

**THE UNITED REPUBLIC OF TANZANIA  
MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY**



**MATHEMATICS SYLLABUS FOR PRIMARY SCHOOL EDUCATION  
STANDARD III–VII**

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## Foreword

Quality education is the right of every Tanzanian. The Ministry of Education, Science and Technology has been improving the curriculum for primary schools education to ensure that it provides quality education and prepares the pupil to cope with the environment in which he or she lives. This goal has necessitated the Ministry of Education, Science and Technology to improve teaching and learning mathematics using this syllabus. The syllabus has been prepared based on the 2019 edition of the 2015 Standard I–II and the 2016 Standard III–VI curricula. This syllabus emphasizes teaching and learning that focus on developing the pupil’s competencies. Using this syllabus, the pupil will develop critical thinking and logical as well as conceptual skills.

The mathematics subject syllabus has various components, namely the main competencies, specific competencies and activities to be done by the pupil, assessment criteria, benchmarking Standard, and the number of periods for each specific competency. These components will help the teacher to know how to teach and assess the pupil’s performance regarding the ability to demonstrate the competencies. However, Reading, Writing and Arithmetic (3Rs) are emphasized in the mathematics subject.

The teacher is expected to use this syllabus by adhering to the given instructions. However, they can plan how to implement this syllabus by considering their school context.

The Ministry of Education, Science and Technology continues to receive useful suggestion from teachers and other stakeholders for improving this syllabus. All suggestions should be directed to the Director General of the Tanzania Institute of Education.



Dr Lyabwene M. Mtahabwa

**Commissioner for Education**

**Ministry of Education, Science and Technology**

## **1.0 Introduction**

The current structure of Mathematics subject began in 2016. The Ministry of Education, Science and Technology changed how the subject used to be taught in that year. The changes included the teaching and learning of Mathematical skills in competence approach contrary to the previous content based approach. Research shows that before 2016, the previous way of teaching the subject caused the pupils fail to get the connection between topics and therefore fail to develop the targeted competencies.

This subject is intended to develop skills and attitudes which enables the pupils to cope with the environment in daily life. The teaching of this subject aims to prepare the pupil step by step depending on the respective class. The syllabus is divided into three main parts: the introduction, the curriculum overview, and the content.

## **2.0 General curriculum overview**

The curriculum for primary education, Standard III–VII, comprises various aspects which show that the curriculum is holistic as it allows various aspects to be understood in an integrative way. This part presents some of the curriculum aspects which include primary education objectives, competencies in primary education for Standard III–VII, the importance and objectives of mathematics, the main and specific competencies, teaching and learning mathematics, and the assessment of learning.

### **2.1 Objectives of primary school education**

The objectives of primary school education for Standard III–VII are to enable the pupil to

- (a) develop reading, writing, arithmetic and oral communication skills;
- (b) understand, use, and value Kiswahili and English languages;
- (c) understand the foundations of the rule of law;
- (d) value Tanzanian culture and those of other countries;
- (e) think creatively and solve problems;

- (f) recognise the importance of ethics, integrity, and accountability as qualities of a good citizen;
- (g) participate in games and sport activities and value artistic activities;
- (h) discover and develop his or her talents and abilities;
- (i) value and like to work;
- (j) recognise, value, and use technical skills; and
- (k) prepare for the next level of education and enhance the spirit of lifelong learning.

## **2.2 Competencies in primary school education for Standard III–VII**

The primary education intends to enable the pupil to demonstrate the ability to

- (a) communicate correctly in Kiswahili and English in both speech and writing;
- (b) read confidently and understand texts;
- (c) apply theoretical and mathematical principles in real-life situations;
- (d) apply scientific, technological and vocational skills in real-life situations;
- (e) appreciate his/her culture and other communities' cultures;
- (f) respect diverse beliefs and ideological differences in his or her community;
- (g) participate in games and sport activities as well as in artistic activities;
- (h) respect oneself and others;
- (i) do patriotic duties;
- (j) participate in different age-appropriate activities;
- (k) participate in various activities which enhance his/her logical and analytical thinking; and

(l) cooperate with others to do acceptable activities in the community.

### 2.3 Objectives of learning mathematics

The objectives of learning mathematics in primary schools include to

- (a) develop logical thinking;
- (b) create curiosity and develop problem-solving skills;
- (c) develop basics for the use of technology, communication, reasoning, and reflections;
- (d) develop the ability to analyse and present information;
- (e) strengthen the learner's understanding of shapes, measurements, and their respective applications in life; and
- (f) build confidence to apply mathematical competencies in everyday life.

### 2.4 Main and specific competencies

The mathematics subject will develop the pupil in the competencies indicated in Table 1 below:

**Table 1: Competencies to be developed by Standard III–VII pupil**

<b>Main competency</b>	<b>Specific competency</b>
1.0 Using mathematical language to present ideas to solve real-life problems (Part One)	1.1 Using the concept of whole numbers to communicate ideas in different situations 1.2 Applying statistical skills to present different information 1.3 Applying measurements in different life contexts

<b>Main competency</b>	<b>Specific competency</b>
2.0 Using reasoning and proof in the real-life situation (Part One)	2.1 Using pattern skills to solve real-life problems
3.0 Solving mathematical problems in different situations	3.1 Using mathematical operations to solve mathematical problems 3.2 Using number relations to solve problems in different situations

## 2.5 Teaching and learning mathematics

The teaching and learning of mathematics should focus on the conceptual understanding and moving from concrete to abstract learning. The link between theory and practice while teaching mathematics is crucial for the pupil to apply the mathematical knowledge and skills they acquire in their daily lives. Mathematics is better understood when one associates the teaching and learning of the concept with objects, charts, and models.

It is important to consider the best use of appropriate tools in teaching and learning mathematics. After all, mathematics is more practical than theoretical. As such, the teacher and pupils should focus on solving various mathematical problems. However, it is better for the pupils to be given more opportunities to do while the teacher is acting as a facilitator. On the whole, teaching mathematics should focus on concrete objects, charts, and models as teaching and learning materials for the pupils to comprehend mathematical concepts and relate them to their real-life contexts. In short, teaching and learning should be learner-centred and activity-based.

## 2.6 Learning assessment

Mathematical competences constitute rules and principles that the pupil is expected to develop alongside concepts in the process of learning. Mathematical competences are reflected in computations, manipulations, reasoning and arguments as well as problem-solving processes. Therefore, this syllabus requires an assessment procedure that takes into account knowledge, skills and attitudes.



Given the nature of the learning process, assessment should focus more on working processes than on the end results. Pupils' performance in the given learning tasks has to be assessed based on the assessment criteria and the tools developed by the teacher in doing mathematical tasks.

### **3.0 Syllabus content**

The content of the syllabus has been presented using a matrix with six columns: (a) Main competency, (b) Specific competency, (c) Students activities, (d) Assessment criteria, (e) Performance indicators, and (f) Number of periods. The descriptions of column items are presented in the syllabus matrix.

#### **3.1 Main competency**

The main competency is the ability one demonstrates after learning a set of specific competencies. The general competency is developed step-by-step over a long period of instruction.

#### **3.2 Specific competency**

This refers to the ability one demonstrates after performing several learning tasks for a specified instructional time.

#### **3.3 Activities to be done by the pupil**

These are activities the pupil ought to do to acquire the intended specific competency based on his or her physical and mental readiness.

#### **3.4 Assessment criteria**

These are sets of performance conditions for the pupil to acquire a specific competency.

### 3.5 Benchmarking of the pupil's performance

This refers to performance indicators set to differentiate performance levels for each pupil in performing different learning tasks.

### 3.6 Number of periods

A period is an estimated time of instruction for each specific competency. The cumulative number of periods is estimated based on the length and nature of the learning tasks for each specific competency. The total instructional time for mathematics is six periods per week for Standard III and IV whereas, for Standard V and VII, it is five periods per week. Each period is estimated to last for 40 minutes. However, the proposed periods for each specific competency may be adjusted depending on the teaching and learning context.

### 3.7 Contents for Standard III

**Table 2: Competencies to be developed by a Standard III pupil**

<b>Main competency</b>	<b>Specific competency</b>
1.0 Using mathematical language in presenting ideas or arguments (Part One)	1.1 Applying the concepts of numbers to communicate ideas and concepts in different contexts
2.0 Applying skills of reasoning and proof in real-life contexts (Part One)	2.1 Applying the concepts of patterns to solve real life problems
3.0 Using mathematics to solve problems in different contexts	3.1 Applying mathematical operations to solve problems 3.2 Applying number relations to solve problems in different contexts

<b>Main competency</b>	<b>Specific competency</b>
4.0 Applying skills of reasoning and proof in real-life contexts (Part Two)	4.1 Applying measurements in different life contexts 4.2 Applying the concepts of shapes and figures to solve different problems
5.0 Using mathematical language to present ideas or arguments (Part Two)	5.1 Applying statistical skills to present different information

## Syllabus contents

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
<b>1.0 Using mathematical language in presenting ideas or arguments (Part One).</b>	1.1 Applying the concepts of numbers to communicate ideas and concepts in different contexts.	a) Counting from 1000 to 9999	Counting from 1000 to 9999 is performed	Struggles to count from 1000 to 9999	Counts from 1000 to 9999 by skipping some numbers or making errors in pronunciations	Counts from 1000 to 9999 with minor errors	Counts from 1000 to 9999 fluently and with confidence	46
		b) Reading numbers from 1000 to 9999	Reading numbers from 1000 to 9999 is performed	Sometimes reads numbers with mistakes and errors in pronunciation	Reads numbers from 1000 to 9999 with some mistakes and errors in pronunciation	Reads numbers from 1000 to 9999 with minor errors in pronunciation	Reads numbers from 1000 to 9999 fluently and with confidence	
		c) Writing numbers in numerals from 1000 to 9999	Numbers from 1000 to 9999 are written in numerals	Writes only some numbers from 1000 to 9999 in numerals with mistakes	Writes numbers from 1000 to 9999 in numerals with errors	Writes numbers from 1000 to 9999 in numerals with minor errors	Writes numbers from 1000 to 9999 in numerals without errors	
		d) Writing numbers in words from 1000 to 9999	Numbers from 1000 to 9999 are written in words	Writes numbers in words from 1000 to 9999 with errors in spelling	Writes numbers in words from 1000 to 9999 with spelling errors for some words	Writes numbers in words from 1000 to 9999 with minor errors	Writes numbers in words from 1000 to 9999 without errors at a reasonable speed.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		e) Identifying place values of numbers.	Place values of numbers are identified.	Struggles to identify place values.	Identifies place values for ones tens and hundreds with mistakes.	Identifies place values of numbers up to thousands with minor errors.	Identifies place values up to thousands without errors.	
		f) Dividing real objects in pieces or equal groups.	Various real objects are divided into pieces or equal groups.	Divides real objects but into unequal pieces or groups.	Divides real objects into equal groups but fail to divide a whole into equal pieces.	Divides real objects into equal pieces or equal groups with minor errors.	Divides real objects into equal pieces or equal groups with a clear concept.	
		g) Reading fractions.	Fraction is read.	Struggles to read fractions.	Reads fractions with mistakes for some fractions.	Reads fractions with minor errors.	Reads fractions without errors.	
		h) Writing fractions.	Fractions in numerals are written.	Struggles to write fractions in numerals.	Writes fractions in numerals with errors.	Writes fractions in numerals with minor errors.	Writes fractions in numerals without errors.	
<b>2.0 Applying reasoning and proof in real life contexts.</b>	2.1 Applying the concepts of patterns to solve real life problems.	a) Identifying things which show patterns.	Things that show patterns are identified.	Hardly identifies things that show patterns.	Identifies a few things that show patterns with guidance from the teacher.	Identifies things that show patterns without the guidance of the teacher.	Identifies many things that show patterns with differentiation.	20

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		b) Identifying missing numbers in a sequence.	Missing numbers in a sequence are identified.	Struggles to identify missing numbers in a sequence.	Identifies missing numbers only in an increasing sequence with errors.	Identifies missing numbers in both increasing and decreasing sequence with minor errors.	Identifies missing numbers in both increasing and decreasing sequence without errors.	
		c) Arranging numbers in ascending order.	Numbers are arranged in ascending order.	Arranges numbers in ascending order with mistakes.	Arranges numbers in ascending order but skip some numbers.	Arranges numbers in ascending order with minor errors.	Arranges numbers in ascending order without errors.	
		d) Arranging numbers in descending order.	Numbers are arranged in descending order.	Arranges numbers in descending order with mistakes.	Arranges numbers in descending order but skip some numbers.	Arranges numbers in descending order with minor errors.	Arranges numbers in descending order without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
<b>3.0 Applying mathematics to solve problems in different contexts.</b>	3.1 Applying mathematical operations to solve problems.	a) Adding numbers to get a sum not exceeding 9999 without carrying forward.	Addition of numbers to get sum not exceeding 999 without carrying forward is performed.	Struggles to add numbers to get a sum not exceeding 9999 without carrying forward.	Adds numbers to get a sum not exceeding 9999 without carrying forward with errors in summing the numbers up.	Adds numbers to get a sum not exceeding 9999 without carrying forward with minor errors in summing the numbers up.	Adds numbers to get a sum not exceeding 9999 without carrying forward without errors.	46
		b) Adding numbers to get a sum not exceeding 9999 with carrying forward.	Addition of numbers with carrying forward is performed.	Struggles to add numbers with carrying forward to get a sum not exceeding 9999.	Adds numbers with carrying forward to get a sum not exceeding 9999 with some errors in adding and carrying.	Adds numbers with carrying forward to get a sum not exceeding 9999 with minor errors in adding and carrying.	Adds numbers with carrying forward to get a sum not exceeding 9999 without errors.	
		c) Solving word problems involving addition.	Solving word problems involving addition is performed.	Solves word problems involving addition with mistakes in interpretation and computation.	Solves word problems involving addition with errors in interpretations.	Solves word problems involving addition with minor errors.	Solves word problems involving addition without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		d) Subtracting without regrouping four digit numbers.	Subtraction without regrouping four digit numbers is performed.	Struggles to subtract without regrouping four digit numbers.	Subtracts without regrouping four digit numbers with errors in taking away.	Subtracts without regrouping four digit numbers with minor errors.	Subtracts without regrouping four digit numbers without errors.	
		e) Subtracting with regrouping of four digit numbers.	Subtraction with regrouping four digit numbers is performed.	Struggles to subtract with regrouping four digit numbers.	Subtracts with regrouping four digit numbers with errors in taking away and regrouping.	Subtracts with regrouping four digit numbers with minor errors.	Subtracts with regrouping four digit numbers without errors.	
		f) Solving word problems involving subtraction.	Solving word problems involving subtraction is performed.	Solves word problems involving subtraction with mistakes in interpretation and computation.	Solves word problems involving subtraction with errors in interpretations.	Solves word problems involving subtraction with minor errors.	Solves word problems involving subtraction without errors.	



Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		g) Multiplying two digit numbers by one digit numbers.	Multiplication of two digit numbers by one digit numbers is performed.	Multiply two digit numbers by one digit numbers with mistakes in calculation and answers.	Multiply two digit numbers by one digit numbers with some errors.	Multiply two digit numbers by one digit numbers with minor errors.	Multiply two digit numbers by one digit numbers without errors.	
		h) Solving word problems involving multiplication.	Solving word problems involving multiplication is performed.	Solves word problems involving multiplication with mistakes in interpretation and computation.	Solves word problems involving multiplication with errors in interpretation.	Solves word problems involving multiplication with minor errors.	Solves word problems involving multiplication without errors.	
	3.2 Applying number relations to solve problems in different contexts.	a) Identifying various units of measuring time.	Various units of measuring time are identified.	Fails to identify commonly used units of measuring time such as year, day, week and hour without support from the teacher.	Identifies commonly used units of measuring time such as year, day, week and hour and with support from the teacher.	Identifies some of the commonly used units of measuring time such as year, day, week, and hour with little support from the teacher.	Identifies most of the commonly used units of measuring time such as year, day, week, and hour without support from the teacher.	53

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		b) Identifying number of hours in a day using the 12-hours approach.	Identifying number of hours in a day using the 12-hours approach is identified.	Struggles to identify the number of hours in a day.	Identifies the number of hours in a day with errors.	Identifies the number of hours in a day with minor errors.	Identifies the number of hours in a day without errors.	
		c) Mentioning the number of days in a week and their names.	Number of days in a week and their names are mentioned.	Struggles to mention the number of days in a week and their names.	Mentions the number of days in a week and their names with some mistakes.	Mentions the number of days in a week and their names some with incorrect order.	Mentions the number of days in a week and names of the days in order.	
		d) Mentioning month names and their respective number of days.	Month names and respective number of days are mentioned.	Mentions names of months and their respective number of days with inaccuracy.	Mentions some names of months not necessarily in order and correct number of days.	Mentions names of months and their respective number of days with minor errors.	Mentions names of months and their respective number of days without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		e) Identifying values of different Tanzanian bank- notes.	Values of different Tanzanian bank-notes are identified.	Struggles to identify values of different Tanzanian bank- notes.	Identifies values of different Tanzanian bank- notes with some errors.	Identifies values of different Tanzanian bank- notes with minor errors.	Identifies values of different Tanzanian bank- notes without errors.	
		f) Mentioning the uses of currency and importance of bank notes.	Uses of currency and importance of bank-notes are mentioned.	Struggles to mention the uses of currency and importance of bank-notes.	Mentions some of the uses of currency but struggle to mention the importance of bank-notes.	Mentions a considerable number of the uses of currency and importance of bank-notes.	Mentions most of the uses of currency and importance of bank-notes.	
		g) Adding Tanzanian currency in shillings to get a sum not exceeding 9999.	Addition involving Tanzanian currency in shillings to get a sum not exceeding 9999 is performed.	Struggles to perform additions involving Tanzanian currency in shillings to get a sum not exceeding 9999 shillings.	Performs additions involving Tanzanian currency in shillings to get a sum not exceeding 9999 shillings with errors.	Performs additions involving Tanzanian currency in shillings to get a sum not exceeding 9999 shillings with minor errors.	Performs additions involving Tanzanian currency in shillings to get a sum not exceeding 9999 shillings without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		h) Subtracting Tanzanian shillings not exceeding 9999.	Subtraction involving Tanzanian shillings is performed.	Struggles to perform subtractions involving Tanzanian shillings not exceeding 9999 shillings.	Performs subtractions involving Tanzanian shillings not exceeding 9999 shillings with errors.	Performs subtractions involving Tanzanian shillings not exceeding 9999 shillings with minor errors.	Performs subtractions involving Tanzanian shillings not exceeding 9999 shillings without errors.	
		i) Solving word problems involving Tanzanian shillings.	Word problems involving Tanzanian shillings are solved.	Struggles to interpret word problems involving Tanzanian shillings.	Interprets some problems and solve them with computational errors.	Interprets word problems and solve them with minor errors.	Interprets word problems and solve them without errors.	
<b>4.0 Applying reasoning and proof in real life contexts.</b>	4.1 Applying measurements in different contexts.	a) Identifying measurements of length.	Measurements of length are identified.	Struggles to identify common measurements of length.	Identifies some common measurements of length while mixing them with other units.	Identifies most of the common measurements of length.	Identifies with differentiation both standard and non-standard measurements of length.	23

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		b) Measuring, reading and recording the lengths of objects using non-standard and standard units of length (centimetre and metres).	Measuring length of objects, reading and recording are performed.	Struggles to measure lengths of objects, read and record.	Measures, reads and records the length of objects with a few mistakes in measuring, reading and recording.	Measures, reads and records lengths of objects with minor errors.	Measures, reads and records lengths of objects without errors.	
		c) Identifying non-standard and standard units of weight (kilogram and gram).	Standard and non-standard units of weight are identified.	Struggles to identify non-standard and standard units of weight with a mix-up of the units.	Identifies one or two non-standard and one standard units of weight.	Identifies most of the non-standard and standard units of weight.	Identifies most of the non-standard and standard units of weight with clear differentiation.	
		d) Measuring weights of objects by comparing quantities, reading and recording.	Measurement of weight of objects by comparing quantities, reading and recording is performed.	Struggles to measure weights of objects, read and record.	Measures weight of objects by comparing, reading and recording with errors.	Measures weight of objects by comparing, reading and recording with minor errors.	Measures weight of objects by comparing, reading and recording without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
	4.2 Applying the concepts of shapes and figures to solve different problems.	a) Identifying two-dimensional and three-dimensional figures.	Two-dimensional and three-dimensional figures are identified.	Identifies two-dimensional and non-two dimensional figures by mistaking other figures.	Identifies some of the two-dimensional or non-two dimensional figures.	Identifies two-dimensional and non-two dimensional figures.	Identifies characteristics of two-dimensional and non-two dimensional figures.	37
		b) Mentioning names of some two dimensional figures.	The names of two-dimensional figures are mentioned.	Struggles to mention some names of two-dimensional figures.	Mentions some names of two-dimensional figures with a mixture of two and three dimensional figures.	Mentions some names of two-dimensional figures with minor errors.	Mentions some names of two-dimensional figures without errors.	
		c) Creating shapes for two dimensional figures.	Shapes of two dimensional figures are created.	Struggles to make two-dimensional figures.	Makes some of two-dimensional figures using paper cuttings with errors.	Makes some of two-dimensional figures using paper cuttings and constructions with minor errors.	Makes two dimensional figures using paper cuttings and constructions.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		d) Drawing two-dimensional figures.	Two dimensional figures are drawn.	Struggles to draw two-dimensional figures.	Draws some of the two dimensional figures with errors.	Draws some of the two dimensional figures with minor errors.	Draws some of the two dimensional figures without errors.	
		e) Making ornaments using two-dimensional figures.	Ornaments are made using two-dimensional figures.	Struggles to make ornaments using two-dimensional shapes.	Makes some ornaments using two-dimensional figures without clear pattern.	Makes ornaments using two-dimensional figures with some definite patterns.	Makes ornaments using two-dimensional figures with some creative patterns.	
		f) Mentioning various objects with two-dimensional figures in our environment.	Various objects with two-dimensional figures are mentioned.	Struggles to mention objects with two-dimensional figures.	Mentions some objects with two-dimensional figures with errors.	Mentions various objects with two dimensional figures with minor errors.	Mentions many objects with two-dimensional figures with clear understanding.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		g) Mentioning various objects with three-dimensional figures in our environment.	Various objects with three-dimensional figures in our environment are mentioned.	Struggles to mention objects with three-dimensional figures.	Mentions objects with three-dimensional figures sometimes by mixing them with two-dimensional ones.	Mentions various objects with three-dimensional figures in our environment.	Mentions many objects with three-dimensional figures with a clear differentiation from two-dimensional ones.	
<b>5.0 Using mathematical language to present ideas or arguments (Part Two).</b>	5.1 Applying statistical skills to present different information.	a) Reading and interpreting pictorial statistics.	Pictorial statistics are read and interpreted.	Struggles to read and interpret data using pictorial statistics by mistaking the data.	Reads and interprets some data using pictorial statistics with errors.	Reads and interprets data using pictorial statistics with minor errors.	Reads and interprets pictorial statistics without errors.	9
		b) Writing the number of objects from pictorial statistics.	Numbers of objects from pictorial statistics are written.	Struggles to write numbers of objects from pictorial statistics.	Writes some numbers of objects from pictorial statistics with errors.	Writes numbers of objects from pictorial statistics with minor errors.	Writes numbers of objects from pictorial statistics without errors.	



### 3.8 Contents for Standard IV

**Table 3: Competencies to be developed by a Standard I V pupil**

<b>Main competency</b>	<b>Specific competency</b>
1.0 Using mathematical language to present ideas or arguments (Part One)	1.1 Applying the concepts of numbers to communicate ideas and concepts in different context
2.0 Applying skills of reasoning and proof in real life contexts (Part One)	2.1 Applying the concepts of patterns to solve real life problems
3.0 Applying mathematics to solve problems in different contexts	3.1 Applying mathematical operations to solve problems 3.2 Applying number relations to solve problems in different contexts
4.0 Applying skills reasoning and proofs in real life contexts (Part Two)	4.1 Applying measurements in different life contexts 4.2 Applying the concepts of shapes and figures to solve different problems
5.0 Using mathematical language to present ideas or arguments (Part Two)	5.1 Applying statistical skills to present different information

## Syllabus Contents

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
<b>1.0 Using mathematical language to present ideas or arguments (Part One).</b>	1.1 Applying the concepts of numbers to communicate ideas and concepts in different contexts.	a) Counting from 9999 to 99999.	Counting from 9999 to 99999 is performed.	Struggles to count from 9999 to 99999 with errors.	Counts from 9999 to 99999 with minor errors.	Counts from 9999 to 999999.	Counts from 9999 to 99999 fluently without errors.	42
		b) Reading numbers from 9999 to 99999.	Reading numbers from 9999 to 99999 is performed.	Struggles to read numbers from 9999 to 99999.	Reads numbers to 99999 with errors in pronunciation.	Reads numbers from 9999 to 99999 with minor errors in pronunciation.	Reads numbers from 9999 to 99999 fluently without errors.	
		c) Writing numbers in numerals from 9999 to 99999.	Numbers from 9999 to 99999 are written in numerals.	Struggles to write numbers from 9999 to 99999 in numerals.	Writes numbers from 9999 to 99999 in numerals with errors.	Writes numbers in numerals to 99999 with minor errors.	Writes numbers in numerals from 9999 to 99999 without errors.	
		d) Writing numbers by words from 9999 to 99999.	Numbers from 9999 to 99999 are written in words.	Struggles to write numbers in words from 9999 to 99999.	Writes numbers in words from 9999 to 99999 with errors.	Writes numbers in words from 9999 to 99999 with minor errors.	Writes numbers in words from 9999 to 99999 without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		e) Identifying place values of numerical digits.	Place values of numerical digits are identified for numbers from 9999 to 99999.	Identifies place values of numerical digits with errors.	Identifies place values of numerical digits with minor errors.	Identifies place values of numerical digits.	Identifies place values of numerical digits greater than 99999.	
		f) Reading Roman numbers from I to L.	Roman numbers from I to L is read.	Struggles to read Roman numbers I-L.	Read Roman numbers I-L with errors for some numbers.	Reads Roman numbers I-L with minor errors.	Reads Roman numbers I-L and greater than L without errors.	
		g) Writing Roman numbers I-L.	Roman numbers I-L is written.	Writes Roman numbers I-L with errors.	Writes Roman numbers I-L with minor errors.	Writes Roman numbers I-L.	Writes Roman numbers I-L and greater than L without errors.	
		h) Mentioning applications of Roman numbers.	Applications of Roman numbers are mentioned.	Struggles to mention applications of Roman numbers.	Mentions one application of Roman numbers.	Mentions two applications of Roman numbers.	Mentions more than two applications of Roman numbers.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
<b>2.0 Applying skills reasoning and proof in real life contexts.</b>	2.1 Applying the concepts of patterns to solve real life problems.	a) Identifying an ascending or descending number patterns.	Ascending or descending numbers patterns are identified.	Struggles to identify ascending or descending number patterns.	Identifies an ascending or descending number patterns with errors.	Identifies an ascending or descending number patterns with minor errors.	Identifies an ascending or descending number patterns without errors.	12
		b) Identifying missing numbers in ascending or descending number patterns.	Identifying missing numbers in ascending or descending numbers patterns is performed.	Tries to identify missing numbers in ascending or descending number patterns based on guess- work.	Identifies missing numbers in a one-step simple number pattern.	Identifies missing numbers in more than one-step simple number pattern.	Identifies missing numbers in more than one-step simple and complex number patterns.	
<b>3.0 Applying mathematics to solve problems in different contexts.</b>	3.1 Applying mathematical operations to solve problems.	a) Adding numbers to get a sum not exceeding 99999 without carrying forward.	Addition of numbers without carrying forward for the sum not exceeding 99999 is performed.	Adds numbers to get a sum not exceeding 99999 without carrying forward with mistakes.	Adds numbers to get a sum not exceeding 99999 without carrying forward with errors in summing the numbers up.	Adds numbers to get a sum not exceeding 99999 without carrying forward with minor errors in summing the numbers up.	Adds numbers in thousands without carrying forward with no errors.	65

