PROVINCE OF THE
EASTERN CAPE
EDUCATION

DIRECTORATE:
CURRICULUM FET PROGRAMMES

LESSON PLANS

TERM 4
MATHEMATICAL LITERACY
GRADE 12

FOREWORD

The following Grade 10, 11 and 12 Lesson Plans were developed by Subject Advisors during May 2009. Teachers are requested to look at them, modify them where necessary to suit their contexts and resources. It must be remembered that Lesson Plans are working documents, and any comments to improve the lesson plans in this document will be appreciated. Teachers are urged to use this document with the following departmental policy documents: Subject Statement; LPG 2008; SAG 2008; Examination Guidelines 2009 and Provincial CASS Policy / Guidelines.

Lesson planning is the duty of each and every individual teacher but it helps when teachers sometimes plan together as a group. This interaction not only helps teachers to understand how to apply the Learning Outcomes (LOs) and Assessment Standards (ASs) but also builds up the confidence of the teachers in handling the content using new teaching strategies.

It must please be noted that in order to help teachers who teach across grades and subjects, an attempt has been made to **standardise lesson plan templates** and thus the new template might not resemble the templates used in each subject during the NCS training. However, all the essential elements of a lesson plan have been retained. This change has been made to assist teachers and lighten their administrative load.

Please note that these lesson plans are to be used only as a guide to complete the requirements of the Curriculum Statements and the work schedules and teachers are encouraged to develop their own learner activities to supplement and /or substitute some of the activities given here (depending on the school environment, number and type of learners in your class, the resources available to your learners, etc).
Do not forget to build in the tasks for the Programme of Assessment into your Lesson Plans.

Strengthen your efforts by supporting each other in clusters and share ideas. Good Luck with your endeavours to improve Teaching, Learning and Assessment.

SUBJECT: MATHEMATICAL LITERACY. GRADE 12. LESSON PLAN 1. TERM 4. TIME: 4½ HOURS.							
Content : Revision /Remedial work on Trial Examination.				Context : Exams. Tips.			
Link with previous lesson :							
KNOWLEDGE (K): Number and operations in context, Functional Relationships, Space, Shape and Measurement, Data Handling. SKILLS (S): Problem solving, Exam. writing skills. VALUES (V): Gain self-confidence, self-belief.							
LO 1. Numbers and operations in context. *The learner is able to use knowledge of numbers and their relationships to investigate a range of different contexts which include financial aspects of personal, business and national issues.*		*LO 2: Functional Relationships.* *The learner is able to recognize, interpret, describe and represent various functional relationships to solve problems in real and simulated contexts.*		*LO 3: Space, Shape & Measurement.* *The learner is able to measure, estimate and calculate physical quantities and to interpret, describe and represent properties and relationships between 2- and 3-* *Dimensional objects.*		*LO 4: Data Handling.* *The learner is able to collect, summarize, display and analyze data and apply knowledge of statistics and probability to communicate, justify & predict findings and draw conclusions.*	
AS: 12.1.1 Correctly apply problem solving and calculation skills to situations and problems dealt with.	√	AS:12.2.1 Work with numerical data and formulae in a variety of real life situations to solve design and planning problems	√	AS: 12.3.1 Solve problems in 2- dimensional and 3-dimensional contexts by estimating, measuring and calculating values.	√	AS: 12.4.1. Investigate problems on issues relating to social, environmental and political factors using appropriate statistical methods and comparing data from different sources and samples	√
AS: 12.1.2 Relate calculated answers correctly and appropriately to the problem situations.	√	AS; 12.2.2 Draw graphs as required by the situations and problems being investigated.	√	AS: 12.3.2 Convert units of measurement between different scales as required in dealing with problems.	√	AS: 12.4.2 Choose and interpret the use of method to summarize and display data in statistical charts and graphs. Describe trends.	√
AS: 12.1.3 Analyze and critically interpret a variety of financial situation – personal and business finance, taxation, inflation and effects of changes in interest rates on personal credit,	√	AS: 12.2.3 Critically interprets tables and graphs including graphs with negative values on axes and more than one graph on a system of axes.	√	AS: 12.3.3 Use and interpret scale drawings of plans to estimate and calculate values according to scale and build models.	√	AS: 12.4.3 Compare data using measures of central tendencies and spread – mean, median , mode variance , standard deviation, quartiles and percentiles	√

