**RUTSIRO DISTRICT**

**Academic year:** 2022-2023

**School name:………………….. Teacher’s name: …………………………..**

**WESTHERN PROVINCE**

**MATHEMATICS P6 SCHEME OF WORK**

**Number of period per week: 7 FIRST TERM FROM 26/09/2022 TO 23/12/2022**

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| **DATES** | **UNIT TITLE** | **LESSON TITLE** | **LEARNING OBJECTIVES** | **TEACHING METHODS** | **RESOURCES&REFERENCES** | **OBSERVATION** |
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| ***WEEK 1***  ***26-30/09/2022***  ***WEEK 2***  ***03-07/10/ 2022*** | ***Unit 1: Reading, writing and comparing whole numbers beyond 1,000,000*** | **Lesson1**: Reading and writing numbers beyond 1000 000 in words  **Lesson 2**: Reading and writing numbers beyond 1000 000 in figures | **Knowledge and understanding**:   * Identify the place values of digits beyond 1000 000 * Read and write numbers correctly   Describe steps taken when rounding off numbers  **Skills:**  - Compare numbers  - carry out addition, subtraction, multiplication and division of numbers beyond 1000 000  **Attitudes and values:**  Appreciate the importance of accuracy in reading and writing numbers and assessing how big there are  ***Key unit competence:*** To be able to read, write and compare whole numbers beyond 1000 000. | Group work  Questions and answers  Demonstration  Game play | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six  Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
|  | **Lesson 3**: Place values and comparing numbers  **Lesson 4**: Solving problems using calculation strategies  **Lesson5**: Rounding to the nearest (tens, hundreds, thousands, etc)  .  ***UNIT TEST*** |
| WEEK3 10-14/10/ 2022 | ***Unit2: Multiplication and division of Integers*** | **Lesson** 1: Multiplication of integers  **Lesson 2**: Division of integers  **Lesson 3**: Solving problems involving multiplication and division of integers  ***UNIT TEST*** | **Knowledge and understanding:** Describe the steps taken when multiplying and dividing integers.  **Skills:** Carry out multiplication and division of integers.  **Attitudes and values:** Appreciate the importance of accuracy in multiplication and division of integers.  ***Key unit competence:*** To be able to multiply and divide integers. | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six  Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
| WEEK 4 17-21/10/2022 | ***Unit 3***  ***Powers and Indices, LCM and GCF*** | **Lesson1**: Definition of “base” and “exponent”  **Lesson2**: Multiplication and division of indices  **Lesson3**: LCM and GCF | **Knowledge and understanding:**   * Explain the term “base’ and “exponent” * State and Explain the laws of indices involving multiplication and division of indices   **Skills:** - Apply the laws of indices in multiplication and division   * Apply the LCM and GCF in solving problems.   **Attitudes and values:** Learners should respect each other when they are working in groups.  ***Key unit competence:*** To be able to use powers and indices, and apply the Lowest Common Multiple (LCM) and Greatest Common Factor (GCF) when solving problems. |  |  |  |
|  | **Lesson 4**: Solving problems involving LCM and GCF (Application of LCM and GCF  ***UNIT TEST*** | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six  Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
| ***WEEK 5 24-28/10/ 2022*** | ***Unit 4 Operation on fractions*** | **Lesson 1**: Multiplication and Division of fractions  **Lesson 2:** Solve problems involving multiplication and division of fractions | **Knowledge and understanding:** Explain how to multiply and divide fractions  **Skills:** - Multiply and divide fractions   * Calculate word problems involving fractions.   **Attitudes and values**: Appreciate the importance of fraction in daily life situation.  ***Key unit competence:*** To be able to apply fraction in daily life situation and solve related problems. | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six  Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
|  | **Lesson 3:** Application of Fractions  ***UNIT TEST*** |
| WEEK 6 31/10- 04/11/2022  WEEK 7 07-11/11/2022 | ***Unit 5***  ***Rounding and conversion of decimal fractions / numbers*** | **Lesson1**: Conversion of fractions to decimal and vice versa  **Lesson 2**: Round off decimal numbers to the nearest (tenths, hundredths, etc.)  **Lesson 3**: Solving problems involving rounding and conversion.  ***UNIT TEST*** | **Knowledge and understanding**:   * Describe various steps taken when rounding off numbers * Illustrates and explain how to match fractions and decimals   **Skills:** - Apply the knowledge required to match fraction and decimals   * Carry out various calculations rounding off numbers   **Attitudes and values:** Confidently and accuracy should be exhibited among learners in groups  ***Key unit competence:*** To be able to round off decimals, Convert fractions to decimals and vice versa, matching fractions and decimals | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six  Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
| ***WEEK 8 14-18/11/ 2022***  ***WEEK 9 21-25/11/2022***  ***WEEK10 28/11-02/12/2022***  ***WEEK11***  ***05-09/12/2022*** | ***Unit 6: Ratios, Proportions, Percentages and Mixtures*** | **Lesson 1**: Percentages   * Conversion of fraction to decimals to fractions and vice versa * Comparing quantities as percentages * Increase or decrease a given number by a given percentage. * Find percentage profit and loss   **Lesson 2**: Ratios  **Lesson 3:** Proportions | **Knowledge and understanding:**   * Explain the meaning and the role of percentages * Explain the relationship between ratios and proportions * Describe different ways of working out mixtures   **Skills:**   * Apply percentages, ratios, proportions and mixtures in solving mathematical problems * Convert percentages to decimals and vice versa   **Attitudes and values:**  Acknowledge the importance of percentages, ratios, mixtures and proportions in daily life situations  ***Key unit competence:*** To be able to work out ratios, proportions, percentages and mixtures | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six  Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
| ***WEEK12 12-16/12/20 WEEK13 19-23/12/ 2022*** | ***REVISION***  ***EXAM ANDCORRECTION AND MAKING SCHOOL REPORTS .*** | | | | | |  |  |  |  |

