HOW DO WE TEACH YOUR CHILD MATHS AT COPTHORNE PREP SCHOOL ? (Years 3-8)

BEFORE WE START SMILE!



MATHS IS NOT SCARY!

INTRODUCTION

In this booklet you will find examples of how we teach your child Maths, they may be very different to the way you were taught. We aim to illustrate different approaches, as each child is an individual and learns in different ways.

The aim of this booklet is to help you understand what we expect of your child and in turn allow you to help them with their Maths at home.

I have endeavoured to cover the main areas of Maths – there is of course a lot more Maths we cover, and I will be happy to explain anymore to you ☺️

I hope you find this booklet of some use.

Charlie Lee (Head of Maths)

TOPICS COVERED

Addition

Subtraction

Multiplication- Long & Short

Division- Long & Short, remainders & decimals

Fractions – Adding & Subtracting

Fractions – Multiplication

Fractions – Division

Fractions- Mixed numbers

Fractions of an amount

Percentages

Decimals – Addition & Subtraction

Decimals- Division & Multiplication

Fractions/Decimals and Percentages

ADDITION

Column Addition

This is the most common Addition, in year 3 they are encouraged to write H(Hundreds) T (Tens) and U (Units) above their sum to reinforce place value.

Examples

	H	T	U				
		4	3	5		3	4	5
+		2	4	6	+	3	5	7
	6	8	1		7	0	2	
		1				1	1	

It is important that the workings out are shown, eg on the second sum 5 + 7 = 12, so the 2 is in the answer box and the 1 is carried over to the next part of the sum, then 4 + 5 + 1 = 10, so 0 is left and the 1 carried over.

In some schools pupils are taught a jumping method, it is not set out as a column sum – at Copthorne we encourage the use of column sums.

Mental Subtraction.

When asked to do an addition mentally pupils are encouraged to split numbers up. Eg adding 34 and 47 , pupils will be encouraged to add 30 and 40, then add 4 and 7, then add the two answers together. Or to add 40 to 34 then add on 7. Other methods would include making 47 up to 50 then adding that to 34 and at the end subtracting the 3 they used to make the 50.

SUBTRACTION

Subtraction is set out the same way an Addition sum is; a column sum. As you will see from the sums below some will require borrowing, again it is important that pupils illustrate their borrowing with a line through the numbers- see below.

Examples

```
  3 4 5          3
- 1 3 4        5 4 1 3
-------        - 3 1 5
  2 1 1        -------
               2 2 8
```

As you can see from the second sum, we cannot take 5 from 3 so we borrow from the 4, this becomes a 3 and the 3 on the end becomes a 13.
It is also worth noting that in years 5 and above we encourage pupils to check their answer by doing the inverse – eg checking that 228 + 315 = 543.

Harder Subtractions involve several 0's

Eg.

```
    2  9  9
  3 1 0 1 0 1 0
- 2 3 4  5
-----------
  0 6 5  5
```

Working through this sum, initially you cannot take 5 from 0 so you need to borrow, you cannot borrow from the 0 so you have to borrow from the 3; but you can only lend to the number next to you. So the 3 lends to the 0 and becomes 2. The 0 next to the 3 becomes 10 and then lends to the next 0 to become a 9 etc..

It is worth noting that the more able child would be encouraged to do this sum mentally.

Mental Subtraction.
Very similarly to mental addition; pupils are encouraged to split answers up. Eg 76 – 53, take 50 from 76 then take away the 3.

MULTIPLICATION

Times Tables

I cannot emphasise the importance of pupils knowing their times tables, they are fundamental to all areas of Maths. It is preferential that pupils learn them as a sentence eg 3 x 8 = 24 and not have to count up in the 3x table until they reach 8 of them. You can help your child with this by asking them tables when they least expect it – they will be surprised how much they remember !

