

The Flourish Federation—Knowledge Organiser

Brookfield Infant and Junior Schools



Subject Focus:

Maths

Year 1 — Term 5

Multiplication and Division

What? (Key Knowledge)

Count in multiples 2s, 5s and 10s

Make and add equal groups

Make equal groups - grouping (multiplication)

Make equal groups - sharing (division)

Understand and make doubles

Solve one-step problems involving $\times$ and $\div$, by using concrete (real life) objects.

Solve one-step problems involving $\times$ and $\div$, by using pictorial representations and arrays (with support from teacher).

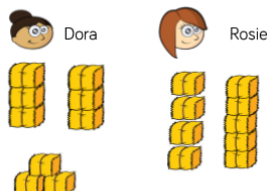
What? (Key Vocabulary)

Vocab	Comments
Multiplication	Repeated addition/ grouping of a number a certain number of times. ($5 \times 4 = 5$ groups of/lots 4 OR 4 groups of/lots of 5)
Division	At this stage, children will understand division as sharing
Equals	Shows that both sides of number sentence are balanced. Show the equals sign in different places (beginning and end).
Double	The sum of two identical parts/numbers/objects.
Digit	Any numeral from 0-9, even when part of a two-digit number
Arrays	Organising a group of objects/pictorial representations into lines (this will help to easily count and find the total).
Number Sentence	Or calculation. It is NOT a sum. Sum is used to describe the addition of two or more numbers

Visuals/Diagrams

MULTIPLICATION 1. Children will begin by understanding, identifying and making equal groups.

Who has made equal groups?



Explain how you know.

2. Then move onto counting equal groups in 2s, 5s and 10s within 50 (use real-life objects to begin with - flowers in a vase, wheels, animal legs).

How many fish are there?
Complete the sentences.



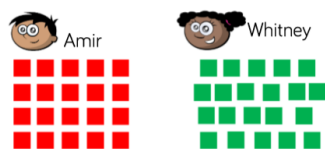
Can you show this using ten frames?

$___ + ___ + ___ = ___$
There are $___$ fish.

3. Organise the equal groups into organised lines (arrays) for easy counting and totalling:

Array	Description - columns	Description - rows	Totals
	5 columns 2 cookies in each column	2 rows 5 cookies in each row	$2 \times 2 + 2 + 2 + 2 = 10$ $5 + 5 = 10$
	___ columns ___ donuts in each column	___ rows ___ donuts in each row	
	___ columns ___ fish in each column	___ rows ___ fish in each row	
	3 columns 5 cupcakes in each column	5 rows 3 cupcakes in each row	

Amir and Whitney are making arrays.



Who has made a mistake? Explain why.

Possible answer: Whitney has made a mistake because her array is not in columns. There are an unequal amount of squares in each row.

DIVISION

1. Share objects into equal groups
Highlight the change — with division we already know the total. This time we are interested in the number of objects in each groups.

Share the muffins equally between the two plates.
Complete the sentence.

___ cakes shared equally between 2 is ___



$$8 \div 2 =$$

2. Share objects equally using pictorial representations (we use a sharing bar to represent the groups and crosses or dots to represent the objects).

Sharing into arrays
would be even better to check that each group is equal.

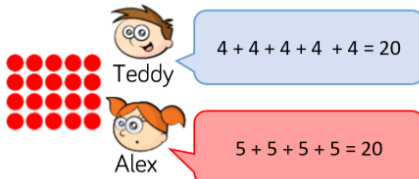


Arrays:

* *
* *
* *
* *
4 4

Examples of Reasoning

Teddy and Alex are writing number sentences to describe the array.



Who do you agree with? Explain why.

Possible answer:
They are both right. Teddy has counted the columns. Alex has counted the rows.

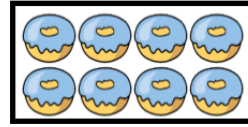
Tommy and Jack each have the same number of sweets.



Tommy has 5 equal groups of 2
Jack has 1 equal group.
How many sweets are in Jack's group?

Jack has 10 sweets in his group.

Louise doubles her donuts. The picture shows what she had after she doubled her donuts.



Louise started with 4 and ended with 8 donuts.

Eva



Louise started with 8 and ended with 16 donuts.

Mo



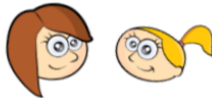
Louise started with 2 and ended with 4 donuts.

Who do you agree with? Explain why.

Possible answer:
Whitney is correct because the image shows what she was left with. She had 8 after she doubled and double 4 is 8

Examples of Problem Solving

Rosie and Eva have equal groups of either 2, 5 or 10



Each of their totals is less than 40

Rosie has 5 equal groups.
Eva has 3 equal groups.

Eva's total is more than Rosie's total.

What could they be counting in?

Use equipment to help you.

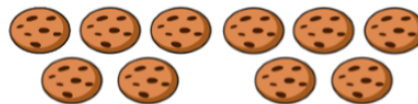
Possible answers:

Rosie: $2 + 2 + 2 + 2 + 2 = 10$
Eva: $5 + 5 + 5 = 15$

Rosie: $5 + 5 + 5 + 5 + 5 = 25$
Eva: $10 + 10 + 10 = 30$

Rosie: $2 + 2 + 2 + 2 + 2 = 10$
Eva: $10 + 10 + 10 = 30$

Dora has 10 biscuits.



She wants to share them equally at her party.

How many people could be at the party?

Possible answers:

There could be:
10 people
5 people
2 people
1 person (Dora)

ICT Opportunities

Purple Mash:

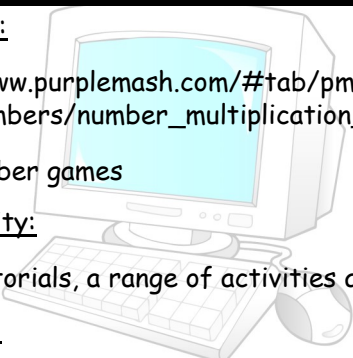
- https://www.purplemash.com/#tab/pm-home/maths/numbers/number_multiplication_division
- Many Number games

Education City:

- Videos, tutorials, a range of activities and games

Manga High:

- A wealth of games, activities and competitions



Daily Maths

- Questioning during the register (How many people are absent? How many children are here? How many more children have school dinners than packed lunch).
- Lining up games - counting on/back, 2x, 5x and 10x table games
- Days of the week/months of the year

