

Outline summary of contents:

Here is an **outline**; but topics are broken down into **100** individual lessons:

Unit 1: Number

- Number Vocabulary, Worded Problems, Place Value
- Mean, Mode & Median
- Multiplication & Division
- Doubling, Halving & Quartering
- Measurement

Unit 2: Fractions, Decimals and Percentages

- Fractions: visuals / types of / equivalent / ordering / simplifying / $+$ $-$ $\times$ $\div$
- Decimals: place value / converting / ordering / rounding / $\times$ $\div$
- Percentages: converting from fractions or decimals

Unit 3: Shape and Geometry

- Parallel, Intersecting & Perpendicular
- 2D/3D Shapes (including triangle and circle studies)
- Angles and Protractors
- Perimeter, Area & Volume
- Transformations

Unit 4: Times Tables, Exponents and Prime Numbers

- A complete program: Knowing all Times Tables facts to 12x
- Exponents, Square Numbers, Square Root & Cubed Numbers
- Prime Numbers

Flash Facts™:

A 10-page list of fun, fast response Q and A based on coverage from all Units; can be used as a diagnostic tool to discover where 'gaps' are.

Below are some sample pages:

I CAN find the mean (average) of a set of numbers



There are two very simple steps to find the mean (average) of a set of numbers:

1. Add them up (either mentally or using a calculator).
2. Divide the total by however many there are... **DONE!**

Here are some pretend spelling scores – let's find the mean (average) score:

5 8 5 4 2 6 5

1. Add them up = 35
2. Divide the total by how many there are
(there are 7 scores, so divide 35 by 7) = 5

So the mean (average) is 5.

Try

Find the mean (average) of these sets of numbers (you may use a calculator):

9 8 9 11 3

5 3 6 5 7 4

5 7 3

2 2 1 3 2 1 2 4 1

5 7 8 8

6 3 7 4

80 29 29 42 28 50

14 10 6

Now make up 2 more similar questions of your own!

Test

Find the mean (average) of these sets of numbers (you may use a calculator):

1. What is the mean amount of flour used by a baker over a week?
Mon 8 kg, Tues 4 kg, Wed 5 kg, Thurs 9 kg, Fri 5 kg, Sat 7 kg, Sun 11 kg
- $$8 + 4 + 5 + 9 + 5 + 7 + 11 = 49$$
- $$49 \div 7 = 7 \text{ kg}$$

2. Average spelling test score of these 7 children: 5, 8, 5, 4, 2, 6, 5
- $$5 + 8 + 5 + 4 + 2 + 6 + 5 = 35$$
- $$35 \div 7 = 5$$

3. Mean darts score for 5 people: 9, 8, 9, 11, 13
- $$9 + 8 + 9 + 11 + 13 = 50$$
- $$50 \div 5 = 10$$

4. Average number of glasses of water Fred had over 4 days: 7, 3, 5, 9
- $$7 + 3 + 5 + 9 = 24$$
- $$24 \div 4 = 6 \text{ glasses}$$

5. Mean weight: 5g, 7g, 8g, 8g
- $$5 + 7 + 8 + 8 = 28$$
- $$28 \div 4 = 7\text{g}$$

6. What is the mean math test score for Sally over 5 days of tests?
Mon 17, Tues 18, Wed 16, Thurs 14, Fri 15
- $$17 + 18 + 16 + 14 + 15 = 80$$
- $$80 \div 5 = 16$$

7. What is the mean age of these 5 children attending a dance club?
Ages: 12, 10, 8, 10, 10 years
- $$12 + 10 + 8 + 10 + 10 = 50$$
- $$50 \div 5 = 10 \text{ years}$$

8. What is the mean number of apples sold over one week at the fruit store?
15, 12, 15, 3, 18, 6, 1
- $$15 + 12 + 15 + 3 + 18 + 6 + 1 = 70$$
- $$70 \div 7 = 10 \text{ apples}$$

Now re-read the title I CAN statement; decide whether you have 'Achieved' or need to revisit.



