**ENGLISH MATHEMATICS \_2021 WEEKLY TEACHING PLAN \_ GRADE 7**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TERM 1** | **Week 1**  **3 days** | **Week 2**  **5 days** | **Week 3**  **5 days** | **Week 4**  **5 days**: | **Week 5**  **5 days** | **Week 6**  **5 days** | | **Week 7**  **5 days** | **Week 8**  **5 days** | | **Week 9**  **4 days** | | **Week 10**  **3 days** |
| **Hours per week** | **2.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | | **4.5 hrs** | **4.5 hrs** | | **3.5 hrs** | | **3 hrs** |
| **Hours per topic** | **2.5 hrs.** | **13.5 hrs.** | | | **4.5 hrs** | **2 hrs.** | **9 hrs** | | | **4 hrs.** | | **2 hrs.** | **3 hrs** |
| **Topics, concepts and skills** | **REVISION** | **WHOLE NUMBERS**   * Revise the following: * Ordering and comparing whole numbers * Properties of operations with whole numbers * Calculations using all operations with whole numbers   **Calculation techniques**   * Use a range of strategies to perform and check written and mental calculations of whole numbers including: * long division * adding, subtracting and multiplying in columns * estimation * rounding off and compensating * using a calculator   **Multiples and factors**   * List prime factors of numbers to at least 3-digit whole numbers * Find the LCM and HCF of whole numbers by inspection or factorisation   **Solving problems**   * Solve problems involving whole numbers, including: * Comparing of two or more quantities of the same kind (ratio) * Comparing two quantities of different kinds (rate) * Sharing in a given ratio where the whole is given | | | **EXPONENTS:**  **Mental calculations**   * Determine squares to at least 12² and their square roots * Determine cubes to at least 6³ and their cube roots   **Comparing and representing numbers in exponential form**   * Compare and represent whole numbers in exponential form: = a for b number of factors   **Calculations using numbers in exponential form**   * Recognize and use the appropriate laws of operations with numbers involving exponents and square and cube roots * Calculations involving all four operations using numbers in exponential form, limited exponents up to 5, and square and cube roots | **FORMAL ASSESSMENT TASK**  **ASSIGNMENT**   * Whole numbers * Exponents | **COMMON FRACTIONS:**  **Ordering, comparing and simplifying common fractions**   * Extend to thousandths   **Calculations with fractions**   * Addition and subtraction of fractions including mixed numbers where one denominator is not a multiple of the other. * Multiplicationcommon fractions, including mixed numbers, not limited to fractions where one denominator is a multiple of another.   **Calculation techniques**   * Convert mixed numbers to common fractions in order to perform calculations with them * Use knowledge of multiples and factors to write fractions in the simplest form before or after calculations. * Use knowledge of equivalent fractions to add and subtract common fractions   **Percentages**   * Calculate the percentage of part of a whole * Calculate percentage increase or decrease of whole numbers   **Solving problems**   * Solve problems in contexts involving common fractions and mixed numbers, * including grouping and sharing; and finding fractions of whole numbers * Solve problems in contexts involving percentages | | | **DECIMAL FRACTIONS:**  **Ordering and comparing decimal fractions**   * Count forwards and backwards in decimal fractions to at least 3 decimal places * Place value of decimals to at least 3 decimal places * Order and compare decimal fractions to at least 3 decimals * Rounding off decimal fractions to at least 2 decimal places | | **REVISION** | **FORMAL ASSESSMENT TASK**  **TEST**  All topics |