Short Multiplication

Short multiplication is where you are multiplying by a single digit. Eg 46 x 4
Often pupils will write down 46 + 46 + 46 + 46 rather than do a multiplication sum – we encourage them not to do this, although for some pupils they find it easier to do an addition sum.

Examples

```
   4 5          3 4
 x   6        x   7
 2 7 0        2 3 8
   3            2
```

In the first example you would start by multiplying the 5 x 6; as this is 30 you place the 0 in the answer line and the 3 underneath the line, then 4 x 6 = 24 add the spare 3 = 27. In the second example 4 x 7 = 28. So 8 goes in the answer line and 2 gets put underneath, then 3 x 7 = 21 + spare 2 = 23.

All pupils in years 4 upwards should be familiar with this method.

LONG MULTIPLICATION

Long Multiplication involves multiplying a 2 digit number by another 2 digit number or higher. Eg 24 x 32 or 35 x 334

There are several methods that pupils will come across and I will endeavour to explain them all- no method is a preferred method, it all depends on the individual pupil.

Traditional Method

Examples;

3 5	2 4
x 2 7	x 4 3
2 4_3 5	7_1 2
$7_1$0 **0**	9_1 6 **0**
9 4 5	1 0 3 2
	1

The way that this method is taught is we say ignore the 2 on the first sum and do a simple short multiplication, so 5 x 7 = 35, place the 5 in the answer line carry the 3. Then 7 x 3 = 21 + spare 3 = 24. Now for the second line – it is absolutely essential they place a **0** in the first square (eg under the 5) as we now multiply by the 2 and as this is 20 we are now in the 10's hence the 0. So 2 x 5 = 10, write the 0 carry the 1, 2 x 3 = 6 + spare 1 = 7. Then the final part is to add the two answers together. Pupils will make mistakes on this as they will forget the **0** or they will multiply from left to right.

Long Multiplication using box method.

Example 34 x 233
First a box is drawn and the numbers are split up into their properties eg 233 is made up of 200, 30 and a 3. The other number is then split up so 34 becomes 30 and 4.

	200	30	3
30	6000	900	90
4	800	120	12

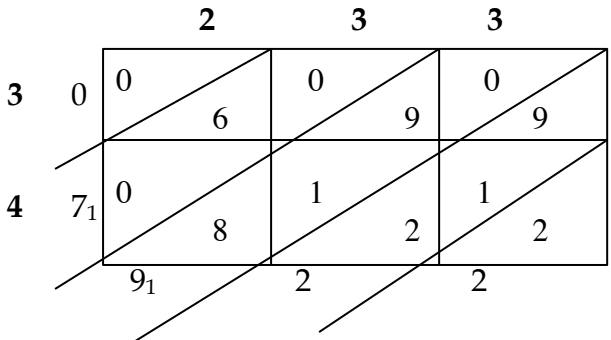
The Box then becomes a simple times table box, once all the boxes are filled they simply add up all the boxes in a column addition sum; to get the answer of 7922. Errors are made here when pupils do not place enough zero's when doing the initial multiplying or they do not line up there sum correctly for the addition.

Napiers Bones/ Russian Multiplication method.

This is a similar method to the box method but allows pupils not to make the mistakes of not enough zero's; as all multiplication is less than 100.

Example 233 x 34.

Using the same numbers as above, another box is drawn placing the numbers 2, 3, 3 on one side and 3, 4 on the other side. Each box is then split in half diagonally.



The box is filled in as a simple multiplication grid so in the first box 2 x 3 = 6 so the answer 06 is placed in the box. When the box is complete you simply extend the diagonal lines down and add up each diagonal section; starting from right to left. First addition is 2, then 9 + 1 + 2 = 12; so write down 2 and carry 1 to the next column, then add 9 + 1 + 8 and carried 1 = 19, carry 1 over then add 6 + carried 1 = 7. Then read numbers eg 7922 !

DIVISION

Short Division

Short Division is where you divide by a single digit.

