**St. Mary’s Catholic Primary School SPRING Maths Medium Term plan**

**Year 6 St Christopher/ St. Catherine Mrs Brennan/Mrs Martin**

**Assertive mentoring outcomes annotated in red**

**There is an additional investigation or problem-solving activity for each week, plus some links to suitable websites for other possible activities.**

| **Week** | **Main focus of teaching and activities each day** | **Starter** | **Outcomes of each day** |
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| 1  w/b  6TH JAN | ***Number and place value***  **Day 1:** Place value in 7-digit numbers (PV + and -, compare numbers).  **Day 2:** Add and subtract 1, 10, 100, 1000, 10,000, 100,000 and 1,000,000 to/from 7-digit numbers.  **Day 3:** Place 7-digit nos on number lines and round to the nearest 10,000, 100,000 or 1,000,000.  **Day 4:** Use negative numbers in context of temperature; Calculate rises and falls in temperature.  **Day 5:** Calculate intervals across zero.  **Noughts and negatives (PROBLEM SOLVING)**  NRICH link: [**Up, down, flying around**](http://nrich.maths.org/9941) | **Day 1:** Place value in 6-digit numbers  **Day 2:** Count on/back in 10s, 100s, 1000s and 10,000s from 5-digit numbers  **Day 3:** Add and subtract near multiples of 10, 100 and 1000 to 4-digit numbers  **Day 4:** Place negative and positive numbers on lines  **Day 5:** Read Roman numerals | ***Number and place value***  **Day 1:** 1. Say what each digit represents in a 7-digit number.  2. Write place value related additions and subtractions.  3. Compare pairs of 7-digit numbers.  **Day 2:** 1. Add and subtract 1, 10, 100, 1000, 10,000, 100,000 and 1,000,000 to/from 7-digit numbers.  **Day 3:** 1. Place 7-digit numbers on empty number lines.  2. Round 7-digit numbers to the nearest 10, 100, 1000, 10,000, 100,000 or 1,000,000.  **Day 4:** 1. Use negative numbers in context of temperature.  2. Calculate rises and falls in temperature.  **Day 5:** 11. Calculate intervals across zero.  **ASSERTIVE MENTORING Outcomes 1, 2, 3 and 4** |
| 2  W/B 13TH JAN | ***Addition and subtraction* Day 1:** Add and subtract near multiples of powers of 10 including decimals (e.g. +/- 2.99, 3.02).  **Day 2:** Use knowledge of the order of operations and brackets to carry out calculations.  **Day 3:** Explore the order of operations using brackets; for example, 2 + 1 x 3 = 5 and (2 + 1) x 3 = 9.  **Day 4:** Use frog to find change from £100; Use column addition to add several amounts.  **Day 5:** Solve multi-step word problems; Use brackets to record the necessary calculations.  **All at 6s and 7s (PROBLEM SOLVING)** | **Day 1:** Round numbers with 2 decimal places to the nearest whole  **Day 2:** Equivalence  **Day 3:** Mental division, answers as fractions  **Day 4:** Add to the next whole number from a 2-place decimal number  **Day 5:** Find intervals using 24 hour clock | ***Addition and subtraction* Day 1:** 1. Add and subtract near multiples of integers including decimals (e.g. +/- 2.99, 3.02).  **Day 2:** 1. Understand that calculations are carried out in a specific order: brackets first, then multiplication and division before addition and subtraction.  **Day 3**: 1. Use knowledge of the order of operations and brackets to carry out calculations.  **Day 4:** 1. Use frog to find change from £100.  2. Use column addition to add 4 amounts of money.  **Day 5:**  1. Solve multi-step word problems.  2. Use brackets to record the necessary calculations.  **ASSERTIVE MENTORING Outcomes 5, 8, 18, 20, 30 and 31** |
| 3  W/B 20 JAN | ***Decimals, Addition and subtraction***  **Day 1:** Place value addition and subtraction of numbers with 3 decimal places.  **Day 2:** Multiply and divide by 10, 100 and 1000 (answers from 3dp to 7-digit whole numbers).  **Day 3:** Round decimals to the nearest whole, tenth and hundredth.  **Day 4:** Use written addition to add nos with 3 decimals in context of measures (litres, km, kg); Use rounding to estimate totals.  **Day 5:** Use written addition to add numbers with 3 decimals in context of measures (litres, km, kg); Use rounding to estimate totals and round answers to give degree of accuracy.  **Decimal pyramids (PROBLEM SOLVING)** | **Day 1:** Count in steps of 0.01 and 0.1 through multiples of 0.1 and 1 from numbers with 2 decimal places  **Day 2:** Place value in numbers with 3 decimal places  **Day 3:** Place numbers with 2 decimal places on a line  **Day 4:** Mental maths  **Day 5:** Difference between positive and negative numbers | ***Decimals, Addition and subtraction***  **Day 1:** 1. Say what each digit represents in a number with 3 decimal places.  2. Use place value to add and subtract.  **Day 2:** 1. Multiply and divide by 10, 100 and 1000 to give answers with three decimal places.  **Day 3:** 1. Round numbers with 3 decimal places to the nearest whole, tenth and hundredth.  **Day 4:** 1. Add pairs of numbers with 3 decimal places, or 2 and 3 decimal places.  2. Use rounding to make an estimate.  **Day 5:** 1. Add pairs of numbers with 3 decimal places.  2. Use rounding to make an estimate.  3. Round answers to a given level of accuracy.  **ASSERTIVE MENTORING Outcomes 28 and 30** |
