FEDERAL MINISTRY OF EDUCATION

Accelerated Basic Education Curriculum
Mathematics
(Level 3: Stage 1 - 3)

NIGERIAN EDUCATIONAL RESEARCH AND DEVELOPMENT COUNCIL (NERDC)

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Foreword

One of the targets set out by the Federal Government of Nigeria under the current dispensation is the eradication of the menace of out-of-school children that has bedeviled the country since the past three decades. This target area of concern formed one of the 10 pillars of the Ministerial Strategic Plan (2016 - 2019) which have metamorphosed into the Ministerial Strategic Plan (2018 - 2022). The effort asserted in this direction, is in line with the Constitution of the Federal Republic of Nigeria, which recognizes education as a fundamental right of every child, irrespective of ethnic background, social-economic status, religious affiliation and family background.

One of our turnaround strategies, as outlined in the Ministerial Strategic Plan, is to create opportunities for the education of all children and youths, who for one reason or the other, are out of school. These children, who are found in many parts of Nigeria, constitute about 5% of the world's population of Out-of-School children.

The turnaround strategies were based on identified gaps and challenges in the education sector. One obvious gap identified was the lack of well-thought educational programmes that specifically addresses the peculiarities of overage children who are not in school. The Accelerated Basic Education Programme (ABEP) is therefore a step taken towards filling the identified gap. Aside from addressing our domestic situation, the programme is in line with global best practices.

The specific goal of the Programme is to mop-up (or reduce to the barest minimum) and bring back to school the large number of overage and out-of-school children who are disadvantaged, marginalized and affected by crises, disasters or other socio-economic factors.

I am therefore pleased to note that the Nigerian Educational Research and Development Council (NERDC) has taken this step towards the provision of the curriculum to drive the AEP programme. I congratulate NERDC and her partners for successfully completing the development of the Accelerated Basic Education Curriculum for the Implementation of the Accelerated Basic Education Programme in Nigeria. I wish to particularly thank Plan International and Save the Children International for supporting the development of the curriculum under the European Union funded project: The EU Response, Early Recovery and Resilience in Borno State: Education Component. I also acknowledge the contributions of all experts who worked hard in the development of the curriculum. The curriculum is flexible and provides learning options and pathways for learners.

It is therefore my pleasure to present the curricula to all Nigerians and our foreign partners for the education of out-of-school children under the accelerated education programme.

My utmost hope is that the effective use of the curricula will bring about our desired aim of providing quality basic education to all Nigerian children irrespective of the circumstances surrounding their existence.

ADAMU ADAMU
Honourable Minister of Education, FME, Abuja.
October 2019

Preface

Nigeria, in the recent past, has been rated as one of the countries in the world with a huge population of out-of-school children and youths. The situation became worsened by the escalation of insurgency in the northeast leading to closure of many schools and the displacement of huge number persons including children and adolescents. Credible sources have it that many schools in the northeast states were closed from November 2014 to June 2015. By August 2017, an estimated 57% of schools were still closed in Borno.

Although many of the schools have been reopened, a high percentage of children are yet to return to school due to poverty and other socio-economic factors. There are also pockets of attack, psychosocial factors that affect human instability including where to start education again, having been out of school for many years (up to 10 years, in some instances).

Further, in the recent times, there have been widespread happenings, across the country, that have led to long term disruption of the educational pursuits of children and youths. These children and youths, in most instances, are either overage to continue schooling from where they stopped or are overage to start schooling from the foundation class (Primary 1). Incidentally, this group of children are found in many parts of the country.

Addressing this situation required the articulation of a special form of educational programme that will meet the peculiar circumstance of these children in this category. Whereas pockets of efforts have been made towards addressing the challenge, Nigeria lacks a strategically designed educational programme and curriculum standards that suits the peculiarities of children in this category. Understandably, some non-governmental organizations have attempted to provide some interventions in this regard but these they had been done without a nationally established framework and curriculum standards.

Importantly, the Ministerial Strategy Plan (2018- 2022) had clearly identified containing the menace of out-of-school children as one of the 10 pillars of the programmes targeted at bringing about change the Nigerian education sector.
The above scenario informed the need for the development of a national accelerated education curriculum with the overarching objective of providing a catchup educational programme suitable for the educational needs of out-of-school children, and in the process mainstream them to formal school programme or provide them with alternative career path through enrolment into vocational training centres, after completing basic education. The intention to develop the curriculum arose also because of the need to provide a national curriculum standard that can be used in all states of Nigeria, where there are such peculiarities.

The Nigeria Accelerated Education Programme (NAEP) specifically targets out-of-school children between ages 10 and 18 who were in school but had their education interrupted and are overage to continue schooling from where they stopped and; those who have never been to school and are overage to start formal education from the foundation class (Primary 1).

The NAEP is structured into 3 Levels as exemplified below:

- Level 1 (Stage 1 -3) to cover the curriculum contents of Primary 1 – 3
- Level 2 (Stages 1 -3) to cover the curriculum contents of Primary 4 – 6

- Level 3 (Stages 1 – 3) to cover the curriculum contents of JS 1 -3.

Each level will run for one academic year of 3 terms, similar to the regular school programme but with a flexible timetable in learner-friendly centres. The structure is further explained in the table below:

Level	**Target group**
Level 1	• Those who have never been to school aged 10 and above
Level 2	• Those who have been to school up to primary 2 or 3 but dropped out due to one reason or the other.
Level 3	• Those who have been to school up to primary 5 or 6 but dropped out due to one reason or the other.

Five subjects were selected for the implementation of the programme. These are: English Studies, Mathematics, Basic Science and Technology, Nigerian History and Values and one Nigerian Language (Hausa, Igbo and Yoruba, in the interim).

The development of the Accelerated Basic Education Curriculum involved a systematic procedure in which the 9-Year Basic Education Curriculum (for the selected subjects) was condensed into a 3-Year accelerated basic education curriculum without compromising the quality.

NERDC's four-stage approach to curriculum development was adopted in the process. These are:

i. Planning, which involves concepts and strategy formulation,
ii. Writing (crafting) of the initial draft of the curriculum document;
iii. Critique of the draft curriculum document; and
iv. Editorial and finalization of the curriculum document.

Teacher's Guide, with detailed and well sequenced contents, instructional strategies and assessment procedures is also developed to strengthen teachers' capabilities to effectively teach the curriculum.

It is my delight to acknowledge the role played by Plan International and Save the Children International in the development of the curriculum under the European Union funded project: The EU Response, Early Recovery and Resilience in Borno State: Education Component.

