Dilton Marsh Church of England Primary School

Some Year 5 Key Skills To Help Your Child With Maths

Introduction

At Dilton Marsh Church of England Primary School we follow the new mathematics curriculum. In addition to knowing and applying basic mathematics skills, students are required to reason, think independently, solve problems using different strategies, and effectively communicate their methods. Parents help at home is essential in helping children develop and strengthen these skills.

Here are some suggestions for parents helping at home:

- Let your children know you believe they can be successful in math.
- Encourage and support risk taking and celebrate perseverance.
- Encourage your children to solve problems with you.
- Help them identify different methods or strategies to use in finding solutions and resist the temptation to provide the answer or method. There is usually more than one way to solve a problem, and simpler strategies are often effective.
- Provide opportunities for your children to explain and justify their thinking.
- Connect mathematics to real life experiences. Emphasising the mathematics around us helps to make mathematics education relevant.
- Ask good questions of your children about their homework and be good listeners when your children respond.
- Encourage children to estimate answers before working out the answer.

Good questions, and equally important, good listening can help children make sense of mathematics, build their confidence, and encourage mathematical thinking and communication. A good question opens up a problem and supports different ways of thinking about it. Some questions to try while helping a child might include:

- What do you already know about this?
- What do you need to find out?
- How might you begin?
- How can you organise your information?
- Can you draw a picture to explain your thinking?
- Are there other possibilities?
- What would happen if ...?
- What do you need to do next?

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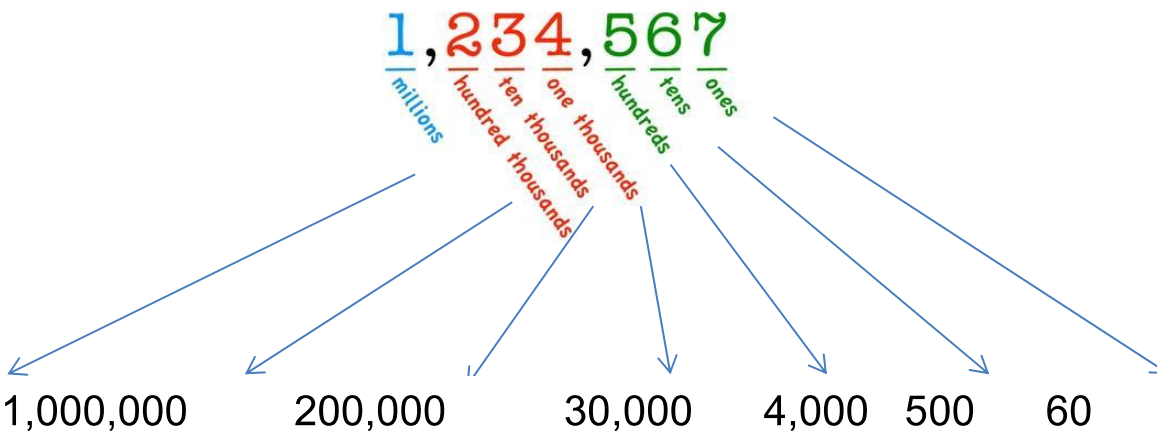
Step 1

Read, write and order numbers to 1 million and know the value of each digit:



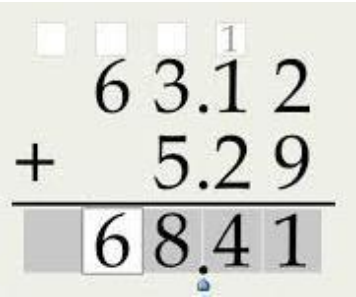
Your child will need to know the value of each digit in numbers up to 1 million.

Support your child in reading the number, and partitioning and recording the value of each number.

Key words: Place value, units, tens, hundreds, thousands, ten thousand, hundred thousand, million

Be secure in use of formal addition and subtraction methods – i.e. column method:

Addition



Line up the decimal points

```
 22.3
+ 34.1
 56.4
```

Line up the decimal points

```
 1.234
+ 4.1
 5.334
```

Subtraction:

Line up the decimal points

```
 76.3
- 34.1
 42.2
```

Line up the decimal points

```
 4.321
- 4.1
 0.221
```

Find all factor pairs of a given number:

A factor pair of a number are 2 numbers that can be multiplied together to reach that number.