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		b) Adding numbers to get a sum not exceeding 99999 with carrying forward.	Addition of numbers to get a sum not exceeding 99999 with carrying forward is performed.	Adds numbers with carrying forward to get a sum not exceeding 99999 with mistakes in adding and carrying.	Adds numbers with carrying forward to get a sum not exceeding 99999 with some mistakes in adding and carrying.	Adds numbers with carrying forward to get a sum not exceeding 99999 with minor errors in adding and carrying.	Adds numbers with carrying forward to get a sum not exceeding 99999 without errors.	
		c) Solving word problems involving addition.	Solving word problems involving addition is performed.	Solves word problems involving addition with mistakes in interpretation and computations.	Solves word problems involving addition with errors in interpretations.	Solves word problems involving addition with minor errors.	Solves word problems involving addition without errors.	
		d) Subtracting without regrouping for five digit numbers.	Subtraction without regrouping for five digit numbers is performed.	Subtracts without regrouping for five digit numbers with errors in taking away.	Subtracts without regrouping for five digit numbers with minor errors in taking away.	Subtracts without regrouping for five digit numbers.	Subtracts without regrouping for five digit numbers fluently.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		e) Subtracting with regrouping of five digit numbers.	Subtraction with regrouping for five digit numbers is performed.	Subtracts with regrouping for five digit numbers with errors in taking away.	Subtracts with regrouping for five digit numbers with minor errors in taking away.	Subtracts with regrouping for five digit numbers with minor errors.	Subtracts with regrouping for five digit numbers without errors.	
		f) Solving word problems involving subtraction.	Solving word problems involving subtraction is performed.	Solves word problems involving subtraction with regrouping with mistakes in interpretation and computations.	Solves word problems involving subtraction with regrouping with errors in interpretation.	Solves word problems involving subtraction with regrouping with minor errors.	Solves word problems involving subtraction with regrouping without errors.	
		g) Multiplying three digit numbers by two digit numbers.	Multiplication of three digit numbers by two digit numbers is performed.	Struggles to multiply a two digit number by one digit number.	Multiplies three digit numbers by two digit numbers with errors.	Multiplies three digit numbers with minor errors.	Multiplies three digit numbers by two digit number without errors.	

Main Competency	Specific Competency	Activities to be done by the pupil	Assessment Criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		h) Solving word problems involving multiplication.	Solving word problems involving multiplication is performed.	Solves word problems involving multiplication with mistakes in interpretation and computation.	Solves word problems involving multiplication with errors in interpretation.	Solves word problems involving multiplication with minor errors.	Solves word problems involving multiplication without errors.	
		i) Dividing objects in a given number of equal parts or groups.	Objects are divided in a given number of equal parts or groups.	Struggles to divide objects in a given number of equal parts or groups.	Divides objects in a given number of equal parts or groups with errors.	Divides objects in a given number of equal parts or groups with minor errors.	Divides objects in a given number of equal parts or groups without errors.	
		j) Dividing three digit numbers by two digit numbers without a remainder.	Dividing three digit numbers by two digit numbers without a remainder is performed.	Divides up to two digit numbers by one digit numbers without a remainder.	Divides three digit numbers by two digit numbers without a remainder with errors.	Divides up to three digit numbers by two digits number without a remainder with minor errors.	Divides up to three digit numbers by two digit numbers without a remainder without errors.	

Main Competency	Specific Competency	Activities to be done by the pupil	Assessment Criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		k) Solving word problems involving the division of numbers.	Word problems involving the division of numbers are solved.	Struggles to solve word problems involving the division of numbers.	Solves word problems involving the division of numbers with errors in interpretation.	Solves word problems involving division with minor errors.	Solves word problems involving division without errors.	
		l) Adding fractions with the same denominator.	Addition of fractions with the same denominator is performed.	Struggles to add fractions with the same denominator.	Adds some fractions with the same denominator with errors.	Adds some fractions with the same denominator with minor errors.	Adds some fractions with the same denominator without errors.	
		m) Subtracting fractions with the same denominator.	Subtraction of fractions with the same denominator is performed.	Struggles to subtract fractions with the same denominator.	Subtracts some fractions with the same denominator with mistakes.	Adds some fractions with the same denominator with minor errors.	Adds some fractions with the same denominator without errors.	
	3.2 Applying number relations to solve problems in different contexts.	a) Reading time in hours and in minutes.	Time in hours and in minutes is read.	Struggles to read time in hours and in minutes.	Reads time in hours and in minutes with errors.	Reads time in hours and in minutes with minor errors.	Reads time in hours and in minutes without errors.	



Main Competency	Specific Competency	Activities to be done by the pupil	Assessment Criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		b) Writing time in hours and minutes.	Time in hours and in minutes is written.	Struggles to write time in hours and minutes.	Writes time in hours and minutes with errors.	Writes time in hours and minutes with minor errors.	Writes time in hours and minutes without errors.	
		c) Adding time in hours and minutes.	Addition involving time in hours and minutes is performed.	Struggles to add time in hours and minutes.	Adds time in hours and minutes with errors.	Adds time in hours and minutes with minor errors.	Adds time in hours and minutes without errors.	
		d) Subtracting hours and minute.	Subtraction of hours and minutes is performed.	Struggles to subtract time in hours and minutes.	Subtracts time in hours and minutes with errors.	Subtracts time in hours and minutes with minor errors.	Subtracts time in hours and minutes without errors.	
		e) Solving word problems involving time.	Word problems involving time is solved.	Struggles to solve word problems involving time.	Solves word problems involving time with errors in interpretation and in changing hours to minutes and minutes to hours.	Solves word problems involving time with minor errors in interpretation and changing hours to minutes and minutes to hours.	Solves word problems involving time without mistakes.	

Main Competency	Specific Competency	Activities to be done by the pupil	Assessment Criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		f) Adding Tanzanian shillings.	Addition of Tanzanian shillings is performed.	Struggles to perform additions of Tanzanian shillings.	Performs additions of Tanzanian shillings with errors.	Performs additions of Tanzanian shillings with minor errors.	Performs additions of Tanzanian shillings without errors.	
		g) Subtracting Tanzanian shillings.	Subtraction of Tanzanian shillings is performed.	Struggles to perform subtraction of Tanzanian shillings.	Performs subtractions of Tanzanian shillings with errors.	Performs subtractions of Tanzanian shillings with minor errors.	Performs subtractions of Tanzanian shillings without errors.	
		h) Multiplying Tanzanian shillings.	Multiplication of Tanzanian shillings is performed.	Struggles to perform multiplications of Tanzanian shillings.	Performs multiplication of Tanzanian shillings with errors and mistakes.	Performs multiplications of Tanzanian shillings with minor errors.	Performs multiplication of Tanzanian shillings without errors.	
		i) Solving word problems relating to purchases and sales.	Word problems relating to purchases and sales are performed.	Struggle to solves word problems relating to purchases and sales.	Solves word problems relating to purchases and sales with mistakes and errors in interpretation and computation.	Solves word problems relating to purchases and sales with minor errors.	Solves word problems relating to purchases and sales without errors.	

Main Competency	Specific Competency	Activities to be done by the pupil	Assessment Criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
<b>4.0 Applying skills of reasoning and proof in real life situations (Part One)</b>	4.1 Applying the concepts of measurements in different contexts.	a) Converting metric units of length.	Metric units of length are converted.	Struggles to convert metric units of length.	Converts metric units of length with errors.	Converts metric units of length with minor errors.	Converts and uses metric units of length without errors.	37
		b) Measuring length using metric units.	Measuring length using metric units is performed.	Struggles to measure length using metric units.	Measures length using metric units with errors.	Measures length using metric units with minor errors.	Measures length using metric units without errors.	
		c) Converting units of weight.	Units of weight are converted.	Struggles to convert units of weight.	Converts units of weight with mistakes and errors.	Converts units of weight with minor errors.	Converts units of weight without errors.	
		d) Solving word problems involving units of weight.	Word problems pertaining to units of weight are solved.	Struggles to solve word problems involving units of weight.	Solves some word problems involving units of weight with errors in interpretation and computation.	Solves word problems involving units of weight with minor errors.	Solves word problems involving units of weight without errors.	

Main Competency	Specific Competency	Activities to be done by the pupil	Assessment Criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		e) Identifying various measurement tools of volume used in the local environment.	Various measurement tools of volume in the used in the local environment are identified.	Struggles to identify measurement tools of volume used in the local environment.	Identifies measurement tools of volume used without a clear concept.	Identifies measurement tools of volume used in local environment.	Identifies various measurement tools of volume used in the local environment with a clear concept.	
		f) Measuring volume using various measurement tools.	Measuring volume using various measurement tools is performed.	Struggles to measure volume using various tools of measurement with support.	Measures volume using various tools of measurement with support from a teacher.	Measures volume using various tools of measurement with minimal support.	Measures and records volume using various tools of measurement and produce accurate data without support.	
		g) Solving word problems using measurement tools of volume.	Word problems using measurement tools of volume are solved.	Struggles to solve word problems using measurement tools of volume.	Solves word problems using measurement tools of volume with errors in interpretation and computation.	Solves word problems using measurement tools of volume with minor errors.	Solves word problems involving measurement tools of volume without errors.	

Main Competency	Specific Competency	Activities to be done by the pupil	Assessment Criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
	4.2 Applying shapes and figures to solve different problems.	a) Drawing a straight line and a line segment.	A straight line and a line segment are drawn.	Struggles to draw a straight line and a line segment.	Draws a straight line and a line segment with errors.	Draws a straight line and a line segment with minor errors.	Draws a straight line and a line segment without errors.	21
b) Measuring perimeters of two-dimensional figures.		Measuring perimeters of two-dimensional figures is performed.	Struggles to measure the perimeter of two-dimensional figures.	Measures the perimeter of two-dimensional figures with errors.	Measures the perimeter of two-dimensional figures with minor errors.	Measures the perimeter of two-dimensional figures without errors.		
c) Calculating perimeters of a squares rectangle and triangle.		Perimeters of squares, rectangles, and triangle, are calculated.	Struggles to calculate the perimeter of squares, rectangles, and triangles.	Calculates the perimeter of a squares, rectangles, and triangles, with mistakes in computation and choosing the relevant formula.	Calculates the perimeter of a square, rectangle, and triangles, with minor errors.	Calculates the perimeter of squares, rectangles, and triangles, without errors.		

Main Competency	Specific Competency	Activities to be done by the pupil	Assessment Criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		d) Solving word problems involving the perimeter.	Word problems involving the perimeter are solved.	Struggles to solve word problems involving the perimeter.	Solves some of the word problems involving the perimeter with errors in interpretation and computation.	Solves word problems involving the perimeter with minor errors.	Solves word problems involving the perimeter without errors.	
<b>5.0 Using mathematical language to present ideas or arguments (Part Two).</b>	5.1 Applying statistical skills to present different information.	a) Collecting and recording data.	Collecting and recording data is performed.	Struggles to collect relevant information and classify the information.	Collects data with difficulties in classifying and recording them.	Collects and records data with minor errors.	Collects and records data without errors.	10
		b) Drawing pictorial statistics using the information presented.	Pictorial statistics are drawn using the data or information presented.	Struggles to draw pictorial statistics using information presented.	Draws pictorial statistics with difficulties in translating quantities into figure representations.	Draws pictorial statistics using information presented with a minimal support.	Draws pictorial statistics without support.	