My appreciation also goes to all our resource persons for their efforts, expertise and commitment to the success of the project. It is my deepest conviction that the use of this curriculum will be of immense benefit to the nation in the bid to addressing the problem of out-of-school children in Nigeria.

PROF. ISMAIL JUNAIDU
Executive Secretary, NERDC

Introduction

The Accelerated Basic Education Programme (ABEP) is a catchup education programme meant to take care of the educational needs of overage children and youths between the age 10 and 18 who for certain reasons could not enroll into regular school or had their educational programmes interrupted. The Philosophy for ABEP, like the overall philosophy of Nigeria education; is to develop the individual into a sound and effective citizen and the provision of equal opportunities for the acquisition of appropriate levels of literacy, numeracy, manipulative, communicative and life-skills; as well as the ethical, moral, security and civic values needed for laying a solid foundation for life-long learning. On a more specific note, the ABEP is designed to mop-up (or reduce to the barest minimum) and bring back to school the large number of out-of-school children spread across many parts of Nigeria. The programme targets two categories of these children. These are:

- Children and youths whose education programme were interrupted and are overage to continue schooling from where they stopped.
- Children and youths who have never been to school and are overage to start formal education from the foundation class (Primary 1).

The ABEP, which is unique in all its ramifications, is to be implemented in 3-Levels comprising:

- Level 1 equivalent of Primary 1 - 3
- Level 2 equivalent of Primary 4 - 6
- Level 3 equivalent of JS 1- 3

In each of these levels, learners are expected to acquire basic education competencies equivalent to their mates in the regular school programme.

Given the uniqueness of the programme, it became imperative to redesign and condense the 9-Basic Education Curriculum in such a manner as to meet the peculiarities and needs of the intended beneficiaries of ABEP without compromising quality. Thus, the Accelerated Basic Education Curriculum (ABEC) is developed to provide the recipients unique learning experiences that will enable them to acquire basic knowledge, skills and competencies sufficient for mainstreaming and coping with the curriculum contents in the formal school system.

The Mathematics Curriculum for ABEP is developed to offer the recipients the opportunity to:

1. acquire demonstrable mathematical abilities comparable to their mates in the regular school programme;
2. develop basic constructional and computation skills applicable to their daily living;
3. cultivate the understanding and application of mathematical operations, signs and symbols in everyday life;
4. build a strong foundation in mathematics for future studies;

The thematic approach was adopted in the selection of the contents and learning experiences in the curriculum. These contents are organized under 5 themes at each Level as shown in the table below:

Level	Theme
1	Number and Numeration
	Basic Operation
	Mensuration and Geometry
	Algebraic Process
	Everyday Statistics
2	Number and Numeration
	Basic Operation
	Mensuration and Geometry
	Algebraic Operations
	Everyday Statistics
3	Number and Numeration
	Basic Operation
	Mensuration and Geometry
	Algebraic Operations
	Everyday Statistics

The curriculum has been further scoped and sequenced into lesson topics for ease of implementation at the ABEP learning centres. Since English Studies is a fundamental subject for lifelong learning, 5 hours every week is to be dedicated to the teaching and learning of the curriculum contents. This means that, out of the 4 hours daily learning period for the ABEP, 1 hour shall be used for the teaching and learning of English Studies.

Teacher's Guide has also been developed to further support the effective implementation of the curriculum by both teachers and policy makers. It is therefore recommended that the curriculum be implemented with due reference to the teacher's guide. Finally, it is envisaged that education managers, teachers, Development Partners and other stakeholders will provide the necessary infrastructure and support required for the actualization of the objectives of the curriculum.

Dr. Garba D. Gand
Director, Curriculum Development Centre, NERDC

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Stage 2	**Basic Operation**	• Approximation • Transaction at home and offices	12-14
	Mensuration and Geometry	• Plane Shapes • Three Dimensional Shapes • Construction • Angles • Bearing • Similar Shapes • Trigonometry	15-22
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ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 1: NUMBER AND NUMERATION **LEVEL THREE** **STAGE ONE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
1.WHOLE NUMBERS	Learners should be able to: 1. count in millions, billions and trillions; 2. express numbers in standard form: whole numbers and decimals; 3. solve problems on factors and prime factorization;	1. Count in millions, billions and trillions. 2. Standard forms: Whole and decimal numbers. 3. Prime factors and factorization.	Guides Learners to: 1. count in millions, billions and trillions using abacus and place value charts; 2. express numbers in standard form: e.g. 2684 = $2.6x10^3$ 0.000568 = $5.68x10^{-4}$ 3. solve problems on prime factors and factorization.	1. Practice counting in millions, billions and trillions. 2. Express numbers in standard form: whole numbers and decimals. 3. solve problems on prime factors and factorization.	• Abacus • Place Value Charts • Number chart.	Learners to: 1. count in millions, billions and trillions; 2. express numbers in standard form: whole numbers and decimals; 3. solve problems on prime factors and factorization;
1.WHOLE NUMBERS cont.	1. translate word problems to numerical expressions; 2. solve problems of expression involving brackets and fractions; 3. solve problems on direct and inverse proportions	1. Translation of word problems to numerical expressions 2. Expressions involving brackets and fractions 3. Direct and inverse proportions 4. Application of	Guides Learners to: 1. translate word problems to numerical expressions 2. solve problems on expressions involving brackets and fractions 3. solve problems on	1. Translate word problems to numerical expressions. 2. Solve problems on expressions involving brackets and fractions. 3. Solve problems on direct and inverse proportions.	• Flash cards containing multiplication and division • Cardboard containing problems on direct and inverse proportions.	Learners to: 4. translate word problems to numerical expressions; 5. solve problems on expression involving brackets and fractions; 6. solve problems on direct and inverse proportions

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 1: NUMBER AND NUMERATION **LEVEL THREE** **STAGE ONE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
	4. apply direction and inverse proportions to real life situation.	direct and inverse proportions to real life situations	direct and inverse proportions 4. application of direct and inverse proportions to real life situations	4. Apply direct and inverse proportions to real life situation.		7. apply direct and inverse proportions to real life situation.
2. LCM AND HCF	Learners should be able to: 1. solve problems on L.C.M. of whole numbers; 2. solve problems on H.C.F. of whole numbers; 3. solve problems on quantitative reasoning involving H.C.F. and LCM.	L.C.M. of whole numbers. H.C.F. of whole numbers. Quantitative reasoning involving LCM and HCF	Guides learners to: 1. solve problems on L.C.M. of whole numbers. 2. solve problems on H.C.F. of whole numbers. 3. Solve problems on quantitative reasoning involving H.C.F. and LCM.	1. Solve problems on L.C.M. of whole numbers. 2. Solve problems on H.C.F. of whole numbers. 3. Solve problems on quantitative reasoning involving H.C.F. and LCM.	1 Flash cards 2 Multiplication Table.	Learners to solve: 1. problems on L.C.M. 2. problems on H.C.F. 3. problems on quantitative reasoning involving H.C.F. and LCM.