E.g – 9 and 4 is a factor pair of 36, as 9 x 4 = 36

All factor pairs would be: 6 and 6; 9 and 4; 12 and 3; 2 and 18; 1 and 36

Read and write decimal numbers as fractions:

You child will need to be able to record decimal number as fractions.

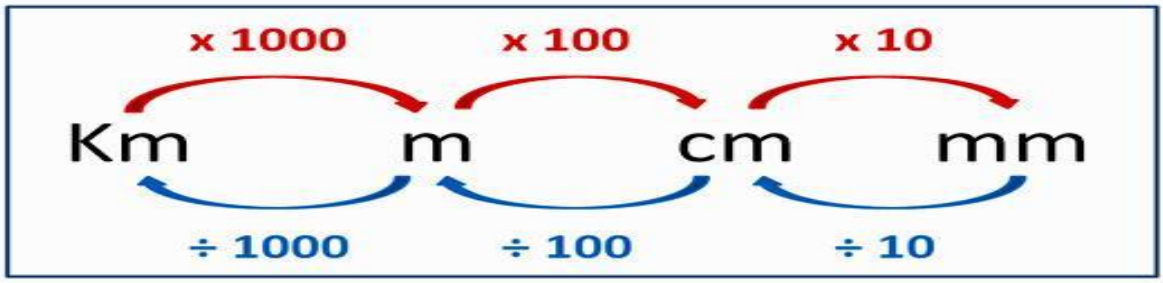
Support your child in understanding the idea that a decimal is part of a whole, just as a fraction is. Help them spot any patterns between the decimals and fractions.

Decimal	Fraction	Decimal	Fraction
0.1	1/10	0.25	¼
0.2	2/10 1/5	0.5	½
0.3	3/10	0.75	¾
0.4	4/10 2/5	0.333..	1/3
0.5	5/10	0.666…	2/3
0.6	6/10 4/5		
0.7	7/10		
0.8	8/10 4/5		
0.9	9/10		
1.0	10/10 = 1		

Covert between metric units of measurement: mm, cm, m, km, g, kg, ml, l:

Converting LENGTH Units

It is easiest to use a conversion look-up diagram like the one below.



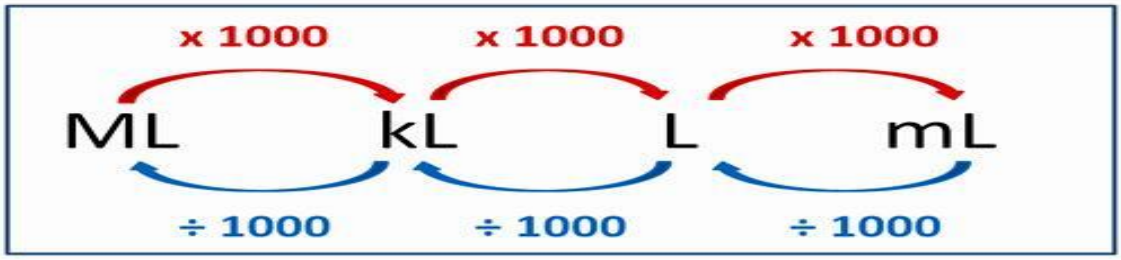
5km = ? m **Need to x 1000** 5 x 1000 = **5000m** ✓

120cm = ? m **Need to ÷ 100** 120 ÷ 100 = **1.2m** ✓

Converting CAPACITY Units

The Volume of Liquids and Solids is usually measured as a "Capacity".

In the Metric System, Capacity is based on the Litre or "L" unit.



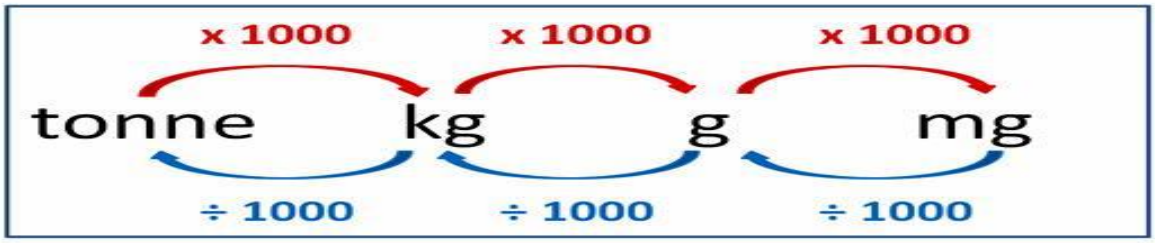
CAPACITY conversions use 1000's, and usually create fairly large results.