### 3.9 Contents for Standard V

**Table 4: Competencies to be developed by a Standard V pupil**

<b>Main competency</b>	<b>Specific competency</b>
1.0 Using mathematical language in presenting ideas or arguments (Part One)	1.1 Applying the concepts of numbers to communicate in different context
2.0 Applying skills reasoning and proof in real life contexts (Part One)	2.1 Applying the concepts of patterns to solve problems in everyday life
3.0 Applying mathematics to solve problems in different contexts	3.1 Applying mathematical operations to solve problems 3.2 Applying number relations to solve problems in different contexts
4.0 Applying skills reasoning and proofs in real life contexts (Part two)	4.1 Applying measurements in different life contexts. 4.2 Applying the concepts of shapes and figures to solve different problems.
5.0 Using mathematical language to present ideas or arguments (Part Two).	5.1 Applying the concepts of algebra to solve real life problems. 5.2 Applying statistical skills to present different information.

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
<b>1.0 Using mathematical language in presenting ideas or arguments (Part One).</b>	1.1 Applying the concepts of numbers to communicate ideas and concepts in different contexts.	a) Counting to 999999.	Counting from 99999 to 999999 is performed.	Struggles to count from 99999 to 999999.	Counts from 99999 to 999999 and skip some numbers or make errors.	Counts from 99999 to 999999 with minor errors.	Counts from 99999 to 999999 fluently and with confidence.	24
		b) Reading numbers to 999999.	Numbers 99999 to 999999 are read.	Struggles to read numbers 99999 up to 999999.	Reads numbers from 99999 to 999999 with some errors in pronunciation.	Reads numbers from 99999 to 999999 with minor errors in pronunciation.	Reads numbers from 99999 to 999999 fluently and with confidence.	
		c) Writing numbers in numerals to 999999.	Numbers 99999 to 999999 are written in numerals.	Struggles to write only some numbers from 999 to 9999 in numerals.	Writes number 999 to 9999 in numeral with errors.	Writes numbers 999 to 9999 in numerals with minor errors.	Writes numbers from 999 to 9999 in numerals without errors.	
		d) Writing numbers in words to 999999.	Numbers 999 99 to 9999 99 are written in words.	Struggles to write numbers in words up to 9999.	Writes numbers in words up to 999999 with errors in spelling.	Writes numbers in words up to 999999 with minor errors.	Writes numbers in words to 9999 without errors.	



Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		e) Identifying place values for numbers (ones, tens, hundreds, thousands, ten thousands and hundred thousands).	Place values for numbers are identified up to hundred thousand.	Struggles to identify place values for numbers up to hundred thousands.	Identifies place values for numbers up to hundred thousands with errors.	Identifies place values for numbers up to hundred thousands with minor errors.	Identifies place values for numbers up to hundred thousands without errors.	
		f) Comparing fractions.	Fractions are compared.	Struggles to compare fractions with only the same denominator.	Compares fractions with the same denominator with minor errors but with difficulties for those with different denominators.	Compares fractions with different denominators with minor errors.	Compares fractions with different denominators without errors.	
		g) Identifying types of fractions.	Types of fractions are identified.	Struggles to identify types of fractions.	Identifies types of fractions but mixing up one type with another.	Identifies types of fractions with minor errors.	Identifies types of fractions without errors.	
		h) Reading numbers up to two decimal places.	Numbers up to two decimal places are read.	Struggles to read numbers up to two decimal places.	Reads numbers up to two decimal places with errors.	Reads numbers up to two decimal places with minor errors.	Reads numbers up to two decimal places without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		i) Writing numbers up to two decimal places.	Numbers up to two decimal places are written.	Struggles to write numbers up to two decimal places.	Writes numbers up to two decimal places with mistakes and errors.	Writes numbers up to two decimal places with minor errors.	Writes numbers up to two decimal places without errors.	
<b>2.0 Applying skills reasoning and proof in real life contexts.</b>	2.1 Applying the concepts of patterns to solve real life problems.	a) Listing types of numbers.	Listing types of numbers are performed.	Struggles to list different types of numbers.	Lists types of numbers with errors.	Lists types of numbers with minor mistakes.	Lists types of numbers without mistakes.	38
		b) Mentioning even numbers.	Even numbers are mentioned.	Struggles to mention even numbers.	Mentions even numbers by skipping some numbers.	Mentions even numbers with minor errors.	Mentions even numbers and their characteristics without errors.	
		c) Writing even numbers.	Writing even numbers is performed.	Writes even numbers but mixing them with other numbers.	Writes even numbers with errors.	Writes even numbers with minor errors.	Writes even numbers and their characteristics without errors.	
		d) Identifying odd numbers.	Odd numbers are identified.	Struggles to identify odd numbers.	Identifies odd numbers but skip some numbers.	Identifies odd numbers with minor errors.	Identifies odd numbers without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		e) Writing down odd numbers.	Writing down odd numbers is performed.	Writes down odd numbers but mixing them with other numbers.	Writes down odd numbers with errors and mistakes.	Writes down odd numbers with minor errors.	Writes odd numbers without errors.	
		f) Identifying prime numbers.	Prime numbers are identified.	Struggles to identify prime numbers.	Identifies prime numbers but skip some numbers.	Identifies prime numbers with minor errors.	Identifies prime numbers without errors.	
		g) Writing down prime numbers.	Writing down prime numbers is performed.	Writes down prime numbers but mix them with other numbers.	Writes down prime numbers with errors.	Writes down prime numbers with minor errors.	Writes down prime numbers without errors.	
		h) Listing factors of a number.	Listing factors of a number is performed.	Struggles to list factors of a number.	Lists factors of a number with mistakes e.g skipping some factors.	Lists factors of a number with minor errors.	Lists factors of a number without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		i) Calculating the Highest Common Factor (HCF) of two numbers.	Calculating the Highest Common Factor (HCF) of two numbers is performed.	Struggles to calculate the Highest Common Factor (HCF) of two numbers.	Calculates the Highest Common Factor (HCF) of two numbers with mistakes in listing the factors and choosing common factors.	Calculates Highest Common Factor (HCF) of two numbers with minor errors.	Calculates Highest Common Factor (HCF) of two numbers without errors.	
		j) Listing multiples of a number.	Listing multiples of a number is performed.	Struggles to list multiples of a number.	Lists multiples of a number with mistakes e.g. skipping some factors.	Lists multiples of a number with minor errors.	Lists multiples of a number without errors.	
		k) Calculating the Lowest Common Multiple (LCM) of two numbers.	Calculation of the Lowest Common Multiple (LCM) of two numbers is performed.	Struggles to calculate the Lowest Common Multiple (LCM) of two numbers.	Calculates Lowest Common Multiple (LCM) of two numbers with errors in selecting multiples and common multiples.	Calculates the Lowest Common Multiple (LCM) of two numbers with minor errors.	Calculates the Lowest Common Multiple (LCM) of two numbers without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		l) Calculating a square of numbers not exceeding 10000.	Calculation of squares of numbers not exceeding 10000 is performed.	Struggles to calculate square of numbers not exceeding 10000.	Calculates a square of numbers not exceeding 10000 with errors and mistakes.	Calculates a square of numbers not exceeding 10000 with minor errors.	Calculates a square of numbers not exceeding 10000 without errors.	
		m) Calculating the exponent of two digit numbers.	Calculating exponent of two digit numbers is performed.	Struggles to calculate the exponent of two digit numbers.	Calculates the exponent of two digit numbers with mistakes.	Calculates the exponent of a two digit numbers with minor error.	Calculates the exponent of a two digit numbers without errors.	
		n) Solving word problems involving the exponent of two digit numbers.	Word problems involving the exponent of two digit numbers are solved.	Struggles to solve word problems involving the exponent of two digit numbers.	Solves word problems involving the exponent of two digit numbers with mistakes in interpretation and computation.	Solves word problems involving the exponent of a two digit numbers.	Solves word problems involving the exponent of two digit numbers and with confidence.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		o) Calculating the square root of a number not exceeding three digits.	Calculating the square root of a number not exceeding three digits is performed.	Struggles to calculate the square root of a number not exceeding three digits.	Calculates the square root of a number not exceeding three digits with errors.	Calculates the square root of a number not exceeding three digits with minor errors.	Calculates the square root of a number not exceeding three digits without errors.	
		p) Solving word problems involving the square root of a number.	Word problems involving the square root of a number are solved.	Struggles to solve word problems involving the square root of a number not exceeding three digits.	Solves word problems involving the square root of numbers not exceeding three digits with interpretation and computational errors.	Solves word problems involving the square root of numbers not exceeding three digits with minor errors.	Solves word problems involving the square root of numbers not exceeding three digits without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
<b>3.0 Applying Mathematics to solve problems in different contexts.</b>	3.1 Applying mathematical operations to solve problems.	a) Adding numbers to get a sum not exceeding 999999 without carrying forward.	Addition of numbers without carrying forward to get a sum not exceeding 999999 is performed.	Struggles to add numbers to get a sum not exceeding 999999 without carrying forward.	Adds numbers to get a sum not exceeding 999999 without carrying forward with errors in summing the numbers up.	Adds numbers to get a sum not exceeding 999999 without carrying forward with minor errors in summing the numbers up.	Adds numbers to get a sum not exceeding 999999 without carrying forward without errors.	35
		b) Adding numbers to get a sum not exceeding 999999 with carrying forward.	Addition of numbers with carrying forward to get a sum not exceeding 999999 is performed.	Struggles to add numbers with carrying forward to get a sum not exceeding 999999.	Adds numbers with carrying forward to get a sum not exceeding 999999 with mistakes in adding and carrying.	Adds numbers with carrying forward to get a sum not exceeding 999999 with minor errors.	Adds numbers with carrying forward to get a sum not exceeding 999999 without errors.	
		c) Solving word problems involving addition.	Solving word problems involving addition is performed.	Struggles to solve word problems involving addition.	Solves word problems involving addition with errors in interpretations.	Solves word problems involving addition with minor errors.	Solves word problems involving addition without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		d) Subtracting numbers up to six digits without regrouping.	Subtraction of numbers up to six digits without regrouping is performed.	Struggles to subtract without regrouping six digit numbers.	Subtracts without regrouping six digit numbers with errors in taking away.	Subtracts without regrouping six digit numbers with minor errors.	Subtracts without regrouping six digit numbers without errors.	
		e) Subtracting with regrouping of six digit numbers.	Subtraction with regrouping of six digit numbers is performed.	Struggles to subtract with regrouping six digit numbers.	Subtracts with regrouping six digit numbers with errors in taking away and regrouping.	Subtracts with regrouping six digit numbers with minor errors.	Subtracts with regrouping six digit numbers without errors.	
		f) Solving word problems involving subtraction of numbers with regrouping.	Solving word problems involving subtraction with regrouping is performed.	Struggles to solve word problems involving subtraction with regrouping.	Solves word problems involving subtraction with regrouping with errors in interpretations.	Solves word problems involving subtraction with regrouping with minor errors.	Solves word problems involving subtraction with regrouping without errors.	



Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		g) Multiplying numbers to get a product not exceeding six digits.	Multiplication of numbers to get a product not exceeding six digits is performed.	Struggles to multiply a two- digit number by one digit number.	Multiplies three digit numbers by two-digit numbers with errors.	Multiplies three digit numbers with minor errors.	Multiplies three digit numbers by two digit numbers without errors.	
		h) Solving word problems involving multiplication.	Solving word problems involving multiplication is performed.	Struggles to solve word problems involving multiplication.	Solves word problems involving multiplication with errors in interpretation.	Solves word problems involving multiplication with minor errors.	Solves word problems involving multiplication without errors.	
		i) Dividing numbers with up to six digits by a three digit number without a remainder.	Division of numbers up to six digits by a three digit number without a remainder is performed.	Struggles to divide up to six digits by a three-digit number without a remainder.	Divides up to six digits by a three-digit number without a remainder with errors.	Divides up to six digits by a three- digit number without a remainder with minor errors.	Divides up to six digits by a three- digit number without a remainder without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		j) Dividing numbers up to six digits by a three-digit number with a remainder.	Division of numbers up to six digits by a three-digit number with a remainder is performed.	Struggles to divide up to six digits by a three-digit number with a remainder.	Divides up to six digits by a three- digit number with a remainder with errors.	Divides up to six digits by a three-digit number with a remainder with minor errors.	Divides up to six digit by a three- digits number with a remainder without errors.	
		k) Solving word problems involving the division of numbers.	Word problems involving the division of numbers are solved.	Struggles to solve word problems involving the division of numbers.	Solves word problems involving the division of numbers with computational mistakes.	Solves word problems involving the division of numbers with minor errors.	Solves word problems involving the division of numbers without errors.	
		l) Adding fractions with different denominators.	Addition of fractions with different denominators is performed.	Adds only fractions with the same denominators.	Adds fractions with different denominators but with mistakes in finding the LCM (Lowest Common Multiples) of denominators and computations.	Adds fractions with different denominators with minor errors.	Adds fractions with different denominators without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		m) Subtracting fractions with different denominators.	Subtraction of fractions with different denominators is performed.	Subtracts only fractions with the same denominators.	Subtracts fractions with different denominators but with mistakes in finding the LCM of denominators and computations.	Subtracts fractions with different denominators with minor errors.	Subtracts fractions with different denominators without errors.	
		n) Multiplying fractions.	Multiplication of fractions is performed.	Struggles to multiply fractions.	Multiplies fractions with errors and makes mistakes in simplifying fractions.	Multiplies fractions with minor errors.	Multiplies fractions without errors.	
		o) Adding numbers up to two decimal places.	Addition of numbers up to two decimal places is performed.	Struggles to add numbers up to two decimal places.	Adds numbers up to two decimal places with mistakes in interpreting place values and carrying forward.	Adds numbers with up to two decimal places with minor errors.	Adds numbers with up to two decimal places without errors.	
		p) Subtracting numbers up to two decimal places.	Subtraction of numbers up to two decimal places is performed.	Struggles to subtract numbers up to two decimal places.	Subtracts numbers with up to two decimal places with mistakes in interpreting place values and regrouping.	Subtracts numbers with up to two decimal places with minor errors.	Subtracts numbers with up to two decimal places without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		q) Multiplying a number with two decimal places by a whole number.	Multiplication of a two decimal place number by a whole number is performed.	Struggles to multiply a number with two decimal places by a whole number.	Multiplies a number with two decimal places by a whole number with errors in decimal point position and computation.	Multiplies a number with two decimal places by a whole number with minor errors.	Multiplies a number with two decimal places by a whole number without errors.	
	3.2 Applying number relations to solve problems in different contexts.	a) Making a calendar.	Making a calendar is performed.	Struggles to make a calendar with support from the teacher.	Makes a calendar with teacher's support.	Makes a calendar with errors in lengths of months.	Makes a calendar with required considerations of days per month including in section of public holidays.	26
		b) Converting units of time.	Conversion of units of time is performed.	Struggles to convert units of time.	Converts units of time with mistakes.	Converts units of time with minor errors.	Converts units of time without errors.	
		c) Multiplying units of time.	Multiplication of units of time is performed.	Struggles to multiply units of time.	Multiplies units of time with mistakes in computation and changing the units.	Multiplies units of time with minor errors.	Multiplies units of time without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		d) Dividing units of time.	Division of units of time is performed.	Struggles to divide units of time.	Divides units of time with mistakes in the conversion of units.	Divides units of time with minor errors.	Divides units of time without errors.	
		e) Writing Tanzanian currency in shillings and cents.	Tanzanian currency in shillings and cents is written.	Struggles to write currency in shillings and cents.	Writes currency in shillings and cents with mistakes.	Writes currency in shillings and cents with minor errors in cents.	Writes currency in shillings and cents without errors.	
		f) Adding Tanzanian shillings to get a sum not exceeding 999999.	Addition of Tanzanian shillings to obtain a sum not exceeding 999999 is performed.	Struggles to add Tanzanian shillings to obtain a sum not exceeding 999999.	Adds Tanzanian shillings to obtain a sum not exceeding 999999 with errors and mistakes in conversion of shillings and cents and carrying forward.	Adds Tanzanian shillings to obtain a sum not exceeding 999999 with minor errors.	Adds Tanzanian shillings to obtain a sum not exceeding 999999 without errors.	
		g) Subtracting Tanzanian shillings up to 999999.	Subtraction involving Tanzanian shillings up to 999999 is performed.	Struggles to subtract Tanzanian shillings up to 999999.	Subtracts Tanzanian shillings up to 999999 with errors in the conversion of shillings and cents and regrouping.	Subtracts Tanzanian shillings up to 999999 with minor errors.	Subtracts Tanzanian shillings up to 999999 without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		h) Multiplying Tanzanian shillings to get a product not exceeding 999999.	Multiplication involving Tanzanian shillings to get a product not exceeding 999999 is performed.	Struggles to multiply Tanzanian shillings to get a product not exceeding 999999.	Multiplies Tanzanian shillings to get a product not exceeding 999999 with errors in the conversion of shillings and cents and carrying forward.	Multiplies Tanzanian shillings to get a product not exceeding 999999 with minor errors.	Multiplies Tanzanian shillings to get a product not exceeding 999999 without errors.	
		i) Dividing Tanzanian shillings not exceeding 999999.	Division involving Tanzanian shillings not exceeding 999999 is performed.	Struggles to divide Tanzanian shillings not exceeding 999999.	Divides Tanzanian shillings not exceeding 999999 with errors in the conversion of shillings and cents and computation.	Divides Tanzanian shillings not exceeding 999999 with minor errors.	Divides Tanzanian shillings not exceeding 999999 without errors.	
		j) Solving word problems involving purchase and sales.	Word problems involving purchases and sales are performed.	Struggles to solve word problems involving purchases and sales.	Solves word problems involving purchases and sales with mistakes in interpretation and computation.	Solves word problems involving purchases and sales with minor errors.	Solves word problems involving purchases and sales without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
<b>4.0 Applying skills reasoning and proofs in real life contexts (Part Two).</b>	4.1 Applying measurements in different contexts.	a) Adding metric units of length.	Addition involving metric units of length is performed.	Struggles to add metric units of length.	Adds metric units of length with mistakes in unit conversion and computation.	Adds metric units of length with minor errors.	Adds metric units of length without errors.	23
		b) Subtracting metric units of length.	Subtraction involving metric units of length is performed.	Struggles to subtract metric units of length.	Subtracts metric unit of length with mistakes in unit conversion and regrouping.	Subtracts metric units of length with minor errors.	Subtracts metric units of length without errors.	
		c) Identifying metric units of weight (milligramme up to tonne).	Metric units of weight (milligramme up to tonne) are identified.	Struggles to identify metric units of weight.	Identifies metric units of weight without a clear concept.	Identifies metric units of weight with errors in differentiation.	Identifies metric units of weight with a clear concept.	
		d) Converting metric units of weight.	Converting metric units of weight is performed.	Struggles to convert units of weight.	Converts units of weight with mistakes.	Converts units of weight with minor errors.	Converts units of weight without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		e) Adding metric units of weight.	Addition involving metric units of weight is performed.	Struggles to add metric units of weight.	Adds metric units of weight with mistakes in unit conversion and computation.	Adds metric units of weight with minor errors.	Adds metric units of weight without errors.	
		f) Subtracting metric units of weight.	Subtraction involving metric units of weight is performed.	Struggles to subtract metric units of weight.	Subtracts metric units of weight with mistakes in units conversion.	Subtracts metric units of weight with minor errors.	Subtracts metric units of weight without errors.	
		g) Converting metric units of volume.	Conversion of metric units of volume is performed.	Struggles to convert metric units of volume.	Converts metric units of volume with mistakes.	Converts metric units of volume with minor errors.	Converts metric units of volume without errors.	
		h) Adding metric units of volume.	Addition involving metric units of volume is performed.	Struggles to add metric units of volume.	Adds metric unit of volume with mistakes in unit conversion and computation.	Adds metric unit of volume with minor errors.	Adds metric unit of volume without errors.	



Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		i) Subtracting metric units of volume.	Subtraction involving metric units of volume is performed.	Struggles to subtract metric units of volume.	Subtracts metric unit of volume with mistakes in unit conversion and computation.	Subtracts metric unit of volume with minor errors.	Subtracts metric units of volume without errors.	
	4.2 Applying the concepts of shapes and figures to solve different problems.	a) Identifying types of angles.	Types of angles are identified.	Struggles to identify types of angles.	Identifies types of angles with mistakes in differentiating them.	Identifies types of angles.	Identifies types of angles with their characteristics.	23
		b) Drawing angles by sketching.	Drawing angles by sketching is performed.	Struggles to draw angles by sketching.	Draws angles by sketching with mistakes.	Draws angles by sketching with minor mistakes.	Draws angles by sketching without mistakes.	
		c) Identifying lines of symmetry in various shapes and figures.	Lines of symmetry in various shapes and figures are identified.	Struggles to identify lines of symmetry in various shapes and figures of symmetry.	Identifies lines of symmetry in various shapes and figures with mistakes.	Identifies lines of symmetry in various shapes and figures with minor errors.	Identifies lines of symmetry in various shapes and figures without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		d) Identifying types of triangles.	Types of triangles are identified.	Struggles to identify types of triangles.	Identifies types of triangles but with errors.	Identifies types of triangles but with minor errors.	Identifies types of triangles without any mistakes.	
		e) Mentioning properties of triangles.	Properties of triangles are mentioned.	Struggles to mention properties of triangles.	Mentions properties of triangles but with mistakes.	Mentions properties of triangles but with minor mistakes.	Mentions properties of triangles without any mistakes.	
		f) Calculating the area of a rectangle.	Calculating the area of a rectangle is performed.	Struggles to calculate the area of a rectangle.	Calculates the area of a rectangle but with mistakes.	Calculates the area of a rectangle but with minor mistakes.	Calculates the area of a rectangle without any mistakes.	
		g) Calculating the area of a square.	Calculating the area of a square is performed.	Struggles to calculate the area of a square.	Calculates the area of a square but with mistakes.	Calculates the area of a square but with minor mistakes.	Calculates the area of a square without any mistakes.	
		h) Calculating the area of a triangle.	Calculating the area of a triangle is performed.	Struggles to calculate the area of a triangle.	Calculates the area of a triangle but with mistakes.	Calculates the area of a triangle but with minor mistakes.	Calculates the area of a triangle without any mistakes.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
<b>5.0 Using mathematical language to present ideas or arguments (Part Two).</b>	5.1 Applying the concepts of algebra to solve real life problems.	a) Formulating algebraic equations.	Formulating algebraic equations is performed.	Struggles to formulate algebraic equations.	Formulates algebraic equations with mistakes in transforming words or sentences into a mathematical equation.	Formulates algebraic equations with minor mistakes.	Formulates algebraic equations without mistakes.	16
		b) Adding algebraic terms.	Addition of algebraic terms is performed.	Struggles to add algebraic terms.	Adds algebraic terms with no clarity on like and unlike terms addition.	Adds algebraic terms with minor mistakes.	Adds algebraic terms without mistakes.	
		c) Subtracting algebraic terms.	Subtraction involving algebraic terms is performed.	Struggles to subtract algebraic terms.	Subtracts algebraic terms with no clarity on like and unlike terms addition.	Subtracts algebraic terms with minor mistakes.	Subtracts algebraic terms without mistakes.	
		d) Multiplying algebraic terms to get a product with not more than exponent 2.	Multiplication of algebraic terms to get a product with not more than exponent 2 is performed.	Struggles to multiply algebraic terms.	Multiplies algebraic terms to get a product with not more than exponent 2 with mistakes.	Multiplies algebraic terms to get a product with not more than exponent 2 with minor errors.	Multiplies algebraic terms to get a product with not more than exponent 2 without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		e) Dividing algebraic terms.	Division involving algebraic terms is performed.	Struggles to divide algebraic terms.	Divides algebraic terms with mistakes.	Divides algebraic terms with minor errors.	Divides algebraic terms without errors.	
	5.2 Applying statistical skills to present different information.	a) Calculating the average using different data.	Calculating the average using different data is performed.	Struggles to calculate the average using different data.	Calculates the average using different data with errors.	Calculates the average using different data with minor errors.	Calculates the average using different data without errors.	10
		b) Reading and interpreting bar graphs.	Reading and interpreting bar graphs is performed.	Struggles to read and interpret bar graphs.	Reads and interprets bar graphs with mistakes.	Reads and interprets bar graphs with minor mistakes.	Reads and interprets bar graphs without mistakes.	

### 3.10 Contents for Standard VI

**Table 5: Competencies to be developed by a Standard VI pupil**

<b>Main competency</b>	<b>Specific competency</b>
1.0 Using mathematical language to present ideas or arguments (Part One)	1.1 Applying the concepts of numbers to communicate ideas and concepts in different contexts
2.0 Applying skills of reasoning and proofs in real life contexts (Part One)	2.1 Applying the concepts of patterns to solve real life problems
3.0 Applying mathematics to solve problems in different contexts	3.1 Applying mathematical operations to solve problems 3.2 Applying number relations to solve problems in different contexts
4.0 Applying skills of reasoning and proof in real life contexts (Part Two)	4.1 Applying measurements in different life contexts 4.2 Applying the concepts of shapes and figures to solve different problems
5.0 Using the language of Mathematics to present ideas or arguments (Part Two)	5.1 Applying the concepts of algebra to solve real life problems 5.2 Applying statistical skills to present different information

