Y7 Maths Knowledge Organiser Topic 3: Place value and rounding

What must I be able to do?

- ☐ Read and write whole numbers in figures and words.
- ☐ Read and write decimals in figures and words.
- ☐ Understand decimal notation and place values.
  - ➢ Sparx Q127, M704
- ☐ Round whole numbers to the nearest 1000, 100 or 10.
  - ➢ Sparx M111
- ☐ Use the number line to display decimals and round decimals to the nearest whole number, to 1 or 2 decimal places.
  - ➢ Sparx M763
- ☐ Round off a number to a required number of decimal places.
  - ➢ Sparx M431
- ☐ Estimate the answer to a given problem by rounding to the nearest whole number or ten, hundred etc.
  - ➢ Sparx M878

Key vocabulary

Whole number	A number with no fractional or decimal parts, does not include negative numbers.
Integer	A whole number. It can be positive, negative or zero.
Figures	A number written in digits.
Round	To make a number simpler but keeping its value close to what it was.
Decimal	A decimal is used to show values smaller than one whole unit.
Decimal places	The number of digits after the decimal point.
Estimate	Estimating is used to make complex calculations simpler, and used to roughly calculate the outcome or result.

Place Value

3652.3 is, Three thousands, Six hundreds, five tens, two ones and three tenths

Thousands	Hundreds	Tens	Ones	.	Tenths
3	6	5	2		3

Billions			Millions			Thousands			Ones		
H	T	O	H	T	O	H	T	O	H	T	O
		3	4	0	7	0	1	0	8	2	7

Placeholders

3 billion, 4 hundred and 7 million, 10 thousand, 8 hundred and twenty seven

Estimate/Approximate

Round each number to an appropriate value and then calculate the remaining sum

e.g 340 – 207 = 340 – 200 = 140

e.g. 0.63 x 23 = 0.6 x 20 = 12

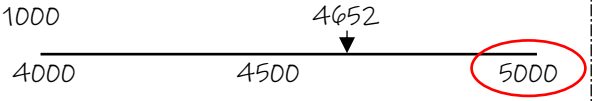
e.g. 367 x 34 = 400 x 30 = 12000

e.g. $\frac{34 \times 52}{2.3} = \frac{30 \times 50}{2} = \frac{1500}{2} = 750$

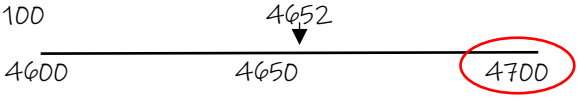
Rounding to powers of 10

e.g. round 4652 to the

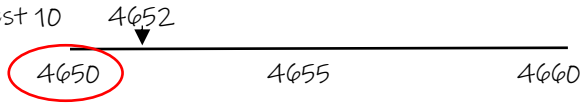
nearest 1000



nearest 100



nearest 10

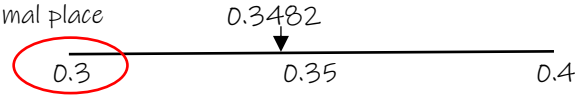


To the nearest 1000 is 5000, nearest 100 is 4700 and nearst 10 is 4650.

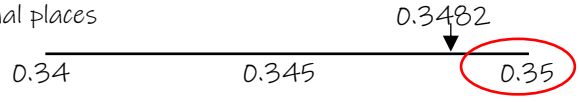
Rounding to decimal places (d.p.)

e.g. round 0.3482 to the

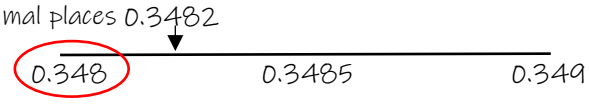
1 decimal place



2 decimal places



3 decimal places 0.3482



To 1.d.p is 0.3, to two d.p. is 0.35 and to three d.p it is 0.348