

The Flourish Federation—Knowledge Organiser

Brookfield Infant and Junior Schools



Subject Focus:

Maths

Year 2 - Term 3

Multiplication and Division

What? (Key Knowledge)

Recall and use multiplication and division facts for the 2, 5 and 10 times table.

Recognise odd and even numbers

Calculate mathematical statements for $\times$ and $\div$

Show that multiplication can be commutative and

Solve problems using objects, arrays, repeated addition/subtraction, mental methods and $\times$ and $\div$

What? (Key Vocabulary)

Vocab

Comments

Multiplication

The grouping of several values — the answer will be bigger.

Division

The grouping or sharing of values -

Commutative

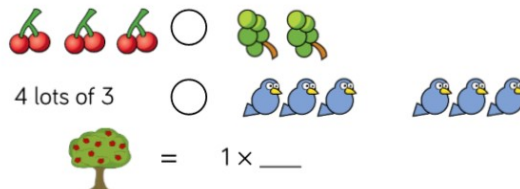
When the two values can be in any order and the answer will still be

Visuals/Diagrams

Notice **equal** groups. Write addition number sentences to match as well as multiplication so children can make a link.

What else do we need to show 'five 3s'?

Complete:



How else can we show five equal groups with 3 in each group?
Compare your answer with a partner.

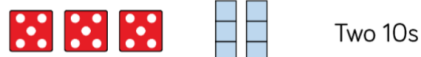
Complete the table.

Draw It	Say It	Add It

Match the equal groups.



Three 5s

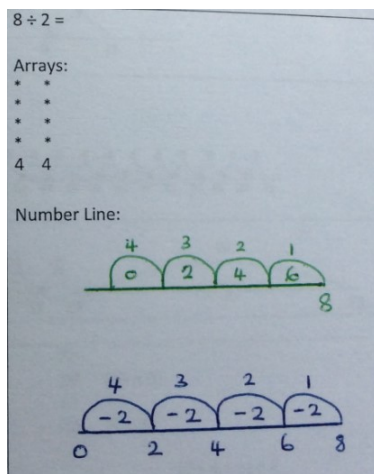
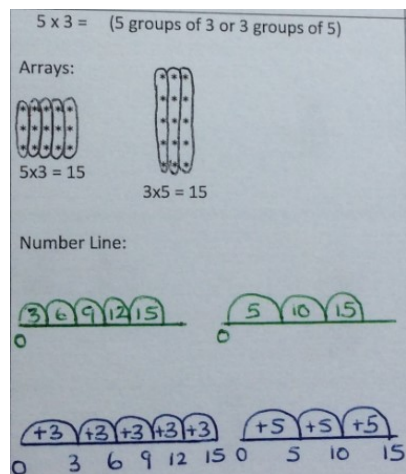


Two 10s



Two 3s

Methods of calculating Multiplication and Division



Some pupils will still be most comfortable using 'Sharing Bars' for division:

$$16 \div 4 =$$

////	////	////	////
4	4	4	4

Try as much as possible to keep each bar of an equal size.

Examples of Reasoning

I have 24p.
I divide it equally between 2 friends.
How much will they get each?

I have 24p in 2p coins.
How many 2p coins do I have?

Consider the two questions above.
What is the same and what is different?

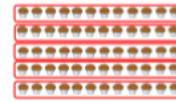
The calculation is the same in both. In the first question we are sharing, whereas in the second question we are grouping.

Cakes are sold in boxes of 10
Jack and Alex are trying to pack these cakes into boxes.



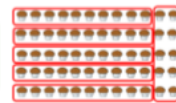
Jack says,

There are 5 groups of 10



Alex says,

There are 6 groups of 10

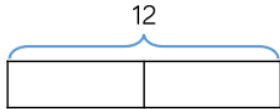


Alex is correct because there are 60 cakes and 60 divided by 10 is 6

Jack has incorrectly grouped the cakes, he might have counted the rows wrong. He hasn't put them in 10s. He incorrectly assumed there were 10 in each row.

Mo and Tommy have 12 sweets between them. They share them equally. How many sweets does each child get?

There are ___ sweets altogether.
There are ___ groups.
There are ___ in each group.



Complete the bar model and write a calculation to match.

Who is correct? Explain how you know.

Examples of Problem Solving

You have 30 counters.



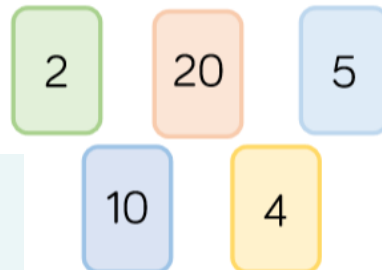
How many different ways can you put them into equal groups?

Write down all the possible ways.

10 groups of 3
3 groups of 10
6 groups of 5
5 groups of 6
2 groups of 15
15 groups of 2
1 group of 30
30 groups of 1

Use the number cards to make multiplication and division sentences.

How many can you make?



$4 \times 5 = 20$
 $5 \times 4 = 20$
 $20 \div 4 = 5$
 $20 \div 5 = 4$
 $5 \times 2 = 10$
 $2 \times 5 = 10$
 $10 \div 2 = 5$
 $10 \div 5 = 2$
 $20 \div 2 = 10$
 $20 \div 10 = 2$
 $2 \times 10 = 20$
 $10 \times 2 = 20$

True or false?

Dividing by 10 is the same as dividing by 5 then dividing by 2

True

ICT Opportunities

Purple Mash:

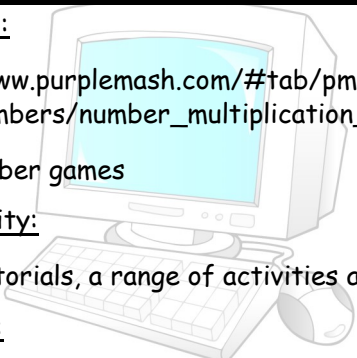
- https://www.purplemash.com/#tab/pm-home/maths/numbers/number_multiplication_division
- Many Number games

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

