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

**Year 6 St Christopher/ St. Catherine Mrs Brennan/Miss Carberry**

**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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| 1W/B 4TH September  | ***Place value/Addition*****Day 1:** Place value in 6-digit numbers (PV additions/subtractions).**Day 2:** Add and subtract 1s, 10s, 100s, 1000s, 10,000s and 100,000s.**Day 3:** Place 6-digit numbers on a line and compare pairs of numbers; use < and >.**Day 4:** Revise using column addition to add pairs of 5-digit numbers with 5-digit answers.**Day 5:** Use column addition to add pairs of 5-digit numbers with 6-digit answers.[**Giant domino addition**](https://www.hamilton-trust.org.uk/browse/maths/y6/autumn/116255)Explore large numbers by modelling distances in the [**solar system**](http://beakersandbumblebees.blogspot.co.uk/2010/01/toilet-paper.html)  | **Day 1:** Order 5-digit numbers.**Day 2:** Count in steps of 1 though multiples of 100, 1000, 10,000 and 100,000.**Day 3:** Place value in 6-digit numbers.**Day 4:** Add 2-digit numbers.**Day 5:** Roman numerals to 1000 (M). | ***Place value/Addition*****Day 1:** 1. Partition 6-digit numbers into 100,000s, 10,000s, 1000s, 100s, 10s and 1s. 2. Say what each digit represents in 6-digit numbers. 3. Complete place value additions and subtractions.**Day 2:** 1. Add/subtract 1s, 10s, 1000s, 10,000s and 100,000s to/from 6-digit numbers.**Day 3:** 1. Compare 6-digit numbers using > and < signs. 2. Place 6-digit numbers on 0–1,000,000 landmarked lines and begin to place on empty 0–1,000,000 lines.**Day 4:** 1. Use column addition to add pairs of 5-digit numbers, with 5-digit answers.**Day 5:** 1. Use column addition to add pairs of 5-digit numbers, with 6-digit answers.**Assertive mentoring targets: 1, 3,**  |
| 2w/b 11th September  | ***Decimals/Addition* Day 1:** Understand place value in numbers with three decimal places.**Day 2:** Multiply and divide by 10, 100 and 1000.**Day 3:** Place numbers with 3 decimal places on lines; round to the nearest 0.01, 0.1 or 1; Compare 2 numbers.**Day 4:** Add 2 or 3 amounts of money using column addition; Use rounding to check answers.**Day 5:** Add 2 or 3 numbers with 2 decimal places in a measures context, e.g. metres; Use rounding to check answers.[**Crack the code**](https://www.hamilton-trust.org.uk/browse/maths/y6/autumn/116255)NRICH link: [**Round the Dice: Decimals 2**](http://nrich.maths.org/10428) | **Day 1:** Place numbers with 2dp on a line.**Day 2:** Count in steps of 0.01 and 0.1 through multiples of 0.1 and 1.**Day 3:** Round numbers with 2dp to nearest 1 and 0.1.**Day 4:** Pairs of numbers with 1dp and a total of 10.**Day 5:** Complements to the next whole. | ***Decimals/Addition*** **Day 1:** 1. Understand the effect of multiplying and dividing by 10, 100 and 1000. 2. Understand place value in numbers with 3 decimal places. 3. Solve place value addition and subtractions.**Day 2:** 1. Understand the effect of multiplying and dividing by 10, 100 and 1000. 2. Understand place value in numbers with 3 decimal places.**Day 3**: 1. Place numbers with 3 decimal places on landmarked and empty number lines.2. Use knowledge of decimals to solve puzzles.**Day 4:** 1. Use column addition to add three amounts of money, e.g. £45.78 + £25.79 + £24.85.**Day 5:**  1. Use column addition to add three distances, e.g. 9.34m + 6.45m + 4.78m. 2. Use rounding to estimate totals.**ASSERTIVE MENTORING TARGETS: 1, 5,6** |