investment options.							
				AS: 12.3.4 Use grids to determine locations and describe relative positions.	√	AS: 12.4.4. Represent and critically analyze data, statistics and probability values to draw conclusions and predict trends.	√
				AS: 12.3.5 Use basic trigonometric ratios - sine, cosine and tangent to interpret and solve problems.	√	AS; 12.4.5. Critically engage with the use of probability values in making predictions of outcomes in the contexts of games and real life situations.	√
				AS: 12.3.6 Recognize, visualizes, describe and compare geometrical figures and solids.	√	AS: 12.4.6 Critically evaluate statistically base arguments , describe the use and misuse of statistics and make well-justified recommendations	√

Teacher Activity	Learner Activity	Assessment	Resources	Date completed
ACTIVITY 1. Revision of Trial Exam. Paper 1. Teacher organizes learners in groups and gives them tasks to answer Paper 1 questions. Guides the learners where necessary to correct their mistakes.	Learners solve all problems in Paper 1 and correct their mistakes. Independently solves similar problems from other exemplar papers to gain more confidence and problem solving skills.	Teacher observation, Group work, Class work, Home work.	Trial Examination questions and memos. Additional exemplars.	
ACTIVITY 2. Revision of Trial Exam.				

Paper 2. Teacher organizes learners in groups and gives them tasks to answer Paper 2 questions. Guides the learners where necessary to correct their mistakes.	Learners solve all problems in Paper 2 and correct their mistakes. Independently solves similar problems from other exemplar papers to gain more confidence and problem solving skills.	Teacher observation, Group work, Class work, Home work.	Trial Examination questions and memos. Additional exemplars.	

Home work	
Expanded opportunities	Provide learners opportunity to answer as many exemplar and past question papers as possible.
Teacher reflections	

Signature of: Teacher: …….. HOD: ……

Date:…… Date: …….

SUBJECT: MATHEMATICAL LITERACY. GRADE 12. LESSON PLAN 2. TERM 4. TIME: 4½ HOURS.							
Content : Number and Operations in context; Functional Relationships. Context: Preparation for end-of-year Exams.							
Link with previous lesson : Grade 11 and 12 LO1 and LO2 contents.							
KNOWLEDGE (K): Number and operations in context, Functional Relationships. SKILLS (S): Problem solving, Exam. writing skills. VALUES (V): Gain self-confidence, self-belief and motivation.							
LO 1. Numbers and operations in context. *The learner is able to use knowledge of numbers and their relationships to investigate a range of different contexts which include financial aspects of personal, business and national issues.*		*LO 2: Functional Relationships.* *The learner is able to recognize, interpret, describe and represent various functional relationships to solve problems in real and simulated contexts.*		*LO 3: Space, Shape & Measurement.* *The learner is able to measure, estimate and calculate physical quantities and to interpret, describe and represent properties and relationships between 2- and 3-* *Dimensional objects.*		*LO 4: Data Handling.* *The learner is able to collect, summarize, display and analyze data and apply knowledge of statistics and probability to communicate, justify & predict findings and draw conclusions.*	
AS: 12.1.1 Correctly apply problem solving and calculation skills to situations and problems dealt with.	√	AS:12.2.1 Work with numerical data and formulae in a variety of real life situations to solve design and planning problems	√	AS: 12.3.1 Solve problems in 2- dimensional and 3-dimensional contexts by estimating, measuring and calculating values.		AS: 12.4.1. Investigate problems on issues relating to social, environmental and political factors using appropriate statistical methods and comparing data from different sources and samples	
AS: 12.1.2 Relate calculated answers correctly and appropriately to the problem situations.	√	AS; 12.2.2 Draw graphs as required by the situations and problems being investigated.	√	AS: 12.3.2 Convert units of measurement between different scales as required in dealing with problems.		AS: 12.4.2 Choose and interpret the use of method to summarize and display data in statistical charts and graphs. Describe trends.	
AS: 12.1.3 Analyze and critically interpret a variety of financial situation – personal and business finance, taxation, inflation and effects of changes in interest rates on personal credit, investment and growth options.	√	AS: 12.2.3 Critically interprets tables and graphs including graphs with negative values on axes and more than one graph on a system of axes.	√	AS: 12.3.3 Use and interpret scale drawings of plans to estimate and calculate values according to scale and build models.		AS: 12.4.3 Compare data using measures of central tendencies and spread – mean, median , mode variance , standard deviation, quartiles and percentiles	