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 1: NUMBER AND NUMERATION **LEVEL THREE** **STAGE ONE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
3. COUNTING IN BASE 2	Learners should be able to count in groups of twos leading to series or progression.	Count in groups of twos	Guides Learners to count in groups of twos, e.g. 2,4,6,8,10,12…	Count in groups of twos	Counters, e.g. bottle tops counting, sticks, etc.	Learners to count in groups of twos.
4. CONVERSION OF BASE 10 TO BINARY NUMBERS AND VICE VERSA	Learners should be able to convert base 10 numbers to binary numbers and vice versa	Conversion of base 10 numbers to base 2 and vice versa.	Converts 1-50 to base 2 e.g. Convert 12_{10} to base 2. 2 | 12 2 | 6 r 0 ↑ 2 | 3 r 0 ↑ 2 | 1 r 1 → i.e. $12_{10} = 1100_2$	Convert base 10 numbers to base 2 and vice versa	1. charts, 2. counters such as match sticks, broom sticks, bottle tops.	Learners to convert base 10 numbers to base 2 and vice versa.
1. FRACTIONS	Learners should be able to: 1. convert fractions to decimals and vice versa; 2. convert fractions to percentages and vice versa; 3. express fractions as ratio, decimals and percentages	1. Conversion of fractions to decimals and vice-versa 2. Conversion of fractions to percentages and vice versa. 3. Expression of fractions as ratio, decimals and percentages.	Guides learners to: 1. convert fractions to decimals and vice-versa 2. convert fractions to percentages and vice versa. 3. Express fractions as ratio, decimals and percentages e.g. ½=1:2 =0.5= 50%	1. Convert fractions to decimals and vice-versa 2. Convert fractions to percentages and vice versa. 3. express fractions as ratio, decimals and percentages	1 Charts with problems on conversion of fractions to percentages and vice-versa. 2 Charts on conversion of percentages to fraction and vice-versa. 3 Fraction Charts. 4 Percentage Charts 5 Decimals Charts.	Learners to: 1. solve problems conversion of fractions to decimals and vice-versa; 2. solve problems conversion of fractions to percentages and vice versa; 3. express fractions as ratio, decimals and

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 1: NUMBER AND NUMERATION **LEVEL THREE** **STAGE ONE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
	4. solve problems in quantitative reasoning involving fractions, decimals and percentages. 5.	4. Quantitative reasoning involving fractions, decimals and percentages.	4. solve problems in quantitative reasoning involving fractions, decimals and percentages	4. solve problems in quantitative reasoning involving fractions, decimals and percentages		percentages; 4. solve problems in quantitative reasoning involving fractions, decimals and percentages.
6.RATIONAL AND NON-RATIONAL NUMBERS	Learners should be able to: 1. define rational numbers; 2. define non-rational numbers; 3. classify numbers into rational and non-rational.	1. Meaning of rational and non-Rational numbers. 2. Classification of numbers into rational and non-rational.	Guides Learners to: 1. define rational numbers as: rational numbers are numbers that can be written in the form of a/b, with b ≠ 0 2. define non rational numbers as members that cannot be expressed as a/b with b ≠ 0 e.g. 1/5, 0/5, 3. classify numbers as rational and non-rational e.g. ʎ is a non-rational number	1. Define rational and irrational numbers 2. Classify numbers into rational irrational e.g Identify rational and nopne rational numbers (a)9/4 (b)8/1 (c) 7/0 (d) 22/7	Chart of rational and non-rational numbers.	Learners to: 1. define rational and non-rational numbers 2. classify numbers into rational and non-rational numbers.

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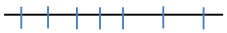
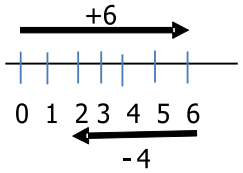
THEME 2: BASIC OPERATIONS **LEVEL THREE** **STAGE ONE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
1. ADDITION AND SUBTRACTION OF WHOLE NUMBERS	Learners should be able to: 1. add and subtract numbers using place value of numbers; 2. use number line to illustrate directed numbers;	1. Addition and subtraction of numbers using place value of numbers. 2. Use of number line.	Guides learners to: 1. add and subtract numbers using place value of numbers e.g. Add: 4567 + 5534 TH H T U 4 5 6 7 + 5 5 3 4. Subtract: 9763 – 4692 TH H T U 9 7 6 3 - 4 6 9 2 2. use number line to illustrate directed numbers e.g  -3 -2 -1 0 1 +2 +3	1. Add and subtract numbers using place value of numbers. 2. Use number line to illustrate directed numbers.	1 Number line Chart 2 Flash Cards 3 Bank statement of account 4 Thermometer etc.	Learners to: 1. add and subtract numbers using place value numbers. 2. use number line to illustrate directed numbers.

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: BASIC OPERATIONS **LEVEL THREE** **STAGE ONE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
ADDITION AND SUBTRACTION (continue)	3. add and subtract positive and negative integers; 4. interpret and relate positive and negative numbers to everyday activities; 5. add and subtract fractions;	1. Addition and subtraction of positive and negative integers. 2. Everyday appreciation of positive and negative integers. ii) 3. Addition and subtraction of fractions.	Guides learners to:- 1. add or subtract positive and negative integers e.g. simply the number line i) - 4+6 = +2  Demonstrate the application of positive and negative integers by i) Walking forward and backward ii) Reading temperature above and below zero iii) Use banking deposits and withdrawals. 5. add and subtract fraction using diagrams and calculation, e.g. i. 1/5 + 2/5 ii. ¾ -1/4	3. Add and subtract positive and negative integers using number line. 4. Solve related problems on directed numbers that involve everyday activities. 5. Add and subtract fraction using diagrams and calculations.	1 Flash Cards 2 Number line Chart 3 Bank statement of account 4 Thermometer etc. 5 Fraction Charts 6 Flash Cards	Learners to: 3. Add and subtract positive and negative integers; 4. Walk forward and backward at specified times and relate the results to the number line; 5. add and subtract fraction using diagrams and calculations;