**SECOND TERM FROM 09/01/2023 TO 31/03/2023**

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| **DATES** | **UNIT TITLE** | **LESSON TITLE** | **LEARNING OBJECTIVES** | **TEACHING METHODS** | **RESOURCES&REFERENCES** | **OBSERVATION** |
|  | **CORRECTION OF FIRST TERM EXAMINATION** | | | | | |
|  | ***Unit 6: Ratios, Proportions, Percentages and Mixtures*** | **Lesson 4**: Mixtures   * Average price of the mixtures * The price of one type of the mixtures * Quantity of one type of the mixtures * Quantities of both types of mixtures.   **Lesson 5:** Solving of word problems involving ratios, percentages, mixtures and inverse proportions.  ***UNIT TEST*** | **Knowledge and understanding:**   * Explain the meaning and the role of percentages * Explain the relationship between ratios and proportions * Describe different ways of working out mixtures   **Skills:**   * Apply percentages, ratios, proportions and mixtures in solving mathematical problems * Convert percentages to decimals and vice versa   **Attitudes and values:**  Acknowledge the importance of percentages, ratios, mixtures and proportions in daily life situations  ***Key unit competence:*** To be able to work out ratios, proportions, percentages and mixtures | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six  Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
| Week1 09-13/01/ 2023  Week2 16-20/01/ 2023 |
| Week 3 23-27/02/ 2023  Week4 30/01-03/02 /2023 | ***Unit 7: Relationship between Volume, Capacity and mass*** | **Lesson 1:** Relationship between volume, capacity and mass  **Lesson 2:** Conversion between units of volume, capacity and mass.    ***UNIT TEST*** | **Knowledge and understanding:**   * State the units of length, capacity and mass in solving problems * Explain the relationship between volume, capacity and mass in the case of water   **Skills:**   * Convert between the units of volume, capacity and mass * Solve problems involving the relationship between volume, capacity and mass measurements   **Attitudes and values**:   * Show respect to one another when working in group * Show spirit of tolerance when you are with your friend in a group.   **Key unit competence**: To be able to convert between units of volume, capacity and mass. | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
| Week 5 06-10/2/ 2023 | ***Unit 8: Speed, distance and time.*** | **Lesson 1:** Conversion from 12-hr clock to 24-hr clock and vice versa.  **Lesson 2:** Mathematical problems that related to different time zones (e.g. Rwanda and America)  **Lesson 3:** Speed, distance and time | **Knowledge and understanding**:   * Explain relationship between a 12-hour clock and a 24-hour clock * Define speed, distance and time * Identify different units of speed, distance and time. * Explain what determines time zones   **Skills:** | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
| Week6 13-17/02/ 2023 | **Lesson 4:** Conversion of speed from km / hr  to m / sec and vice versa.  **Lesson 5:** Moving bodies and Problems related to speed, distance and time |
|  |  | ***UNIT TEST*** | * Solve the problems relate to different time zones * Solve simple problems involving the calculation of speed, distance and time in real life situation   **Attitudes and values:**  Appreciate the relationship between speed, distance and time to understand the notion of time management.  ***Key unit competence***: To be able to calculate speed, distance and time, Solve problems related to different time zones and convert speed |  |  |  |