Examples 2 3 5 ÷ 5 4 3 2 ÷ 3

To solve these sums they would be re-written like this:

$$\begin{array}{r|l} & 0\ 4\ 7 \\ \hline 5 & 2\ {}^{2}3\ {}^{3}5 \end{array} \qquad \begin{array}{r|l} & 1\ 4\ 4 \\ \hline 3 & 4\ {}^{1}3\ {}^{1}2 \end{array}$$

In the first sum you would say how many 5's go into 2 ? as none do you place a 0 above the line and carry the 2 over to make the next number 23. How many 5's go into 23 ? answer is 4 with 3 remainder. The remainder carries over to the 5 thus making it into 35. How many 5's in 35 = 7. The answer therefore is 47.

Division with remainders.

In Years 3 & 4 pupils will be introduced to division sums where there is a remainder at the end, in years 5 upwards pupils are taught how to complete a division sum either with decimals or a fraction.

Example 3 5 8 ÷ 5

With remainders

$$\begin{array}{r|l} & 0\ 7\ 1\ \text{r}\,3 \\ \hline 5 & 3\ {}^{3}5\ 8 \end{array}$$

In this sum the final division is how many 5's in 8, as there is one and 3 remainder – pupils will be encouraged to write r3 (remainder 3)

With decimals

$$\begin{array}{r|l} & 0\ 7\ 1\ .6 \\ \hline 5. & 3\ {}^{3}5\ 8\ .{}^{3}0 \end{array}$$

In this sum the remainder 3 goes underneath the line and we place a decimal point and out the remainder 3 next to a 0, thus saying how many 5's in 30. If there is another remainder after this we place it underneath as well and give it another zero etc…

With Fractions

$$\begin{array}{r|l} & 0\ 7\ 1 \\ \hline & \\ 5. & 3\ {}^{3}5\ 8 \end{array} = 71\frac{3}{5}$$

In this sum the remainder 3 needs to be divided by 5 and as this is not possible we simply write it as $\frac{3}{5}$ as this means 3 divided by 5.

LONG DIVISION

This is probably the one type of sum that most parents are anxious about as they remember having to write a long sum out that went down their page. At Copthorne we prefer not to do that – although it is a valid method and by all means feel free to teach your children this method!

Long Division – a Cheat's Guide !!

4 1 7 6 ÷ 1 2

If we refer back to the simple division and knowing that $\frac{4176}{12}$ means the same as 4 1 7 6 ÷ 12 then we can simply reduce this fraction to make the sum more accessible.

$\frac{4176}{12}$ half it $\frac{2088}{6}$ half it again $\frac{1044}{3}$ know we have a very simple division to complete

```
    0 3 4  8
3 | 1 10 14 24
```

so the answer is 348.

Of course this will only work if you can reduce the fraction!

Long Division – the long way !!

For any long division sum where you can't reduce it as a fraction – we simply solve it like a simple division but first we write out that particular times table to the 9th one. This helps us solve the sum, writing it out to the 9th one may sound hard but actually all they are doing is simple additions each time.

Example 7 5 6 6 ÷ 1 3

Firstly write out 13 times table to the 9th one; 13 26 39 52 65 78 91 104 117
Then complete as a short division sum

```
    0  5  8  2
13 | 7  75 106 26
```

So the answer is 5 8 2

To complete this sum pupils will keep referring back to their13 x table. So 13 does not go into 7 so it is carried over to make it 75, as 5 x 13 is 65 this is close as we can get so we have to carry over 10, 13 into 106 is 8 remainder 2, then 13 into 26 is 2. At this point we would also encourage pupils to multiply their answer by 13 to check they get 7 5 6 6.
This method is the same as the long method many of you were taught just they taking away and bringing down is now all done as one.

FRACTIONS

Addition and Subtraction of a Fraction.

The most important thing to remember when adding or subtracting a fraction is to make sure the Denominator is the same – this is the number on the bottom of the fraction, the one on the top is called the Numerator.