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THEME 2: BASIC OPERATIONS **LEVEL THREE** **STAGE ONE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
ADDITION AND SUBTRACTION (continue)	6. Add and subtract decimal fractions;	1. Addition and subtraction of decimal fractions.	Guides Learners to:- 5. solve problems on addition and subtraction of decimal fractions i. 0.75 + 0.45 0.75 + 0.45 1.20 ii. 2.48 – 1.24 2.48 - 1.24 1.24	6. Solve problems on addition and subtraction of decimal fraction	• Flash Cards • Decimal Fraction Charts	Learners to: 6. add and subtract decimal fractions;
	7. Solve word problems involving addition and subtraction of decimal fractions;	2. Word problems involving addition and subtraction of decimal fractions	6. solve word problems involving addition and subtraction of decimal fractions e.g. i. add "two point three four to five point six eight" 2.34 + 5.68 8.02 ii. subtract "four point three two from seven point one one" 7.11 - 4.32 2.79	7. Solve word problems involving addition and subtraction of decimal fractions.	• Flash Cards • Decimal Fraction Charts	7. solve word problems involving addition and subtraction of decimal fractions;

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THEME 2: BASIC OPERATIONS **LEVEL THREE** **STAGE ONE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
ADDITION AND SUBTRACTION (continue)	8. Add two or three 3- digit binary numbers; 9. Subtract two 3 digit binary numbers.	8. Addition of two or three 3- digit binary numbers. 9. Subtraction of two 3-digit binary numbers	Guides Learners to:- 8. add two or three 3- digit binary numbers. e.g. i) 111 + 111 ii) 101 + 111 + 111 9. Solve word problems on subtraction of two 3- digit binary numbers. e.g. i) 111 - 110 ii) 110 - 101	8. Solve problems on addition of two or three 3- digit binary numbers. 9. Solve problems on subtraction of two or three 3- digit binary numbers.	1 Counters 2 Sum Cards 3 Counters	Learners to: 8. add two or three 3- digit binary numbers; 9. subtract two 3-digit binary numbers.

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THEME 2: BASIC OPERATIONS **LEVEL THREE** **STAGE ONE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
2. MULTIPLICATION AND DIVISION	Learners should be able to: 1. solve problems on multiplication of fractions; 2. solve problems on division of fractions;	1. Multiplication of fractions 2. Division of fractions	Guides learners to:- 1. solve problems on multiplication of fractions e.g. 3/5 x 15/39 2. solve problems on division of fractions e.g. 11/16 ÷ 33/32 invert the fraction at the RHS then change the division sign to multiplication sign: 11/16 x 32/33 = 2/3	1. Solve problems on multiplication of fractions. 2. Solve problems on division of fractions.	• Flash Cards • Fraction Charts	Learners to: 1. solve problems on multiplication of fractions. 2. solve problems on division of fractions.

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THEME 2: BASIC OPERATIONS **LEVEL THREE** **STAGE ONE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
MULTIPLICATION AND DIVISION (continue)	Learners should be able to: 3. solve word problems involving multiplication and division of fractions	3. Word problems involving multiplication and division of fractions	Guides Learners to:- 1. interpret and solve Word problems involving multiplication and division of fractions e.g. i) Find the product of 3/5 and 15/27 ii) Divide 13/26 by 39/52	3. Interpret and Solve problems involving multiplication and division of fractions	1 Flash Cards 2 Multiplication table.	Learners to: 3. interpret and solve problems involving multiplication and division of fractions;
	Learners should be able to: 4. multiply two 2-digit binary numbers. 5. multiply and divide directed numbers. 6. divide two 3-digit binary numbers.	4. Multiplication two 2-digit binary numbers. 5. Multiplication and division of directed numbers. 6. Division of two 3-digit binary numbers.	Guides Learners to:- 4. multiply two2-digit binary numbers. e.g. 11x10 and 11 X 11 5 solve problems on multiplication and division of directed numbers e.g. - 4 x + 8 + 9 ÷ - 3 6 divide two 3-digit binary numbers, e.g. 101 ÷ 101 111 ÷ 111	4. Multiply two2-digit binary numbers. 5. Solve problems on multiplication and division of directed numbers. 6. Divide two 3-digit binary numbers.	3 Chart showing multiplication of two 2-digit binary numbers. 4 Chart showing multiplication and division of directed numbers. 5 Chart division of two 3 digit binary numbers.	Learners to: 4. multiply two2-digit binary numbers; 5. multiply and divide directed numbers; 6. solve problems on division of two 3-digit binary numbers.

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: BASIC OPERATIONS **LEVEL THREE** **STAGE ONE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
3. ESTIMATION	Learners should be able to: 1. estimate dimensions of objects and distances between one place to the other; 2. estimate the capacity and mass of objects; 3. estimate age of some students in the classroom; 4. estimate time of the day looking at the weather.	1. Estimation of dimensions of objects and distances. 2. Estimation of capacity and mass of objects. 3. Estimation of other things such as age, time etc.	Guides Learners to:- 1. estimate dimensions of objects and distances between one place and another. Objects like: - The board, table top etc. - Distance from school to nearby village etc. 2. estimate the capacity of water tank, buckets etc. 3. estimate age of some learners in the classroom. 4. estimate time of the day looking at the weather.	1. Estimate dimensions of objects provided and distances between one named place and the other. 2. Estimate the capacity and mass of objects provided such as tank or bucket. 3. Estimate age of some students in the classroom. 4. Estimate time of the day looking at the weather.	• Desk tops • Classrooms • Water tanks • Buckets • Stones • Weight scale • Tape rule • Learners in the classroom. • Weather condition.	Learners to: 1. estimate the dimensions of any named objects and distance between one named place and the other. 2. estimate the capacity of water tanks, buckets. Estimate the mass of objects provided. 3. estimate ages of some learners in the classroom; 4. estimate time based on the weather.

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: BASIC OPERATIONS **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
1. Approxim-ation	Learners should be able to: 1. approximate sum and differences; 2. approximate product and quotient; 3. round numbers to the nearest 1000 and 10,000; 4. approximate number to places of decimals and significant figures.	1. Approximating values in adding and subtracting numbers 2. Approximating results of multiplication and division 3. Rounding off numbers to the nearest 1000 and 10000 4. Approximating number to the required decimal places and significant figures 5. Square and square root tables 6. Charts, records and schedule 7. Quantitative reasoning	Guides learners to: 1. approximate numbers to be added first and the add same for subtraction 2. organise the learners into 2 groups, one group will approximate numbers, the other group will multiply the original numbers, leads and guide them to compare the two results. 3. demonstrate how to approximate numbers to appropriate numbers to nearest 1000 and 10000 4. Demonstrate how to appropriate number of certain places of decimal and significant figures	1. Approximate numbers to the nearest whole then added or subtract. 2. One group approximate given numbers, and then multiply The other multiply the given number without approximating. Learners should find the differences in the two results. 3. Approximate numbers to the nearest 1000 and 10000	• Number Charts showing addition, subtraction, multiplicatio n and division of numbers. • Square table and square root table schedules.	Learners to: 1. find the approximate sum of 273 + 607; 2. find the approximate differences of 485 – 348; 3. what is the approximate result of 142 x 382; 4. approximate to the nearest 1000 (a) 4947 (b)9845; 5. find the value of the following: (i) 23^2 (ii) $\sqrt{400}$.