| 3w/b 18th September  | ***Addition and subtraction* Day 1:** Add several prices, then use Frog to find change from £50 and £100.**Day 2:** Use Frog to subtract amounts of money.**Day 3:** Revise using column subtraction (decomposition) to subtract pairs of 5-digit numbers.**Day 4:** Use column subtraction (decomposition) to subtract 3-digit numbers and 4-digit numbers from 5-digit numbers.**Day 5:** Choose whether to use counting up (Frog) or column subtraction (decomposition) to work out given calculations (5 digits).[**Nine AGAIN**](https://www.hamilton-trust.org.uk/browse/maths/y6/autumn/116255) | **Day 1:** Bonds to £1.**Day 2:** Change from £20.**Day 3:** Subtraction facts.**Day 4:** Mental subtraction of 2-digit numbers.**Day 5:** 24-hour clock. | ***Addition and subtraction* Day 1:** 1. Add several prices, then find the change from £50 and £100 using counting up (Frog).**Day 2:** 1. Find the difference between 5-digit prices using counting up (Frog).**Day 3:** 1. Use column subtraction (decomposition) to subtract pairs of 5-digit numbers.**Day 4:** 1. Use column subtraction (decomposition) to subtract 3-digit and 4-digit numbers from 5-digit numbers.**Day 5:** 1. Choose Frog or column subtraction to subtract pairs of 5-digit numbers.**ASSERTIVE MENTORING TARGETS: 6** |
| 4w/b25th September  | ***Shape and angles*** **Day 1:** Name parts of circles.**Day 2:** Classify and sort quadrilaterals.**Day 3:** Revise angles round a point on a line; Find missing angles.**Day 4:** Draw 2D shapes to given dimensions; know the totals of angles inside triangles and quadrilaterals; use to find missing angles. **Day 5:** Find that opposite angles are equal; find angles in polygons.[**Ellipse in a circle**](https://www.hamilton-trust.org.uk/browse/maths/y6/autumn/116255) | **Day 1:** Describe 2D shapes.**Day 2:** Find lines of symmetry.**Day 3:** Recognise acute, obtuse, reflex angles.**Day 4:** Times tables.**Day 5:** Division facts. | ***Shape and angles*** **Day 1:** 1. Name parts of circles (radius, diameter, circumference) and know that the diameter is twice the radius.**Day 2:** 1. Sort quadrilaterals.**Day 3:** 1. Know that angles around a point add up to 360° and use this to work out missing angles.**Day 4:** 1. Know the totals of angles inside triangles and quadrilaterals and use this and rules about angles on a straight line and about a point to find missing angles. 2. Draw polygons with given lengths and angles.**Day 5:** 1. Know that opposite angles are equal. 2. Find angles in polygons.**ASSERTIVE MENTORING TARGETS: 25, 26, 24,**  |
| 5w/b2nd October  | ***Multiplication and division/Fractions*** **Day 1:** Find common multiples and factors.**Day 2:** Identify prime numbers, recognising their properties; Find numbers which have a pair of prime factors.**Day 3:** Find equivalent fractions; Simplify fractions using multiples and factors.**Day 4:** Compare and order fractions with unrelated denominators. **Day 5:** Find unit and non-unit fractions of amounts.[**Magic multiplication squares**](https://www.hamilton-trust.org.uk/browse/maths/y6/autumn/116255) | **Day 1:** Double and halve numbers to 100.**Day 2:**  Factors.**Day 3:**  Factors and multiples.**Day 4:** Divisibility by 2, 3, and 5.**Day 5:** Fractions of amounts within tables. | ***Multiplication and division/Fractions*** **Day 1:**  1. Recognise common multiples and find highest common factors.**Day 2:**  1. List prime numbers to at least 20. 2. Find numbers that have pairs of prime factors.**Day 3:**  1. Recognise equivalent fractions. 2. Simplify fractions.**Day 4:** 1. Compare fractions with unrelated denominators.**Day 5:** 1. Find non-unit fractions of numbers using short division and mental multiplication.**ASSERTIVE MENTORING TARGETS: 4, 7, 11** |
| 6w/b9th October **ASSESSMENT WEEEK****W/B** **16th October** | ***Number/Multiplication*  Day 1:** Place 5-digit numbers on a line, rounding to nearest 10, 100 or 1000.**Day 2:** Place 6-digit numbers on a line and round to nearest 10, 100, 1000, 10,000 or 100,000.**Day 3:** Revise using short multiplication to multiply 4-digit numbers by single-digit numbers; Round to approximate answers.**Day 4:** Revise using short multiplication to multiply 4-digit numbers by single-digit numbers; Use rounding to approximate answers.**Day 5:** Revise using short multiplication to multiply 4-digit amounts of money by single-digit numbers.[**The eights have it**](https://www.hamilton-trust.org.uk/browse/maths/y6/autumn/116255) | **Day 1:** Count on/back in 25s from 4-digit numbers.