$\frac{3}{5}$ In this Fraction 3 is the **Numerator** and 5 is the **Denominator**

Example

$\frac{2}{3} + \frac{1}{5} = ?$ Before we can attempt this sum we need to make the Denominators the same. So we say what number does 3 and 5 go in to ? the smallest number is 15, so we are now going to rewrite the fractions so they are both over 15

$\frac{2}{3}$ becomes $\frac{10}{15}$ as to turn 3 into 15 you have to multiply by 5 therefore you must do the same to the top eg 2 x 5.

$\frac{1}{5}$ becomes $\frac{3}{15}$ as to turn 5 into 15 you have to multiply by 3 therefore you must do the same to the top eg 1 x 3 = 3.

Now we can add the two fractions as they have the same Denominator.

$\frac{10}{15} + \frac{3}{15} = \frac{13}{15}$ Note that you only add the Numerators not the Denominator

Subtraction

Subtracting is exactly the same method as addition, except that at the final stage you subtract the Numerators as opposed to adding them.

Example $\frac{3}{4} - \frac{1}{7} =$

Match up Denominators = $\frac{21}{28} - \frac{4}{28} = \frac{17}{28}$

Multiplying Fractions

When multiplying Fractions it **does not matter** if the Denominators are different, you **DO NOT** have to match them up.

$$\frac{2}{5} \times \frac{5}{6} = \frac{2x5}{5x6} = \frac{10}{30}$$

It really as a simple as multiplying the Numerators; and multiplying the Denominators. Once you have your answer you should check that it is written in its simplest from. So in the case of the answer above $\frac{10}{30}$ this can be reduced to $\frac{1}{3}$ by dividing both the Numerator and Denominator by 10.

Cross Cancelling.

Sometimes when you are multiplying Fractions you have large numbers to multiply, this is where the method of Cross Cancelling comes in – It can only be used when there is a multiplying sign between the two fractions.

Example

$\frac{24}{30} \times \frac{25}{32}$ as this would require long multiplication we can cross cancel first.

To do this you follow the direction of the x sign, eg 24 and 32 are linked as is 25 and 30. You then say is there a number that goes into each pair, for 24 and 32 – 8 goes into them both and for 25 and 30 – 5 goes into them both.

Taking the 24 and 32 pair you say how many times does 8 go into 24 = 3 so you cross through 24 and write 3. For 32 8 goes in 4 times. With the second pair you ask how many 5's in 25 = 5 and 5's in 30 = 6 .
Your sum will now look like this

3 5

$\frac{\cancel{24}}{\cancel{30}} \times \frac{\cancel{25}}{32}$ so now the sum becomes $\frac{3}{6} \times \frac{5}{4} = \frac{15}{24}$ reduced to $\frac{5}{8}$ (÷3)

6 4

You will still get the same answer if you don't cross cancel – it is not essential just helpful !

Dividing Fractions

Dividing Fractions are very similar to multiplying Fractions – they just require one extra step!

Example

$\frac{4}{7} \div \frac{5}{6} = ?$

To answer a dividing fraction sum you simply turn the second fraction upside down (Inverse), the first fraction stays as it is- the sum then becomes a multiplying fraction.

Eg $\frac{4}{7} \times \frac{6}{5} = \frac{24}{35}$ its as simple as that !!!

Top Heavy Fractions and Mixed Numbers

Sometimes when completing Fraction sums you may end up with a top heavy fraction (Vulgar Fraction!) these are then required to be place back into a Mixed number.

Example

$\frac{3}{5} + \frac{3}{4} = \frac{12}{20} + \frac{15}{20} = \frac{27}{20}$ as this is a top heavy fraction we need to rewrite it as a mixed number. To do this we simply say how many 20's are there in 27 = 1; and how many left over ? 7

So the answer becomes a big 1 and $\frac{7}{20}$ eg $1\frac{7}{20}$

Other examples

$\frac{10}{3} = 3\frac{1}{3}$ as 3 goes into 10 3 times with 1 spare.

