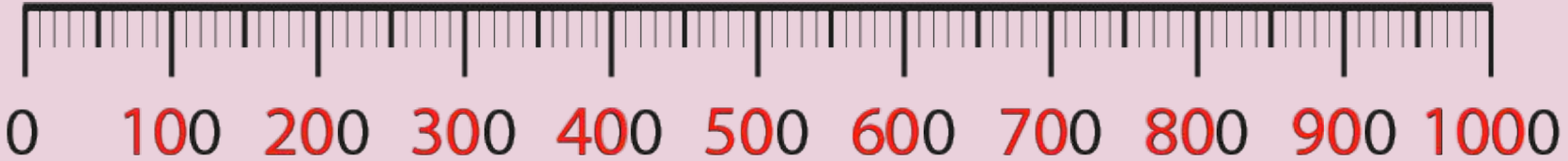


1,000s	100s	10s	1s
			●
		●	
	●		
●			

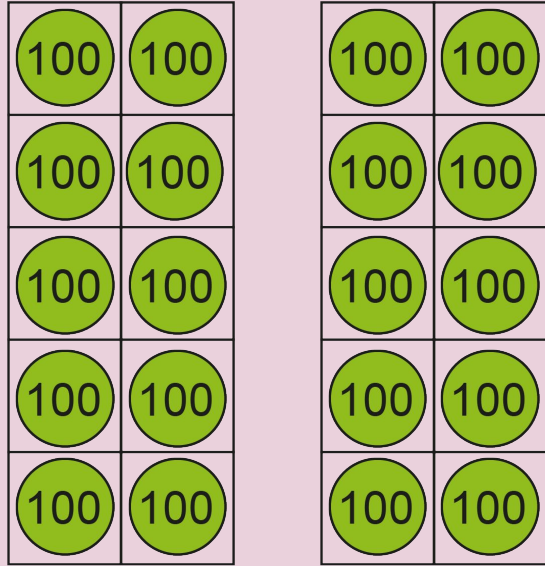


ten times the size ten times the size ten times the size

100 tens are equivalent to 1 thousand.



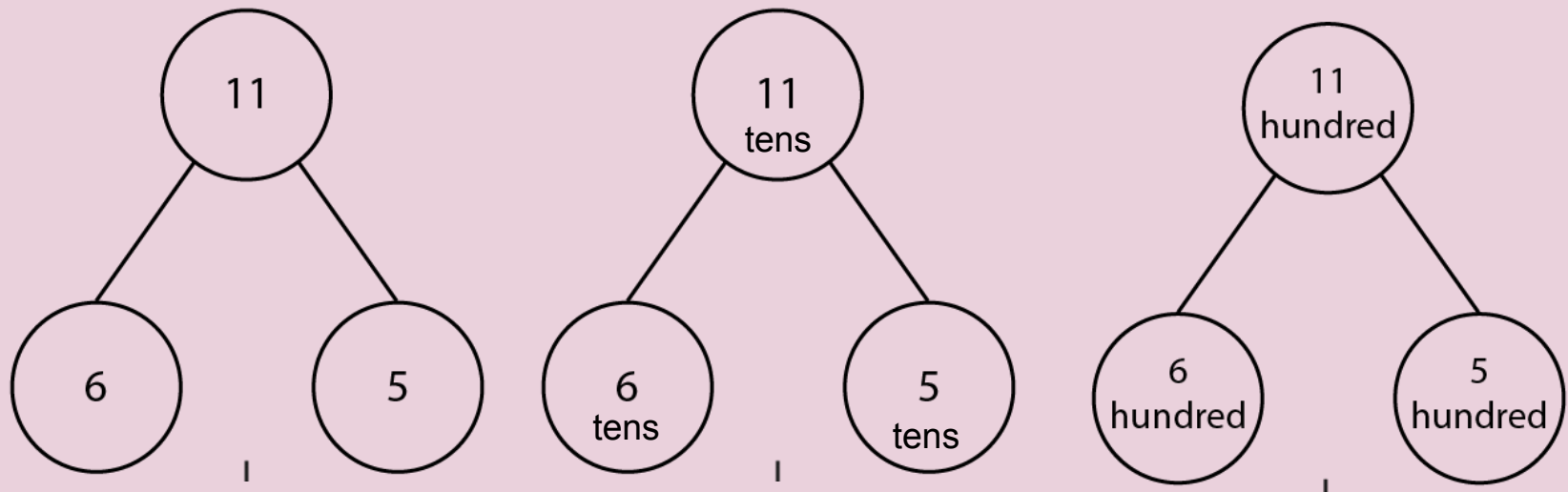
Place Value used for addition / subtraction and scaling



- Count up in 100s beyond 9 hundred, saying 10 hundred, 11 hundred, 12 hundred... Stop at a number of your choice and say the number in two ways, e.g. 16 hundreds and 1,600 (one thousand six hundred).

10 hundreds are equivalent to 1 thousand.

Place Value used for add addition / subtraction and scaling



- How can we use $8 + 6$ to help us find $800 + 600$?
- How can we use this knowledge to help with $1500 - 700$?

What do you notice?

