

# umber Sense

## What do I need to be able to do?

### to do?

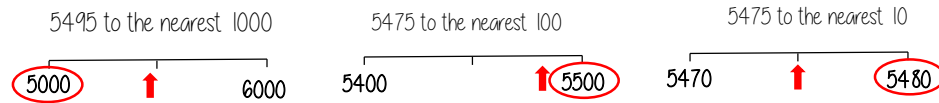
By the end of this unit you should be able to:

- Round numbers to powers of 10 and 1 sf
- Round numbers to any dp
- Estimate solutions
- Calculate using order of operations
- Calculate with money, units of measurement and time

## Keywords

- Significant:** Place value of importance  
**Round:** Making a number simpler but keeping its value close to what it was  
**Decimal:** Place holders after the decimal point  
**Overestimate:** Rounding up – gives a solution higher than the actual value  
**Underestimate:** Rounding down – gives a solution lower than the actual value  
**Metric:** A system of measurement  
**Balance:** The amount of money in a bank account  
**Deposit:** Putting money into a bank account

## Round to powers of 10 and 1 sig figure R If the number is halfway between we "round up"



- 370 to 1 significant figure is 400
- 37 to 1 significant figure is 40
- 3.7 to 1 significant figure is 4
- 0.37 to 1 significant figure is 0.4
- 0.00037 to 1 significant figure is 0.0004

Round to the first non-zero number

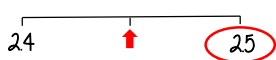
## Round to decimal places

2.46192

Focus on the numbers after the decimal point

"To 1dp" – to one number after the decimal  
 "To 2dp" – to two numbers after the decimal

2.46192 (to 1dp) - Is this closer to 2.4 or 2.5



2.46192 This shows the number is closer to 2.5

2.46192 (to 2dp) - Is this closer to 2.46 or 2.47



2.46192 This shows the number is closer to 2.46

## Estimate the calculation

Round to 1 significant figure to estimate

$$4.2 + 6.7 \approx 4 + 7 \approx 11$$

This is an **overestimate** because the 6.7 was rounded up more

The equal sign changes to show it is an estimation

$$214 \times 3.1 \approx 20 \times 3 \approx 60$$

This is an **underestimate** because both values were rounded down

It is good to check all calculations with an estimate in all aspects of maths – it helps you identify calculation errors

## Order of operations

R

**Brackets** Operations in brackets are calculated first

**Other** operations e.g powers, roots,

**Multiplication/ Division**

They are carried out in the order from left to right in the question

**Addition/ Subtraction**

They are carried out in the order from left to right in the question

## Calculations with money

**Debit** - You have £0 or more in an account

**Credit** - You have less than £0 in an account



Using a calculator – ensure you are working in the correct units

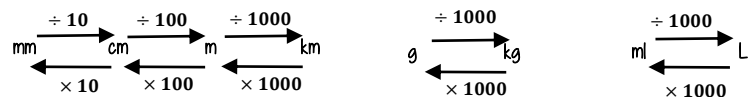
$$\begin{aligned} \text{£ } 1.30 + 50\text{p} &= 1.30 + 0.50 \text{ (in pence)} \\ &= 1.30 + 0.50 \text{ (in pounds)} \end{aligned}$$

Money calculations are to 2dp

$$\text{£ } 1 = 100\text{p}$$



## Units are important: Useful Conversions



## Metric measures of length

Kilo = 1000 x meter      Centi =  $\frac{1}{100}$  x meter

Milli =  $\frac{1}{1000}$  x meter

## Time and the calendar



**1 Year** – the amount of time it takes Earth to go around the sun **365** (and a quarter) days  
**Leap Year** – **366** days (every 4 years)



**12 Months** – one year = 52 weeks  
 31 days – Jan, March, May, July  
 30 days – April, June, Sept, Nov  
 28 days – Feb (29 leap year)

**1 week** – 7 days  
 Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday

**1 day** – 24 hours  
**1 hour** – 60 minutes  
**1 minute** – 60 seconds

Use a number line for time calculations!

## Units of weight/ capacity

Weight = g, kg, t  
 Capacity (volume of liquid) = ml, L

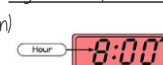
Analogue Clock



12-hour clock

- Use am (morning) and pm (afternoon)
- Only use hour times up to 12

Digital Clock (24-hour times)



24-hour clock

- 0-11 (morning hours)
- 12-23 (afternoon hours)