

Multiplication and division

Connecting multiplication and division, and the distributive law

Academic Excellence

We will learn the knowledge on the 'recall page' and we will be mastering the following skills:

- Using mathematical vocabulary
- Use reasoning to create generalised conjectures
- Convince others of my conjectures using a range of worked examples.

Character

What value am I focusing on and how will I demonstrate it?

- I will show confidence by using a variety of resources
- I will show confidence by asking questions based on my learning.
- I will show confidence by discussing and justifying my learning.

Outcome

We will be able to...

- Explain why multiplication is commutative and division is not.
- Understand how to use the distributive law effectively.
 - Use partitioning effectively to solve problems.
- Understand how to use the distributive law to solve two step problems.
 - Solve two step problems.= using distributive law.

Learning to Learn

Our focus thinking tool is:

Mind map- I will be using a mind map to explore different ideas and represent my thoughts.

Concept

Multiplication and division

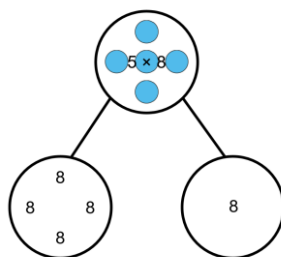
Personalisation

What will help me in this experience?

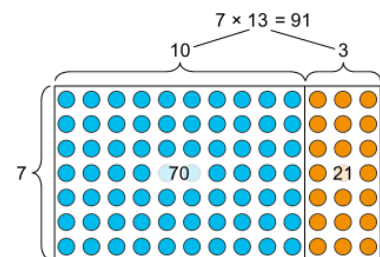
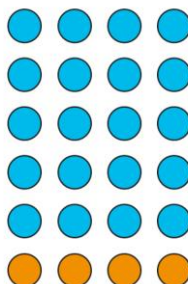
I will use manipulatives to help me solve problems.

I will present my work in a way in which works best for me.

Representations



$$\begin{aligned}
 5 &= 4 + 1 \\
 5 \times 8 &= 4 \times 8 + 1 \times 8 \\
 &= 32 + 8 \\
 &= 40
 \end{aligned}$$



$$\begin{aligned}
 7 \times 13 &= 7 \times 10 + 7 \times 3 \\
 &= 70 + 21 \\
 &= 91
 \end{aligned}$$

Recall Page

Vocabulary

Distributive law	The method of partitioning the factors to find the answer easier.
Factor	The numbers that you multiply together.
Product	The answer when two or more values are multiplied together.
Common factor	A whole number which is a factor of two or more numbers.
Partition	The method of splitting up numbers into different parts.

Knowledge

I will need to know:

- **What commutativity is.**
- **What the distributive law is.**
- **How commutativity is represented through multiplication and not division.**
- **How to use the distributive law effectively**
- **How to solve two step problems using the distributive law.**
- **How to use the distributive law beyond known times tables.**
-

Sentence Stems

The product of ___ and ___ is equal to the product of ___ and ___

___ is equal to ___ plus ___, so ___ times ___ is equal to ___ times ___ plus ___ times ___.

___ is equal to ___ minus ___, so ___ times ___ is equal to ___ times ___ minus ___ times ___.

Key Facts

Commutativity is used within multiplication of the factors.

Division is not commutative.

The product is the answer of two or more factors multiplied together.

The distributive law is an informal method to work out multiplication.