## Syllabus contents

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
<b>1.0 Using mathematical language to present ideas or arguments (Part One).</b>	1.1 Applying the concepts of numbers to communicate in different contexts.	a) Counting up to 10,000,000.	Counting up to 10,000,000 is performed.	Struggles to count up to 10,000,000.	Counts up to 10,000,000 with errors of skipping some numbers.	Counts up to 10,000,000 with minor errors.	Counts up to 10,000,000 without errors.	23
		b) Reading numbers up to 10,000,000.	Reading numbers up to 10,000,000 is performed.	Struggles to read numbers up to 10,000,000.	Reads numbers up to 10,000,000 with errors in pronunciation.	Reads numbers up to 10,000,000 with minor errors in pronunciation.	Reads numbers from 10,000,000 to 99999 fluently without errors.	
		c) Writing numbers in numerals up to 10,000,000.	Numbers in numerals up to 10,000,000 are written.	Struggles to write numbers in numerals up to 10,000,000.	Writes numbers in numerals up to 10,000,000 with errors.	Writes numbers in numerals up to 10,000,000 with minor errors.	Writes numbers up to 10,000,000 without errors.	
		d) Writing numbers in words up to 10,000,000.	Numbers up to 10,000,000 are written in words.	Struggles to write numbers in words up to 10,000,000.	Writes numbers in words up to 10,000,000 with errors in spelling.	Writes numbers in words up to 10,000,000 with minor errors.	Writes numbers in words up to 10,000,000 without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		e) Identifying place value of numerical digits for numbers up to 10,000,000.	Place values of numerical digits are identified.	Struggles to identify place value numeral digits of digits named.	Identifies place values of numeral digits with errors.	Identifies place values numeral digits with minor errors.	Identifies place values numeral digits without errors.	
		f) Writing whole numbers on a number line.	Whole numbers are written on a number line.	Struggles to write whole numbers on a number line.	Writes whole numbers on a number line with errors.	Writes whole numbers on a number line with minor errors.	Writes whole numbers on a number line without errors.	
		g) Reading decimals to three decimal places.	Reading decimals to three decimal places is performed.	Struggles to read decimals to three decimal places.	Reads decimals up to three decimal places with errors.	Reads decimals up to three decimal places with minor errors.	Reads decimals up to three decimal places without errors.	
		h) Writing decimals to three positions.	Decimal numbers up to three decimal places are written.	Struggles to write decimals to three decimal places.	Writes decimals up to three decimal places with errors.	Writes decimals up to three decimal places with minor errors.	Writes decimals up to three decimal places without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		i) Approximating a whole number to the nearest tens, hundreds and thousands.	Approximation of whole numbers to the nearest tens, hundreds and thousands is done.	Struggles to approximate whole numbers to the nearest tens, hundreds and thousands.	Approximates whole numbers to the nearest tens, hundreds and thousands with errors.	Approximates whole numbers to the nearest tens, hundreds and thousands with minor errors.	Approximates whole numbers to the nearest tens, hundreds and thousands without errors.	
		j) Approximating a decimal number to a given number of decimal places.	Approximation of whole numbers to a given number of decimal places is done.	Struggles to approximate whole numbers to a given number of decimal places.	Approximates whole numbers to a given number of decimal places and thousands with errors.	Approximates whole numbers to a given number of decimal places and thousands with minor errors.	Approximates whole numbers to a given number of decimal places and thousands without errors.	
<b>2.0 Applying skills reasoning and proof in real life contexts (Part One).</b>	2.1 Applying the concepts of patterns to solve real life problems.	a) Calculating the GCF of not more than three numbers.	Calculating the GCF of not more than three numbers is done.	Struggles to calculate the GCF of not more than three numbers.	Calculates the GCF of not more than three numbers with computational errors.	Calculates the GCF of not more than three numbers with minor errors.	Calculates the GCF of not more than three numbers without errors.	19



Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		b) Calculating LCM of not more than three numbers.	Calculating LCM of not more than three numbers is performed.	Struggles to calculate LCM of not more than three numbers.	Calculates LCM of not more than three numbers with mistakes.	Calculates LCM of not more than three numbers with minor mistakes.	Calculates LCM of not more than three numbers without mistakes.	
		c) Changing percentages into decimals.	Changing of percentages into decimals is performed accurately.	Struggles to change percentages into decimals.	Changes percentages into decimals with errors in computation.	Changes percentage into decimals with minor errors.	Changes percentages into decimals without errors.	
		d) Changing percentages into fractions.	Changing of percentages into fractions is performed accurately.	Struggles to change percentages into fractions.	Changes percentages into fractions with mistakes in computations.	Changes percentages into fractions with minor mistakes.	Changes percentages into fractions without mistakes.	
		e) Converting a fraction into decimals.	Conversion of fractions into decimals is performed.	Struggles to convert fractions into decimals.	Converts fractions into decimals with computational errors.	Converts fractions into decimals with minor errors.	Converts fractions into decimals without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		f) Converting decimals into fractions.	Conversion of decimals into fractions is performed.	Struggles to convert decimals into fractions.	Converts decimals into fractions with computational errors.	Converts decimal into fractions with minor errors.	Converts decimals into fractions without errors.	
		g) Converting decimals into percentages.	Conversion of decimals into percentages is performed.	Struggles to convert decimals into percentages.	Converts decimals into percentages with computational errors.	Converts decimals into percentages with minor errors.	Converts decimals into percentages without errors.	
		h) Converting fractions into percentages.	Conversion of fractions into percentages is performed.	A pupil struggles to convert fractions into percentages.	Converts fractions into percentages with computational errors.	Converts fractions into percentages with minor errors.	Converts fraction into percentages without errors.	
<b>3.0 Applying Mathematics to solve problems in different contexts.</b>	3.1 Applying mathematical operations to solve problems.	a) Adding numbers to get the sum not exceeding 10,000,000 without carrying forward.	Addition of numbers without carrying forward to get a sum not exceeding 10,000,000 is performed.	Adds numbers to get a sum not exceeding 10,000,000 without carrying forward with a lot of errors.	Adds numbers to get a sum not exceeding 10,000,000 without carrying forward with errors in summing the numbers up.	Adds numbers to get a sum not exceeding 10,000,000 without carrying forward with minor errors in summing the numbers up.	Adds numbers in thousands without carrying forward with no errors.	54

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		b) Adding numbers to get the total not exceeding 10,000,000 by carrying.	Addition of numbers with carrying forward to get a sum not exceeding 10,000,000 is performed.	Struggles to add numbers with carrying forward to get a sum not exceeding 10,000,000.	Adds numbers with carrying forward to get a sum not exceeding 10,000,000 with errors in adding and carrying.	Adds numbers with carrying forward to get a sum not exceeding 10,000,000 with minor errors.	Adds numbers with carrying forward to get a sum not exceeding 10,000,000 without errors.	
		c) Solving word problem involving adding numbers.	Solving word problems involving addition is performed.	Solves word problems involving addition with errors in interpretation and computation.	Solves word problems involving addition with errors in interpretation.	Solves word problems involving addition with minor errors.	Solves word problems involving addition without errors.	
		d) Subtracting up to ten million numbers without regrouping.	Subtraction of numbers up to six digits without regrouping is performed.	Struggles to subtract without regrouping up to ten million.	Subtracts without regrouping up to ten million with errors in taking away.	Subtracts without regrouping up to ten million with minor errors.	Subtracts without regrouping up to ten million without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		e) Subtraction up to ten million numbers with regrouping.	Subtraction with regrouping up to ten million is performed.	Struggles to subtract with regrouping up to ten million.	Subtracts with regrouping up to ten million with errors in taking away and regrouping.	Subtracts with regrouping up to ten million numbers with minor errors.	Subtracts with regrouping up to ten million without errors.	
		f) Solving word problems involving subtraction.	Solving word problems involving subtraction with regrouping is performed.	Solves word problems involving subtraction with regrouping with mistakes in interpretation and computation.	Solves word problems involving subtraction with regrouping with errors in interpretation.	Solves word problems involving subtraction with regrouping with minor errors.	Solves word problems involving subtraction with regrouping without errors.	
		g) Multiplying numbers to get a product not exceeding ten million.	Multiplication of numbers to get a product not exceeding ten million is performed.	Struggles to multiply two numbers whose product does not exceed ten million.	Multiplies two numbers whose product does not exceed ten million with errors.	Multiplies two numbers whose product does not exceed ten million with minor errors.	Multiplies two numbers whose product does not exceed ten million without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		h) Solving word problem related to multiplication.	Solving word problems involving multiplication is performed.	Solves word problems involving multiplication with errors in interpretation and computation.	Solves word problems involving multiplication with errors in interpretation.	Solves word problems involving multiplication with minor errors.	Solves word problems involving multiplication without errors.	
		i) Dividing numbers not exceeding ten million without a remainder.	Division of numbers up to ten million without a remainder is performed.	Struggles to divide numbers up to ten million without a remainder.	Divides numbers up to ten million without a remainder with errors.	Divides numbers up to ten million without a remainder with minor errors.	Divides numbers up to ten million without a remainder without any errors.	
		j) Dividing numbers with a maximum of ten million with a remainder.	Division of numbers up to ten million with a remainder is performed.	Struggles to divide numbers up to ten million with a remainder.	Divides numbers up to ten million with a remainder with errors.	Divides numbers up to ten million with a remainder with minor errors.	Divides numbers up to ten million with a remainder without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		k) Solving word problems involving division.	Word problems involving division of numbers are solved.	Struggles to solve word problems involving division.	Solves word problems involving division of numbers with errors in interpretation and computation.	Solves word problems involving division of numbers with minor errors.	Solves word problems involving division of numbers without errors.	
		l) Subtracting decimal numbers to three decimal places.	Subtraction of decimal numbers to three decimal places is performed.	Struggles to subtract decimals to three decimal places.	Subtracts decimals to three decimal places with procedural and computational errors.	Subtracts decimals to three decimal places with minor errors.	Subtracts decimals to three decimal places without errors.	
		m) Multiplying numbers with two decimal places by numbers with one decimal place.	Multiplication of numbers with two decimal places by number with one decimal place is performed.	Struggles to multiply numbers with two decimal places by numbers with one decimal place.	Multiplies numbers with two decimal places by numbers with one decimal place with errors in computations and locating a decimal point.	Multiplies numbers with two decimal places by numbers with one decimal place with minor errors.	Multiplies numbers with two decimal places by numbers with one decimal place without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		n) Multiplying numbers with two decimal places by a whole number.	Multiplication of numbers with two decimal places by a whole number is performed.	Struggles to multiply numbers with two decimal places by a whole number.	Multiplies numbers with two decimal places by a whole number with errors in computation and locating of a decimal point.	Multiplies numbers with two decimal places by a whole number with minor errors.	Multiplies numbers with two decimal places by a whole number without errors.	
		o) Dividing decimal numbers to get a quotient with not more than two decimal places.	Division of numbers to get a quotient with not more than two decimal places is performed.	Struggles to divide numbers to get a quotient with not more than two decimal places.	Divides numbers to get a quotient with not more than two decimal places with errors in computation and locating of a decimal point.	Divides numbers to get a quotient with not more than two decimal places with minor errors.	Divides numbers to get a quotient with not more than two decimal places without errors.	
		p) Adding integers.	Addition of integers is performed.	A pupil struggles to add integers.	Adds integers with errors in manipulation when it comes to negative and positive signs.	Adds integers with minor errors.	Adds integers without errors.	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		q) Subtracting integers.	Subtraction of integers is performed.	Struggles to subtract integers.	Subtracts integers with errors in manipulation with negative and positive signs.	Subtracts integers with minor errors.	Subtracts integers without errors.	
		r) Multiplying integers.	Multiplication of integers is performed.	Struggles to multiply integers.	Multiplies integers with errors in manipulation when it comes to negative and positive signs.	Multiplies integers with minor errors.	Multiplies integers without errors.	
		s) Dividing integers.	Division of integers is performed.	Struggles to divide integers.	Divides integers with errors in manipulation when it comes to negative and positive signs.	Divides integers with minor errors.	Divides integers without errors.	



Main competency	Specific competency	Activities to be Done by the Pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
	3.2 Applying number relations to solve problems in different contexts.	a) Reading time in 12-hour format.	Reading time in 12-hour format is performed.	Struggles to read time in 12- hour format.	Reads time in 12-hours format with mistakes in reading minutes and am, pm and hours.	Reads time in 12-hour format with minor errors.	Reads time in 12-hour format without errors.	19
		b) Writing time in 12-hour format.	Writing time in 12-hours format is performed.	Struggles to write time in 12-hour format.	Writes time in 12-hour format with errors.	Writes time in 12-hour format with minor errors.	Writes time in 12-hour format without errors.	
		c) Reading time in 24-hours format.	Reading time in 24-hours format has been performed.	Struggles to read time in 24-hours format.	Reads time in 24-hour format with mistake in reading minutes.	Reads time in 24-hour format with minor errors.	Reads time in 24-hour format without errors.	
		d) Writing time in 24-hour format.	Writing time in 24-hour format is performed.	Struggles to write time in 24-hour format.	Writes time in 24-hour format with errors.	Writes time in 24-hour format with minor errors.	Writes time in 24-hour format without errors.	
		e) Changing time from 12-hour to 24-hour format.	Changing time from 12-hour to 24-hour format is performed.	Struggles to change time from 12-hour to 24-hour format.	Changes time from 12-hour to 24-hour format with errors.	Changes time from 12-hour to 24-hour format with minor errors.	Changes time from 12-hour to 24-hour format without errors.	

Main competency	Specific competency	Activities to be Done by the Pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		f) Changing time from 24-hours to 12-hours format.	Changing time from 24-hour to 12-hour format has been performed.	Struggles to change time from 24-hour to 12-hour format.	Changes time from 24-hour to 12-hour format with errors in relating to the <i>am</i> and <i>pm</i> hours.	Changes time from 24-hour to 12-hour format with minor errors.	Changes time from 24-hour to 12-hour format without errors.	
		g) Solving word problems involving time.	Solving word problems involving time is performed.	Struggles to Solve word problems involving time.	Solves word problems involving time with interpretational and computational errors.	Solves word problems involving time with minor errors.	Solves word problems involving time without errors.	
		h) Solving word problems involving profit and loss.	Solving word problems involving profit and loss is performed.	Struggles to Solve word problems involving profit and loss.	Solves word problems involving profit and loss with interpretational and computational errors.	Solves word problems relating to profit and loss with minor errors.	Solves word problems relating to profit and loss without errors.	

