MATHEMATICAL LITERACY

EXEMPLAR LESSON PLANS ON GRADE 10,11,12

Attached herewith, please find suggested lesson plans for term 1 of MATHEMATICS LITERACY Grade 10,11,12
Please note that these lesson plans are to be used only as a guide 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).

Lesson planning is a necessary exercise for each and every individual teacher however it helps when teachers sometimes plan together as a group. This interaction not only help teachers to understand how to apply the Learning Outcomes (LOs) and Assessment Standards (ASs) but also build up the confidence of the of teachers in handling the content using new teaching strategies.
The Learning Outcomes for the other subjects with which one can integrate have not been identified. The other subjects with which possible integration can be made have been listed. The Lesson plan could therefore change if the other subject/s, their LOs and Ass could be clearly stated. 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 endeavors to improve Teaching, Learning and Assessment.

MATHEMATICAL LITERACY   LESSON PLANS

GRADE 12.   LESSON PLAN   1

Subject**:** **MATHEMATICAL LITERACY**			Grade 12
Lesson Plan: Personal finance and business services			Number of Activities: 3
Duration: +/- 13H30Min			Week: 1 – 3 Date : ……………………….
Context: Business and Financial Services			
Link with previous lesson: Ratio, rate and percentages; basic calculations with simple and compound interests.			
CORE CONTENT: KNOWLEDGE (K): Simple and Compound interest, Financial management. SKILLS (S): Problem solving, decision making, budgeting, Calculation skills. VALUES (V): Appreciation of the knowledge and understanding of financial management and the ability to make informed decisions.			

	ACTIVITY 1	ACTIVITY 2	ACTIVITY 3
Activity Content	Saving options	Investments	Loan Options.
LO,s and AS's	12.1.3; 12.2.1.	12.1.3; 12.2.1.	12.1.3; 12.2.1.
Detail of Activity .	Teacher defines and explains the terms that are relevant to financial mathematics. Loans, principal, interest, rate, period, simple and compound interests	Learners workout interest compounded on different periods and at different rates and compare interest gained.(e.g. monthly, quarterly, half-yearly, annually). Learners do calculations by correctly substituting in formulae.	Learners collect adverts from car dealers, furniture shops, etc. to do group discussion to compare and choose best options. Learners do calculations and compare results to make informed decisions.
Teaching Methods	Explanation, discussion	Group work.	Group work, discussion
Assessment Strategy :Form : Tool : Method	Class work, Home work. Memos. Peer, self and educator.	Group work , class work and home work. Memos. Individual, peer.	Investigation, Short test. Rubric, Memo. Teacher.
Expanded Opportunities:	Invite sales personnel for further explanation on financial aspects.		
Resources	Pamphlets, brochures.	Pamphlets and brochures.	Adverts, Magazines, Worksheets.
Teacher reflection			

LESSON PLAN   2

Subject: **MATHEMATICAL LITERACY**	Grade 12
Lesson Plan: Taxation, bond repayments, Foreign exchange.	Number of Activities 3
Duration: +/- 13H30	Week: 4 – 6 Date: ……………………..

Context: Socio-economic, Business and financial services.
Link with previous lesson: Financial indicators, Knowledge of graphs and pie-charts.
CORE CONTENT: (KSV) KNOWLEDGE (K): Taxation, Loan repayments, Currency fluctuation. SKILLS (S): Tax calculation, Decision making, working in groups. VALUES (V): Appreciation and respect of financial disciplines , understanding agreements and contracts and its consequences and benefits.

	ACTIVITY 1	ACTIVITY 2	ACTIVITY 3
Activity Content	Fixed and variable interest rates.	Taxation	Bond repayments. Foreign exchange.
LO,s and AS's	12.1.3; 12.2.1.	12.1.3; 12.2.1.	12.1.3; 12.2.1.
Detail of Activity			
Teaching Methods	Teacher gives explanation on the meaning and purpose of income tax, VAT and company taxes and its benefits and their relation to SARS. Teacher explains the meaning of inflation , CPI index and its effect on consumer spending. Discussion around fixed and variable interest rates – advantages and disadvantages of each.	Teacher provides learners with tax tables and explains how tax calculations are done. - Collect salary slips, water bills, telephone bills, etc. - Do calculations to show how Tax is calculated in each case.	Invite bank sales personnel to explain how loan repayments on housing loan and car loans are calculated. - Learners do more calculations based on such loans for different rates and periods. - Foreign exchange rates and its effect on imports (oil prices) and exports (price of gold, platinum, etc.) - Conversion of Rands into other foreign currencies (eg. $, £, €)

Assessment Strategy :Form
                       : Tool
                       : Method
	Class work home work
	Memo
	Educator, individual
		Class work home work
		Memo
		Educator, individual
			Controlled test/ Assignment
			 Memo/rubric.
			educator

Expanded Opportunities:	Further examples on Tax calculations	More examples on personal and business taxes	Remedial work
Resources	Pay slips, bank statements.	Tax tables, variety of statements & bills	Tax tables, Foreign exchange tables.
Teacher reflection			

LESSON PLAN   3

Subject: MATHEMATICAL LITERACY	Grade 12
Lesson Plan: Tables and Graphs.	Number of Activities 3
Duration: +/- 13H30	Week: 7 – 10 Date: …………………..

Context: Socio-economic, sports and culture.

Link with previous lesson: Financial indicators, Bar graphs and pie-charts.

CORE CONTENT: (KSV) Graphs and tables.
KNOWLWDGE: (K) Different types of graphs.
SKILLS (S): Representing data, drawing graphs, extrapolate, predict.
VALUES (V) : Appreciation and understanding of the importance of data.

	ACTIVITY 1	ACTIVITY 2	ACTIVITY 3
Activity Content	Collection of data	Representation of data	Interpretation of data
LO,s and AS's	12.2.1.	12.2.2.	12.2.3.
Teaching Methods	Group work and discussion	Teacher demonstration	Group/individual activity.
Detail of Activity	Learners work with numerical data and formulae related to a variety of real life situations (eg. Population, sports, elections, HIV/AIDS, etc.) to design, plan and solve problems. - word problems transferred into equations, -investigate the impact of compound change on situations. - Direct and inverse/indirect proportionality.	Learners draw various types of graphs by hand or by means of technology where available, as required by the situation and the problem being investigated. Teacher to explain: -critical points -maximum and minimum values (turning points) -maximizing profits and minimizing costs. -explain financial tables and plot graphs.	Draw income and expenditure graphs. Determine intercepts and interpret the points of intercepts. Critically interpret and compare graphs and tables in real life situations (including graphs with negative intercepts and more than one graph on the same axes).
Assessment Strategy :Form : Tool : Method	Class work , Short test. Memo Educator, individual	Class work , home work memo rubric Educator, individual	**Controlled Test.** Memo Educator.
Expanded Opportunities:	More examples and word problems.	More work on graphs and remedial work.	More problems involving constraints and restrictions.
Resources	Variety of statistical data	Graph paper, Mathematical sets.	Graph paper, Maths. Sets.

| Teacher reflection | |