| **Prerequisite skill or pre-knowledge** |  | * Order, compare, represent and place value of 9 digit numbers * Rounding off to the nearest 5,10,100.1000.10 000, etc. * All operations with whole numbers * Multiples and factors of 3 digit whole numbers * Prime factors of 2 digit whole numbers up to 100 * Properties of operations with whole numbers * Identity element of 0 and 1 | | |  |  | * Ordering and comparing fractions specifically Tenths and hundredths * Addition and subtraction of common fractions, including mixed numbers, limited to fractions with the same denominator or where one denominator is a multiple of another * Recognize and use equivalent forms of common fractions with 1-digit or 2-digit denominators * finding fractions of whole numbers * Finding percentages of whole numbers * Equivalence between fractions and percentage forms of the same number | | | * Count forwards and backwards in decimal fractions to at least two decimal places * Compare and order decimal fractions to at least two decimal places * Place value of digits to at least two decimal places * Rounding off decimal fractions to at least 1 decimal place * Addition and subtraction of decimal fractions of at least two decimal places * multiplication of decimal fractions by 10 and 100 * Equivalence between fractions and percentage forms of the same number | |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TERM 2** | **Week 1**  **4 days** | **Week 2**  **5 days** | **Week 3**  **3 days** | **Week 4**  **5 days** | **Week 5**  **5 days** | | **Week 6**  **5 days** | **Week 7**  **5 days** | **Week 8**  **5 days** | **Week 9**  **5 days** | **Week 10**  **4 days** | **Week 11**  **5 days** |
| **Hours per week** | **3.5 hrs** | **4.5 hrs** | **2.5 hrs** | **4.5 hrs** | **4.5 hrs** | | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **3.5 hrs** | **4.5 hrs** |
| **Hours per topic** | **7 hrs** | | **9 hrs** | | | **2 hrs.** | **9 hrs.** | | **9 hrs.** | | **3.5 hrs** | **4.5 hrs** |
| **Topics, concepts and skills** | **DECIMAL FRACTIONS:**  **Calculations with decimal fractions**   * Addition and subtraction to decimal fractions of at least three decimal places * Multiply decimal fractions to include: * decimal fractions to at least 3 decimal places by whole numbers * Decimal fractions to at least 2 decimal places by decimal fractions to at least 1 decimal place * Divide decimal fractions to include decimal fractions to at least 3 decimal places by whole numbers   **Calculation techniques**   * Use knowledge of place value to estimate the number of decimal places in the result before * Use rounding off and a calculator to check results where appropriate   **Solving problems**   * Solve problems in context involving decimal fractions   **Equivalent forms**   * Recognize equivalence between common fraction and decimal fraction forms of the same number * Recognize **equivalence** between common fraction, decimal fraction and percentage forms of the same number | | **INTEGERS:**  **Counting, ordering and comparing integers**   * Count forwards and backwards in integers for any interval * Recognize, order and compare integers   **Calculations with integers**   * Add and subtract with integers   **Properties of integers**   * Recognize and use commutative and associative properties of addition for integers | | | **FORMAL ASSESSMENT TASK**  **INVESTIGATION**   * Decimal Fractions * Integers | **NUMERIC AND GEOMETRIC PATTERNS**  **Investigate and extend patterns**   * Investigate and extend numeric and geometric patterns looking for relationships between numbers, including patterns: * represented in physical or diagram form * not limited to sequences involving a constant * difference or ratio * of learner’s own creation * represented in tables * Describe and justify the general rules for observed relationships between numbers in own words | | **FUNCTIONS AND RELATIONSHIPS:**  **Input and output values**   * Determine input values, output values or rules for patterns and relationships using: * flow diagrams * tables * formulae   **Equivalent forms**   * Determine, interpret and justify equivalence of different descriptions of the same relationship or rule presented: * verbally * in flow diagrams * in tables * by formulae * by number sentences | | **REVISION** | **FORMAL ASSESSMENT TASK**  **TEST**  All Term 1 & 2 topics |