32ML = ? L **Need to x 1000 twice** 32 x 1000 x 1000 = **32 000 000 L**

Converting MASS Units

The Mass for weighing objects in Metric Units is similar to Capacity for Volum

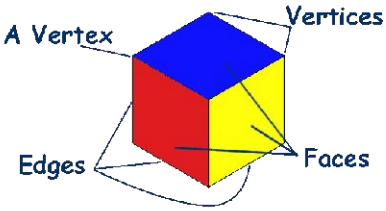
In the Metric System, Mass is based on the Gram or "g" unit.

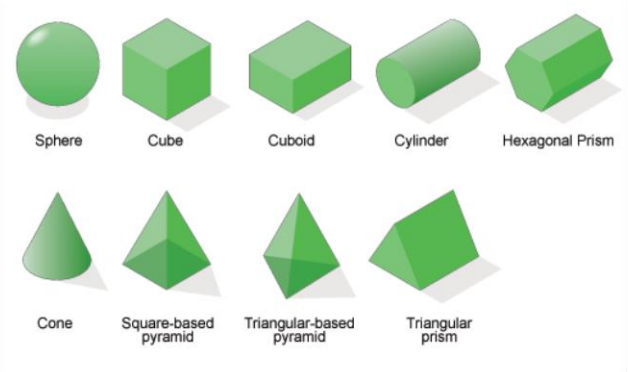


Mass conversions use 1000's, and usually create fairly large results.

1.6 tonne = ? kg **Need to x 1000** 1.6 x 1000 = **1600 kg** ✓

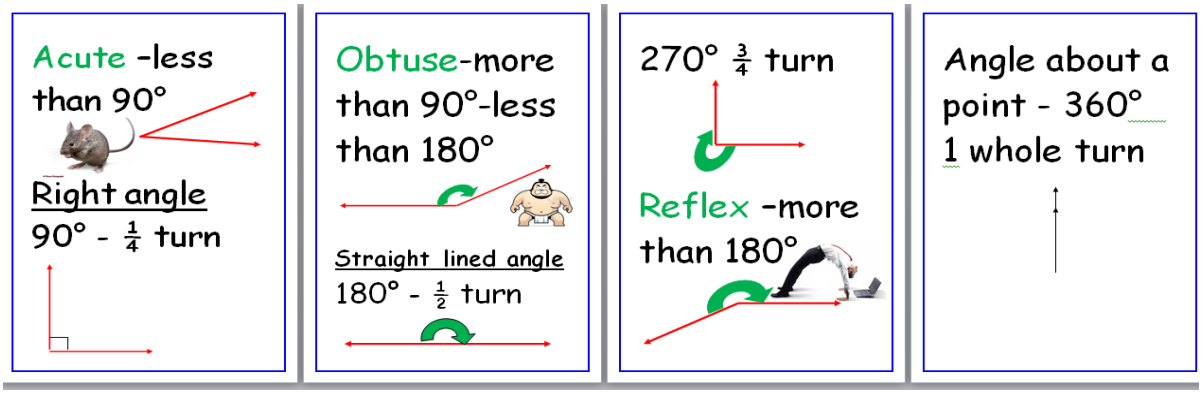
Identify 3-D shapes:





As well as being able to describe the properties of 3D shapes, they also need to be able to create nets for these shapes. This can be supported by exploring packaging of various shapes and discussing the features of each net in relation to the 3D shape.

Identify angles -full turn, obtuse acute:



Encourage your children to spot different types on angles in the environment.

Step 2

Round numbers to 10, 100, 1000, 10,000, 100,000 for any whole value up to 1 million:

When rounding numbers, your child needs to know that 0-4 you round down. 5 – 9 you round up.

If rounding to a certain multiple of 10, your child needs to be confident in what digit will help them make their decision on whether to round up or down.

They need to look at the digit to the right of that they are rounding to. For example: if they are to round 3456 to the nearest 10, they need to look at the units column.

