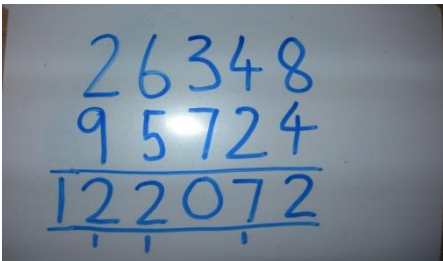
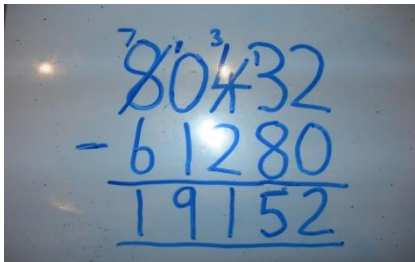
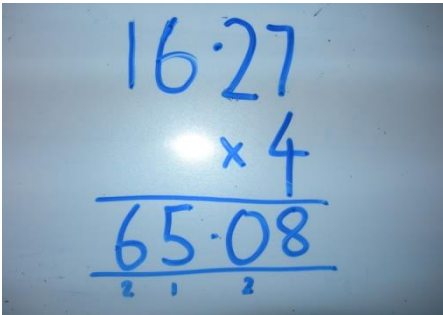
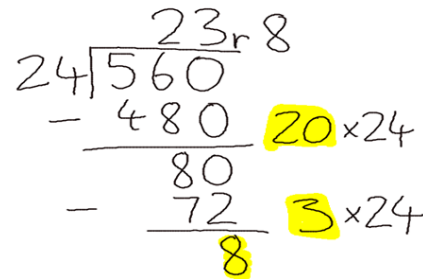
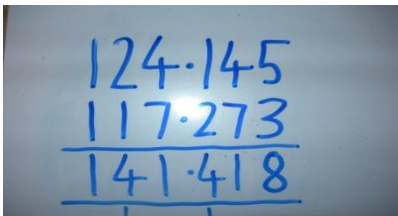
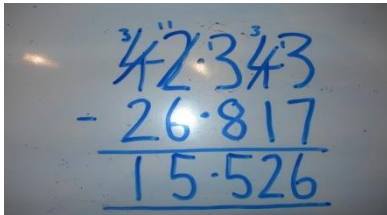
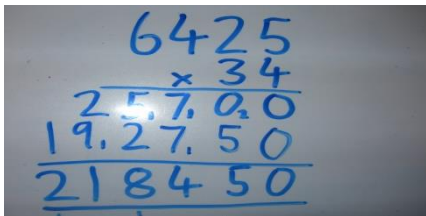
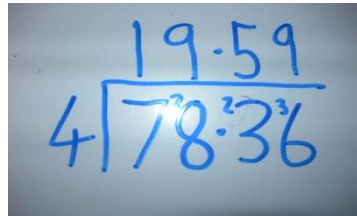




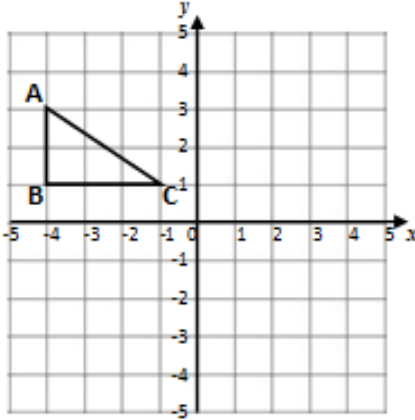
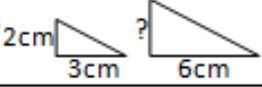
**MELLING PRIMARY SCHOOL**