| Week 7 20 -24/02 / 2023  Week 8 27/2-03/03/ 2023 | ***Unit 9***  ***Simple interest and problem involving saving.*** | **Lesson 1**: Calculating simple interest, rate, principal and time.  **Lesson 2**: Problems involving simple interest, rates, principal and time  **Lesson 3:** Saving: Saving money in the bank, or putting it in investments.  **Lesson 4**: Problems involving saving and simple interest.  ***UNIT TEST*** | **Knowledge and understanding**:   * Define the different terms such as simple interest, rate, principal and time. * Explain the importance of saving   **Skills:**   * Solve the problems involving saving * Solve the problems involving calculation of simple interest   **Attitudes and values:**  Appreciate the importance of simple interest and saving in daily life situation  ***Key unit competence***: To be able to work out simple interest and solve problems involving saving. | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
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| *Week9 6/3-10/3 /2023* | ***Unit 10: Equivalent expressions and number sequences*** | **Lesson 1**: Algébrique expressions  **Lesson 2**: Equivalent expressions  E.g. 3(n-3) +5 =4n -1  **Lesson3**: Examples of linear sequences or number sequences with general terms.  e.g. 3, 7, 11, ………, 4n-1  **Lesson 4:** Finding the missing numbers or nth term in a linear sequence / numbers  **Lesson 5**: Finding the general term / rule of a linear sequence.  ***UNIT TEST*** | **Knowledge and understanding:**   * Give examples of algebraic expressions and equivalent expressions * Explain how to find the rule for determining the nth term in linear sequence   **Skills:**   * Perform operations on algebraic expressions and explain why 2 expressions are equivalent * Calculate the nth term of linear sequence * Find the missing numbers in a linear sequence.   **Attitudes and values:**  Appreciate the importance of orderliness in finding out different terms of a linear sequence and extent it to real life situation.  ***Key unit competence***: To be able to write sequence of whole numbers, fractions and decimals. | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
| Week 10 13/3-17/3/ 2023 | ***Unit 11***  ***Solving simple algebraic equation and inequalities*** | **Lesson 1:** Like and unlike terms of algebraic expressions and substitutions.  **Lesson 2**: Simple algebraic equations with one unknown | **Knowledge and understanding**:  Describe the process of solving simple algebraic equations or inequalities.  **Skills:**   * Solve word problems involving simple algebraic equation with one unknown * Solve simple algebraic inequalities with one unknown.   **Attitudes and values:**  Appreciate the importance of algebraic equations and inequalities in solving word problems  ***Key unit competence***: To be able to form and solve simple algebraic equations and inequalities. | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali  Primary six Mathematics for Rwanda Schools Learner’s book  MASTEP  General Suppliers |  |
|  | **Lesson 3:** Simple algebraic inequalities with one unknown.  **Lesson 4**: Problems involving simple algebraic equation or inequalities with one unknown.  **UNIT TEST** |
| ***Week11 20-24/03 /2023*** | **REVISION AND EXAMINATION PREPARATION** | | | | | |
| ***Week12 27-31/03/ 2023*** | **EXAMINATION PERIOD , CORRECTION AND MARKING SCHOOL REPORT** | | | | | |