$\frac{22}{5} = 4\frac{2}{5}$ as 5 goes into 22 4 times with 2 left over.

Changing from a Mixed number back into a top heavy fraction.

Sometimes sums require you turn a mixed number back into a top heavy fraction.

Example

$3\frac{2}{5} \times 4\frac{1}{2} = ?$ Unfortunately you cannot simply do 3 x 4 then multiply the fractions! You have to turn these fractions into top heavy fractions and multiply them.

$3\frac{2}{5} = \frac{17}{5}$ because you times the denominator by the large number eg 5 x 3 then add on the numerator eg 2. So 5 x 3 + 2 = 17; this goes back over the 5.

$4\frac{1}{2} = \frac{9}{2}$ because 2 x 4 = 8 plus the numerator = 9

Now you can complete the original sum, as it has become

$\frac{17}{5} \times \frac{9}{2} = \frac{153}{10}$ as this is a top heavy answer it needs to be re written as a mixed number = $15\frac{3}{10}$ as 10 goes into 153. 15 times with 3 spare.

Finding a Fraction of an amount

Example find $\frac{3}{5}$ 0f 25

This are very simple sums, all you have to do is divide by the bottom (denominator) and times by the top (numerator)

$\frac{3}{5}$ of 25 = 25 ÷ 5 = 5 then 5 x 3 = 15. So the answer is 15

$\frac{2}{3}$ of 24 = 24 ÷ 3 = 8 then 8 x 2 = 16. So the answer is 16

PERCENTAGES

There are many levels of percentages; this page just covers the basics.

When calculating percentages pupils are rarely required to use a calculator. Pupils are always required to calculate 10% first. Once 10% has been calculated pupils can then find any other percentage.

Example

Calculate 30% of 80.

Find 10% first, this is done by dividing the amount by 10. So in this case 10% would equal 8 as this is 80 ÷ 10.
So 10% =8, to find 30% you can multiply 10% by 3= 8 x 3 = 24.

So 30% of 80 = 24

Calculating different %

Using 120 as starting number

10% = 12 (as 120 ÷ 10 = 12)
5% = 6 (as 5% is half of 10%)
20% = 24 (as this 2 lots of 10%)
15% = 18 (10% + 5%)

To find 1% you can divide your 10% by 10.
Eg 1% of 120 = 1.2
As 10% = 12, 12 ÷ 10 = 1.2

Percentages when there is not a 0 on the end!

If you have to find 10% of a number which has no 0 on the end, you simply move the decimal place back one place. If there is no decimal place you place one on the end of the number.

Eg 10% of 34.6 = 3.46
10% 0 45 = 4.5

DECIMALS

In Year 3 pupils are introduced to the concept of a decimal being a number involving a decimal point. They also look at place value after the point eg tenths, hundredths etc..

Adding Decimals

The most important thing when adding or subtracting decimals is that the decimal points are lined up underneath each other; if this is not set up properly pupils will not get the correct answer.

Examples

3 . 4 + 2. 7 2. 4 + 3. 36

Set up like this

```
  3 . 4          2 . 4 0
+ 2 . 7        + 3 . 3 6
  6 . 1          5 . 7 6
    1
```

In the first sum as 4 + 7 = 11 the one is carried over into the next part over the decimal point. In the second sum we have placed a 0 next to the 4 so that all gaps are filled in the sum- this is more important when doing subtraction with decimals.

Adding with decimals and whole numbers.

When whole numbers are introduced into a sum pupils often get very confused as to where to place them in the sum as they don't have a decimal point to line up. At this stage we will remind pupils that at the end of every whole number is a decimal point and an infinite number of zero's it just we don't write them! This makes it then more accessible as a sum.