				AS: 12.3.4 Use grids to determine locations and describe relative positions.		AS: 12.4.4. Represent and critically analyze data, statistics and probability values to draw conclusions and predict trends.	
				AS: 12.3.5 Use basic trigonometric ratios - sine, cosine and tangent to interpret and solve problems.		AS; 12.4.5. Critically engage with the use of probability values in making predictions of outcomes in the contexts of games and real life situations.	
				AS: 12.3.6 Recognize, visualizes, describe and compare geometrical figures and solids.		AS: 12.4.6 Critically evaluate statistically base arguments , describe the use and misuse of statistics and make well-justified recommendations	

Teacher Activity	Learner Activity	Assessment	Resources	Date completed
ACTIVITY 1. Number and operations In context. Teacher collects sample questions on topics in LO1 and provides copies to learners to solve problems either individually or in groups. Assists learners or groups having difficulty and gives them tips and advices in approaching a problem and solving it.	Learners solve problems and use teacher's advices and tips in solving problems exam. problems. They practice with more challenging problems to boost their confidence and skills in solving problems individually without assistance.	Teacher observation, Class work, Home work.	Past exam. papers and exemplar questions. Examiner's report.	

ACTIVITY 2. Revision work on Functional Relationships. Teacher collects as many sample question on topics in LO 2 and gives copies to learners to solve problems either individually or in groups. Assists learners or groups having difficulty and gives them tips and advices in approaching a problem and solving it	Learners solve problems and use teacher's advices and tips in solving problems exam. problems. They practice with more challenging problems to boost their confidence and skills in solving problems individually without assistance.	Teacher observation, Class work, Home work.	Past exam. papers and exemplar questions. Examiner's report.	

Home work	
Expanded opportunities	More challenging tasks are given to learners from different study guides to improve their problem-solving skills.
Teacher reflections	

Signature of: Teacher: …….. HOD: ……

Date:…… Date: …….