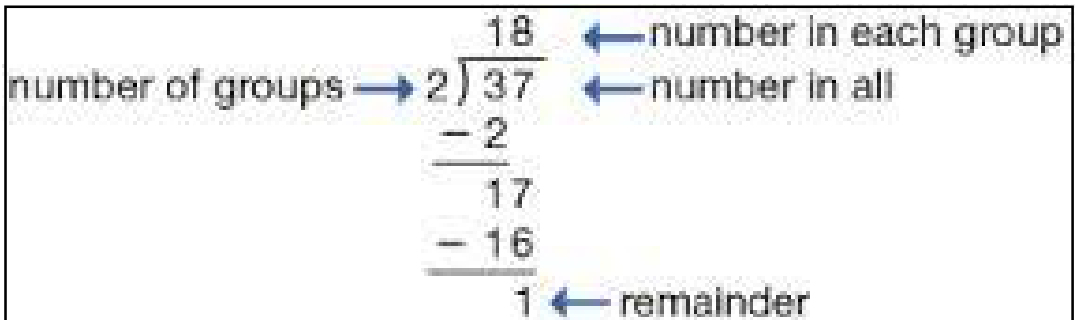
In this instance, the number to the right of the 10 is a 6, so they round up to 3460.

If the number was 3654, as the unit is below 5, they round down to 3650

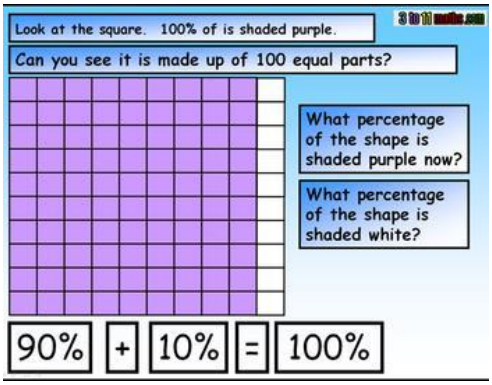
What digits to look at to make your decision

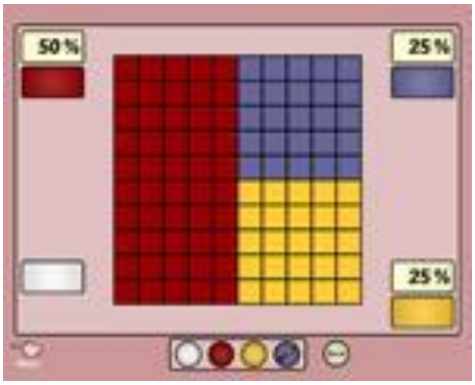
Nearest 10	3,456,123	= 3,456,120
Nearest 100	3,456,123	= 3,456,100
Nearest 1000	3,456,123	= 3,456,000
Nearest 10,000	3,456,123	= 3,460,000
Nearest 100,000	3,456,123	= 3,500,000
Nearest 1,000,000	3,456,123	= 3,000,000

Divide a four-digit number by a single digit number using the formal written method –including using remainders:



Recognise the percent symbol and this it represents number of parts per hundred:



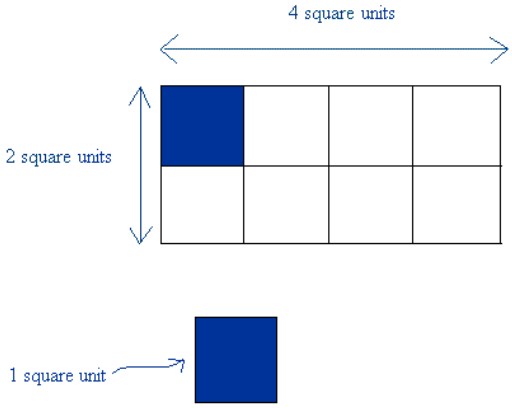


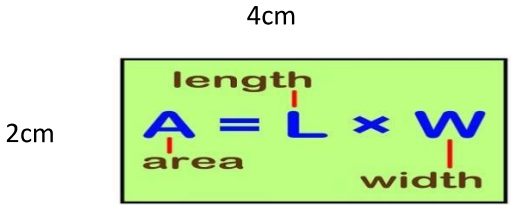
Write percentages as a fraction (i.e. with denominator 100):

Percentage	Fraction	Percentage	Fraction
10%	1/10	25%	¼ 25/100
20%	2/10 1/5	50%	½ 50/100
30%	3/10	75%	¾ 75/100
40%	4/10 2/5	33%	1/3 33/100
50%	5/10	66%	2/3 66/100
60%	6/10 4/5		
70%	7/10		
80%	8/10 4/5		
90%	9/10		
100%	10/10 = 1		

Step 3

Calculate the area of a range of rectangles.