Example

12 + 3. 66 + 0. 7 Set up like this

```
  1 2 . 0 0
  0 3 . 6 6
+ 0 0 . 7 0
  1 6 . 3 6
    1
```

Similar to the question before all the gaps have been filled with zeros (shown in bold)

Subtracting with decimals

This is where it is essential that pupils fill in all gaps with zero's as common mistakes are made if they don't.

Example

6 . 5 - 2 . 3 4

A common mistake for this sum is to write it like this

```
  6 . 5
- 2 . 3 4
```

Whilst there is nothing wrong with this pupils then record the answer as 4 2 4 as they forget that the 4 on the right hand side must be taken away from something! If the sum is written correctly with the zero fewer mistakes are made.

Eg

```
      4
  6 . 5 10
- 2 . 3 4
  4 . 1 6
```

In this sum pupils should realise they cannot take 4 from zero so they have to borrow from the 5 to make it into a 10.

Multiplying Decimals

The common mistake when multiplying with decimals is to leave the decimal points in and try and do the sum with them in.

Eg 2 . 4 x 0. 3 is often seen written as

```
  2 . 4
x 0 . 3
  7 . 2
  1
```

The multiplication in it is correct but sadly that's it! When multiplying decimals you need to first remove the decimal points so 2 . 4 x 0. 3 simply becomes 24 x 3. The answer to which is 72.

Taking 72 as the answer we now need to replace the decimal point, so we go back to the original question of 2 . 4 x 0. 3 and we count the number of values after the decimal points for 2. 4 that is one and for 0. 3 that is also 1 so in total we have to move the decimal point back 2 places. As there is no decimal point in our current answer of 72 we simply place one at the end of the number eg 72 . Now we can move that back 2 places hence reaching the correct answer of 0.72

Further examples

2 . 4 1 x 0. 2 = 241 x 2 = 482 then replace the decimal point moving it back 3 places (2 for the 2.41 and 1 for the 0.2)
Final answer = 0.482

0.003 x 0.2 = 3 x 2 = 6 then replace decimal point moving it back 4 places (3 for the 0.003 and 1 for the 0.2)
Final answer is 0.0006

Multiplication by 10/100/1000 etc

We all know what happens when you multiply a whole number by 10 we simply add on a zero. Unfortunately this does not work when multiplying decimals by 10.
When multiplying decimals by 10/100/1000 etc you simply move the decimal point forward the number of zero's in the multiplying number. Eg if multiplying by 10 the decimal point moves forward one place, when multiplying by 1000 it would move on 3 places.

Examples

3 . 4 x 10 = 34. 0 or just 34

1. 3 3 4 x 100 = 1 3 3 . 4

5. 7 x 100 = 570 (if there are not enough places to move forward add on some zero's) Eg 5. 7 0 0 0 is still the same as 5 . 7

DECIMAL DIVISION

Decimal division is a little more challenging than multiplication but still something we would expect able year 6 pupils and above to be able to access.

Division by 10/100/1000

Similarly to multiplying by 10/100/1000 etc the decimal point will move, but this time it moves backwards the number of zero's in the number.

Eg 2 3 . 5 ÷ 10 = 2 . 3 5 (as there is one zero in 10 the decimal point moves back one place)

5 ÷ 100 = 0.0 5 (as there was no decimal point we simply place it at the end of the number and add a few zero's to help out)

Eg 00000 5. 0 is still the same as 5

Decimal Division

As discussed earlier we have looked at what happens when we get a decimal answer with division; now we are going to look at what happens when we start of with a decimal to divide.

Eg 1 7 . 1 ÷ 3

Set up as a normal divide sum

$$3\overline{)\,1\,{}^{1}7\,.\,1}\qquad 0\;\;5\;.\;7$$

All you need to do for this is to make sure the decimal point is lined up on the top of the sum.

Dividing by a Decimal

In this section we will be looking at what happens when you have to divide by a decimal eg 24 ÷ 0. 4

There are 2 ways to approach this sum;

Fractional approach

Initially write the sum as a fraction eg $\frac{24}{0.4}$ and as you can't have a decimal on a fraction you need to turn it into a whole number so you multiply the whole fraction by 10 so it becomes $\frac{240}{4}$ and as this is an easy divide sum we can now simply work out 240 ÷ 4 mentally or in a sum. Hence the answer is 60.

