

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	1	TOPIC	Finance Time: 60 minutes	Lesson	1
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LESSON SUMMARY FOR: DATE STARTED:			DATE COMPLETED:
SECTION	CONTENT	CONTEXT	APPLICATION /LESSON OBJECTIVES
Interest	Perform calculations involving simple interest through manual calculations without the use of a formulae	Household and small business finance	The learner will be able to: <ul style="list-style-type: none"> •Apply the knowledge and skills in simple interest when dealing with loan agreements between family members where repayments are made only once at the end of the loan •Apply the knowledge and skills when investigating bank accounts with a changing balance.

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES														
<p>1. Teaching methods: Discussion, Question and answer, Demonstration</p> <p>2. Lesson development:</p> <p>2.1 Introduction</p> <p>a. Pre-knowledge required for the lesson. Knowledge of income and expenditure</p> <p>b. Baseline assessment See under learner activity</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> • Discuss with learners to find out where people or family members usually borrow money from in their community or where do they usually invest money. • Lead learners to determine what happens when money is borrowed from a moneylender in the community or from a bank at the end of the borrowing period. • See under notes/reflection and explain to learners the meaning of the words listed under as used in finance: • Indicate to learners that interest can be paid on money which is invested in two different ways – simple and compound. 	<p><u>Baseline activity</u></p> <p>In your own words explain the following terms:</p> <ol style="list-style-type: none"> 1. Interest 2. Interest rate 3. Simple interest <p><u>Activity</u></p> <p>1. Adrian deposited an amount of R13 000 into a savings account for his daughter when she was 14 years old. The investment earns an interest of 9,5% simple interest per annum.</p> <p>Calculate the value of the investment when Adrian's daughter turns</p> <p>1.1 15 years old 1.2 16 years old 1.3 17 years old 1.4 18 years old 1.5 19 years old 1.6 20 years old 1.7 Represent the information in the form of a table such as below:</p> <table border="1"> <tr> <td>year</td> <td>15</td> <td>16</td> <td>17</td> <td>18</td> <td>19</td> <td>20</td> </tr> <tr> <td>Value of investment</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>	year	15	16	17	18	19	20	Value of investment							<p><i>Baseline activity</i> :5minutes</p> <p><i>Activity:45 minutes</i></p> <p><i>Corrections and conclusion:</i></p>	<p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>
year	15	16	17	18	19	20											
Value of investment																	

- Explain to learners that with simple interest, the interest earned or paid on amount invested or borrowed stays the same.
- Demonstrate to learners how simple interest is calculated. An example is given below:

Worked example

Shafique borrowed R350,00 from his nephew at a simple interest rate of 6% per annum. Calculate the interest he has to pay if the loan is repaid after

1. one year
2. two years
3. three months

Solution

The 6% is the interest rate and the interest is 6% of R350,00.

Interest per year = $\frac{6}{100} \times R350,00 = R21,00$.

Therefore the interest after

1. one year = R21,00
2. two years = $2 \times R21,00 = R42,00$
3. three months = $\frac{3}{12} \times R21,00 = R5,25$
Or three months = $\frac{1}{4}$ of R21,00 = R5,25

- Gives learners the task to complete under learner activity.
- Move round the class if possible to monitor learners performance and provide assistance where needed.
- Learners exchange their work at the end of the activity and monitor them to do peer marking.
- Give them homework based on the lesson presented.

2.3 Conclusion

- Summarise the lesson by highlighting the key points to consider when dealing with borrowing and lending money.

2. Joshua borrows his niece R200 for two years at a rate of 7% simple interest. Below is a table showing Joshua's money increase in the first two years

Year	1	2	3	4
Amount at the start of the year	R200	R214		
Interest earned	R14	R14		
Total amount at the end of the year	R214	R228		

2.1 Copy and complete the table by filling in the amount of money Joshua would have earned at the end of each year from year 2 to year 10.

10minutes

Reflections/notes:

- **Borrower** – the person who borrows money from somebody
- **Lender** - the person/institution who lends money to the borrower. The money must be paid back.
- **Loan term** – the period over which the money may be paid back
- **Interest** is the amount of money paid in return for the use of someone else's money.
- **Interest rate** is the rate at which interest is paid by a borrower for the use of money that they borrow from a lender. Stress that an interest rate is not an amount but a percentage such as 3%.
- **Repayment** – the regular payment on the outstanding balance.
- **Per annum** – per year

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	1	TOPIC	Finance Time: 60 minutes	Lesson	2
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LESSON SUMMARY FOR: DATE STARTED:			DATE COMPLETED:		
SECTION	CONTENT	CONTEXT	APPLICATION /LESSON OBJECTIVES		
Simple interest	Perform calculations involving simple interest through manual calculations without the use of a formulae	<i>Household and small business finance</i>	The learner will be able to: <ul style="list-style-type: none"> •Apply the knowledge and skills in simple interest when dealing with loan agreements between family members where repayments are made only once at the end of the loan •Represent simple interest growth scenarios using linear graphs. 		

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES
<p>1. Teaching methods: <i>Discussion, Question and answer, Demonstration</i></p> <p>2. Lesson development:</p> <p>2.1 Introduction</p> <p>a. <i>Pre-knowledge required for the lesson.</i> <i>Knowledge of simple interest</i></p> <p>b. Baseline assessment <i>See under learner activity</i></p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> • Explain to learners that with simple interest the same amount each year because the interest is calculated on the same lump sum for every year. • Discuss with learners to determine why it is sometimes better to take up loans or borrow money from family members. 	<p><u>Baseline activity</u></p> <p>Corrections to be done for the previous lesson's home work</p> <p><u>Activity</u></p> <p>1. Ndumiso invests R6 500 at 11% per year.</p> <p>1.1 Calculate the value of the investment for one year up to six years.</p> <p>1.2 Draw up your own table for 6 years for simple interest to show the years of investment and the value of the investment at the end of each investment period.</p>	<p><i>Baseline activity</i> <i>:5minutes</i></p> <p><i>Activity:45 minutes</i></p>	<p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

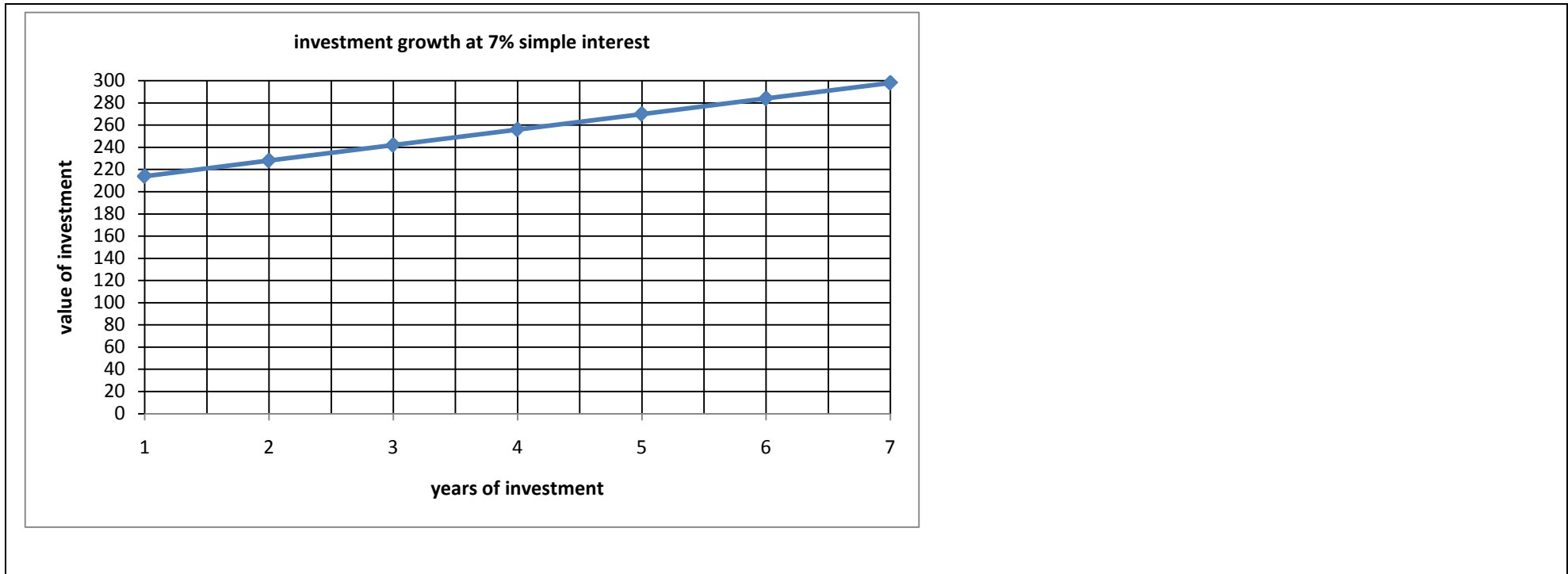
<ul style="list-style-type: none"> Explain that if one takes up a loan from a bank or financial institution, the person needs to have proof of earnings and other guarantees before the bank or financial institution grants the loan. Therefore it might be a better idea or easier to make an informal loan agreement with family members. Indicate to learners that linear graphs can be used to represent simple interest scenarios. Based on the previous lesson's examples and the table of values supplied in the previous lesson, demonstrate how to present simple interest scenarios using linear graphs. See under reflections/notes. See under learner activity to give learners work to do. Check learners performance and provide feedback where necessary. Append your signature to the learners work and give them homework based on the lesson presented. <p><u>2.3 Conclusion</u></p> <ul style="list-style-type: none"> Summarise the lesson by highlighting the key points to consider when dealing with borrowing and lending money. 	<p>1.3 Represent the information from the table in the form of a linear graph.</p> <p>1.4 How much was the investment at the end of the fifth year?</p> <p>1.5 How much interest did the investment accumulate at the end of the investment period? Show all calculations.</p>	<p><i>Corrections and conclusion:</i></p> <p><i>10minutes</i></p>	
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Reflections/notes:

Joshua borrows his niece R200 for two years at a rate of 7% simple interest. Below is a table showing Joshua's money increase in the first two years

Year	1	2	3	4	5	6	7
Amount at the start of the year	R200	R214	R228	R242	R256	R270	R284
Interest earned	R14	R14	R14	R14	R14	R14	R14
Total amount at the end of the year	R214	R228	R242	R256	R270	R284	R298

A linear graph to represent the information in the table is given below:



Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	1	TOPIC	Finance Time: 60 minutes	Lesson	3
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LESSON SUMMARY FOR: DATE STARTED:			DATE COMPLETED:		
SECTION	CONTENT	CONTEXT	APPLICATION /LESSON OBJECTIVES		
Simple interest	Perform calculations involving compound interest through manual calculations without the use of a formulae	Household and small business finance	The learner will be able to: <ul style="list-style-type: none"> • Apply the knowledge and skills in compound interest when dealing with loan agreements between family members where repayments are made only once at the end of the loan • Represent compound interest growth scenarios using graphs showing compound change. 		

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES
<p>1. Teaching methods: <i>Demonstration, Discussion, Question and answer</i></p> <p>2. Lesson development:</p> <p>2.1 Introduction</p> <p>a. <i>Pre-knowledge required for the lesson.</i> <i>Knowledge of simple interest</i></p> <p>b. Baseline assessment</p> <p><i>See under learner activity</i></p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> • Lead learners to explain what compound interest mean. • Explain to learners that compound interest increases because the interest is added to the lump sum so you calculate the 	<p><u>Baseline activity</u></p> <p>Corrections to be done for the previous lesson's home work</p> <p><u>Activity</u></p> <p>1. Maxin invests R14 500 at 12% interest rate compounded annually.</p> <p>1.1 Calculate the value of the investment for one year up to five years.</p> <p>1.2 Draw up your own table for five years for to show the years of investment and the value of the investment at the end of each investment period.</p>	<p><i>Baseline activity</i> <i>:5minutes</i></p> <p><i>Activity:45 minutes</i></p>	<p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<p>interest on a bigger lump sum for every year.</p> <ul style="list-style-type: none"> • Demonstrate to learners how to calculate values involving compound interest. See under reflections/notes. Encourage learners not round up until they get to the final value. • Look under learner activity to give them work to do. • Mark learners work and do corrections with them. • Give learners home work. <p>2.3 Conclusion</p> <ul style="list-style-type: none"> • Summarise the lesson by highlighting the key points to consider when working with compound interest. 	<p>1.3 Represent the information from the table in the form of a graph.</p> <p>1.4 How much was the investment at the end of the fifth year?</p> <p>1.5 How much interest did the investment accumulate at the end of the investment period?</p>	<p><i>Corrections and conclusion:</i></p> <p><i>10minutes</i></p>	
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Reflections/notes:

Jacob invests R13 000 in an account at an interest rate of 8,5% compounded annually.

1 calculate the interest rate after 1 year

2 determine the amount on which the interest for the second year will be calculated

3 copy and complete the table below:

End of year	0	1	2	3	4	5
Interest earned for the year	0	R1 147,50				
Value of the investment in Rand	R13 500	R14 647,50				

Suggested solution

$$1. \text{ Interest after 1 year} = 8,5\% \text{ of R13 500} = 8,5 \div 100 \times \text{R13 500} = \text{R1 147,50}$$

$$2. \text{ Investment amount for the second year} = \text{R13 500} + \text{R1 147,50} = \text{R14 647,50}$$

3. Calculation of values used in the table

End of year 2

$$\text{Interest in 2}^{\text{nd}} \text{ year} = 8,5\% \text{ of R14 647,50} = 8,5 \div 100 \times \text{R14 647,50} = \text{R1 245,04}$$

$$\text{Investment amount at end of 2}^{\text{nd}} \text{ year/beginning 3}^{\text{rd}} \text{ year} = \text{R14 647,50} + \text{R1 245,0375} = \text{R15 892,5375}$$

End of year 3

Interest in 3rd year = 8,5% of R15 892,5375 = $8,5 \div 100 \times R15\,892,5375$ = R1 350,865688

Investment amount at end of 3rd year/beginning 4th year = R15 892,55375 + R1 350,865688 = R17 243,40319

End of year 4

Interest in 4th year = 8,5% of R17 243,41 = $8,5 \div 100 \times R17\,243,40319$ = R1 465,689271

Investment amount at end of 4th year/beginning 5th year = R17 243,40319 + R1 465,689271 = R18 709,09246

End of year 5

Interest in 5th year = 8,5% of R18 709,09246 = $8,5 \div 100 \times R18\,709,09246$ = R1 590,272859

Investment amount at end of 5th year = R18 709,09246 + R1 590,272859 = R20 299,36532 = R20 299,37

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	1	TOPIC	Finance Time: 60minutes	Lesson	4
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LESSON SUMMARY FOR: DATE STARTED:			DATE COMPLETED:		
SECTION	CONTENT	CONTEXT	APPLICATION /LESSON OBJECTIVES		
Interest on fixed deposits	<ul style="list-style-type: none"> Perform calculations involving simple interest and compound interest through manual calculations without the use of formulae. Determine the interest on fixed deposits 	<i>Household and small business finance</i>	The learner will be able to: <ul style="list-style-type: none"> Investigate investments in fixed deposit accounts where money is deposited and withdrawn from the account only once. 		

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES
<p>1. Teaching methods: <i>Brainstorming, Discussion, Question and answer, Demonstration</i></p> <p>2. Lesson development:</p> <p>2.1 Introduction</p> <p>a. <i>Pre-knowledge required for the lesson.</i> <i>Knowledge of simple interest and compound interest.</i></p> <p>b. Baseline assessment <i>See under learner activity</i></p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Brainstorm with learners to determine whether they know different ways of saving money. Indicate to learners the two different ways of saving money. <i>See under reflections/notes.</i> 	<p><u>Baseline activity</u> Corrections to be done for the previous lesson's home work</p> <p><u>Activity</u></p> <p>1. Anele inherits R35 000 from a trust fund. The money is invested in affixed deposit account that pays 8% interest p.a. simple interest. The amount is left in the account for 6 years. Calculate the value of the investment at the end of the investment period.</p> <p>2. Ethan decides to save R150 every month in a bank starting at the beginning of June.</p> <p>Use a table to record your calculations.</p>	<p><i>Baseline activity</i> <i>:5minutes</i></p> <p><i>Activity:45 minutes</i></p>	<p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<ul style="list-style-type: none"> • Guide learners to complete the table by determining in the remaining amounts. • Give homework to learners. <p><u>2.3 Conclusion</u></p> <ul style="list-style-type: none"> • Summarise the lesson by highlighting the key points to consider when dealing with interest on fixed deposits. 	<p>2.1 how much will Ethan have paid at the end of one year? Show calculations</p> <p>2.2 How much will Ethan have in his account at the end of next June?</p>	<p><i>Corrections and conclusion:</i></p> <p>10minutes</p>	
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Reflections/notes:

You can save money in two different ways:

By depositing a lump sum into an account and leaving it there for a fixed period of time to earn interest. For example depositing R700 into an account for four years.

By making regular payments into an account over a period of time. For example, paying R100 a month into an account for four years.

Worked example

At ABC bank, an initial deposit of R50 is required for a special savings account designed for young people. Interest is calculated at 12% p.a. compounded monthly.