When calculating the area of a triangle, the children will need to use the formula Area = Length x Width.

Support your child in their learning by encouraging them to calculate the area or various rectangular objects around the home.

Solve multiplication of four digit numbers by two digit numbers using the formal written method:

Multiply the ones first.

$$\begin{array}{r} 34 \\ \times\ 5 \\ \hline 20 \end{array}$$

$5 \times 4 = 20$

Then multiply the tens and place the result underneath. Remember, the 3 in 34 is signifying 30.

$$\begin{array}{r} 34 \\ \times\ 5 \\ \hline 20 \\ 150 \end{array}$$

$5 \times 30 = 150$

Then add.

$$\begin{array}{r} 34 \\ \times\ 5 \\ \hline 20 \\ +\ 150 \\ \hline 170 \end{array}$$

Understand the concept of squared and cubed numbers:

Squared numbers are the result of multiplying one number by itself

2^2

1	2
3	4

$2 \times 2 = 4$

3^2

1	2	3
4	5	6
7	8	9

$3 \times 3 = 9$

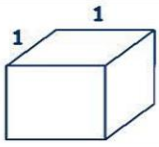
4^2

1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16

$4 \times 4 = 16$

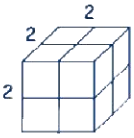
Cubed numbers are the result of multiplying a number by itself twice

1^3



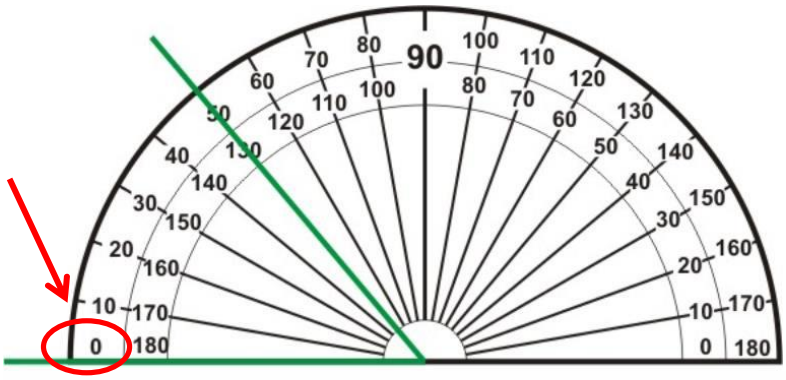
$1 \times 1 \times 1 = 1$

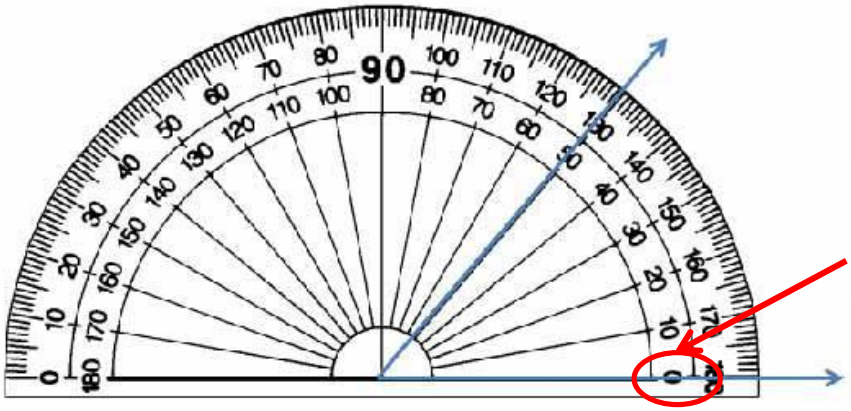
2^3



$2 \times 2 \times 2 =$

Measure angles to the nearest degree:





Read the inside scale

It is important when using a protractor that your child reads the correct scale. The protractor needs to be placed at the point where the angle meets.

You choose the scale to read by choosing the one where the zero sits on the line of the angle.