**Day 2:** Multiplication and division facts**Day 3:** Multiply by multiples of 10 (e.g. 7 × 80).**Day 4:** Multiply by multiples of 100 (e.g. 7 × 800).**Day 5:** Find the time later using 24-hour clock. | ***Number/Multiplication*  Day 1:**  1. Place 5-digit numbers on a line and round to the nearest 10, 100 or 1000.**Day 2:** 1. Place 6-digit numbers on a line and round to the nearest 10, 100, 1000, 10,000 or 100,000.**Day 3:** 1. Use short multiplication to multiply 4-digit numbers by single-digit numbers. 2. Round 4-digit numbers to the nearest 100 to make approximations.**Day 4:** 1. Use short multiplication to multiply 4-digit numbers by single-digit numbers. 2. Round 4-digit numbers to the nearest 100 to make approximations.**Day 5:** 1. Use short multiplication to multiply 4-digit prices by single-digit numbers.2. Round 4-digit prices to the nearest pound to make approximations.**ASSERTIVE MENTORING TARGETS: 1, 3,**  |
| 7w/b 30th Octoberw/b **HALF TERM** **23RD Ooctober – 27th October**  | ***Fractions/Division* Day 1:** Recognise fraction and decimal equivalents.**Day 2:** Use short division to divide 3-digit by 1-digt numbers and by 11 and 12; Round up or down.**Day 3:** Use short division to divide 4-digit numbers by 1-digt numbers and by 11 and 12, with fraction parts of answers, e.g. 23¾.**Day 4:** Use short division to divide 4-digit numbers by 1-digt numbers, writing fraction parts of answers as decimals, e.g. 23¾ as 23.75.**Day 5:** Solve division word problems (including answers with fractions); Round up or down after division.[**Awesome answers**](https://www.hamilton-trust.org.uk/browse/maths/y6/autumn/116255) | **Day 1:** Count in 1/8s along a number line.**Day 2:** 12 times table.**Day 3:** Place 5-digit numbers on a human number line.**Day 4:** Equivalent fractions, decimals and percentages.**Day 5:** Mental division. | ***Fractions/Division* Day 1:**  1. Know decimal equivalents for ½, ¼s, 1/5, 1/8s, 1/10s and 1/100s.**Day 2:** 1. Use short division to divide 3-digit by 1-digit numbers and by 11 and 12; Round up or down.**Day 3:** 1. Use short division to divide 4-digit numbers by 1-digt numbers and by 11 and 12, with fraction parts of answers, e.g. 23¾.**Day 4:** 1. Use short division to divide 4-digit numbers by 1-digt numbers and by 11 and 12, writing fraction parts of answers as decimals, e.g. 23¾, as 23.75.**Day 5:** 1. Decide whether to round up, round down or give an exact answer after division depending on the context.**ASSERTIVE MENTORING TARGETS: 12, 11,**  |
| 8w/b 6th November | ***Decimals/Subtraction* Day 1:** Add/subtract multiples of 0.01 to/from numbers with two decimal places, crossing multiples of 0.1.**Day 2:** Subtract pairs of numbers with two decimal places using counting up (Frog).**Day 3:** Subtract numbers with one or two decimal places by counting up from the smaller to the larger number (Frog), e.g. 3.76 – 1.8 or 13.4 – 2.76.**Day 4:** Count on and back in steps of 0.001 and 0.01.**Day 5:** Add and subtract multiples of 0.1, 0.01 or 0.001.[**Dicey differences**](https://www.hamilton-trust.org.uk/browse/maths/y6/autumn/116255) | **Day 1:** Double numbers with 1 decimal place.**Day 2:** Say how much is needed to the next metre.**Day 3:** Halve numbers with 1 decimal place.**Day 4:** Convert from m to cm, cm to mm and vice versa.**Day 5:** Place value in numbers with 3dp. | ***Decimals/Subtraction*** **Day 1:**  1. Add/subtract multiples of 0.01 to/from numbers with two decimal places, crossing multiples of 0.1 and 1.**Day 2:** 1. Count up to subtract pairs of numbers with one or two decimal places.**Day 3:** 1. Subtract pairs of numbers, one with one decimal place and the other with two decimal places.**Day 4:** 1. Count on and back in steps of 0.001 and 0.01.**Day 5:** 1. Add and subtract multiples of 0.1, 0.01 or 0.001 beginning to cross multiples of 1, 0.1 and 0.01.**ASSERTIVE MENTORING TARGETS: 5, 6** |