Felicia decides to save R80 per month at ABC bank.

Determine how much Felicia will have at the end of 5 months.

Suggested solution

To convert an annual rate to monthly rate you must divide it by 12. Therefore $12\% \text{ p.a.} = 12\% \div 12 = 0,01\%$ per month.

Now to calculate the monthly interest you work out 0,01% of deposit amount, which is $0,01\% \times R80 = R0,80$

The information can be presented in a table form as shown below:

Remember the interest rate per month is 0,01% and she deposits R80 into the account every month.

Month	Amount at the start	Interest earned	New deposit amount	Total amount at the end of month
1	R80	$0,01 \times R80 = R0,80$	R80	R160,80
2	R160,80	$0,01 \times R160,80 = R1,61$	R80	R242,41
3	R242,41		R80	
4			R80	
5			R80	

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	2	TOPIC	Finance Time: 60 minutes	Lesson	1
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LESSON SUMMARY FOR: DATE STARTED:			DATE COMPLETED:		
SECTION	CONTENT	CONTEXT	APPLICATION /LESSON OBJECTIVES		
Banking	<ul style="list-style-type: none"> Identify and explain the terminologies used in banking Identify different types of bank accounts and investigate "savings account" 	<i>Personal, Household and small business finance</i>	The learner would be able to: Investigate the advantages and disadvantages of savings accounts regarding access to money, bank charges and interest rates		

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES
<p>1. Teaching methods: <i>Discussion, Question and answer, Demonstration</i></p> <p>2. Lesson development:</p> <p>2.1 Introduction</p> <p>a. <i>Pre-knowledge required for the lesson.</i> <i>Knowledge of interest and interest rates</i></p> <p>b. Baseline assessment <i>See under learner activity</i></p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Discuss with learners to identify the terminologies used in banking. Assist learners to mention some of these terms. List some of the banking terms for learners and explain to them. See under reflection/notes for some of these terms and their explanations. Discuss with learners to give reasons why bank accounts are needed for individuals and 	<p><u>Baseline activity</u></p> <p>Do corrections for the previous lesson's home work</p> <p><u>Activity</u></p> <p>1. Explain the following banking terms</p> <p>Liquid assets</p> <p>Overdraft</p> <p>Credit limit</p> <p>Debit card</p> <p>Bank charge</p>	<p><i>Baseline activity</i> <i>:5minutes</i></p> <p><i>Activity:45 minutes</i></p>	<p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<p>businesses or corporations. See under reflections/notes for some reasons. You may add your own reasons.</p> <ul style="list-style-type: none"> • Assist learners to identify different types of bank accounts. See under reflections/notes. • See under learner activity to give learners work to do. • Monitor learners performance and provide assistance where needed. • Let learners exchange their work at the end of the activity and monitor them to do peer marking. • Append your signature to the learners work and give them homework based on the lesson presented. • Give learners home work <p><u>2.3 Conclusion</u></p> <ul style="list-style-type: none"> • Summarise the lesson by highlighting the key concepts presented in the lesson. 	<p>Stop order</p> <p>2. Compare the advantages and disadvantages of a savings account in a tabular form</p>	<p><i>Corrections and conclusion:</i></p> <p><i>10minutes</i></p>	
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Reflections/notes:

Banking terms and their meaning

- Liquid assets – assets that are easily converted to cash
- Liquidity – it refers to the ease with which assets can be converted to cash.
- Overdraft – this is a loan from a bank that allows for a debit balance on a account
- Credit card – a small plastic card issued by a bank or other financial institution for the purpose of buying goods and services on credit
- Credit limit – it's the maximum amount that a bank or financial institution will allow a client to borrow
- Debit card – a small plastic card issued by a bank or financial institution for the purpose of buying goods and services with money that comes directly from your bank account
- Deposit – putting money into an account
- Bank charge or transactional fee – an amount of money payable for bank services provided
- Withdrawal – taking money from an account

- Debit order – an instruction to a bank to pay an amount that differs from month to month to a person or a business.
- Stop order - an instruction to a bank to pay a fixed amount on a monthly basis to a person or business.

Bank accounts offer a secure place for individuals, businesses or corporations to keep their money. Bank accounts differ and they don't all allow for the same access to money or charge the same fees or give the same interest.

There various types of bank accounts. These include current/cheque accounts, savings accounts, fixed deposit accounts, etc.

Savings account

Most people open a savings account, which pays interest. The account is suitable for short-term savings (savings that will be used within a year for something like school fees).

Below is a table comparing the advantages and disadvantages of a savings account:

Advantages	Disadvantages
The account allows customers to earn money on their liquid assets in the form of interest	The liquid assets cannot be used directly as money
It allow regular access to money	Has non cheque or credit card facilities for payments
The balance on the account can change daily and interest is calculated daily	Interest is only added onto the account at the end of the month
	Withdrawals from savings account are occasionally costly and are sometimes time-consuming
	Due to liquidity of this type of account, interest rates are low.

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	2	TOPIC	Finance Time: 60 minutes	Lesson	2
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LESSON SUMMARY FOR: DATE STARTED:			DATE COMPLETED:		
SECTION	CONTENT	CONTEXT	APPLICATION /LESSON OBJECTIVES		
Banking	Identify "fixed deposit account and cheques account" and describe them in terms of advantages and disadvantages.	<i>Personal, Household and small business finance</i>	The learner would be able to: Investigate the advantages and disadvantages of fixed deposit account and cheques accounts regarding access to money, bank charges and interest rates		

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES
<p>1. Teaching methods: <i>Discussion, Question and answer, Demonstration</i></p> <p>2. Lesson development:</p> <p>2.1 Introduction</p> <p>a. <i>Pre-knowledge required for the lesson.</i> <i>Knowledge of savings accounts</i></p> <p>b. Baseline assessment</p> <p><i>Refresh learners memory on savings accounts with their advantages and disadvantages</i></p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Discuss with learners what fixed deposit accounts and cheque accounts are. See under reflections/notes. Assist learners to identify the advantages and disadvantages of each type of account. See under learner activity to give learners work to do. Monitor learners performance and provide assistance where needed. 	<p><u>Activity</u></p> <ol style="list-style-type: none"> Describe fixed deposit account in terms of the advantages and disadvantages in a tabular form Compare cheque account advantages and disadvantages in the form of a table. Which of the two accounts will you advice a client who wants more interest to be paid on the account? Give 	<p><i>Baseline activity :5minutes</i></p> <p><i>Activity:45 minutes</i></p>	<p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<ul style="list-style-type: none"> Let learners exchange their work at the end of the activity and monitor them to do peer marking. Append your signature to the learners work and give them homework based on the lesson presented. Give learners home work <p><u>2.3 Conclusion</u></p> <ul style="list-style-type: none"> Summarise the lesson by highlighting the advantages and disadvantages of fixed deposit and cheque accounts. 	reasons for your answers	<p><i>Corrections and conclusion:</i></p> <p><i>10minutes</i></p>	
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Reflections/notes:**Cheque account**

It is also called a transactional account and people use it to make regular transactions like withdrawals, deposits and payments.

Fixed deposit account

This account is used for savings that you leave for a fixed period of 3, 6, 12 or 36 months. The longer the investment period the larger the interest will normally be.

Advantages and disadvantages of fixed deposit account and cheque account

Fixed deposit account		Cheque account	
Advantages	Disadvantages	Advantages	disadvantages
Money can be deposited into the account either as a lump sum or every month for a specific period of time at a specific interest rate	The money cannot be withdrawn until the end of the stipulated time period which can vary from one month to a few years	The account provides funds for withdrawal or payment in a variety of forms including cheques, stop orders debit orders, electronic and/or telephonic transfers	They tend not to earn interest rate but attract high interest rates and penalties if overdrawn
It offers a higher rate of interest	Offers less liquidity	It is meant for the convenience of the individual or business in terms of access to funds when needed	Transaction fees are charged on most transactions in and out of the account

			Interest is calculated daily but only paid into the account at the end of each month.
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Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	2	TOPIC	Finance Time: 60minutes	Lesson	3
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LESSON SUMMARY FOR: DATE STARTED:			DATE COMPLETED:		
SECTION	CONTENT	CONTEXT	APPLICATION /LESSON OBJECTIVES		
Banking	Describe debit and credit cards in terms of their advantages and disadvantages.	<i>Personal, Household and small business finance</i>	The learner would be able to: Investigate the advantages and disadvantages of debit and credit cards regarding access to money, bank charges and interest rates		