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: BASIC OPERATIONS **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
Approximation cont.	Learners should be able to: 5. read correctly the square table, and the square root table 6. read correctly charts, records and schedules. 7. solve problem on quantitative reasoning		5. Guide learners to use the square table and square root table guide learning to find square of number and square root of perfect square. 6. Guide learners on how to read records and schedules. 7. Demonstrate the hidden rules for quantitative reasoning.	5. Use square table to find the square of given numbers. Same as square root of number 6. Learners pick desired information from records and schedules. 7. Following the given sample, learners calculate the desired result of the quantitative reasoning		6. use square table to find the square of a given number; 7. read charts records and schedules.

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: BASIC OPERATIONS **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
2. Transactions at home and offices	Learners should be able to: 1. solve problems relating to discounts; 2. solve simple commercial arithmetic problems relating to taxes and VAT; 3. calculate simple interest.	1. Household Arithmetic : Discounts 2. Commercial Arithmetic: Taxes, VAT 3. Simple Interest	Guides learners to:- 1. provide sample of articles with prices attached, and sales promotion leaflets, then lead learners to master the procedures of calculating discounts. 2. solve simple commercial arithmetic relating to taxes and VAT. 3. calculate simple interest.	1. Calculate discounts on the prices displayed. 2. Solve simple problems of taxes and VAT. 3. Calculate simple interest.	• Articles with prices attached. • Invoices • Receipts • sales promotions • charts and tax receipts.	Learners to solve: 1. An article was originally marked ₦45,000. During promos the price was changed to ₦42,500. What is the discount? 2. If the tax for every ₦10,000 is 50k, what tax will a worker who earns ₦215,000 a month pay that month? 3. An amount of ₦ 50,000 was deposited for 2 years at 18%, calculate the simple interest.

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: MENSURATION AND GEOMETRY **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
1. Plane shapes	Learners should be able to: 1. indicate the similarities and differences between square and parallelogram; 2. calculate the perimeter of square, rectangle, triangle, etc.; 3. calculate area of regular plane shapes; 4. identifies properties of Squares, rectangle, parallelogram, rhombus and kite; 5. draw plane shapes using scale; 6. calculate area of circles; 7. solve quantitative reasoning problems involving squares, rectangle, circle and parallelogram.	1. Similarities and differences between square and parallelogram 2. Perimeter of regular polygons: square, rectangle, triangle, trapezium, parallelogram and circle 3. Area of regular plane shapes such as squares, rectangles and parallelogram, etc. 4. Properties of parallelogram, rhombus and kite 5. Scale drawing 6. Area of circles 7. Quantitative reasoning	Guides Learners to:- 1. display square and parallelogram for every learner to see. Lead the learners to observe (1) the similarities of the two Plane figures. (2) the differences of two of them. 2. calculate the perimeter of square, rectangle, triangle 3. calculate the area of plane shapes: square, rectangle, etc. 4. use chart to observe the properties of plane shapes like rhombus and kite.	1. Show similarities of the plane shapes such as square and parallelogram i) List their differences 2. Calculate the perimeter of square, rectangle, triangle, etc with given dimensions. 3. Calculate the area of plane shapes: square, rectangle. 4. List properties of parallelogram, rhombus and kite.	• Commercial or model plane shapes: square, rectangle, triangle, parallelogram, Kite, etc. • Cardboard, objects in the classroom. • Charts showing different plane shapes. • pictures and maps	Learners to: 1. give 2 similarities between square and //gram; 2. give 2 differences between square and //gram; 3. calculate the perimeter of plane shapes; 4. calculate the area of a given plane shapes; 5. draw a football field 120m by 80m with a scale factor of 111000

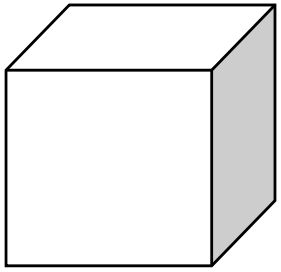
ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: MENSURATION AND GEOMETRY **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
			Guides Learners to: 5. Compare size of real object and its sketch of real football field and the map. ii) Compute scale factors iii) Use scale factors to draw length and area on paper 6. (i) Demonstrate area of circle using paper cut out sectors from circle and rearranging them to form s rectangle as shown: 7. Solve problems on quantitative reasoning	5. Compute scale factors of figures given scale factors on paper. 6. Calculate the area of circle given the radius. 7. Solve quantitative reasoning problems.		5 calculate the area of a circle; 6 solve problems in perimeter area and scale involving quantitative reasoning.

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: MENSURATION AND GEOMETRY **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
2. 3-Dimensional Shapes.	Learners should be able to: 1. list basic properties of cubes and cuboids; 2. list basic properties of pyramids and cones; 3. Derive formula for finding volume of cube and cuboid; 4. calculate the volumes of cubes and cuboids.	1. Basic properties of cubes and cuboids 2. Basic properties of pyramids and cones 3. Formula for calculating volume of cube and cuboid. 4. Volumes of cubes and cuboids.	Guides Learners to:- 1. discover the basic properties of cubes and cuboids: faces, edges and vertices. 2. discover the basic properties of pyramids and cones: faces edges and vertices 3. derive the formula for finding volume: Basic Area X height to find the volume of cubes and cuboids 4. calculate the volume of cube and cuboid 	1. count the number of face, edges and vertices in both cube and cube and cuboids 2. identify faces edges and vertices in pyramid and cone, and count them. 3. Derive the formula. Based, Area x heights to find the volume of cubes and cuboids. 4. Use the formula to calculate the volume of cube and cuboid.	• Commercial or improvised cubes, cuboids, pyramids and cones. • Dennis Blocks.	Learners to: 1. list the properties of a cube and cuboids. 2. List basic How many faces has a pyramid? 3. Calculate the volume of a cuboids with given dimensions.

