

Division: Indigo (Y5)

Mental Work

Derive and recall

- division facts corresponding to tables up to 12×12 , and the related unit fractions, e.g. $7 \times 9 = 63$ so one-ninth of 63 is 7 and one-seventh of 63 is 9
- percentage equivalents of one-half, one-quarter, three-quarters, tenths and hundredths
- factor pairs to 100

Work mentally (with jottings if needed)

- divide 2-digit numbers by 4 or 8, e.g. $96 \div 8$ (by repeated halving)
- find the corresponding halves for double 3-digit multiples of 10 to 500, e.g. $760 \div 2$
- find the remainder after dividing a 2-digit number by a 1-digit number, e.g. $27 \div 4 = 6 \text{ r } 3$
- divide whole numbers and decimals by 10, 100 or 1000, e.g. $25 \div 10$, $673 \div 100$, $74 \div 100$ (know that when a number is divided by 10 or 100, its digits move one or two places to the right relative to the decimal point)
- divide a multiple of 10 by a single-digit number (whole number answers), e.g. $80 \div 4$, $270 \div 3$ (use knowledge of \div facts and place value)
- find fractions of whole numbers or quantities, e.g. $2/3$ of 27, $4/5$ of 70 kg
- find 50%, 25% or 10% of whole numbers or quantities, e.g. 25% of 20 kg, 10% of £80 (use knowledge of equivalence between fractions and percentages)

Vocabulary

Children should be encouraged to:

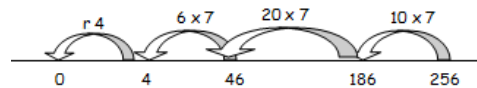
* **approximate** their answers before calculating

***consider if a mental calculation** would be appropriate **before** using written methods

***check their answers** after calculation using an appropriate strategy

Number lines

$$256 \div 7$$



Answer: 36 remainder 4

CHECK: $(36 \times 7) + 4 = 256$

(This method is probably best kept to smaller numbers if insecure)

Recording

$$\begin{array}{r} 27 \\ 3 \overline{) 84} \end{array}$$

The carry digit '2' represents the 2 tens that have been exchanged for 20 ones. In the first recording

In Y5, children will move onto short division following a stage by stage process:

1. Two digit \div one digit no carrying
2. Three digit \div one digit no carrying
3. Two digit \div one digit carrying one ten
4. Two digit \div one digit carrying several tens
5. Three digit \div one digit carrying once.
6. Three digit \div one digit first digit smaller than the divisor
7. Three digit \div one digit carrying tens
8. Three digit \div one digit second digit smaller than the divisor
9. Four digit \div one digit carrying once, any position
10. Three digit \div one digit carrying twice
11. Four digit \div one digit carrying two or three times
12. Three or four digit \div one digit answers with remainders
13. Five digit \div one digit answers with or without remainders

Children should begin to interpret remainders appropriately according to the context. They should be able to solve multi-step problems involving division.

They should also be able to divide whole numbers and decimals by 10, 100 and 1000.