| **Prerequisite skill or pre-knowledge** | * Count forwards and backwards in decimal fractions to at least two decimal places * Compare and order decimal fractions to at least two decimal places * Place value of digits to at least two decimal places * Rounding off decimal fractions to at least 1 decimal place * Addition and subtraction of decimal fractions of at least two decimal places * multiplication of decimal fractions by 10 and 100 * Equivalence between fractions and percentage forms of the same number | | Number line | | |  | * All operations with whole numbers * Addition and subtraction as inverse operations * Multiplication and division as inverse operations (with whole numbers) * Addition and subtraction of integers * Investigate and extend numeric and geometric patterns looking for relationships in patterns not limited to constant difference or ratio * Describe the general rules for the observed relationships with patterns limited to constant difference or ratio | | * Input and output values with whole numbers * Equivalent representations of the above | |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TERM 3** | **Week 1**  **4 days** | **Week 2**  **5 days** | | **Week 3**  **5 days** | **Week 4**  **5 days** | **Week 5**  **4 days** | **Week 6**  **5 days** | **Week 7**  **5 days** | **Week 8**  **5 days** | **Week 9**  **5 days** | **Week 10**  **5 days** | | **Week 11**  **4 days** |
| **Hours per week** | **3.5 hrs** | **4.5 hrs** | | **4.5 hrs** | **4.5 hrs** | **3.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | | **4 hrs** |
| **Hours per topic** | **6 hrs** | | **6 hrs** | | **8 hrs.** | | **9 hrs.** | | **9 hrs** | | **2.5 hrs.** | **6 hrs** | |
| **Topics, concepts and skills** | **ALGEBRAIC EXPRESSIONS**   * Recognise and interpret rules or relationships represented in symbolic form * Identify variables and constants in given formulae and equations | | **ALGEBRAIC EQUATIONS**  **Number sentences**   * Write number sentences to describe problem situations * Analyse and interpret number sentences that describe a given situation * Identify variables and constants in given formulae or equations * Solve and complete number sentences by: * inspection * trial and improvement * Solve equations by substitution | | **CONSTRUCTION OF GEOMETRIC FIGURES**  **Measuring angles**   * Accurately use a protractor to measure and classify angles: * < 90o (acute angles) * Right-angles * >90o (obtuse angles) * Straight angles * >180o but less than 360 o (reflex angles)   **Constructions**  **PROVIDE LEARNERS WITH ACCURATELY CONSTRUCTED FIGURES**   * Accurately construct geometric figures appropriately using a compass, ruler and protractor, including: * angles, to one degree of accuracy * circles * parallel lines * perpendicular lines * Describe and name parts of a circle   **GEOMETRY OF STRAIGHT LINES**  **Define:**   * Line segment * Ray * Straight line * Parallel lines * Perpendicular lines | | **GEOMETRY OF 2D SHAPES:**  **Classifying 2D shapes**   * Describe, sort, name and compare triangles according to their sides and angles, focussing on: * equilateral triangles * isosceles triangles * right-angled triangles * Describe, sort, name and compare quadrilaterals in terms of: * length of sides * parallel and perpendicular sides * size of angles (right angles or not)   **Similar and congruent 2D shapes**   * Recognise and describe similar and congruent figures by comparing: * shape * size   **Solving problems**   * Solve simple geometric problems involving unknown sides and angles in triangles and quadrilaterals, using known properties | | **TRANSFORMATION**  **GEOMETRY**  **Transformations**   * Recognize, describe and perform translations, reflections and rotations with geometric figures and shapes on squared paper * Identify and draw lines of symmetry in geometric figures   **Enlargements and reductions**   * Draw enlargements and reductions of geometric figures on squared paper and compare them in terms of shape and size | | **REVISION** | **FORMAL ASSESSMENT TASK**  **TEST**  All topics | |
| **Prerequisite skill or pre-knowledge** |  | |  | | * Straight sides and curved sides * Types of angles and their definitions | | * Naming of shapes according to the number of sides * Difference between a rectangle and a parallelogram * Types of angles | | * Symmetry * Use transformation terms to describe patterns in shapes * Increase/ decrease the sides of 2D shapes by the same ratio | |  |  | |