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES
<p>1. Teaching methods: <i>Discussion, Question and answer, Demonstration</i></p> <p>2. Lesson development:</p> <p>2.1 Introduction</p> <p>a. <i>Pre-knowledge required for the lesson.</i> <i>Knowledge of savings accounts</i></p> <p>b. Baseline assessment</p> <p><i>See under learner activity</i></p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> • Discuss with learners to find out how money can be accessed if one has an account with a bank. • Indicate to learners that a bank card such as a credit card or a debit card is usually used to access one's money in one's account. • Remind learners that a debit card is a small plastic card issued by a bank or financial institution for the purpose of buying goods and services with money that comes directly 	<p>Baseline activity</p> <p>Do corrections for the previous lesson's home work</p> <p><u>Activity</u></p> <ol style="list-style-type: none"> 1. List at least three similarities between debit cards and credit cards 2. Compare debit card and credit card by identifying their advantages and disadvantages 	<p><i>Baseline activity :10minutes</i></p> <p><i>Activity:30 minutes</i></p> <p><i>Marking: 15</i></p>	<p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<p>from one's own account.</p> <ul style="list-style-type: none"> • Explain that debit cards have fixed interest rates (different interest rates in different monetary intervals). • Again explain to learners that a credit card is a small plastic card that is issued by a bank or financial institution for the purpose of buying goods and services on credit. • Assist learners to compare debit with credit cards. See under reflection/notes for some suggestions. • See under learner activity to give learners work to do. • Monitor learners performance and provide assistance where needed. • Let learners to do peer marking. • Give learners home work <p><u>2.3 Conclusion</u></p> <ul style="list-style-type: none"> • Summarise the lesson by highlighting the advantages and disadvantages of debit cards and credit cards 		<p><i>conclusion:</i></p> <p><i>5minutes</i></p>	
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Reflections/notes:

Below is a table showing a comparison between debit card and credit

Comparison		Advantages and disadvantages	
Debit card	Credit card	Debit card	Credit card
Can withdraw money at ATM Can withdraw money inside the bank Can pay for shopping	Can withdraw money at ATM Can withdraw money inside the bank Can pay for shopping	Cannot use to pay for urgent purchases if no funds are available	Interest rates charged on credit balances are very high. May lead to temptations to buy non-essential things even when money is not available
May only spend the amount available	May spend money that is not in the	No overdraft facilities are allowed on	Each card is given a specified credit

	account but interest is payable on the outstanding amounts after a specified period		debit cards and an account must always have a credit balance, i.e. you cannot buy on credit (using money that you do not have)	limit which you can use to buy goods and services
The amount is immediately withdrawn from the current account	The account holder decides when and how much to pay off		Debit cards usually attract bank charges or fees for all transactions.	This borrowed money must be paid back within a specified period
Not a risk to fall in debt trap	Can be used in a crisis to pay for purchases and/or services. Up to 55 days interest free Budget buying facilities spread cost out			They are not designed for savings.

Name of Teacher:		HOD:	
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GRADE	11	SUBJECT	Mathematical Literacy	WEEK	2	TOPIC	Finance Time: 60 minutes	Lesson	4
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	APPLICATION /LESSON OBJECTIVES
Banking charges and late payments	Identify bank charges for specified accounts and determine the implications for late payments on accounts.	<i>Personal, Household and small business finance</i>	<p>The learner would be able to: Compare bank charges of different banks using tariff tables, given formulae and drawn graphs to assess the suitability of different accounts for individuals with particular needs.</p> <p>Investigate the implications of late payments on a credit card account.</p> <p>Investigate the different ways in which interest is calculated on different types of accounts</p>

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES
<p>1. Teaching methods: <i>Discussion, Question and answer</i></p> <p>2. Lesson development:</p> <p>2.1 Introduction</p> <p>a. <i>Pre-knowledge required for the lesson.</i> <i>Knowledge of debit and credit cards</i></p> <p>b. Baseline assessment</p> <p><i>See under learner activity</i></p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Discuss with learners to find out what they know about bank charges. Assist them to explain bank charges and if possible let them give examples. See 	<p>Baseline activity</p> <p>Do corrections for the previous lesson's home work</p> <p><u>Activity</u></p> <p>1. Benny has a credit card which he uses every month to do his shopping. In April, he made a shopping costing R6 560,50. He didn't pay his account on time and it was 7 days late. The bank charges 26% p.a. interest calculated on a daily balance.</p>	<p><i>Baseline activity</i> <i>:10minutes</i></p> <p><i>Activity:35 minutes</i></p> <p><i>Marking: 10</i></p>	<p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<p>under reflection/notes.</p> <ul style="list-style-type: none"> • Give learners examples that will allow them to identify bank charges. • Assist learners to understand how charges are calculated on accounts and transactions. See under reflections/notes for some suggestions. • A copy of bank charges has been attached under reflections/notes. If possible make copies so that learners can interact with the banking charges from various banks. • Indicate to learners that credit card account allows you to buy things on credit, but if you don't settle (pay back) your account on time, they charge you interest at a high rate on the amount outstanding. • Provide scenarios that will allow learners to determine the cost of late payments. • See under learner activity to give learners work to do. • Let learners to do peer marking. • Give learners home work <p><u>2.3 Conclusion</u></p> <ul style="list-style-type: none"> • Summarise the lesson by highlighting the implications of late payments of accounts and what it does to one's credit records. 	<p>What fee will Benny pay because he paid the credit balance late?</p> <p>2. Mandy Mondays and Tuesdays and earns R250 a day. Thandeka works five days a week and earns R125 per day. Mandy banks with FNB and Thandeka banks with ABSA. They both have MZANSI account with their banks. Assume that there are 20 working days in a certain month.</p> <p>2.1. Determine which of the two will pay more in terms of deposits and give reasons.</p> <p>2.2. what is the best way for the two to make deposits?</p> <p>2.3. determine the best way for the two workers to make purchases.</p>	<p><i>conclusion:</i></p> <p><i>5minutes</i></p>	
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Reflections/notes:

Bank charges include all transaction charges and banking fees that a client has to pay. Below are some of bank charges:

- Monthly admin fees – the fees charged for the provision and maintenance of an account
- Transaction fees – the fees charged every time money is withdrawn or deposited into an account based either on the type of transaction or on the amount of ATM transactions, debit transactions or stop orders.
- Interest charged on overdrafts or debit balances whether authorised or unauthorised.
- Charges for exceeding authorised overdraft limits or attempting to make payments where no authorised overdraft exists.

Below is the pricing guide for MZANSI ACCOUNT for 2011/2012 from FNB and ABSA

Monthly Fees	Mzansi Account	Social Grant Account	ABSA MZANSI account Transaction type	monthly fees
Monthly Account Fee	Not Applicable	R 5.60	Monthly Administration Fee	No charge
Transfers and payments			Account Payments and Funds Transfers	
Cellphone Banking and Telephone Banking (IVR) and FNB App	R 1.00		Account Payments • Absa ATM • Branch Counter	R5,25 R27,00
FNB ATM, Online Banking and Scheduled Payments	R 5.00		Debit and Stop Orders • Internal Debit Orders • External Debit Orders • Stop Orders	R3,85 R5,25 No charge
Internal Debit Order*	R 3.10		Funds Transfers • Absa ATM • Branch Counter	R3,85 R27,00
External Debit Orders	R 5.00		CashSend™ (Absa ATM)	R8,70
Branch and Telephone Banking (Consultant Assisted)	R 27.50			
Purchases			Purchases	
Card Purchases at retailer	R 2.10		Prepaid Top-up at Absa ATM or POS	No charge
LOTTO / PowerBall	R 1.00		POS – Local	R2,00
Prepaid (FNB ATM, Online, Cellphone and Telephone Banking (IVR))	R 1.00		POS – Overseas	N/A
Prepaid (Other Bank's ATM)	R 6.00			
Prepaid (Telephone Banking (Consultant Assisted))	R 8.00			

Cash Withdrawals			Cash Withdrawals	
ATM Cash Withdrawals	R 5.00	R 5.60	Branch Counter	R12,50
FNB Mini ATM	R 2.15		Absa ATM	R4,85
Cash Withdrawal at till point	R 0.90		Point-of-Sale (POS)	R3,85
FNB Branch Cash Withdrawal	R 9.50	R 13.60	Post Office Terminal	R12,50
Deposits			Deposits	
Cheque Deposit at an FNB ATM (with envelope or automated deposits (ADT))	Free		Cheque Deposit: Branch Counter	R11,00
Cheque Deposit at an FNB Branch	R 14.00		Cheque Deposit: Absa ATM	No charge
Cash Deposits at an FNB ATM (with envelope or automated deposits (ADT))	0.65% of value, minimum R 5.00		Cash Deposit: Branch Counter(2)	R12,50
Cash Deposits at an FNB Branch (First free per month)	R 6.00		Cash Deposit: Absa ATM(2)	R4,85
Balance Enquiries			Balance Enquiries	
Cellphone, Telephone Banking, FNB ATM, Online Banking and Point-of-sale	Free		Absa-supported ATM, Saswitch ATM, POS, Absa ATM,	R1,00
Other Bank's ATM	R 1.20		Post Office Terminal	R2,45
Statements			Statement Fees	
Mini Statement (Cellphone Banking)	Free		Branch Counter Full Statement	R2,50
FNB ATM Mini Statement (view or print)	R 1.10		Absa ATM Mini statement	R1,00
Provisional Statement (Branch and Telephone Banking)	R 3.50		Absa CAT Terminal Full Statement	R2,50
Penalty Fees			Administration Fees	