**THIRD TERM FROM 17/04/2023 TO 14/07/2023**

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| **DATES & WEEKS** | **UNIT TITLE** | **LESSON TITLES** | **LEARNING OBJECTIVES** | | | **TEACHING METHODS AND TECHNIQUES** | **RESOURCES AND REFERENCES** | | | **OBSERVATION** |
| ***Week1 17-21/04/ 2023*** | **CORRECTION OF SECOND TERM EXAMINATION** | | | | | | | | | |
| ***Week 2 24-28/04/ 2023*** | ***Unit 12: Regular polygon and Bearing*** | **Lesson 1**: Definition of polygon  **Lesson 2**: Examples of regular polygons (equilateral triangles, square, pentagon, hexagon, etc)  **Lesson 3**: Elements of regular polygons   * Interior angles and their sum * Exterior angles and their sum * Side and apothem * Perimeter   -Area  **Lesson 4**: Bearing and Compass points  **Lesson 5**: Tiling / Construction  **UNIT TEST** | | * Explain that direction can be specified using compass points and bearing and express the relationship between them * Understand and use the angle sum of a triangle to determine the angle sum of a polygon   **Skills:**   * Derive the interior angle of regular polygon * Find the sum of interior / exterior angles of regular polygon using the angle sum of a triangle * Calculate the length of side, apothem, perimeter and area of regular polygons * Use bearing to define direction   **Attitudes and values:**   * Appreciate the importance of regular polygons in every life activities * Appreciate the relevance of bearing in daily life (e.g. bearings are used by aircraft pilots and tiling patterns in the built environment).   ***Key unit competence***: To be able to use bearing and compass | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | | | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali.  Primary six  Mathematics for Rwanda Schools  Learner’s book  MASTEP |  | |
| ***Week 3 01-05/05/ 2023*** | ***Unit 13: Construction of polygon and nets for cuboids and prisms*** | **Lesson1** : Construction of polygons using a protractor, a ruler and a pair of compasses | | **Knowledge and understanding:**   * Show how to construct polygons with a given properties using a protractor, a ruler and a pair of compasses * Demonstrate how a 2D shape can be folded to make a 3D and name the 2D shape used. * Show that the net of a solid is not unique   **Skills**:   * Construct polygons using a protractor, a ruler and a pair of compasses * Design nets to make cuboid and prisms.   **Attitudes and values**:  Appreciate that there are likely to be a number of different successful approaches to accurately constructing a polygon or designing a net.  ***Key unit competence***: To be able to construct polygons using a protractor, a ruler and a pair of compasses. Design nets to make cuboids and prisms. | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | | | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali.  Primary six  Mathematics for Rwanda Schools  Learner’s book  MASTEP |  | |
| ***Week4 08-12/05/ 2023***  ***Week5 15-19/05/ 2023*** | **Lesson 2**: Design nets to make cuboids and prisms  ***UNIT TEST*** | |
| ***Week6 22-26/05 /2023***  ***Week 7 29/05-02/06/ 2023***  ***Week8 05-09/06 /023*** | ***Unit 14: Area bounded by a circle, surface area of cuboids and volume of cylinder***  ***Unit 15: Statistics*** | **Lesson 1**: Area bounded by a circle  **Lesson 2**: Surface area of cuboid | | **Knowledge and understanding:**   * State the formula for finding the area bounded by a circle and explain how it can be derived from the circumference of circle * Explain the surface area of cuboid as area of its nets. * State the volume of cylinder and explain the meaning of each letter   **Skills**:   * Calculate the area bounded by a circle * Use the nets of cuboid to determine its surface area. * Calculate the volume of cylinder * Select the appropriate units when calculating the area and volume.   **Attitudes and values:**  Appreciate the difference between area, surface area and volume and the importance of using the correct units.  ***Key unit competence:*** To be able to calculate the area enclosed by a circle, the surface area of cuboids and the volume of cylinder.  **Knowledge and understanding:**   * Explain when it is appropriate to use tally and how to obtain frequency from the tally * Explain how to use pie charts to represent proportions * Interpret line graph as representation of data.   **Skills:**   * Devise a question or hypothesis that require data for its resolution * Decide what data to collect to answer the question * Collect data using a table and tally * Represent data in a bar chart where the total frequency is a factor of 3600 * Interpret the representation of data to draw conclusion.   **Attitudes and values:**   * Appreciate the power of data to answer questions and adopt a systematic and organized approach to dealing with data.   ***Key unit competence:*** To be able to extend methods for collecting data, representing and interpreting it in order to answer | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation  Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | | | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali.  Primary six  Mathematics for Rwanda Schools  Learner’s book  MASTEP  Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali.  Primary six  Mathematics for Rwanda Schools  Learner’s book  MASTEP |  | |
| **Lesson 3**: Volume of a cylinder.  **Unit test** | |
| **Lesson 1**: Collect data to investigate a question.  **Lesson 2**: Explore a hypothesis using a tally to complete a frequency table. | |
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| ***Week 9 12-16/06/ 2023***  ***Week 10 19-23/06 /2023*** | ***Unit 15: Statistics*** | **Lesson 3**: Represent data using a bar chart or simple pie chart  **Lesson 4**: Interpret bar char and pie chart to draw a conclusion  ***UNIT TEST*** | | **Knowledge and understanding:**   * Explain when it is appropriate to use tally and how to obtain frequency from the tally * Explain how to use pie charts to represent proportions * Interpret line graph as representation of data.   **Skills:**   * Devise a question or hypothesis that require data for its resolution * Decide what data to collect to answer the question * Collect data using a table and tally * Represent data in a bar chart where the total frequency is a factor of 3600 * Interpret the representation of data to draw conclusion.   **Attitudes and values:**   * Appreciate the power of data to answer questions and adopt a systematic and organized approach to dealing with data.   ***Key unit competence:*** To be able to extend methods for collecting data, representing and interpreting it in order to answer | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | | | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali.  Primary six  Mathematics for Rwanda Schools  Learner’s book  MASTEP |  | |
| ***WEEK11 26/6-30/06 /2023*** | ***Unit 16: Probability*** | **Lesson 1**: Vocabulary of chance and associated ordering   * Impossible * Certain * Equally * Likely * Even chance * Unlikely   **Lesson 2**: Use data to decide how likely something is to happen.  ***UNIT TEST*** | | **Knowledge and understanding**:  Explain that random events have different chances to occur and illustrate each terminology related to probability.  **Skills:**   * Use the language of chance and associate it with events * Use likelihood to compare and order events   **Attitudes and values:** Appreciate that the random events cannot be predicted  ***Key unit competence:*** To be able to order events in terms of likelihood (impossible, equally likely, certain) | Group work  Questions and answers  Demonstration  Game play  Oral and written evaluation | | | Rwanda Education Board (2015). Mathematics Syllabus for Upper Primary P4 – P6: Ministry of Education, Kigali.  Primary six  Mathematics for Rwanda Schools  Learner’s book  MASTEP |  | |
| ***WEEK12***  ***03-07/7/2023*** | **GENERAL REVIONS** | | | | | | | | | |
| ***WEEK13 10-14/07/2023*** | **EXAMS , REPORT AND CLOSING YEAR.** | | | | | | | | | |