# Division

dividend ÷ divisor = quotient

Division is the inverse (opposite) of multiplication.

In Key Stage 1, the main focus for division is making links with knowledge of equal groups and then on understanding the two types of division: grouping and sharing.

# Grouping and sharing

Grouping - putting the same number of objects into groups e.g. make groups of 4. Sharing - sharing out objects into a fixed number of groups e.g. put them into 4 groups.

### Year 1

Teaching uses concrete resources for children to actually make groups with. There is no use of the division symbol and activities are purely practical to ensure a good understanding of equal groups.

#### Grouping

In this example, children make groups of three.

There are 12 flowers. Lulu uses 3 flowers in each bouquet. How many bouquets does she get?



Year 2

Then they move on to using this in calculations and are introduced to the division symbol. Both types of division lead to the same calculation.

Children start by recapping the two types of division: grouping and sharing.

The learning is kept very practical with sharing and grouping of different objects and then writing a calculation to match.

	10-10 10-10 10-10		0-10 0-10 0-10
Put into group	os of 2.	Put into 2 equal	groups.
There are	groups.	There are	// in each group

She gets 4 bouquets.

Sharing

In this example, children put the cars into 4 boxes. There are 12 toy cars. Put the toy cars equally into 4 boxes. How many toy cars are there in each box? Circle to make 4 groups.	DDDDDDDDD DDDDDDDD DDDDDDD DDDDDDD DDDDD
There are 3 toy cars in each box.	÷ 5 =

# Following this learning in Key Stage 1, the curriculum then splits into two strands of division:

- 1. learning times-tables facts
- 2. Dividing larger numbers

These are taught as separate topics. Times-tables are always taught first as children must be secure in these to be able to access the larger number division.

# 1. Learning times-table facts

The following table summarises which times-tables are taught in each year group for the first time. Each times-table is taught as both multiplication and division.

Year 1	None - the focus is on securing addition and subtraction facts
Year 2	2s, 5s and 10s
Year 3	3s, 4s and 8s
Year 4	6s, 7s, 9s, 11s and 12s
Year 5	No new content taught but children should be constantly revising all tables up to 12x12 to ensure they are fluent. This is essential for work on
Year 6	

# Similar strategies are used across all year groups to ensure that children have a deep understanding of how times-tables work and how to calculate them efficiently.

### Making links with multiplication - fact families

When children learn their times-tables, they learn the family of facts which includes two multiplication and two division facts. The children are taught to spot the connections between the calculations and use this to help them solve the division. This works because multiplication and division are the inverse of each other (opposites). For example, if they know that two groups of three makes six, then they know that when six is divided into two groups, there are three in each.



# 2. Dividing larger numbers

### Partitioning





### Written strategies

The main written strategies for solving division problems are **long division** and **short division**. This should only be used when the calculation is too difficult to solve mentally.

Long division is taught first as it links closely to the partitioning strategy above and it shows better understanding of the method. Following this, short division is introduced as a quicker and sometimes more efficient way to solve problems.

Year 3	Year 4	Year 5
We have made the	Children start by recapping the partitioning method and then they	After a recap of the learning from year 4, children progress





$$1 \longrightarrow 280 \div 28 = 10$$

$$28 \sqrt{3} \times 6^{-8} 4$$

$$4 \longrightarrow$$

$$1 \times 3 \longrightarrow 84 \div 28 = 3$$

$$28 \sqrt{3} \times 6^{-4} \xrightarrow{-1} 84 \div 28 = 3$$