| 4  W/B  27TH JAN  ASSESSMENT WEEK  5  W/B 3RD FEB | ***Shape, measures and data***  **Day 1:** Plot points and draw polygons in all 4 quadrants.  **Day 2:** Work out new co-ordinates after a translation or reflection.  **Day 3:** Interpret pie charts.  **Day 4:** Construct pie charts.  **Day 5:** Draw a conversion graph of imperial to metric units and use it to read off equivalent measures.  **Cycling co-ordinates (PROBLEM SOLVING)**  NRICH link: [**Lost**](http://nrich.maths.org/2665) | **Day 1:** Find lines of symmetry  **Day 2:** Co-ordinates in 4 quadrants  **Day 3:** Reading scales  **Day 4:** Angles round a point  **Day 5:** Kilometres to miles | ***Shape, measures and data***  **Day 1:** 1. Plot points in 4 quadrants.  2. Draw polygons and identify the co-ordinates of their vertices.  **Day 2:** 1. Reflect polygons in the y-axis and x-axis.  2. Begin to predict the new co-ordinates after a reflection in the y-axis or x-axis.  3. Describe a translation.  **Day 3:** 1. Interpret and compare pie charts.  **Day 4:** 1. Construct pie charts, working out how big each segment needs to be in degrees.  **Day 5:** 1. Draw conversion graphs and read off intermediate values.  2. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints.  **ASSERTIVE MENTORING Outcomes 40, 41, 47 and 54** |
| 6  HALF TERM  7  24TH FEB | ***Multiplication and division/Decimals***  **Day 1:** Solve problems involving rate.  **Day 2:** Use mental strategies (factors and multiples) to multiply by 5, 20, 6, 4 and 8; Solve scaling problems.  **Day 3:** Use mental strategies to divide by 5, 20, 6, 4 and 8; Solve scaling problems.  **Day 4:** Multiply and divide numbers with up to 2dp, e.g. 0.4 × 6, 3.5 ÷ 7, 5 × 0.03, 0.15 ÷ 3.  **Day 5:** Use long multiplication to multiply 3-digit then 4-digit numbers by numbers between 10 and 35; Use rounding to approximate.  **Riveting reversals (PROBLEM SOLVING)** | **Day 1:** Multiplication and division facts  **Day 2:**  Double and halve 3-digit numbers  **Day 3:**  Order of operations and brackets  **Day 4:** Double and halve numbers with 1 decimal place  **Day 5:** Multiply 1000s by 10s, e.g. 40 × 6000 | ***Multiplication and division/Decimals***  **Day 1:**  1. Solve problems involving rate.  **Day 2:**  1. Use mental strategies to scale up.  **Day 3:**  1. Use mental strategies to scale down.  **Day 4:** 1. Use tables facts and place value to multiply and divide numbers with up to 2dp.  **Day 5:** 1. Use long multiplication to multiply 3-digit and 4-digit numbers by numbers between 10 and 35.  2. Use rounding to approximate.  **ASSERTIVE MENTORING Outcomes 9 (tables in starters), 12, 13, 14, 19 and 32** |
| 8  W/B  2MAR | ***Fractions, Division and data*  Day 1:** Revise comparing fractions with unrelated denominators using equivalence.  **Day 2:** Recognise equivalent fractions, decimals and percentages.  **Day 3:** Find percentages of amounts.  **Day 4:** Use mental division strategies to find non-unit fractions of amounts.  **Day 5:** Calculate and interpret the mean as an average.  **Mean score (PROBLEM SOLVING)**  NRICH link: [**Searching for Mean(ing)**](http://nrich.maths.org/6345) | **Day 1:** Write improper fractions as mixed numbers  **Day 2:** Equivalent fractions and decimals  **Day 3:** Equivalent fractions and percentages  **Day 4:** Find unit fractions of amounts within tables  **Day 5:** Add 5 numbers together | ***Fractions, Division and data*  Day 1:**  1. Compare and order fractions with unrelated denominators.  **Day 2:** 1. Recognise equivalent fractions, decimals and percentages.  **Day 3:** 1. Find percentages of amounts.  **Day 4:** 1. Use mental division strategies to find non-unit fractions of amounts.  2. Use knowledge of factor and divisibility rules to find out which fractions of amounts will give whole number answers.  **Day 5:** 1. Understand and find the mean of a set of values.  **ASSERTIVE MENTORING Outcomes 22, 23, 24, 33 and 48** |