<b>Year 6 Mathematics Learning Objectives</b>	
<b>PLACE VALUE</b>	1. Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. Round any whole number to a required degree of accuracy.
	2. Use negative numbers in context, and calculate intervals across zero. Solve number and practical problems that involve all of the above.
<b>ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION</b>	3. Multiply and divide numbers up to 4 digits by a 2-digit whole number using the formal written methods and interpret remainders as whole number remainders, fractions, or by rounding.
	4. Identify common factors, common multiples and prime numbers.
	5. Use their knowledge of the order of operations to carry out calculations involving the four operations.(BODMAS)
	6. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.
<b>FRACTIONS</b>	7. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
	8. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
	9. Multiply simple proper fractions and simplify the answer (e.g. $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ ). Divide proper fractions by whole numbers (e.g. $\frac{1}{8} \div 2 = \frac{1}{16}$ ).
	10. Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places.
	11. Multiply one-digit numbers with up to two decimal places by whole numbers. Use written division methods in cases where the answer has up to two decimal places.
	12. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
<b>RATIO AND PROPORTION</b>	13. Solve problems involving the calculation of percentages (e.g. of measures) such as 15% of 360 and the use of percentages for comparison.
	14. Solve problems involving similar shapes where the scale factor is known or can be found. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.
<b>ALGEBRA</b>	15. Express missing number problems algebraically. Use simple formulae expressed in words.
	16. Generate and describe linear number sequences.
	17. Find pairs of numbers that satisfy number sentences involving two unknowns. Enumerate all possibilities of combinations of two variables.
<b>MEASURE</b>	18. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. Convert between miles and km.
	19. Use, read, write & convert between standard units of measure, converting length, mass, volume & time from smaller to larger units, and vice versa, using decimal notation to up to 3 decimal places.
	20. Recognise that shapes with the same areas can have different perimeters and vice versa.
	21. Calculate the area of parallelograms and triangles. Recognise when it is possible to use formulae for area and volume of shapes.
	22. Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed ( $\text{cm}^3$ ) and cubic metres ( $\text{m}^3$ ), and extending to other units.
<b>GEOMETRY</b>	23. Draw 2-D shapes using given dimensions and angles. Recognise, describe and build simple 3-D shapes, including making nets.
	24. Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.
	25. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
	26. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
<b>POSITION AND DIRECTION</b>	27. Describe positions on the full coordinate grid (all four quadrants).
	28. Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
<b>STATISTICS</b>	29. Interpret and construct pie charts and line graphs and use these to solve problems.
	30. Calculate and interpret the mean as an average.

Calculation Methods to be taught to Y6 children during the year

Year 6 (emerging)			
Addition	Subtraction	Multiplication	Division
<p>Compact column addition of 2 5-digit numbers (Y5 objective consolidated and to include inverse)</p> 	<p>Column subtraction of 2 5-digit numbers (Y5 objective consolidated and to include inverse)</p> 	<p>Multiply a number with 2d.p. by a single digit</p> 	<p>Long division by a 2 digit number by chunking</p> 
Year 6 (expected)			
Addition	Subtraction	Multiplication	Division
<p>Column column addition up to 3 decimal places(Y5 objective consolidated and to include inverse)</p> 	<p>Column subtraction up to 3 decimal places(Y5 objective consolidated and to include inverse)</p> 	<p>Multiply a 4-digit number by a 2-digit number(Y5 objective consolidated and to include inverse)</p> 	<p>Divide a number with 2 decimal places by a single digit</p> 