6 + 9 =	
16 + 9 =	
26 + 9 =	
36 + 9 =	
46 + 9 =	
56 + 9 =	

7 x 4 =	
7 x 4 =	
70 x 4 =	
70 x 40 =	
700 x 4 =	
700 x 40 =	

Which method would you use?

$$7000 - 2648 =$$

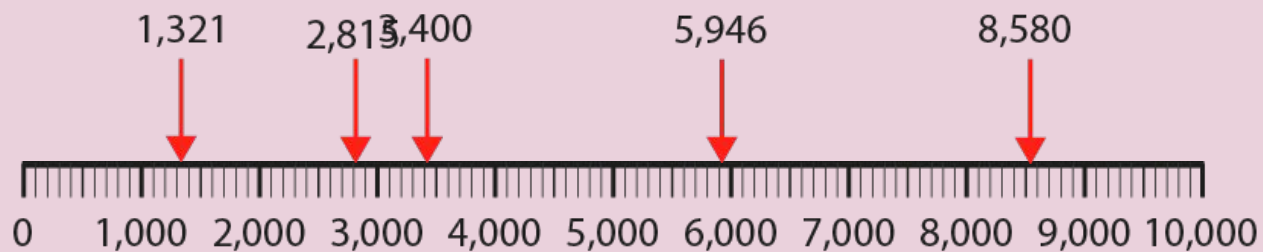
$$1003 - 100 =$$

$$4230 + 500 =$$

$$350 + 469 =$$

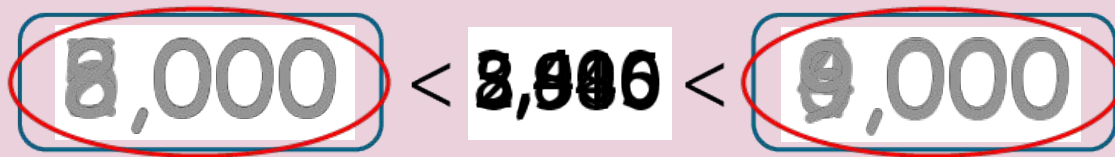
What do you need to know before being able to find the most efficient method?

1.22 1,000 and four-digit numbers – step 4:4



previous
multiple of
1,000

next
multiple of
1,000



4MD-2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication.

Learning multiplication and division facts to 12 X 12

YEAR 4
MTC JUNE

Arrays:



4 X 3

and



3 X 4



Four multiplied by three

and



Three multiplied by four



Number lines:



4 X 3



3 X 4



Scaling:



Three times longer



Developing Multiplication

Multiplication as repeated addition

- Recognise repeated addition contexts, representing them with multiplication equations and calculating the product.

$$5 + 5 + 5 = 15$$

There are three groups of five.

$$5 \times 3 = 15$$



Figure 52: recognising equal groups – 3 groups of 5 eggs

Grouping problems: missing factors and division

- Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division equations.

$5 \times \square = 15$...as a contextualised problem.

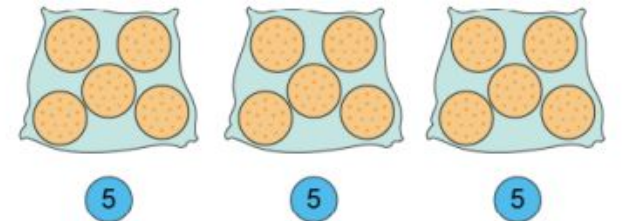


Figure 54: 3 bags of 5 biscuits alongside three 5-value counters

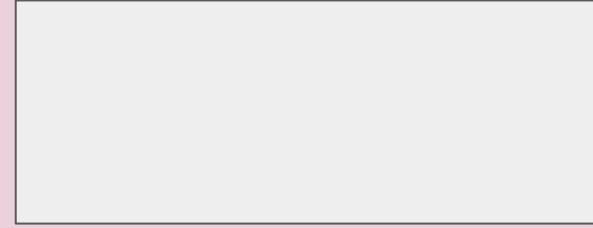
How to use your tables to help you

4



$4 \times ? = 36$
? Use the fact that you know $4 \times 10 = 40$

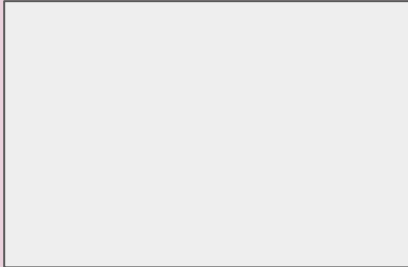
8



?

$8 \times ? = 48$
Use the fact that you know $5 \times 8 = 40$

?



9

$9 \times ? = 108$
Use the fact that you know $11 \times 9 = 99$

Using scaling to support efficient methods

Complete the calculations.

$$5 \times 30 =$$

$$180 \div 2 =$$

$$5 \times 300 =$$

$$630 \div \underline{\quad} = 70$$

Fractions

Numerator - how many of those equal parts we have

Denominator - Equal parts a whole is split in to (division)

Exploration of fractions in year 3 builds on knowing half and quarter.

Year 4 embeds children's knowledge of what a fraction is and how it is essentially just splitting a whole into EQUAL parts / Another way of representing division.

If numerator and denominator are the same it equals all of the whole.

Understanding mixed number and improper fractions.

Equivalent fractions when one denominator is a multiple of the others.

Finding fractions of quantities and especially using non-unit fractions.

Counting in fractions on a number line so going beyond 1 and focus on tenths.

$$\frac{1}{5} \text{ of } 25 =$$

$$\frac{2}{5} \text{ of } 25 =$$

$$\frac{4}{5} \text{ of } 25 =$$

Request for home support

Time

Weights and measures

Request for in school support.

Google form

Any Questions?

Website links:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1017683/Maths_guidance_KS_1_and_2.pdf

<https://www.stem.org.uk/resources/elibrary/resource/29218/models-and-images-materials>

<https://nrich.maths.org/9085>

<https://whiterosemaths.com/parent-resources>

This meeting was to introduce you to ideas and concepts that will be covered in Year 4, while explaining how they build on Year 3 coverage. It is in preparation for the next academic year.