FNB ATM Declined Transaction Fee (Insufficient funds or limit exceeded)	Free		Bank Cheque	R65,00
Other FNB Declined Transaction Fee (Local and International)	R 3.60		Stop Payment Instruction (Debit Order/Bank Cheque)	R30,00
Other Bank's ATM Declined Transaction Fee (Local and International)	R 3.60		Special Clearance	R65,00
Unpaid Debit Order (Charged per item)	1st Free thereafter R 5.00		Debit Card Replacement Fee	R55,00
Deposit of Post-dated Cheque (per cheque)	R 39.00		Notification Fee (SMS or E-mail)	R0,50
Card Replacement Fee	R 60.00		Dishonoured/Returned Payment	(first 1 free pm) R5,00
Card Issuing Fee (Charged for the first 6 months)	R 5.00	Not Applicable	Declined Fee (Insufficient Funds) <ul style="list-style-type: none"> • Absa ATM • Absa-supported ATM • Saswitch ATM • POS • Post Office Terminal 	No charge No charge No charge No charge No charge
Online Banking Password Reset (Consultant Assisted)	R 50.00		Returned Cheque Deposit	R65,00

Name of Teacher:		HOD:	
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GRADE	11	SUBJECT	Mathematical Literacy	Week	3	TOPIC	Finance Time: 60min	Lesson	1
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LESSON SUMMARY FOR: DATE STARTED		DATE COMPLETED	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATIONS
Banking (Loans and cost price)	Perform calculations involving loan agreements and repayments through manual calculations without the use of a formulae	<i>Household and small business finance</i>	Learners should be able to <ul style="list-style-type: none"> List the factors affecting the cost price when taking a loan Evaluate the impact of paying deposit on the price of loan Calculate loan repayment. Calculate the cost price of a loan when deposit is paid

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: Telling, explaining, demonstration, question and answers.</p> <p>2.1 Introduction</p> <p>a. pre-knowledge required for the lesson income and expenses, simple interest</p> <p>b. baseline assessment</p> <ul style="list-style-type: none"> Learners answer the questions listed under the baseline assessment in the learner activity column [need to use the home work information] <p>c. Do correction</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Tell learners that if they need money to start up a business, do home improvements or buy a home, banks and other financial institutions can grant you a loan. Inform learners that there are two types of loans, namely personal loan and home loan. Banks charge you an interest for lending you money The monthly repayment depends on, the size of the loan, the number of years of the loan to be paid and the rate of interest. The cost price of the loan will be determined by the number of years, interest rate and the 	<p>1. Baseline assessment:</p> <p>a. Calculate the total amount accumulated on an investment amount of R7500, invested for 12 years at 9% per annum at simple interest.</p> <p>b. If R7500 is invested for 12 years at 9% per annum compounded monthly, find the accumulated amount after 12 years.</p> <p>2. Learner activity</p> <p>a. Calculate the total loan amount and the interest she will pay.</p>	<p>10 min- base line</p> <p>5 min- corrections</p> <p>20 min- for the presentation and demonstration</p> <p>10 min for the main activity</p> <p>5 min for corrections and conclusion</p>	<p>News papers</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

deposit amount.

- Paying a deposit could reduce your monthly instalment and the interest to be paid.
- Demonstrate to learners how paying a deposit could reduce the cost price of the loan.
- Thabile want to buy a car to run her business of selling candles. She went to the car dealer and got a car that cost R55000 and agreed to a payment period of 4 years at 10% interest rate per annum.

Calculate the interest she will have to pay with and without the deposit

With a deposit of 10 000
 Initial amount= R55000
 Amount owing = 55000-10000
 = R45000
 Interest on the owed amount =
 $R45000 \times 10/100 = R4500$
 Total amount owed= R45000
 +4500 = R49500

Without deposit
 Initial amount= R55000
 Amount owing = 55000
 Interest on the owed amount =
 $R55000 \times 10/100 = R5500$
 Total amount owed= R55000 +5500
 = R60500

- Banks calculate loans using compound interest.
- Demonstrate to the learners how the cost price is affected by the interest, and period in which you take the loan

If Thabile takes a loan from the bank to pay the amount owing on the car calculate the total loan amount and the interest she will pay:

With a deposit of 10 000
 Initial amount= R55000
 Amount owing = 55000-10000
 = R45000

The loan amount is R45000 compounded yearly for 4 years at 11,5%

- Ask learners to calculate the total loan amount and the interest of the amount without the deposit

Without deposit
 Initial amount= R55000
 Amount owing = R55000
 The loan amount R55000
 at 11, 5% compounded
 yearly, for 4 years.

b. Which option is cheaper?

3. Calculate the total amount she will pay for a loan R55 000 compounded half yearly at 11,5% for 4 years.

Use other textbooks and give learners additional questions.

2.3 Conclusion

- Remind learners about the factors that affect the cost of loan i.e. deposit, period and interest rate

Reflection/Notes:

Name of Teacher:		HOD:	
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GRADE	11	SUBJECT	Mathematical Literacy	Week	3	TOPIC	Finance Time: 60min	Lesson	2
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Banking (loan repayment)	Perform calculations involving loan agreements and repayments through manual calculations without the use of a formulae	<i>Household and small business finance</i>	Learners should be able to <ul style="list-style-type: none"> • Calculate the real cost of the loan • Calculate how much of the repayment goes to interest • Calculate the repayment amount of a loan

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: Telling, explaining, question and answers, demonstration</p> <p>2.1 Introduction</p> <p>a. pre-knowledge required for the lesson interest, simple interest</p> <p>b. baseline assessment Do correction to the homework clarify any misconception relating to simple interest</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> • Indicate to learners that Cost price depends on the amount you spend on the production of the product. In some instances you may have to take a loan to start your business. • Explain that Part of the cost price will include the loan repayment amount. • The repayment is done on the monthly basis • Banks calculate an interest on the interest on the monthly basis • Inform learners that the interest calculated will affect the total amount to be paid. • Demonstrate to learners how the interest paid affects the cost of the loan. See the example given under reflections/notes. 	<p>1. <u>Baseline assessment</u> Do corrections for the previous lesson's home work</p> <p><u>Learner activity</u></p> <p>1. use the table provided to:</p> <p>a. Calculate the new interest and the new balance for month 7 to month 12.</p> <p>b. Calculate the total interest paid at the end of one year</p> <p>2. Henry borrowed R700 from his uncle at a simple interest rate of 4% p.a. He pays the loan back after one year. What was the real cost of the loan?</p> <p>3. Amelia lends R5 100 to her mother-in-</p>	<p>5 min for home work correction</p> <p>30 min- for the presentation and demonstration</p> <p>20 min for the main activity</p> <p>5 min for corrections and conclusion</p>	<p>News papers</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<ul style="list-style-type: none"> Inform learners that they should not round off their answers until the new balance is calculate on the table Demonstrate using end of 5th to show the effect of writing all the digits and of writing two digit <p>e.g. interest = R511,42 + 51142,62 = R51554,04 new balance = R50154,04 [not R50154,05] End of 6th month interest = R501,54</p> <ul style="list-style-type: none"> Ask learners to complete the table until end of the year, Discuss the effect of rounding on in the new balance and on the interest You can also give learners a bank statement that indicate the loan repayment and ask them to show how the interest is calculated and the new balance for three months. See under learner activity for instructions as to what learners need to do for their activity. <p>2.3 Conclusion</p> <ul style="list-style-type: none"> Do corrections, and emphasis on the technique on how to calculate interest on the changing balance and its effect on the cost of the loan 	<p>law at a compound interest rate of %3,5% p.a. the mother-in-law pays back the loan after two years. What is the actual cost of the loan?</p>		
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Reflection/Notes:

Thabile borrowed an amount of R55 000 from a bank to expand his business. The repayment amount of Thabile's loan is R1500.

Since the interest is calculated monthly, divide the interest rate by 12 to find the rate at which interest is calculated for every month. In this case the interest rate is 12%.