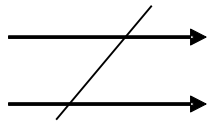
ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

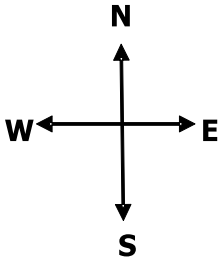
THEME 2: MENSURATION AND GEOMETRY **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
3. Construction	Learners should be able to: 1. construct parallel and perpendicular lines 2. bisect a given line segment 3. construct angles 90^0 and 60^0 4. construct given triangle 5. bisect any given angle 6. construct angles: 45, 30 7. copy a given angle.	1. Construction of parallel and perpendicular lines 2. Bisecting a given line segment 3. Construction of angles 90^0 and 60^0 4. Construction of triangles 5. Bisecting a given angle 6. Construction of angle 45^0, 30^0 7. Copying given angles	Guides Learners to:- 1. demonstrate the construction of: (i) Parallel lines (ii) Perpendicular lines, while learned each stage done by the teacher. 2. demonstrate the bisection of a given line segment. 3. demonstrate construction of angles 90^0 and 60^0 4. demonstrate construction of a given triangles 5. demonstrate the bisection of given angle 6. follow the instructions in the construction of angles 45, 30 7. copy any angle.	1. repeat each stage done by the teacher on the board on their paper. 2. repeat what the teacher did. 3. repeat what the teacher did. 4. repeat what the teacher did. 5. repeat the stages with the teacher 6. follow the instruction of the teacher 7. follow the instruction of the teacher to copy any angle	Ruler, pencil, Compasses set Square pair of divider	1. Construct parallel and perpendicular lines. 2. Bisect a given line segment. 3. Contract angles 90^0 and 60^0. 4. Construct given triangle with given dimensions and angles. 5. Bisect any given angle. 6. Construct angles: 45, 30 using compasses, ruler and pencil only 7. Using compasses, ruler and pencil only, copy the given triangle.

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: MENSURATION AND GEOMETRY **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
4. Angles	Learners should be able to: 1. measure angles correctly. 2. identify/properties: (i) vertically opposite angles (ii) adjacent angles (iii) alternate angles (iv) corresponding angles 3. Outline the properties of: (i) angles at a point (ii) angle on a straight line 4. develop formula for sum of interior angles of a polygon. 5. (i) distinguish between angles of elevation and angles of depression	1. Measurement of angles 2. Identification and properties of vertically opposite, adjacent, alternate and corresponding angles 3. Properties of angles at a point and angles on a straight line 4. Sum of interior angles of a polygon 5. Angles of elevation and depression	Guides Learners to:- 1. demonstrate the use of protractor to measure angles 2. identify: (i) Vertically opposite angles (ii) Adjacent angles (iii) Alternate angles (iv) Corresponding angles. 3. use paper cuttings to lead learners to identify angles at a point and angles on a straight line and their values. 4. develop the formula for finding the sum of interior angles of a polygon.	1. practice measuring angles with protractor 2. indicate: (i) vertically opposite angles (ii) adjacent angles (iii) Alternative angles (iv) Corresponding angles Stating their properties. 3. demonstrate angles at a point and angle on a straight line. 4. Complete the table: Polygon | Sides | No of △ Triangle | Angle △ | 3 | 1 | $1x180^o$ □ | 4 | 2 | $2x180^o$	Protector, cardboard, cutter, chart showing two parallel lines and a transversal chart illustrating angle of elevation and depression.	Learners to: 1. Using protector draw the following angles: 35^0, 65^0. 2. Identify corresponding angles in the diagram  3. What is the sum of interior angles of a polygon with 7 sides? 4. Solve relevant problem on angles of elevation and depression.

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
			5. use chart to lead learners to distinguish between angles of elevation and angles of depression, then solve relevant problems	5. indicate angles of elevation and angle of depression then solve relevant problems		5. Identify angles of elevation and depression
5. Bearing	Learners should be able to: 1. identify the cardinal points. 2. Locate the position of an object.	Bearing of objects at a given point or position	Guides learners to:- 1. describe the cardinal points.  2. master the order of reading i.e. North is the fixed direction and movement is always in the clockwise direction. To locate the position of an object use 3 object use 3 digits e.g. 037°	1. identify the direction of the north, east, south and west. 2. state the bearing of an object from a fixed point.	chart, ruler, compass 360° protractor pictures.	Learners to solve this: what is the bearing of P from Q given that the bearing of Q from P is 80°

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: MENSURATION AND GEOMETRY **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
6. Similar Shapes	Learners should be able to: 1. identify similar shapes 2. enlarge or reduce figures using scale factors; 3. calculate lengths, areas and volumes of similar figures.	1. Similar shapes 2. Enlargement and scale factor 3. Lengths, areas and volumes of similar shapes	1. Guides learners to identify similar shapes around them. 2. demonstrate the idea of enlargement or reduction by scale factor. 3. use of ratio of lengths of similar figures. If ratio of length is 1:P them ratio of Area is $1:P^2$. 4. Ratio of volume is $1:P^2$	1. Identify similar shapes around them. 2. Illustrate the meaning of enlargement or reduction and scale factor. 3. Apply the scale factor in calculation of length, area and volume of similar shapes.	Charts showing similar shapes cubes, sphere, squares, equilateral triangles.	Learners to; 1. identify the similar shapes in the diagram that follows. 2. determine the scale factor. 3. reduce the following figure using the scale factor. 4. find the lengths, area and volumes of given similar figures.

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: MENSURATION AND GEOMETRY **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
Trigonometry	Learners should be able to: 1. Recognise sine, cosine and tangent of an acute angle; 2. Use trigonometric ratio to solve related problems of finding distances and angles. 3. Solve quantitative reasoning on trigonometric ratios.	1. Sine, cosine and tangent of an acute angle 2. Applications of trigonometric ratios 3. Quantitative reasoning	1. Leads learners to: define sine, cosine and tangent of acute angle. 2. Use right angled triangle, lead learners to apply trigonometric ratios to practical problems requiring distances and angles. 3. Guides learners to solving problems in quantitative reasoning.	1. Define sine, cosine and tangents using the ratios of the sides of the right triangle. 2. Apply trigonometric ratios to solving practical problems on distances and angles. 3. Solve quantitative reasoning problems on trigonometric ratios.	1. Chart of right angled triangle	Learners to: 1. compute the sine or cosine or tangent of a given acute angle. 2. find the side(s) of a given right angled triangle with one angle and one side given. 3. with a given sample of a problem in quantitative reasoning, find the require ratios i.e sine, cosine or tangent