Main competency	Specific competency	Activities to be Done by the Pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
<b>4.0 Applying skills reasoning and proof in real life contexts (Part Two).</b>	4.1 Applying measurements in different life contexts.	a) Multiplying metric units of length.	Multiplication of metric units of length is performed.	Struggles to multiply metric units of length.	Multiplies metric units of length with errors in computation and units conversion.	Multiplies metric units of length with minor errors.	Multiplies metric units of length without errors.	16
		b) Dividing metric units of length.	Division of metric units of length is performed.	Struggles to divide metric units of length.	Divides metric units of length with errors in computation and unit conversion.	Divides metric units of length with minor errors.	Divides metric units of length without errors.	
		c) Multiplying metric units of weight.	Multiplication of metric units of weight is performed.	Struggles to multiply metric units of weight.	Multiplies metric units of weight with errors in computation and units conversion.	Multiplies metric units of weight with minor errors.	Multiplies metric units of weight without errors.	
		d) Dividing metric units of weight.	Division of metric units of weight is performed.	Struggles to divide metric units of weight.	Divides metric units of weight with errors in computation and unit conversion.	Divides metric units of weight with minor errors.	Divides metric units of weight without errors.	
		e) Multiplying metric units of volume.	Multiplication of metric units of volume is performed.	Struggles to multiply metric units of volume.	Multiplies metric units of volume with errors in computation and unit conversion.	Multiplies metric units of volume with minor errors.	Multiplies metric units of volume without errors.	

Main competency	Specific competency	Activities to be Done by the Pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		f) Dividing metric units of volume.	Division of metric units of volume is performed.	Struggles to divide metric units of volume.	Divides metric units of volume with errors in computation and unit conversion.	Divides metric units of volume with minor errors.	Divides metric units of volume without errors.	
		g) Solving word problems involving metric units of measurements.	Word problems involving metric units of measurements are solved.	Struggles to solve word problems involving metric units of measurements.	Solves word problems involving metric units of measurements with interpretational, conversional and computational errors.	Solves word problems involving metric units of measurements with minor errors.	Solves word problems involving metric units of measurements without errors.	
	4.2 Applying the concepts of shapes and figures to solve different problems.	a) Measuring angles using standard measurement tools.	Measurement of angles using standard measurement tools is performed.	Struggles to measure angles using standard tools of measurements.	Measures angles using standard measurement tools with accuracy and precision errors.	Measures angles using standard measurement tools with minor errors.	Measures angles using standard measurement tools without errors.	

Main competency	Specific competency	Activities to be Done by the Pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		b) Drawing angles using standard measurement tools.	Drawing of angles using standard measurement tools is performed.	Struggles to draw angles using standard measurement tools.	Draws angles using standard measurement tools with errors in accuracy and precision.	Draws angles using standard measurement tools with minor errors.	Draws angles using standard measurement tools without errors.	
		c) Identifying perpendicular and parallel lines.	Identification of perpendicular and parallel lines is performed.	Struggles to identify perpendicular and parallel lines.	Identifies perpendicular and parallel lines with mistakes due to unclear concepts.	Identifies perpendicular and parallel lines with minor mistakes.	Identifies perpendicular and parallel lines without mistakes.	
		d) Calculating angles.	Angles are calculated.	Struggles to calculate angles.	Calculates angles with loose adherence to the rules and principles.	Calculates angles with minor errors.	Calculates angles without errors.	
		e) Identifying rectangular shapes.	Rectangular shapes are identified.	Struggles to identify rectangular shapes.	Identifies rectangular shapes with errors.	Identifies rectangular shapes with minor errors.	Identifies rectangular shapes without errors.	

Main competency	Specific competency	Activities to be Done by the Pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		f) Mentioning properties of rectangular shapes.	Properties of rectangular shapes are mentioned.	Struggles to mention properties of rectangular shapes.	Mentions properties of rectangular shapes with errors.	Mentions properties of rectangular shapes with minor errors.	Mentions properties of rectangular shapes without errors.	
		g) Calculating perimeters of parallelograms and trapeziums.	Perimeters of parallelograms and trapeziums are calculated.	Struggles to calculate perimeters of parallelograms and trapeziums.	Calculates perimeters of parallelograms and trapeziums with procedural and computational errors.	Calculates perimeters of parallelograms and trapeziums with minor errors.	Calculates perimeters of parallelograms and trapeziums without errors.	
		h) Calculating area of parallelograms.	Calculating the area of parallelograms is performed.	Struggles to calculate the area of parallelograms.	Calculates area of parallelograms with procedural and computational errors.	Calculates area of parallelograms with minor errors.	Calculates area of parallelograms without errors.	
		i) Calculating the area of trapeziums.	Area of trapeziums is calculated.	Struggles to calculate the area of trapeziums.	Calculates area of trapeziums with procedural and computational errors.	Calculates area of trapeziums with minor errors.	Calculates area of trapeziums without errors.	

Main competency	Specific competency	Activities to be Done by the Pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		j) Listing the three-dimensional (3D) shapes.	Listing of 3D shapes is performed.	Struggles to list the 3D shapes.	Lists the 3D shapes with errors.	Lists the 3D shapes with minor errors.	Lists the 3D shapes without errors.	
		k) Drawing 3D shapes.	Drawing of 3D Shapes is performed.	Struggles to draw the 3D shapes.	Draws the 3D shapes with errors.	Draws the 3D shapes with minor errors.	Draws 3D shapes without errors.	
		l) Making 3D shapes.	3D shapes are made.	Struggles to make 3D shapes.	Makes 3D shapes with errors.	Makes 3D shapes.	Makes attractive 3D shapes.	
		m) Calculating the circumference of a circle.	The circumferences of a circle are calculated.	Struggles to calculate the circumference of a circle.	Calculates the circumference of a circle with procedural and computational errors.	Calculates the circumference of a circle with minor errors.	Calculates the circumference of a circle without errors.	
		n) Calculating the area of a circle.	The area of circles is calculated.	Struggles to calculate the area of a circle.	Calculates area of a circle with procedural and computational errors.	Calculates the area of a circle with minor errors.	Calculates the area of a circle without errors.	

Main competency	Specific competency	Activities to be Done by the Pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		o) Calculating the surface area of a rectangular prism.	The surface area of rectangular prism is calculated.	Struggles to calculate the surface area of a rectangular prism.	Calculates the surface area of a rectangular prism with procedural and computational errors.	Calculates the surface area of a rectangular prism with minor errors.	Calculates the surface area of a rectangular prism without errors.	
		p) Calculating the surface area of a cube.	The surface area of a cube is calculated.	Struggles to calculate the surface area of a cube.	Calculates the surface area of a cube with procedural and computational errors.	Calculates the surface area of a cube with minor errors.	Calculates the surface area of a cube without errors.	
		q) Calculating the surface area of a cylinder.	Surface area of cylinders is calculated.	Struggles to calculate surface area of a cylinder.	Calculates the surface area of a cylinder with procedural and computational errors.	Calculates the surface area of a cylinder with minor errors.	Calculates the surface area of a cylinder without errors.	
		r) Calculating the volume of a rectangular prism.	Volume of a rectangular prism is performed.	Struggles to calculate the volume of a rectangular prism.	Calculates the volume of a rectangular prism with procedural and computational errors.	Calculates the volume of a rectangular prism with minor errors.	Calculates the volume of a rectangular prism without errors.	



Main competency	Specific competency	Activities to be Done by the Pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		s) Calculating the volume of the cube.	Volume of the cube is calculated.	Struggles to calculate the volume of a cube.	Calculates the volume of a cube with procedural and computational errors.	Calculates the volume of a cube with minor errors.	Calculates the volume of a cube without errors.	
		t) Calculating the volume of a cylinder.	Volume of the cylinder is calculated.	Struggles to calculate the volume of a cylinder.	Calculates the volume of a cylinder with procedural and computational errors.	Calculates the volume of a cylinder with minor errors.	Calculates the volume of a cylinder without errors.	
		u) Locating a point on x-y co-ordinate plane.	Locating points on x-y co-ordinate plane is performed.	Struggles to sketch and locate points on x-y co-ordinate plane.	Sketches and locates points on x-y co-ordinate plane with mistakes in sketching the plane and determining the x and y co-ordinates.	Sketches and locates points on x-y co-ordinate plane with minor mistakes.	Sketches and locates points on x-y co-ordinate plane without mistakes.	

Main competency	Specific competency	Activities to be Done by the Pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		v) Reading a points on x-y co-ordinate system.	Reading of points on x-y co-ordinate system is performed.	Struggles to read points on x-y co-ordinate system.	Reads points in an x-y co-ordinate system with mistakes in determining the x and y co-ordinates.	Reads points on x-y co-ordinate system with minor mistakes.	Reads points on x-y co-ordinate system without mistakes.	
		w) Writing co-ordinates of a point on x-y plane.	Writing of co-ordinates of the point on x-y plane is performed.	Struggles to write co-ordinates of points on x-y plane.	Writes co-ordinates of points on x-y plane with errors.	Writes co-ordinates of points on x-y plane with minor errors.	Writes co-ordinates of points on x-y plane without errors.	
		x) Drawing plane figures on x-y co-ordinate plan.	Drawing plane figures on x-y co-ordinate plane is performed.	Struggles to draw plane figures on x-y co-ordinate plane.	Draws plane figures on x-y co-ordinate plane with errors.	Draws plane figures on x-y co-ordinate plane with minor errors.	Draws plane figures on x-y co-ordinate plane without errors.	
<b>5.0 Using mathematical language to present ideas or arguments (Part Two).</b>	5.1 Applying the concepts of algebra to solve real life problems.	a) Solving simple algebraic equations.	Simple algebraic equations are solved.	Struggles to solve simple algebraic equations.	Solves simple algebraic equations with procedural and computational errors.	Solves simple algebraic equations with minor errors.	Solves simple algebraic equations without errors.	6

Main competency	Specific competency	Activities to be Done by the Pupil	Assessment criteria	Benchmarking of pupil's performance				No of periods
				Below average	Average	Good	Very good	
		b) Solving word problems involving simple algebraic equations.	Word problems involving simple algebraic equations are solved.	Struggles to solve word problems involving simple algebraic equations.	Solves word problems involving algebraic equations with errors in interpretation and computation.	Solves word problems involving algebraic equations with minor errors.	Solves word problems involving algebraic equations without errors.	
	5.2 Applying statistical skills to present different information.	a) Reading and interpreting Pie Charts.	Reading and interpreting Pie Charts is performed.	Struggles to read and interpret Pie Charts.	Reads and interprets Pie Charts with errors.	Reads and interprets Pie Charts with minor errors.	Reads and interprets Pie Charts without errors.	8
		b) Drawing Pie Charts.	Drawing Pie Charts is performed.	Struggles to draw Pie charts.	Draws Pie Charts with errors.	Draws Pie Charts with minor errors.	Draws Pie Charts without errors.	
		c) Solving word problems involving Pie Charts.	Word problems involving Pie Charts are solved.	Struggles to solve word problems involving Pie Charts.	Solves word problems involving Pie Charts with mistakes in interpretations.	Solves word problems involving Pie Charts with minor mistakes.	Solves word problems involving Pie Charts without mistakes.	

### 3.11 Contents for Standard VII

**Table 6: Competencies to be developed by a Standard VII pupil**

<b>Main competency</b>	<b>Specific competency</b>
1.0 Using mathematical language to present ideas to solve real-life problems (Part One)	1.1 Using the concept of whole numbers to communicate ideas in different situations
2.0 Using reasoning and proof in real-life situations (Part One)	2.1 Using pattern skills to solve real-life problems
3.0 Solving mathematical problems in different situations	3.1 Using mathematical operations to solve various mathematical problems 3.2 Using number relations to solve problems in different situations
4.0 Using reasoning and proof in real-life situations (Part Two)	4.1 Applying measurement skills in different situations 4.2 Using the concepts of shapes and figures to solve different real-life problems
5.0 Using mathematical language to present ideas to solve real-life problems (Part Two)	5.1 Applying the concept of algebra to solve real-life problems 5.2 Using statistical skills to analyse and present different kinds of statistical information