Therefore the monthly interest rate will be $12\% \div 12 = 1\%$

Months	Interest	New amount	Payment	New balance
End 1	$R55\,000 \times 1/100 = R550$	$R55\,000 + R550 = R55\,550$	R1500	$R55\,550 - R1\,500 = R54\,050$
End 2	$R54\,050 \times 1/100 = R540,50$	$R54\,050 + R540,50 = R54\,590,50$	R1500	$R54\,590,50 - R1\,500 = R53\,090,50$
End 3	$R53\,090,50 \times 1/100 = R530,905$	$R53\,090,50 + R530,905 = R53\,621,405$	R1500	$R53\,621,405 - R1\,500 = R52\,121,41$
End 4	$R52\,121,41 \times 0,01 = 521,2141$	$R52\,121,41 + R521,2141 = 52\,642,6241$	R1500	R51 142,62
End 5	$R51\,142,62 \times 0,01 = R511,4262$	$R51\,142,62 + R511,4262 = R51\,654,0462$	R1500	$R51\,654,0462 - 1500 = R50\,154,05$
End 6	R501,5405	R50 655,5905	R1500	R49 155,59

Name of Teacher:		HOD:	
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GRADE	11	SUBJECT	Mathematical Literacy	Week	3	TOPIC	Finance Time: 60min	Lesson	3
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Banking (hire purchase agreements)	Perform calculations involving hire purchase agreements and repayments through manual calculations without the use of a formulae	Household and small business finance	Learners should be able to <ul style="list-style-type: none"> work with scenarios that deal with hire purchase agreements

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: Telling, explaining, question and answers, demonstration</p> <p>2.1 Introduction</p> <p>a. pre-knowledge required for the lesson knowledge of loans and loan calculations.</p> <p>b. baseline assessment Do corrections for the previous lesson's homework</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Discuss with learners to understand what a hire purchase is. See under reflection/notes for suggested explanation Assist learners to come up with examples of hire purchase agreements they can think of. Indicate that in a hire purchase agreement the buyer has to pay a deposit (a portion of the cash price) and then pay off the rest of the cost of the goods in monthly instalments. It is the shop that determines the deposit to be paid and it is usually calculated as a percentage of the selling price Explain to learners that when it comes to hire purchase agreement, it is the shop that decides how many monthly instalments you must pay at a fixed amount each month. 	<p><u>Baseline assessment</u> Do corrections for the previous lesson's home work</p> <p><u>Learner activity</u></p> <p>1. Mrs Nemangaya saw an advertised bedroom suite for sale at R6 999. The furniture dealer offers hire purchase terms as follows:</p> <ul style="list-style-type: none"> A deposit of R700 and monthly instalments of R300 over 24 months. <p>1.1 What percentage of the cash price is the deposit?</p> <p>1.2 What will be the total cost of the bedroom suite if it is bought on hire purchase agreement?.</p> <p>1.3 Identify at least 2 advantages and 2 disadvantages of hire purchase agreement.</p> <p>1.4 how much more will a customer pay for buying the bedroom suite on hire purchase agreement? Show calculations.</p>	<p>5 min for home work correction</p> <p>10 min- for the presentation and demonstration</p> <p>30 min for the main activity</p> <p>15 min for corrections and conclusion</p>	<p>News papers</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<ul style="list-style-type: none"> • Give learners scenarios that will allow them to practice on determining the deposit as well as the monthly instalments to be paid for going into a hire purchase agreement with a given shop. • Discuss with learners to establish the importance of having hire purchase agreement. • See under learner activity to give learners work to do <p>2.3 Conclusion</p> <ul style="list-style-type: none"> • Do corrections and emphasise the important points to note when getting into hire purchase agreement with a shop. 	<p>1.5 A loan was being offered by a bank to pay for the cash price of the bedroom suite at a 10% interest rate p.a. compounded annually for two years. Should Mr Nemangaya take the loan to pay cash for the suite or he should take the hire purchase agreement? Show calculations to support your answer.</p>		
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Reflection/Notes:

A **hire purchase agreement** can be explained as a type of loan that shops offer you are buying an expensive item such as furniture, fridges stove, etc. and you do not have enough cash to pay the full price all at once.

In a hire purchase agreement the buyer has to pay a deposit (a portion of the cash price) and then pay off the rest of the cost of the goods in monthly instalments. It is the shop that determines the deposit to be paid and it is usually calculated as a percentage of the selling price

When it comes to hire purchase agreement, it is the shop that decides how many monthly instalments you must pay at a fixed amount each month.

Hire purchase agreements are useful if you want to have your item before you have money to pay the full price for the item.

With hire purchase agreement, the total amount paid at the end of the payment period add up to much more than the advertised cash price of the goods you buy.

Name of Teacher:		HOD:	
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GRADE	11	SUBJECT	Mathematical Literacy	Week	3	TOPIC	Finance Time: 60min	Lesson	4
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Banking (bank investments)	Determine different investment opportunities and make decisions based on interest rates quoted for different investment options.	<i>Household and small business finance</i>	Learners should be able to <ul style="list-style-type: none"> Determine the total amount of money in an investment at the end of a certain time period. Make sense of graphs showing loan and investment scenarios

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: Telling, explaining, question and answers, demonstration</p> <p>2.1 Introduction</p> <p>a. pre-knowledge required for the lesson: knowledge of hire purchase agreements.</p> <p>b. baseline assessment Do corrections for the previous lesson's homework</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Brainstorm with learners to understand what an investment is. Look under reflections/notes for suggested explanations. Discuss with learners to find out why it's important to invest. See under reflections/notes for some suggestions. Give learners the tables under reflection/notes and discuss with them as to different amounts to be invested and the best options based on interest rates quoted. Look under learner activity to give learners work. You may add your own <p>2.3 Conclusion</p> <ul style="list-style-type: none"> Do corrections and emphasise the important points to note when getting into hire purchase agreement with a shop. 	<p><u>Baseline assessment</u></p> <p>Do corrections for the previous lesson's home work</p> <p><u>Learner activity</u></p> <p>1. use the tables provided for the two banks to answer the questions that follow: Without doing any calculations, decide which bank you would go to if you made the following investments:</p> <ol style="list-style-type: none"> R45 000 R50 000 R25 000 R80 000 R16 000 R70 000 R65 000 <p>Give reasons for every option you choose.</p>	<p>5 min for home work correction</p> <p>10 min- for the presentation and demonstration</p> <p>30 min for the main activity</p> <p>15 min for corrections and conclusion</p>	<p>News papers</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<ul style="list-style-type: none"> Request learners to gather magazines/brochures from various shops and outlets which contain prices of goods and services. They will be needed for the next lesson on inflation. Please make necessary arrangements to ensure that you have some newspapers at hand, in case learners are unable to get any. 			
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Reflection/Notes:

Banks offer different investment accounts, with interest rates that are set according to the amount of money you invest and the length of time for which you keep the money in the account.

Fixed Deposit account is an investment account in which your savings must stay the same (fixed) for a set period of time. Different banks offer investors different interest rates for different time periods. Below is an example of two fixed deposit accounts from two banks

Bank A: ordinary fixed deposit. No minimum investment required. Interest rates are quoted as per annum rates. Interest is compounded monthly.

Period in months	1	2	3	4	5	6	7	8	9	10	11	12	13	18	24	36	48	60
Interest	4,05%	5,00%	5,05%	5,0%	5,05%	5,30%	5,30%	5,30%	5,30%	5,30%	5,30%	5,40%	5,40%	5,70%	6,00%	6,7%	6,90%	7,25%

Bank B: minimum investment amount: R1 000. Interest rates are quoted as per annum rates. Interest compounded monthly. Interest rates are available on application for amounts R100 000 and above.