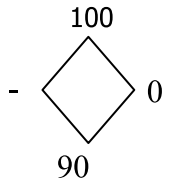
ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: ALGEBRAIC PROCESS **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
1. Use of Symbols	Learners should be able to: 1. interpret open sentence and supply values to complete the statement. 2. replace the open part of the statement with letters. 3. solve open sentences involving two basic operations. 4. deal correctly word problems involving use of letters. 5. solve quantitative reasoning on open sentences.	1. Open sentences 2. Use of letters to represent symbols or shapes in an open sentences 3. Solving open sentences with two arithmetic operations 4. Word problems involving the use of symbols 5. Quantitative reasoning	1. Give learners to determine values that will make a statement true. 2. Guides learners to replace the open part of a statement with letter and after find the value of the letter which makes the statement true e.g. 7 - □= 3 is the same as 7 – b = 3. 3. Leads learners to solve problems in open sentences that involve multiplication and addition or subtraction , division and addition or substation. E.g. 5 x □+ 7 = 52 Is the same as 5n + 7 = 52 4. Leads learners to interpret word problems in open sentences correctly and then solve. 5. Guides learners in dealing with problems in quantitative reasoning.	1. Identify value that will correctly complete a given statement 2. Choose any letter with which to replace the open part of any statement. 3. Find the open part of a statement involving two basic operations. 4. Write correct statements of the open sentence using letters, solve the statement. 5. Solve quantitative reasoning problems on open sentences.	1. Charts containing statements with open part. 2. Flash cards 3. Learners and items in the classroom.	Learners to: 1. find value to be put in the box to make the statement true? 2. replace the box with any letter and then find the value of the letter. 3. find the value of t that will make this statement true: 4t – 13 = 45; 4. rewrite the open sentences using symbols and then solve. 5. following the sample given to complete the quantitative reasoning problems.

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: ALGEBRAIC PROCESS **LEVEL THREE** **STAGE TWO**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
2. Simplification Of Algebraic Expressions	Learners should be able to: 1. Identify like and unlike term in algebraic expression. 2. Recognize the co-efficient of variable in algebraic expressions. 3. Deal with basic operation employed in algebraic expressions. 4. Handle brackets correctly 5. Solve quantitative reasoning on basic operation in algebraic expression.	1. Like and unlike terms in algebraic expressions 2. Co-efficient of terms in algebraic expressions 3. Basic operation (arithmetic) applied to algebraic expressions of similar terms 4. Use of Brackets 5. Quantitative Reasoning	Guides learners to: 1. recognize like terms and unlike terms in algebraic expression. 2. recognize the co-efficient of variable in algebraic expressions. 3. handle basic operations employed in algebraic expressions correctly. 4. practice the correct use of brackets. 5. problems in quantitative reasoning.	1. Identify like terms in a given algebraic expression which term are unlike. 2. State the co-efficient of a particular variable in the algebraic expressions. 3. Perform the basic operation involving algebraic expressions. 4. Show the correct order of removing brackets. 5. Solve problems in quantitative reasoning	1. Charts showing like terms, unlike terms and co-efficient of variables.	Learners to: 1. find terms that are alike in the given algebraic expression. 2. in the given algebraic expression indicate the co-efficient of each of the variables. 3. simplify the expressions. 4. open the brackets and the simplify. 5. solve the following quantitative aptitudes i. $\square + 5 = 16$ ii. 

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 1: ALGEBRAIC PROCESS **LEVEL THREE** **STAGE THREE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
1. Simple Equation	Learners should be able to: 1. Translate word problem into equation 2. Solve simple equation problems 3. Simplify algebraic expression of fractions with Monomial Denominators	1. Translation of word problems into equations and vise-versa 2. Problems in simple equations 3. Algebraic expressions of fractions with monomial denominators	1. Guides learners to generate mathematical equations from word problem E.g The age of Ade is half of his mother's age while his father is 2 years older than the mother what is Ade's age? If the additional age of Ade Mother and Father is 62 Hint: Take Ade's age to be X, Ade's mother is 2(Ade's age)= 2x Ade's Father is 2X+2 Ade's Mother= 2x Ade's Father= 2x+2 Ade's (Mother +Father age)= 62 1.e 2x+2x+2= 62 4x+2=62, 4x=62-2, 4x=60, x=60/4 X=15 (Hence Ade's Age is 15, Ade's mother is 30, while Ade's Father is 32 2. Guide Learners to solve Simple equation such as: 4y-6=3y+1 or 3n+2/10=2 3.Lead learners to simplify algebraic expression on fractions with Monomial Denominator e.g 1/d+1/f=d+f/df	1. Practice the translation of word problems into equations following the teachers guidance 2. Solve Simple Equation problems 3. Simplify different algebraic expression in fractions with Monomial Denominators	Flash Cards or cardboard	Learners to: 1. Translate word problems into equations 2. Solve simple equations 3. Simplify algebraic expressions in fractions with Monomial Denominators

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 1: ALGEBRAIC PROCESS **LEVEL THREE** **STAGE THREE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
2. Simple Equation involving Fractions	Learners should be able to: 1. Solve simple equation problems involving fractions 2. Solve word problems in simple equations involving fractions	1. Simple equations involving fractions 2. Word problems in simple equations involving fractions	1. Leads learners to Solve problems on simple equations involving fractions e.g 7/9 +a/3=1 Multiply all terms by 9 7+3a=9, collect like terms 3a=2, a=2/3 2. Guide learners to translate word problems on simple equation leading to with fractions e.g At Birthday party the girls ate 1/5 Bread and boys ate 4 /15 bread. How many bread were eaten in all?	1. Solve Simple problems on simple equation involving fractions 2. Translate word problems leading to simple equation with fractions	Flash Cards or cardboard of simple equation showing fractions	Learners to: 1. Solve simple equation problems involving fractions 2. Solve word problems in simple equations involving fractions
3. Graph	Learners should be able to: 1. Identify x-axis and y-axis 2. Plot points on the Cartesians plane 3. Plot graph on linear equations in two variables 4. Plot linear graph from real life situations	1. Plotting points on Cartesian plane 2. Graphs of linear equations in two variables 3. Linear graphs from real life situations	1. Leads Learners to Identify x and y axis 2. Guides learners to plot given point on Cartesian plane 3. Shows a 3 minutes video clip on how to generate and plot linear equation in two variables e.g (www.youtube.com/watch?v=1LuLu4lknn4) 4. Guide learners to plot linear graph from real life situation.	1. Identify x and y axis 2. Plot given point on Cartesian plane using different examples 3. Watch 3 minutes video clip on how to generate and plot linear equation in two variables 4. Plot linear graph using real life situation with the teachers guidance	• Video clips • Multimedia projector • Functional Computer system with internet service • Graph board and graph paper • Ruler • Pencil etc.	Learners to: 1. Identify x-axis and y-axis 2. Plot points on the Cartesians plane e.g (2,3), (4,5) etc. 3. Plot graph on linear equations in two variables 4. Plot linear graph using real life situations