I KNOW that tenths are bigger than hundredths and can visualize them in a hundred square



This concept confuses many people!

Which is bigger - a tenth or a hundredth? What do you think?

Picture a pizza cut up into **tenths**: ten slices / parts / pieces.

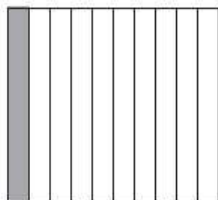
Picture a pizza cut up into **hundredths**: a hundred slices / parts / pieces.

Does that help your thinking? Which fraction of pizza would you choose - a tenth or a hundredth?

Now look at these equally-sized grids. One shows a **tenth** shaded and the other shows a **hundredth** shaded:

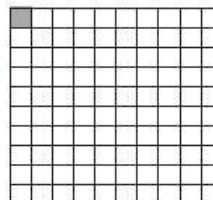
tenth

$$\frac{1}{10}$$



hundredth

$$\frac{1}{100}$$



Now visualize these three yummy examples:

- Picture a slab of chocolate. Would you like a tenth or a hundredth? A **tenth** of a bar of chocolate is bigger than a **hundredth** of a bar of chocolate!
- $\frac{5}{10}$ of a pizza (this would be half) is bigger than $\frac{5}{100}$ of a pizza.
- $\frac{9}{10}$ of a bar of chocolate (that is almost all of it) is bigger than $\frac{9}{100}$ of a bar of chocolate.

Try

Using your knowledge of tenths and hundredths place value, decide which is the **BIGGER** of these decimal fractions:

0.04 or 0.4

3.02 or 3.2

2.30 or 2.03

1.09 or 1.90

1.7 or 1.07

10.5 or 10.05

1.05 or 1.50

2.40 or 2.04

Now make up 2 more similar questions of your own!

Test

Using your knowledge of tenths and hundredths place value, decide which is the BIGGER of these decimal fractions:

1. 0.01 or 0.1 0.1

2. 8.04 or 8.4 8.4

3. 7.02 or 7.20 7.20

4. 4.50 or 4.5 they are same

5. 2.7 or 2.07 2.7

6. 3.80 or 3.08 3.80

7. 4.600 or 4.6 they are same

8. 3.01 or 3.1 3.1

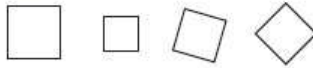
Now re-read the title I KNOW statement; decide whether you have 'Achieved' or need to revisit.

I KNOW the names of 6 important quadrilaterals

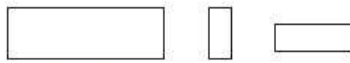


Quadrilaterals are 2D shapes with four sides. Remember how the prefix 'quad' can give us a clue for 'four', e.g. quad bike (4 wheels). Check you know the names (and spellings) of these 6 important quadrilaterals:

square this quadrilateral is usually the first one we learn as young students



rectangle another well known quadrilateral



trapezoid tip: looks like it could catch and 'trap' a tiny mouse



kite tip: 2 equal length shorter sides, 2 equal length longer sides



rhombus tip: all the sides are the same length

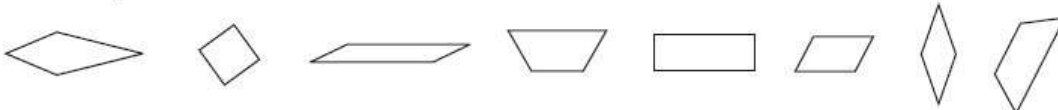


parallelogram tip: has 2 sets of parallel lines



Try

Name the quadrilaterals:



Now make up 2 more similar questions of your own!

Test

Name the quadrilaterals:

1.



kite

2.



parallelogram

3.



trapezoid

4.



square

5.



rhombus

6.



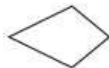
rectangle

7.



trapezoid

8.



kite

Now re-read the title I KNOW statement; decide whether you have 'Achieved' or need to revisit.