Formal approach

This is nearly the same as above but written down in a different way. The idea behind it is to make what you are dividing by into a whole number.

2 4 ÷ 0 .4 as we can't divide by 0.4 easily but we can divide by 4 easily you say how do I turn 0.4 into 4 and the answer is simply x 10. In doing so you must do the same to the other number; 24
So the sum now becomes
(x 10) 2 4 0 ÷ 4 = 60

If you were dividing by 0 . 0 0 4 you would have to multiply by 1000 to make it into a 4.

It is important to note that it is only what you are dividing by which is important in making into a whole number. So if you had a sum like;
2 . 4 8 ÷ 0 . 2 you do not need to worry about making the 2 . 4 8 nice as if you multiply both parts by 10 you get 2 4 .8 ÷ 2 and you can do this as an easy sum – see above.

FRACTIONS-DECIMALS-PERCENTAGES

Pupils will be expected to be able to convert between Fractions, Decimals and Percentages by year 7. Some simple conversions should be known as early as year 3; such as 50% = ½ = 0.5

Percentages ⟷ Decimals

This is the easiest conversion as you simply divide by 100 to turn a percentage into a decimal and times by 100 to turn a decimal into a percentage.

Examples; 54% = 0.54 0.23 = 23% 4% = 0.04 0.8 = 80%

Percentages into Fractions.

As the word 'Percent' means out of 100; that is exactly how you turn a percentage into a fraction. Simply place the percentage over 100 and write it as a fraction (NB you should always aim to reduce the fraction if you can)

Examples; 24% = $\frac{24}{100}$ then reduce the fraction down to $\frac{12}{50} = \frac{6}{25}$

4% = $\frac{4}{100}$ then reduce to $\frac{1}{25}$

If you are given a decimal percentage such as 12.5% the same theory applies but you cannot have a decimal on a fraction so you need to either enlarge the fraction or simplify it or both!

Eg 12.5 % = $\frac{12.5}{100}$ doubling it = $\frac{25}{200}$ then simplify this by dividing by 25 = $\frac{1}{8}$

Decimals into Fractions

This is exactly the same as a percentage into a fraction you just need to put the decimal into a percentage first, then complete as above.

Eg 0.34 = 34% = $\frac{34}{100}$ reduced = $\frac{17}{50}$

Sometimes pupils get confused between 0.6 and 0.06 as they think they are both 6% it is important that they recognise that 0.6 is really 0.60 so therefore it is actually 60%.

Fractions into Percentages or Decimals.

This is the hardest section; here the pupils aim is to get 100 as the denominator as once they have this, the percentage becomes very easy.

For example with $\frac{4}{25}$ pupils will often automatically assume that it is 4% without really looking at the fraction. What they really should have done is to look at the fraction and think 'How can I turn 25 into 100 ?' the answer here by multiplying it by 4, in doing this the fraction would then become $\frac{16}{100}$ hence the percentage is 16%.

Further examples

$\frac{11}{20}$ Here we would need to multiply the fraction by 5 to get 100 as the denominator; hence the fraction becomes $\frac{55}{100}$ and the percentage is 55%

$\frac{3}{5}$ Here we would need to multiply by 20 to get $\frac{60}{100}$ thus 60%

Then to find the decimal it is simple from the percentage.

Harder examples

There are occasions where pupils have more challenging fractions to find the percentages for such as $\frac{24}{40}$ as 40 does not easily multiply to make 100 we need to think if there is anything we could do to the fraction initially to help us, in this case we could half the fraction to make it become $\frac{12}{20}$ from this we can then multiply by 5 to get $\frac{60}{100}$ hence the answer is 60% and 0.6

THE END ☺️