Example of Weekly Maths Skills covered in Year 6

A: Place Value, Add, Subtract, Multiply and Divide		B: Fractions, Ratio, Proportion and Algebra		C: Geometry, Position and Direction	
1. Write in words: <b>5,230,760</b>	6:1	11. Simplify this fraction fully: $\frac{8}{24}$	6:7	21. Find the missing angle.	6:24
2. What is the value of the <b>1</b> in this number? 1,384,721	6:1	12. $2\frac{3}{8} + \frac{9}{12} =$	6:8	22. On the circle draw a line to label the <b>radius</b> .	6:25
3. Round <b>8,523,912</b> to the nearest <b>million</b> .	6:1	13. $\frac{1}{4} \div 2 =$	6:9		
4. The temperature rises from $-4^{\circ}\text{C}$ to $12^{\circ}\text{C}$ . How many degrees has it risen?	6:2	14. What is the value of the <b>3</b> in this number: 25.738	6:10	23. Find the missing angle.	6:26
5. $2,246 \times 12$	6:3	15. Give your answer as a decimal: $15 \div 4$	6:11	24. What are the co-ordinates of <b>A</b> ?	6:27
6. What is the remainder? $2,244 \div 16$	6:3	16. Write this decimal as a <b>fraction</b> and a <b>percentage</b> . 	6:12		
7. Write <b>two common factors</b> of 24 and 36.	6:4	17. Find <b>15%</b> of 360.	6:13		
8. List the first <b>five prime numbers</b> .	6:4	18. These shapes are <b>similar</b> . 	6:14		
9. $15 + 4 \times 8$	6:5	19. There are <b>p</b> people on a bus. 5 get on. Write an expression for this.	6:15		
10. What is my change if I buy as many $\pounds 4.49$ footballs as I can with $\pounds 30$ ?	6:6	20. Which two numbers add together to make 19 and have a difference of 3?	6:17	25. <b>Reflect</b> triangle <b>ABC</b> in the <b>y-axis</b> .	6:28
<b>Total (A)</b>		<b>Total (B)</b>		<b>Total (C)</b>	
<b>Test Total (A+B+C)</b>		<b>R (0-9)</b>	<b>Y (10-19)</b>	<b>G (20-25)</b>	

**Name:** \_\_\_\_\_

**Stage 6 Mixed x and ÷ table test a**

1)  $5 \times \underline{\quad\quad} = 3000$

2)  $\underline{\quad\quad} \times 300 = 2700$

3)  $2 \times \underline{\quad\quad} = 1000$

4)  $0.3 \times \underline{\quad\quad} = 2.1$

5)  $20 \times \underline{\quad\quad} = 400$

6)  $11 \times \underline{\quad\quad} = 132$

7)  $3300 \div \underline{\quad\quad} = 300$

8)  $60 \times \underline{\quad\quad} = 4200$

9)  $\underline{\quad\quad} \div 9 = 60$

10)  $1.2 \times \underline{\quad\quad} = 3.6$

**Score:** \_\_\_\_\_

If children are going to become confident with all forms of maths, they **MUST** develop an instant recall of all multiplication and division facts. This means being able to answer random multiplication questions within a few seconds such as  $8 \times 3 = 24$ . This is not the same as being able to count in 3s.

They will need to practice these types of questions frequently at home to build up their instant recall of these facts. The online programme Times Table Rockstars will help with this.

## Y6 Multiplication Tables Testing

In school, Y6 children are tested at least twice a week on their multiplication and division tables. They are expected to get all 10 questions correct in one minute on three separate occasions before moving onto their next multiplication/division test. Marked tests are sent home each week by the class teacher which will help parents to see the progress their child is making and which multiplication tables need further practice. At the start of Year 6, children are re-tested on their previous multiplication and division tests, which they should have a good knowledge of from previous years. They are then tested on related multiplication and division facts. For example, using knowledge of  $7 \times 6 = 42$  to know that  $70 \times 60 = 2400$

### Useful websites for Maths

The school subscribes to the following interactive maths programs. Children have their own login details so they are able to access both of these programs at home as well as in school.

#### Mathletics

<https://login.mathletics.com/>

#### Times Table Rockstars

<https://trockstars.com/>

Other useful websites for practising tables are :

<https://www.timestables.co.uk/multiplication-tables-check/>

<https://www.topmarks.co.uk/maths-games/hit-the-button>

#### SATS

During their summer term in Y6, children take Standard Assessment Tests in Maths (SATS). A useful website which may help them prepare for these tests is on the link below.

<https://www.bbc.co.uk/bitesize/levels/zbr9wmn>