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 1: ALGEBRAIC PROCESS **LEVEL THREE** **STAGE THREE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
4. Simultaneous Linear Equation	Learners should be able to: 1. Compile tables of values for simultaneous linear functions 2. Solve linear equation using elimination method 3. Solve linear equation using substitution method 4. Solving linear equation using graphical method	1. Construction of table of values of pair of variables 2. Graphical solutions to simultaneous linear equation 3. Solution of simultaneous linear equation by elimination method 4. Solution of simultaneous equation using substitution method	1. Guide learners in calculating the values of linear equation for different variables and present their solution on table form. 2. Show a short video clip on solving linear equation problem using elimination method https://www.youtube.com/watch?v=LXoIDjlH1hc 3. Show a short video clip on solving linear equation problem using substitution method https://www.youtube.com/watch?v=nktKTvfqB0c 4. Show a short video clip on solving linear equation problem using Graphical method https://www.youtube.com/watch?v=6lzt3r4aBOs	1. Calculate the values of linear equation for different variables and present their solution on table form. 2. Watch video clip on solving linear equation problem using : • elimination method • substitution method • graphical method Then practice a few questions with each method	• Video clips • Multimedia projector • Functional Computer system with internet service • Graph board and graph paper • Ruler Pencil Table of values	Learners to : 1. Compile tables of values for simultaneous linear functions 2. Solve linear equation using elimination method 3. Solve linear equation using substitution method 4. Solving linear equation using graphical method

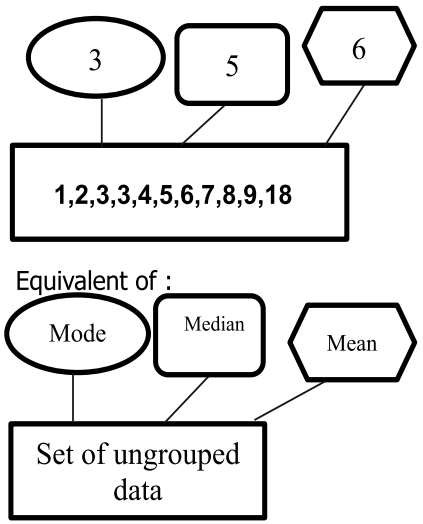
ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: EVERYDAY STATISTICS **LEVEL THREE** **STAGE THREE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
1. Need for Statistics	Learners should be able to: 1. Define statistics 2. Identify the purpose of statistics 3. Collect simple data	1. Meaning of Statistics 2. Purposes of Statistics 3. Needs for data collection for planning purposes 4. Collection of data	1. Coordinates leaners to share knowledge on what they understand by statistics 2. Guides leaners to identify the purpose of statistics 3. Groups leaners and asks them to provide simple information about themselves e.g Gender, age, number in the family, color of sanders parents occupation etc and explain to them how that information given are known as data.	1. Explain the meaning of the word "statistics" 2. identify the purposes of statistics 3. Provide simple information about themselves to generate data	Different samples of Demographic data	Learners to: 1. Define statistics 2. Identify the purposes of statistics 3. Collect simple data
2. Data Presentation	Leaners should be able to: 1. Generate data 2. Draw a frequency table 3. Draw pie chat	1. Frequency table 2. Pie charts	1. Leads learner to generate data using their age and gender 2. Guides Leaners to draw a frequency table using the generated data from age and gender. 3. Leads leaners to use the generated data to draw a pie chat	1. Generate data using their age grade 2. draw a frequency table using the generated age grades 3. use the generated o draw a pie chat		Leaners to: 1. Generate data 2. Draw a frequency table 3. Draw pie chat

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: EVERYDAY STATISTICS **LEVEL THREE** **STAGE THREE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
3. Measure of Central Tenden-cies	Leaners should be able to: 1. Calculate: a. Mode b. Median c. Mean 2. Apply measure of central tendencies to analyze any given information 3. Solve quantitative reasoning problems involving a. Mode b. Median c. Mean	1. Measurement of Central tendencies: a. Mode b. Median c. Mean 2. Quantitative reasoning problems on central tendencies 3. Applications of measures of central tendency and analyze any given information	1. Guide learners to collect ungrouped data e g. Data about their respective age in the class or a demographic data presented by the teacher and find its: a. Mode b. Median c. Mean 2. Guide leaners to identify that in any ungrouped data, Mean is the average, Mode is number with the highest occurrences, while median is the middle number when data are arranged in ascending or descending order 2. Leads learners to solve quantitative reasoning problems such as 	1. calculate the: a. Mean b. Mode and c. Median of a demographic data presented to them by the teacher	Data chats	Leaners to: 1. calculate: a. Mode b. Median c. Mean 2 apply measure of central tendencies to analyze any given information 3. Solve quantitative reasoning problem involving a. Mode b. Median c. Mean

ACCELERATED BASIC EDUCATION CURRICULUM (MATHEMATICS)

THEME 2: EVERYDAY STATISTICS **LEVEL THREE** **STAGE THREE**

TOPIC	PERFORMANCE OBJECTIVES	CONTENT	ACTIVITIES		TEACHING AND LEARNING RESOURCES	EVALUATION GUIDE
			TEACHER	LEARNERS		
2.Probability	Learners should be able to: 1. Explain the occurrence of chance events in everyday life 2. Determine the probability of certain events	1. Occurrence of chance events in everyday life 2. Probability of chance events	1. Leads learners to give examples of events of chances in everyday life e.g chances or event that rain will fall in January 2. Leads learners to toss a coin or roll a die 3. Guides learners calculate the probability that the tossed coin will be "head or tail" or that a particular number will appear while rolling a die 4. Guide learners to link statistical data with the use of probability such as Mortality rate etc.	1. Give examples of chance of events in everyday life 2. Participate in tossing a coin or rolling a dice 3. Calculate the probability that the tossed coin could be "head or tail" or that a particular number will appear while rolling a dice	• Coin • Dice • Information sheet or event	Learners to: 1. Give 4 examples of occurrences of chance events in everyday life 2. Calculate the probability events

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