Interest charged	33 days to under three months	Three months to under six months	Six months to under 12 months	12 months to under 18 months	18 months to under 24 months	24 months to under 36 months	36 months to under 48 months	48 months to 60 months
Interest on balances below R10 000	4,00%	4,10%	4,20%	4,35%	4,65%	5,00%	5,70%	6,10%
Interest on balances from R10 000 to R99 999	5,00%	5,10%	5,20%	5,35%	5,65%	6,00%	6,70%	7,10%

Name of Teacher:		HOD:	
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GRADE	11	SUBJECT	Mathematical Literacy	Week	4	TOPIC	Finance Time: 60min	Lesson	1
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Banking (inflation)	Investigate changes in the prices of goods and/or services.	<i>Household and small business finance</i>	Learners should be able to: Recognise that inflation is a measure of the change in the purchasing power of money over time

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: Discussion, question and answers, demonstration</p> <p>2.1 Introduction a. pre-knowledge required for the lesson: knowledge of the costs of basic food items such as bread and fresh milk b. baseline assessment see under learner activity</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Brainstorm with learners to understand what inflation is. Look under reflections/notes for suggested explanations. Explain that to inflate means to make it bigger and therefore inflation can also be explained as the increases in prices of the goods and services we pay for. Indicate to learners that normally a year-on-year inflation and a month-on-month inflation rates are commonly used by economists to measure inflation. Explain that if it is announced that the year-on-year inflation rate for December 2011 is 5,5%, it means that the average price of goods and services in December 2011 was 5,5% higher than it had been in December 2010. Indicate to learners that because the inflation rate represents the average increase in the price of goods and services, a high year-on-year or month-on-month 	<p><u>Baseline assessment</u> Mention at least five basic food items that you buy or your family sends you buy from a shop. Compare the price of the items from 2011 to 2012 and determine whether the prices have changed or stayed the same.</p> <p><u>Learner activity</u> 1. Statistics South Africa released a report on food prices in September 2012 which indicated that the following components increased from July 2012 to August 2012: oils and fats (0,8%) other food (0,8%) meat (0,6%) hot beverages (0,4%) milk, eggs and cheese (0,2%)</p>	<p>5 min for home work correction</p> <p>10 min- for the presentation and demonstration</p> <p>30 min for the main activity</p> <p>15 min for corrections and conclusion</p>	<p>News papers</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<p>inflation rate implies that a person can buy a lot less for the same money than a year or month before.</p> <ul style="list-style-type: none"> • Explain what the terms CPI, CPIX and CPIF mean. See under reflection/notes. • Give learners the opportunity to brainstorm the prices of goods and services over a period of time and let them make decisions as to whether the prices of the items have remained the same or they've increased. If possible let learners determine the price increases. • Get magazines and newspapers as well as brochures that have information on inflation and discuss with learners what the information actually mean in terms of the measure of average price rise. • Look under learner activity to give learners work. You may add your own <p>2.3 Conclusion</p> <ul style="list-style-type: none"> • Do corrections and emphasise the important points presented. • Give learners home work 	<p>and fruit (0,2%).</p> <p>Calculate the prices of the items listed on Brochure 1 attached in July 2012.</p> <p>2. The following components in the food and non-alcoholic beverages index decreased:</p> <p>sugar, sweets and desserts (-1,5%)</p> <p>fish (-1,2%)</p> <p>vegetables (-1,1%)</p> <p>cold beverages (-0,2%)</p> <p>bread and cereals (-0,1%)</p> <p>determine the price of the items listed on Brochure 2 in July 2012.</p>		
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Reflection/Notes:

Inflation is the measure which indicates the change in the buying power of money over a period of time. The inflation rate is an average of the general rise in prices across many goods and services, expressed as a percentage. Economists calculate this average increase in prices over different periods of time – for example, month to month or from year to year.

- CPI – Consumer Price Index. It refers to the official rate of inflation.
- CPIX – it is the CPI with the exclusion of the interest rate on home loans
- CPIF – it is the index that only refers to the change in the food prices.
- Index - A number that gives the value of something in a particular year relative to the value in a certain base year. The plural of index is indices.

If it is announced that the year-on-year inflation rate for December 2011 is 5,5%, it means that the average price of goods and services in December 2011 was 5,5% higher than it had been in December 2010.

Because the inflation rate represents the average increase in the price of goods and services, a high year-on-year or month-on-month inflation rate implies that a person can buy a lot less for the same money than a year or month before

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

Brochure 1

84.99 Yoplait YOGURT AUX FRUITS 1.5L x 8 (Vat Nil)

84.99 TARA OMEGA 3&6 REGULAR SPREAD 750g (Vat Nil)

11.99 Rivala VANILLE AROMATISE 1L

56.99 Rivala MILK 1.5L x 6

69.99 BUTTER 250g x 4

34.99 BUTTER 250g x 4

49.99 BUTTER 250g x 4

11.99 BUTTER 250g x 4

79.99 Kiri CHEESE 1kg

59.99 KRAFT Singles 1kg

64.99 KRAFT Singles 1kg

39.99 KRAFT Singles 1kg

69.99 Kiri CHEESE 1kg

39.99 Kiri CHEESE 1kg

24.99 Kiri CHEESE 1kg

BUTCHERY

84.95 FRESH BEEF (RSA) MINCE Per 500g (Vat Nil)

84.95 FROZEN BEEF STEW BONE IN Per 500g (Vat Nil)

119.95 FROZEN LAMB SHANK Per 500g (Vat Nil)

129.95 FRESH BEEF ROAST Per 500g (Vat Nil)

LA GARANTIE DES PRIX *Toujours* BAS

brochure 2

89.99 McCain real ovenbake chips

139.99 McCain bake chips

49.99 Garden Peas

79.99 BURGERS

59.99 Fish Fingers

99.99 DEEP WATER HAKE

149.99 FISH BALL

34.99 Seafood Block

89.99 Cornflake Multigrain Oatmeal

39.99 Chicken Nuggets

59.99 Chicken Burger

104.90 Carmen Chicken

159.99 Easy Pack Chicken

49.99 Chicken Burger

LA GARANTIE DES PRIX *Toujours* BAS

GRADE	11	SUBJECT	Mathematical Literacy	Week	4	TOPIC	Finance Time: 60min	Lesson	2
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Banking (inflation)	Investigate changes in the prices of goods and/or services.	<i>Household and small business finance</i>	Learners should be able to: Recognise that inflation represents the <i>average</i> increase in the prices of a variety of goods and services over time and that different items can have different inflation rates

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: question and answers, Discussion</p> <p>2.1 Introduction a. pre-knowledge required for the lesson: knowledge of the impact of inflation on goods and services b. baseline assessment see under learner activity and ask those questions orally.</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Refresh learners memory on the previous lesson and indicate to them that as the prices of goods and services increase, the purchasing/buying power of our money decreases. It implies that as inflation rises, every rand you spend buys a smaller and smaller amount of food, petrol, electricity, medical treatment, or anything else on which you spend your money. 	<p><u>Baseline assessment</u></p> <p>Oral questions: Explain in your own words what CPI, CPIX imply.</p> <p><u>Learner activity</u></p> <p>1. According to Statistics South Africa's September 2012 report, the annual CPI for food and non-alcoholic beverages (NAB) from August 2011 to August 2012 was 4,9 %.</p> <p>If bread cost R8,50 in August 2011, how much was the same bread expected to cost in August 2012.</p> <p>2. Complete the table given in reflections.</p> <p>3. The table below shows the percentage price change for the period from June 2011 to June 2012.</p>	<p>5 min for home work correction</p> <p>10 min- for the presentation and demonstration</p> <p>30 min for the main activity</p> <p>15 min for corrections and conclusion</p>	<p>News papers</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

- Give examples of such situations where you pay more money for the same product even though the quantity or quality may not necessarily have changed during the period under review.
- Look under learner activity to give learners work. You may add your own

2.3 Conclusion

- Do corrections and emphasise the important points presented.
- Give learners home work

Food item	Percentage price change from 2011 to June 2012
Grain products	12,4
Fish	15,1
Milk, cheese and eggs	18,0
Vegetables	21,0
Coffee, tea and cocoa	13,1

Use this table and the Shoprite Brochure for June 2011 June to determine the price of the items on for June 2012.

Reflection/Notes:

- CPIX – it is the CPI with the exclusion of the interest rate on home loans

The CPIX in 2004 was 129,8. This tells us that:

- The cost of a representative basket of consumer goods and services increased by 29,8% from 2000 to 2004
- For every R100 the average South African spent on goods and services in 2000, they would have spent R129,80 for the same things in 2004
- If an average South African's monthly costs were about R1 500 in 2000, then in 2004 they would probably have been about $\mathbf{R1\ 500 \times 1,298 = R1\ 947}$

If the CPIX is less than 100 it would tell us that the cost of a representative basket of consumer goods and services had fallen since 2000.