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
<b>1.0 Using mathematical language to present ideas to solve real-life problems (Part One)</b>	1.1 Using the concept of numbers to communicate ideas in different situations	a) Identifying the place values of digits in whole numbers not exceeding 1 000 000 000	The place values of digits in whole numbers not exceeding 1 000 000 000 have been identified.	Mentions the place values of digits in whole numbers not exceeding 1 000 000 000	Explains the procedure for identifying the place values of digits in whole numbers, from the right-most digit to the left-most digit	Follows the procedures for identifying the place values of digits in whole numbers not exceeding 1 000 000 000 from the right-most to left-most digits	Identifies the place values of digits in the whole numbers	55
		b) Reading whole numbers not exceeding 1 000 000 000 written in words and numerals	Whole numbers not exceeding 1 000 000 000 written in words and numerals have been read.	Identifies the place values of digits in a number not exceeding 1 000 000 000, written in numerals.	Reads the numbers up to 1 000 000 000 written in words	Reads the numbers up to 1 000 000 000 written in numerals	Reads whole numbers not exceeding 1 000 000 000 written in words and numerals	
		c) Writing whole numbers not exceeding 1 000 000 000 in words	Whole numbers not exceeding 1 000 000 000 have been written in words.	Writes whole numbers in numerals	Struggle to write whole numbers in numerals	Applies the place value of digits in writing whole numbers not exceeding 1 000 000 000 in numerals	Writes whole numbers in numerals	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
		d) Writing whole numbers not exceeding 1 000 000 000 in words	Whole numbers not exceeding 1 000 000 000 have been written in words.	Writes whole numbers in groups of three digits	Identifies place values of digits for whole numbers not exceeding 1 000 000 000	Writes whole numbers in words based on their place values	Writes whole numbers not exceeding 1 000 000 000 in words	
		e) Adding whole numbers without regrouping and with regrouping to get a sum not exceeding 1 000 000 000	Addition of whole numbers without regrouping and with regrouping to get a sum not exceeding 1000 000 000 has been done.	Adds whole numbers which are arranged vertically without regrouping and with regrouping based on the place values of digits to get a sum not exceeding 1 000 000 000	Arranges whole numbers vertically and horizontally based on the place values of digits when adding without regrouping and with regrouping to get a sum not exceeding 1 000 000 000	Adds whole numbers vertically and horizontally without regrouping and with regrouping to get a sum based on their place values	Adds whole numbers without regrouping and with regrouping to get a sum not exceeding 1 000 000 000	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
		f) Subtracting whole numbers up to 1 000 000 000 without regrouping and with regrouping	Subtraction of whole numbers without regrouping and with regrouping has been done.	Subtracts whole numbers which are arranged vertically without regrouping and with regrouping based on the place values of their digits	Arranges whole numbers vertically and horizontally based on the place values of digits when subtracting whole numbers not exceeding 1 000 000 000 without regrouping and with regrouping	Subtracts whole numbers vertically and horizontally without regrouping and with regrouping based on their place values	Subtracts whole numbers without regrouping and with regrouping	
		g) Multiplying whole numbers to get a product not exceeding 1 000 000 000	Whole numbers have been multiplied to get a product not exceeding 1 000 000 000.	Multiplies whole numbers which are arranged horizontally and vertically to get a product not exceeding 10 000 000	Arranges whole numbers based on the place values of the respective digits when multiplying numbers to get a product not exceeding 1 000 000 000	Identifies stages of multiplying and using the addition sign in multiplying whole numbers to get a product not exceeding 1 000 000 000	Multiplies whole numbers to get a product not exceeding 1 000 000 000	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
		h) Dividing whole numbers not exceeding 1 000 000 000 with a divisor not exceeding 100 000 without a remainder	Whole numbers not exceeding 1 000 000 000 have been divided by a divisor not exceeding 100 000 without a remainder.	Uses the division sign appropriately and puts both the dividend and divisor in the appropriate positions when performing the long division method	Divides the dividend from left to right by considering the magnitude of a divisor not exceeding 100 000	Applies the correct number by multiplying a divisor and identifies the steps of subtraction in the process of dividing whole numbers without a remainder	Divides whole numbers not exceeding 1 000 000 000 by divisors not exceeding 100 000 without a remainder	
		i) Dividing whole numbers with the dividend not exceeding 1 000 000 000 with a remainder	Whole numbers with the dividend not exceeding 1 000 000 000 have been divided by divisors not exceeding 100 000 with remainders.	Puts the dividend and divisor appropriately to the long division sign	Divides the dividend of whole numbers not exceeding 1 000 000 000 from left to right by considering the magnitude of the divisor not exceeding 100 000 with a remainder	Applies the correct number to multiply a divisor and identifying the steps of subtraction in dividing whole numbers with a remainder	Divides whole numbers not exceeding 1 000 000 000 by a divisor not exceeding 100 000 with a remainder	



Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
<b>2.0 Applying skills of reasoning and proof in real-life situations (Part One)</b>	2.1 Applying pattern skills to solve real-life problems	a) Applying the BODMAS rule in simplifying mathematical problems involving numbers operations	The BODMAS rule has been applied in simplifying mathematical problems involving numbers operations.	Identifies the long form of the BODMAS acronym	Identifies how to use BODMAS rules as the order of operation to solve mathematical problems involving number operations	Identifies the operation to be done first depending on the nature of the problem to be solved using the BODMAS rule	Uses BODMAS rules as the order of the operation in performing number operations	23
		b) Simplifying ratios of different items	Ratios of different items have been identified and simplified.	Identifies equivalent ratios	Explains how to simplify ratios of different items using ratio notations	Writes the ratios of different items	Identifies and simplifies the ratios of different items	
		c) Analysing the concept of exponents	The concept of exponents has been analysed.	Identifies the exponential form of numbers	Explains the meaning of exponents of numbers	Explains the concept of exponents of numbers	Analyses the concept of exponents	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
		d) Simplifying mathematical sentences involving the multiplication and division of exponents	Mathematical sentences involving the multiplication and division of exponents has been simplified.	Lists the laws of exponents in simplifying mathematical sentences involving the multiplication and division of exponents	Identifies the laws of exponents in simplifying mathematical sentences involving the multiplication and division of exponents	Applies laws of exponents in simplifying mathematical sentences involving the multiplication and division of exponents	Simplifies mathematical sentences involving the multiplication and division of exponents	
		e) Calculating the square root of a number up to six digits	The square root of a number up to six digits has been calculated.	Writes numbers up to six digits in the radical sign for calculating the square root	Separates the number in groups of two digits from its right and identifies the number to be multiplied by itself in calculating the square root	Applies multiplication, addition, and subtraction operations in calculating the square root of a square number up to six digits	Calculates the square root of a number up to six digits	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
<b>3.0 Solving mathematical problems in different situations</b>	3.1 Applying mathematical operations to solve real-life problems	a) Dividing whole numbers by fractions	The division of whole numbers by fractions has been done.	Uses the division sign to identify the divisor and the dividend	Changes the division sign to the multiplication sign when dividing whole numbers by fractions	Reciprocates the divisor after changing the division sign to the multiplication sign in dividing whole numbers by fractions	Divides whole numbers by proper and improper fractions	17
		b) Dividing fractions by fractions	The division of fraction by fraction cases where the numerator has up to four digits and the denominator has up to six digits has been done.	Uses the division sign to identify the divisor and the dividend	Switches operations from division to multiplication in dividing a fraction by a fraction and changes the operation from division to multiplication	Switches operations from division to multiplication and reciprocates the divisor	Divides a fraction by a fraction with the numerator up to four digits and the denominator up to six digits	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
		c) Dividing and simplifying fractions by decimals	Fraction with numerators up to three digits and denominators up to four digits have been divided by decimals up to five places.	Converts decimals to fractions or fractions to decimals	Changes operations from division to multiplication when dividing fractions by fractions or converting decimals to fractions or to whole numbers	Changes operations from division to multiplication and reciprocates the divisor	Divides fractions with numerators up to three digits and with the denominator up to four digits by five decimal places	
	3.2 Applying number relations to solve problems in different situations	a) Using examples to analyse sources of profit and loss in buying and selling commodities	The sources of profit and loss in buying and selling commodities have been analysed using examples.	Explains profit and loss in buying and selling commodities	Mentions the sources of profit and loss in buying and selling commodities	Analyses the sources of profit and loss in buying and selling commodities	Analyses with examples the sources of profit and loss in buying and selling commodities	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
		b) Planning income and expenditure in buying and selling various commodities	Income and expenditure has been planned.	Explains the meaning of income and expenditure in buying and selling various commodities	Explains sources of income and expenditure in buying and selling various commodities	Elaborates the procedures for planning income and expenditure in buying and selling various commodities	Plans income and expenditure in buying and selling various commodities	
		c) Applying formula to analyse profit and loss in depositing and loaning money	Profit and loss in depositing and loaning money have been analysed using an appropriate formula.	Lists the formula for finding profit and loss in depositing and loaning money	Identifies the formula for finding Interest, Principal, Time and Interest rate in depositing and loaning money	Applies the formula for calculating the profit and loss in depositing and loaning money	Uses the formula to analyse profit and loss in depositing and loaning money	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
		d) Conducting projects based on buying and selling commodities	A project on purchases, which is based on buying and selling commodities, has been conducted according to the specified criteria.	Identifies the area for the project work	Identifies the types of commodities to be included in projects on purchases based on buying and selling commodities	Collects the buying and selling prices of the commodities identified	Conducts a project on purchases based on the buying and selling of the commodities according to the specified criteria	
<b>4.0 Applying skills of reasoning and proof in real-life situations (Part Two)</b>	4.1 Applying measurement skills in different situations	a) Identifying the formula for calculating the speed of moving objects and stating the meaning of its components	A formula for calculating speed has been identified and its three components have been elaborated.	Identifies the formula for calculating the speed of moving objects	Writes the formula for calculating speed, using its abbreviations	Describes the meaning of each component of the formula for calculating speed	Identifies the formula for calculating speed and elaborates its three components	17

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
		b) Applying the formula for speed to calculate distance, time, and speed	The formula for speed has been applied to calculate distance, time, and speed.	Writes the formula for calculating the speed of a moving object	Uses the formula for speed to describe how to obtain distance and time	Identifies the required component and writes its corresponding formula from the formula for calculating the speed of moving objects	Applies the formula for speed to calculate distance, time, and speed	
		c) Using the concept of speed to identify moving objects that may travel on roads, on water, and in the air	The concept of speed has been used to identify moving objects that may travel on roads, on water, and in the air.	Identifies the moving objects found on roads, on water and in the air	Explains the concept of speed	Explains how the concept of speed can be used to identify moving objects that may travel on roads, on water, and in the air	Applies the concept of speed in identifying moving objects that may travel on roads, on water, and in the air	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
	4.2 Using the concepts of shapes and figures to solve different real-life problems	a) Identifying and distinguishing the height, base, and hypotenuse of a right-angled triangle	The height, base, and hypotenuse of a right-angled triangle have been identified and distinguished.	Mentions the main characteristics of a right-angled triangle	Draws a right-angled triangle and indicates the right-angle	Identifies the three sides of a right-angled triangle by their names	Identifies and distinguishes the identified sides of the right-angled triangle	17
		b) Using Pythagoras' theorem to calculate the base, height, and hypotenuse sides of a right-angled triangle	The Pythagoras' theorem has been used to calculate the base, height and hypotenuse sides of a right-angled triangle.	Writes Pythagoras' theorem and analyses its components	Compares the components of Pythagoras' theorem and the sides of a right-angled triangle	Uses Pythagoras' theorem to demonstrate how to calculate the height, base and, hypotenuse	Uses Pythagoras' theorem to calculate the height, base, and hypotenuse	



Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
		c) Applying Pythagoras' theorem in real-life, such as crossing roads, playing football, climbing up buildings	Pythagoras' theorem has been applied in the real-life situation.	States Pythagoras' theorem	Explains Pythagoras' theorem in relation to the sides of a right-angled triangle	Explains how to use Pythagoras' theorem in real-life situations	Uses Pythagoras' theorem in crossing the road, playing football, and climbing a building	
<b>5.0 Applying mathematical language to present ideas to solve real life problems (Part Two)</b>	5.1 Applying algebraic concepts in solving real-life problems	a) Simplifying algebraic expressions with terms having whole numbers, fractions, and decimal coefficients	Algebraic expressions with terms having whole numbers, fractions, and decimal coefficients have been simplified.	Identifies like and unlike terms in simplifying algebraic expressions	Collects like and unlike terms in simplifying algebraic expressions	Combines like and unlike terms to obtain two or more distinct expressions	Simplifies algebraic expressions with terms having whole numbers, fractions, and decimal coefficients	17

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
		b) Solving simple equations involving whole numbers, fractions, and decimal coefficients	Simple algebraic equations involving whole numbers, fractions and decimal coefficients have been solved.	Identifies like and unlike terms in simple algebraic equations involving whole numbers, fractions, and decimal coefficients	Collects like terms in solving simple algebraic equations involving whole numbers, fractions, and decimal coefficients	Groups like and unlike terms to get two different terms in solving simple algebraic equations involving whole numbers, fractions, and decimal coefficients	Solves simple algebraic equations involving whole numbers, fractions, and decimal coefficients	
		c) Solving word problems of simple algebraic equations involving whole numbers, fractions, and decimal coefficients	Word problems of simple algebraic equations involving whole numbers, fractions, and decimal coefficients have been solved.	Identifies the unknown in word problems forming simple algebraic equations involving whole numbers, fractions, and decimals coefficients	Uses a variable to represent the unknown in simple algebraic equations involving whole numbers, fractions, and decimal coefficients	Uses variables to write simple algebraic equations involving whole numbers, fractions, and decimal coefficients	Solves word problems involving simple algebraic equations of whole numbers, fractions, and decimal coefficients	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
	5.2 Using statistical skills to analyse and present different kinds of statistical information	a) Drawing a line graph by considering important components (title of the graph, measurements, coordinates of the point, and lines)	A line graph with all important components (title of the graph, measurements, coordinate geometry, and lines) has been drawn.	Prepares a statistical table	Draws the x-axis and the y-axis and identifies proper measurements for drawing a line graph	Locates coordinates of the points used to obtain a line graph	Draws a line graph by considering important components	
		b) Interpreting a line graph	A line graph has been interpreted by explaining the idea represented by the graph.	Identifies information depicted on a line graph by reading the title of the graph	Reads different coordinates of a point on a line graph	Explains variations of data from various points on the graph	Interprets a line graph by explaining the main idea represented by the graph concerned	

Main competency	Specific competency	Activities to be done by the pupil	Assessment criteria	Benchmarking of pupil's performance				No. of periods
				Below average	Average	Good	Very good	
		c) Conducting statistical projects using different data based on standard information for preparing reports	Statistical projects using different data have been prepared based on standard information for preparing reports	Specifies the area appropriate for statistical data collection	Collects statistical data and presents them in tables	Draws a graph while preparing a statistical project	Conducts statistical projects based on standard information for preparing statistical reports	