| 913th November | ***Measures*  Day 1:** Convert between grams and kilograms, millilitres and litres.**Day 2:** Convert between metres and kilometres; Know approximate conversion between miles and km; Draw line graph and read intermediate points.**Day 3:** Know regularly used imperials units and approximate metric equivalents.**Day 4:** Calculate time intervals using the 24-hour clock and add lengths of time.**Day 5:** Read timetables using the 24-hour clock; calculate time intervals (at least 3 hours).[**Weights in a line**](https://www.hamilton-trust.org.uk/browse/maths/y6/autumn/116255)NRICH link: [**Distance Match**](http://nrich.maths.org/10594) | **Day 1:** Multiply and divide by 10, 100 and 1000.**Day 2**: Starter – Reading scales (weight)**Day 3:** Starter – Reading scales (capacity)**Day 4:** Units of time**Day 5:** Reading bar charts. | ***Measures* Day 1:** 1. Convert between grams and kilograms, millilitres and litres (to one, two or three decimal places).**Day 2:** 1. Convert between metres and kilometres. 2. Know approximate conversion between miles and km. 3. Draw line graphs and read intermediate points.**Day 3:** 1. Know regularly used imperial units and approximate metric equivalents. 2. Draw line graphs and read intermediate points.**Day 4:** 1. Calculate time intervals using the 24-hour clock. 2. Add lengths of times, giving an answer in hours and minutes. **Day 5:** 1. Read timetables using the 24-hour clock. 2. Calculate time intervals (including over 3 hours).ASSERTIVE MENTORING TARGETS: 18, 29,  |
| 10w/b20TH NOVEMBER | **Shape*/Fractions*****Day 1:** Recognise nets for a cube.**Day 2:** Recognise and build pyramids and prisms, making nets.**Day 3:** Use common multiples to express fractions in the same denomination; Compare and order fractions with unrelated denominators.**Day 4:** Add fractions with unrelated denominators.**Day 5:** Subtract fractions with unrelated denominators.[**Domino Fractions**](https://www.hamilton-trust.org.uk/browse/maths/y6/autumn/116255) | **Day 1:** Properties of 3D shapes.**Day 2:** Lowest common multiples.**Day 3:** Count in 1/8s along a number line.**Day 4:** Turn improper fractions into mixed numbers & vice versa.**Day 5:** Equivalence | **Shape*/Fractions*****Day 1:**  1. Recognise nets for a cube.**Day 2:** 1. Make nets and use to make polyhedra.**Day 3:** 1. Compare and order fractions with unrelated denominators.**Day 4:** 1. Add fractions with unrelated denominators.**Day 5:** 1. Subtract fractions with unrelated denominators.**ASSERTIVE MENTORING TARGETS: 23, 12, 8,**  |
| 11W/B27TH November w/b 4th REVSION BASED ON GAPS IDENTIFIED THROUGH THE TERM W/B 11TH December – ASSESSMENT WEEK | ***Multiplication and division/Addition or subtraction* Day 1:** Use grid multiplication to multiply 3-digit numbers by 2-digit numbers.**Day 2:** Use long multiplication to multiply 3-digit numbers by numbers between 10 and 20.**Day 3:** Use long multiplication to multiply 3-digit numbers by numbers between 20 and 30.**Day 4:** Choose how to solve a mix of +, -, × and ÷ mental and written calculations.**Day 5:** Choose which operation(s) are necessary to solve single-step and multi-step word problems.[**Stunning squares**](https://www.hamilton-trust.org.uk/browse/maths/y6/autumn/116255) | **Day 1:** Multiply pairs of multiples of 10 and 10s by 100s, e.g. 30 × 40, 30 × 400.**Day 2:** Mental multiplication.**Day 3:** Mental division.**Day 4:** Find squares and cubes.**Day 5:** Read off a line graph to convert from km to miles. | ***Multiplication and division/Addition or subtraction* Day 1:**  1. Use the grid method to multiply 3-digit numbers by 2-digit numbers.**Day 2:** 1. Use long multiplication to multiply 3-digit numbers by numbers between 10 and 20.**Day 3:** 1. Use long multiplication to multiply 3-digit numbers by numbers between 20 and 30. **Day 4:** 1. Choose how to solve a mix of +, −, × and ÷ mental and written calculations.**Day 5:** 1. Choose which operations are necessary to solve single-step and multi-step word problems.**ASSERTIVE MENTORING TARGETS: 5, 3, 6** |