SUBJECT: MATHEMATICAL LITERACY. GRADE 12. LESSON PLAN 3. TERM 4. TIME: 4½ HOURS.							
Content : Space, Shape and Measurement; Data handling				Context: Preparation for end-of-year examinations.			
Link with previous lesson : Grade 11 and 12 LO3 and LO4 content.							
KNOWLEDGE (K): Space, Shape and Measurement, Data Handling. SKILLS (S): Problem solving, Exam. writing skills. VALUES (V): Gain self-confidence, self-belief.							
LO 1. Numbers and operations in context. *The learner is able to use knowledge of numbers and their relationships to investigate a range of different contexts which include financial aspects of personal, business and national issues.*		*LO 2: Functional Relationships.* *The learner is able to recognize, interpret, describe and represent various functional relationships to solve problems in real and simulated contexts.*		*LO 3: Space, Shape & Measurement.* *The learner is able to measure, estimate and calculate physical quantities and to interpret, describe and represent properties and relationships between 2- and 3-* *Dimensional objects.*		*LO 4: Data Handling.* *The learner is able to collect, summarize, display and analyze data and apply knowledge of statistics and probability to communicate, justify & predict findings and draw conclusions.*	
AS: 12.1.1 Correctly apply problem solving and calculation skills to situations and problems dealt with.		AS:12.2.1 Work with numerical data and formulae in a variety of real life situations to solve design and planning problems		AS: 12.3.1 Solve problems in 2- dimensional and 3-dimentional contexts by estimating, measuring and calculating values.	√	AS: 12.4.1. Investigate problems on issues relating to social, environmental and political factors using appropriate statistical methods and comparing data from different sources and samples	√
AS: 12.1.2 Relate calculated answers correctly and appropriately to the problem situations.		AS; 12.2.2 Draw graphs as required by the situations and problems being investigated.		AS: 12.3.2 Convert units of measurement between different scales as required in dealing with problems.	√	AS: 12.4.2 Choose and interpret the use of method to summarize and display data in statistical charts and graphs. Describe trends.	√
AS: 12.1.3 Analyze and critically interpret a variety of financial situation – personal and business finance, taxation, inflation and effects of changes in interest rates on personal credit, investment and growth options.		AS: 12.2.3 Critically interprets tables and graphs including graphs with negative values on axes and more than one graph on a system of axes.		AS: 12.3.3 Use and interpret scale drawings of plans to estimate and calculate values according to scale and build models.	√	AS: 12.4.3 Compare data using measures of central tendencies and spread – mean, median , mode variance , standard deviation, quartiles and percentiles	√

				AS: 12.3.4 Use grids to determine locations and describe relative positions.	√	AS: 12.4.4. Represent and critically analyze data, statistics and probability values to draw conclusions and predict trends.	√
				AS: 12.3.5 Use basic trigonometric ratios - sine, cosine and tangent to interpret and solve problems.	√	AS; 12.4.5. Critically engage with the use of probability values in making predictions of outcomes in the contexts of games and real life situations.	√
				AS: 12.3.6 Recognize, visualizes, describe and compare geometrical figures and solids.	√	AS: 12.4.6 Critically evaluate statistically base arguments , describe the use and misuse of statistics and make well-justified recommendations	√

Teacher Activity	Learner Activity	Assessment	Resources	Date completed
ACTIVITY 1. Revision work on Space. Shape and Measurement. Teacher provides learners with a worksheet consisting of questions on: - 2D and 3D problems, - conversion of units, - interpretation and use of scales in plans and maps, - use of grids, maps and compass directions. Briefly explains the important concepts involved in the learning outcome and guides learners to solve problems.	Learners solve problems on the worksheet individually or in groups and compares their answers with their peers or other groups and then with the memo. They practice with more challenging problems to boost their confidence and skills in solving problems individually without assistance.	Teacher observation, Class work, Home work.	Past exam. papers and exemplar questions. Worksheet Examiner's report.	

ACTIVITY 2. Revision work on Data handling. Teacher provides worksheet comprising of questions on : - collection and display of data, - analysis and interpretation of data, - investigation on real-life problems, - calculating and using measures of central tendencies and spread, - calculations of probabilities and making predictions.	Learners solve problems on the worksheet individually or in groups and compares their answers with their peers or other groups and then with the memo. They practice with more challenging problems to boost their confidence and skills in solving problems individually without assistance.	Teacher observation, Class work, Home work.	Past exam. papers and exemplar questions. Worksheet Examiner's report.	
ACTIVITY 3. Exam. writing tips. Teacher discusses and provides learners important tips on how to: - prepare for the examination, - divide time in answering questions, - save time during examination, - score maximum marks in the exam; etc.	Learners take note of all available tips in preparing for and writing the examination so that they remain relaxed and confident.			

Home work	
Expanded opportunities	More challenging tasks are given to learners from different study guides to improve their problem-solving skills.
Teacher reflections	

Signature of: Teacher: …….. HOD: ……

Date:…… Date: …….