| 9  W/B  9TH MARCH | ***Algebra***  **Day 1:** Understand and use simple formulae.  **Day 2:** Express missing number problems algebraically.  **Day 3:** Find pairs of numbers that satisfy an equation with two unknowns, Enumerate possibilities of combinations of two variables.  **Day 4:** Generate and describe linear number sequences.  **Day 5:** Generate and describe linear number sequences.  **Stars and crosses (PROBLEM SOLVING)** | **Day 1:** Guardian of the rule  **Day 2:** Equivalence  **Day 3:** Pairs with a total of 10m  **Day 4:** Co-ordinates in 4 quadrants  **Day 5:** Parts of circles | ***Algebra***  **Day 1:**  1. Understand and use simple formulae.  **Day 2:** 1. Solve simple equations.  **Day 3:** 1. Find pairs of numbers which satisfy equations with two unknowns.  2. Find pairs of numbers which satisfy pairs of equations.  **Day 4:** 1. Continue and describe linear sequences.  2. Work out the 10th term without working out the all the terms up to that point.  3. Generalise the nth term.  **Day 5:** 1. Continue and describe linear sequences.  2. Work out the 10th term without working out the all the terms up to that point.  3. Generalise the nth term.  **ASSERTIVE MENTORING Outcomes 36, 37, 38, 39 and 55** |
| 10  W/B  16TH MARCH | ***Fractions/Division* Day 1:** Multiply pairs of fractions together.  **Day 2:** Divide fractions by whole numbers.  **Day 3:** Multiply and divide fractions.  **Day 4:** Use long division to divide 3-digit numbers by 2-digit numbers.  **Day 5:** Use long division to divide 3-digit numbers by 2-digit numbers; divide any remainders to give fractions, and decimals where equivalents are known.  **Mixed up fractions (PROBLEM SOLVING)** | **Day 1:** Find ¼ of numbers  **Day 2:** Find highest common factors  **Day 3:** Find the lowest common multiple  **Day 4:** 17 times table  **Day 5:** Equivalent fractions and decimals | ***Fractions/Division***  **Day 1:** 1. Multiply pairs of fractions.  **Day 2:** 1. Divide fractions by whole numbers.  **Day 3:** 1. Multiply pairs of fractions and divide fractions by whole numbers.  **Day 4:** 1. Use long division to divide 3-digit numbers by 2-digit numbers.  **Day 5:** 1. Use long division to divide 3-digit numbers by 2-digit numbers.  2. Divide any remainders to give fractions and write decimal equivalents where known.  **ASSERTIVE MENTORING Outcomes 15, 17, 24, 25, 26 and 27** |
| 11  W/B  25TH MARCH  ASSESSMENT WEEK | ***Measures*  Day 1:** Find the area of triangles.  **Day 2:** Find the area of parallelograms  **Day 3:** Revise finding areas and perimeters of rectilinear shapes; Recognise that shapes with the same areas can have different perimeters and vice versa.  **Day 4:** Find volumes of cubes and cuboids.  **Day 5:** Find volumes of cubes and cuboids.  **Queued Cubes (PROBLEM SOLVING)** | **Day 1:** Area of rectangles  **Day 2:** Areas of compound rectilinear shapes  **Day 3:** Perimeters of rectangles  **Day 4:** Multiply 3 numbers together  **Day 5:** Recognise years written using Roman numerals | ***Measures* Day 1:** 1. Find a formula to find the area of a triangle.  **Day 2:** 1. Find a formula to find the area of a parallelogram.  **Day 3:** 1. Recognise that shapes with the same areas can have different perimeters and vice versa.  2. Find areas and perimeters of rectilinear shapes.  **Day 4:** 1. Understand and use a formula to find the volume of cuboids.  2. Know that volume is measured in cm3, m3 or km3.  **Day 5:** 1. Find volumes of cuboids using prime factors.  **ASSERTIVE MENTORING Outcomes 42, 43, 44 and 55** |
| 12  CARRIED OVER FROM SPRING TERM INTO SUMMER TERM –  W/B  22ND APRIL | ***Shape/Fractions, ratio and percentages***  **Day 1:** Solve problems involving similar shapes where the scale factor is known; Find areas of triangles, rectangles and parallelograms.  **Day 2:** Solve problems involving similar shapes where the scale factor can be found.  **Day 3:** Describe ratios between unequal quantities, e.g. paint; Solve ratio problems, e.g. in context of recipes.  **Day 4:** Solve problems involving unequal quantities.  **Day 5:** Find percentages, link to proportion.  **Geometry genius (PROBLEM SOLVING)** | **Day 1:** Algebra – missing numbers  **Day 2:** Algebra – list pairs of variables  **Day 3:** Guardian of the rule  **Day 4:** Multiply 3 numbers together  **Day 5:** Equivalent fractions, decimals and percentages | ***Shape/Fractions, ratio and percentages***  **Day 1:**  1. Solve problems involving similar shapes where the scale factor is known.  2. Find areas of triangles, rectangles and parallelograms.  **Day 2:** 1. Solve problems involving similar shapes where the scale factor can be found.  **Day 3:** 1. Use ratio to solve problems, e.g. to adapt a recipe for a different number of people.  **Day 4:** 1. Solve problems involving fractions and ratios.  **Day 5:** 1. Use fractions and percentages to describe proportions.  2. Convert to percentages in order to compare fractions.  **ASSERTIVE MENTORING Outcomes 33, 34, 35 and 55** |