**N.B. BY THE END OF TERM 3, LEARNERS SHOULD HAVE COMPLETED A PROJECT AND A TEST. SEE NOTES ON PROJECT FROM ABRIDGED SECTION 4 OF CAPS.**

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TERM 4** | **Week 1**  **4 days** | **Week 2**  **5 days** | **Week 3**  **5 days** | **Week 4**  **5 days**: | **Week 5**  **5 days** | **Week 6**  **5 days** | **Week 7**  **5 days** | **Week 8**  **5 days** | **Week 9**  **5 days** | **Week 10**  **3 days** |
| **Hours per week** | **3.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **4.5 hrs** | **2.5 hrs** |
| **Hours per topic** | **8 hrs.** | | **9 hrs.** | | **9 hrs.** | | **9 hrs** | | **4,5 hrs** | **3 hrs** |
| **Topics, concepts and skills** | **AREA AND PERIMETER OF 2D SHAPES**  **Area and perimeter**   * Calculate the perimeter of regular and irregular polygons * Use appropriate formulae to calculate perimeter and area of: * squares * rectangles * triangles   **Calculations and solving problems**   * Solve problems involving perimeter and area of polygons * Calculate to at least 1 decimal place * Use and convert between appropriate SI units, including: * mm2 ↔ cm2 * *cm*2 ↔ *m*2 | | **SURFACE AREA AND**  **VOLUME OF 3D OBJECTS**  **Surface area and volume**   * Use appropriate formulae to calculate the surface area, volume and capacity of: * cubes * rectangular prisms * Describe the interrelationship between surface area and volume of the objects mentioned above   **Calculations and solving problems**   * Solve problems involving surface area, volume and capacity * Use and convert between appropriate SI units, including: * mm2 ↔ cm2 * cm2 ↔ m2 * mm3 ↔ cm3 * cm3 ↔ *m*3 * Use equivalence between units when solving problems: * 1 cm3 ↔ 1 ml * 1 *m*3 ↔ 1 *kl* | | **DATA HANDLING:**  **Collect data**;  **PROVIDE LEARNERS WITH DATA TO SAVE TIME**   * Pose questions relating to social, economic, and environmental issues in own environment * Select appropriate sources for the collection of data (including peers, family, newspapers, books, magazines) * Distinguish between samples and populations and suggest appropriate samples for investigation * Design and use simple questionnaires to answer questions with: * yes/no type responses * multiple choice responses   **Organize and summarize data**   * Organize (including grouping where appropriate) and record data using * tally marks * tables * stem-and-leaf displays * Group data into intervals * Summarize and distinguishing between ungrouped numerical data by determining: * mean * median * mode * Identify the largest and smallest scores in a data set and determine the difference between them in order to determine the spread of the data (range)   **Represent data**   * Draw a variety of graphs by hand/ technology to display and interpret data (grouped and ungrouped) including: * bar graphs and double bar graphs * histograms with given intervals * pie charts   **Interpret data**   * Critically read and interpret data represented in: * words * bar graphs * double bar graphs * pie charts * histograms   **Analyse data**   * Critically analyse data by answering questions   related to:   * data categories, including data intervals * data sources and contexts * central tendencies (mean, mode, median) * scales used on graphs   **Report data**   * Summarize data in short paragraphs that include * drawing conclusions about the data * making predictions based on the data * identifying sources of error and bias in the data * choosing appropriate summary statistics for the data (mean, median, mode) | | **REVISION OF TERM 3 AND 4 WORK** | | **FORMAL ASSESSMENT TASK**  **TEST**  All Term 3 & 4 topics | **FORMAL ASSESSMENT TASK**  **TEST**  All Term 3 & 4 topics |
| **Prerequisite skill or pre-knowledge** | * perimeter using rulers or measuring tapes * Find areas of regular and irregular shapes by counting squares on grids * Relationship between perimeter and area of rectangles and squares | | * Conversions between SI units of length * Area of 2D shapes by counting the number of squares * 3 D objects   Volume of 3D objects by counting the number of cubes | | Complete Data cycle | |  | |  |  |