- Percentage increase in price = $\frac{\text{price in one year} - \text{price in previous year}}{\text{price in previous year}} \times 100$

Year	Approximate price of a Loaf of Brown Bread	Yearly Difference in Price	% Change per Year
2000	R3,75	-----	-----
2001	R3,83	$R3,83 - R3,75 = R0,08$	$R0,08/R3,75 \times 100 = 2,1\%$
2002	R3,95		
2003	R4,65		
2004	R4,60		
2005	R4,70		
2006	R4,85		

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

Shoprite brochure for June 2011

KRAFT Processed **Cheddar** Cheese 250g NET **67⁹⁹**
 KRAFT CHEDDAR CHEESE 250g (Var Nil)

Kellogg's **CORN** ROASTED GOLDEN FLAKES **99⁹⁹**
 KELLOGG'S CORN FLAKES 500g Units (Var India)

Kellogg's **CORN FLAKES** ROASTED GOLDEN FLAKES MADE FROM KILL-BREKERS **99⁹⁹**
 KELLOGG'S CORN FLAKES 500g Units (Var India)

Twin Cows Instant Full Cream Milk **159⁹⁹**
 TWIN COWS INSTANT FULL CREAM MILK 1kg (Var Nil)

Nestum Original **56⁹⁹**
 NESTUM ORIGINAL FULL CREAM MILK 250g (Var Inhd)

dorset cereals simply delicious mixes **99⁹⁹**
 DORSET CEREALS MIXES 500g (Var Inhd)

Nestle's MILO **94⁹⁹**
 BUY 1 GET 1 SCHOOL SET FREE
 NESTLE'S MILO 500g (Var Inhd)

Cafe de Chamarel **169⁹⁹**
 CAFE CHAMARCEL CAFE CRAMBLE/IN CREAM (ESPRESSO/ MOULD) 250g (Var Inhd)

Koffiehuis Full Roast **89⁹⁹**
 KOFFIEHUIS COFFEE FULL ROAST 250g (Var Inhd)

POT O' GOLD SWEETENED CONDENSED FILLED MILK **29⁹⁹**
 POT O' GOLD SWEETENED CONDENSED MILK 200g (Var Nil)

Chartreuse **79⁹⁹**
 CHARTREUSE VANILLA 200g (Var Inhd)

POT O' GOLD PEANUT BUTTER **79⁹⁹**
 POT O' GOLD PEANUT BUTTER 250g (Var Inhd)

Best White Refined Sugar 2kg **56⁹⁹**
 BEST WHITE SUGAR 2kg (Var Nil)

POT O' GOLD CHOCOLATE HAZELNUT **59⁹⁹**
 POT O' GOLD CHOCOLATE HAZELNUT 250g (Var Inhd)

POT O' GOLD VANILLA **64⁹⁹**
 POT O' GOLD VANILLA 200g (Var Nil)

RITERBRAND Pear Halves **32⁹⁹**
 RITERBRAND PEAR HALVES 410g (Var Inhd)

LA GARANTIE DES PRIX *Toujours* BAS

GRADE	11	SUBJECT	Mathematical Literacy	Week	4	TOPIC	Finance Time: 60min	Lesson	3
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Banking (the impact of inflation on the value of an item over time)	Investigate changes in the prices of goods and/or services.	<i>Household and small business finance</i>	Learners should be able to: Investigate, through calculation and discussion, the impact of inflation on the value of an item over time

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED																				
<p>1. Teaching methods: question and answers, Discussion</p> <p>2.1 Introduction a. pre-knowledge required for the lesson: knowledge of the impact of inflation on goods and services b. baseline assessment see under learner activity</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> ask learners what happens to the value of an item as the rate of inflation changes over time. Explain to learners that in most cases, the impact of inflation changes or affects the value of an item. Encourage learners to give examples of situations whereby inflation has adversely affected the value of an item. 	<p><u>Baseline assessment</u> Do corrections for the previous lesson's home work</p> <p><u>Learner activity</u> 1. Mrs Sokhela prepares doughnuts for sale. The projected inflation rate for the year 8,1%. The old price list is given below. Prepare a new price list taking the projected inflation into account.</p> <table border="1"> <thead> <tr> <th>Ingredient</th> <th>Old Price per quantity</th> </tr> </thead> <tbody> <tr><td>Oil</td><td>R25,99/litre</td></tr> <tr><td>Flour</td><td>R22,50/5kg</td></tr> <tr><td>Salt</td><td>R11,00/kg</td></tr> <tr><td>Apricot jam</td><td>R10,99/450g</td></tr> <tr><td>Milk</td><td>R9,99/400 ml</td></tr> <tr><td>Eggs</td><td>R30,00/2,5 dozen</td></tr> <tr><td>Sugar</td><td>R28,99/2,5 kg</td></tr> <tr><td>Yeast</td><td>R6,00/200g</td></tr> <tr><td>Margarine</td><td>R27,99/500g</td></tr> </tbody> </table>	Ingredient	Old Price per quantity	Oil	R25,99/litre	Flour	R22,50/5kg	Salt	R11,00/kg	Apricot jam	R10,99/450g	Milk	R9,99/400 ml	Eggs	R30,00/2,5 dozen	Sugar	R28,99/2,5 kg	Yeast	R6,00/200g	Margarine	R27,99/500g	<p>5 min for home work correction</p> <p>45 min for the main activity</p> <p>10 min for corrections and conclusion</p>	<p>Magazines</p> <p>Charts</p> <p>News papers</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>
Ingredient	Old Price per quantity																						
Oil	R25,99/litre																						
Flour	R22,50/5kg																						
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Apricot jam	R10,99/450g																						
Milk	R9,99/400 ml																						
Eggs	R30,00/2,5 dozen																						
Sugar	R28,99/2,5 kg																						
Yeast	R6,00/200g																						
Margarine	R27,99/500g																						

- Indicate that when a person or a worker's salary doesn't change but the cost of items change, the amount of money that is needed to purchase the needed items continues to rise.
- Inform learners that in most cases it is a good idea to prepare a list of items that you need so that you can make a proper comparison to determine the impact of inflation on the purchasing power of your money.
- Look under learner activity to give learners work. You may add your own from any CAPS approved textbooks.

2.3 Conclusion

- Do corrections and emphasise the important points presented.
- Give learners home work

2. Mr Harrison spends R1 800 for groceries per month. The average month-on-month inflation rate was 3,3% in the previous year. Calculate how much more Mr Harrison will have to pay for his groceries.

3. Below is a table showing the price of a house and the projected average inflation rate (%) increase.

3.1 Determine the projected cost of the same house in the different years.

Year	2008	2009	2010	2011	2012
Average inflation rate (%)	8,5	9,7	11,0	10,8	9,0
Cost of house in rand	270 000				

3.2 How much did the house cost in 2007? Show calculations.

3.3 What do you notice about the cost of the same house due to inflation?

Reflection/Notes:

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	4	TOPIC	Finance Time: 60min	Lesson	4
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Banking (the impact of inflation on importing and exporting goods and services)	Investigate changes in the prices of goods and/or services.	Household and small business finance	The learner should be able to: Recognise that inflation impacts on the cost of importing and exporting

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: Telling, explaining, question and answers, demonstration</p> <p>1.1 Introduction</p> <p>a. pre-knowledge required for the lesson Selling and buying, currency and exchange rates</p> <p>b. baseline assessment</p> <ul style="list-style-type: none"> do corrections of the home <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Inform learners that a change in the currency can affect your profit margin. i.e. Stronger Rand [R7,00 per \$] and a weaker Rand [R10,00 per \$] Demonstrate to learners that when the rand is stronger it is good for consumers and manufactures who import goods. E.g. Book that cost \$50 [ignoring import duties] it will cost R525 to import it when the is weaker (\$1,00 = R10,50). [Cost = 50xR10,50= R525]. When the rand is stronger it will cost R342, 50 [50x R6,85 = R342,50]. When exporting e.g. at stronger rand will sell the product at higher dollar prices. Box of apples sold at R40, 00 will be sold for \$5, 84 ie [40/R10,50 per \$]. When the rand is weaker it will be sold at \$3,81 [40/6,85 per \$] Do corrections <p>2.3 Conclusion</p> <ul style="list-style-type: none"> By summarising the concept of strong and weaker rand and its impact on export and importing 	<p>1. Baseline assessment: Correction of homework.</p> <p>2. Learner activity</p> <p>a. Calculate the cost price in Rands for exporting 10 books costing \$25, when the rand is weak [R9,50 per \$] and when the rand is strong [R7,85 per \$]</p> <p>b. Calculate the selling price for exporting bananas, if a box of banana's cost R50, at the same exchange rates as in (a)</p> <p>3. Home work</p> <p>a. Change the currency to pula and calculate the cost of 10 books [1 book is = 25 Pula, check the exchange rate of the day]</p> <p>b. Additional homework to be given by the educator.</p>	<p>5 min for home work correction</p> <p>45 min for the main activity</p> <p>10 min for corrections and conclusion</p>	<p>Magazines</p> <p>Charts</p> <p>News papers</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

Reflection/Notes:

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Name of Teacher:		HOD:	
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Date:		Date:	

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	5	TOPIC	Measurement Time: 60min	Lesson	1
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Length	Determine length using appropriate measuring instruments	household and school and/or wider community projects	The learner should be able to: Estimate lengths and/or measure lengths of objects accurately to complete tasks.

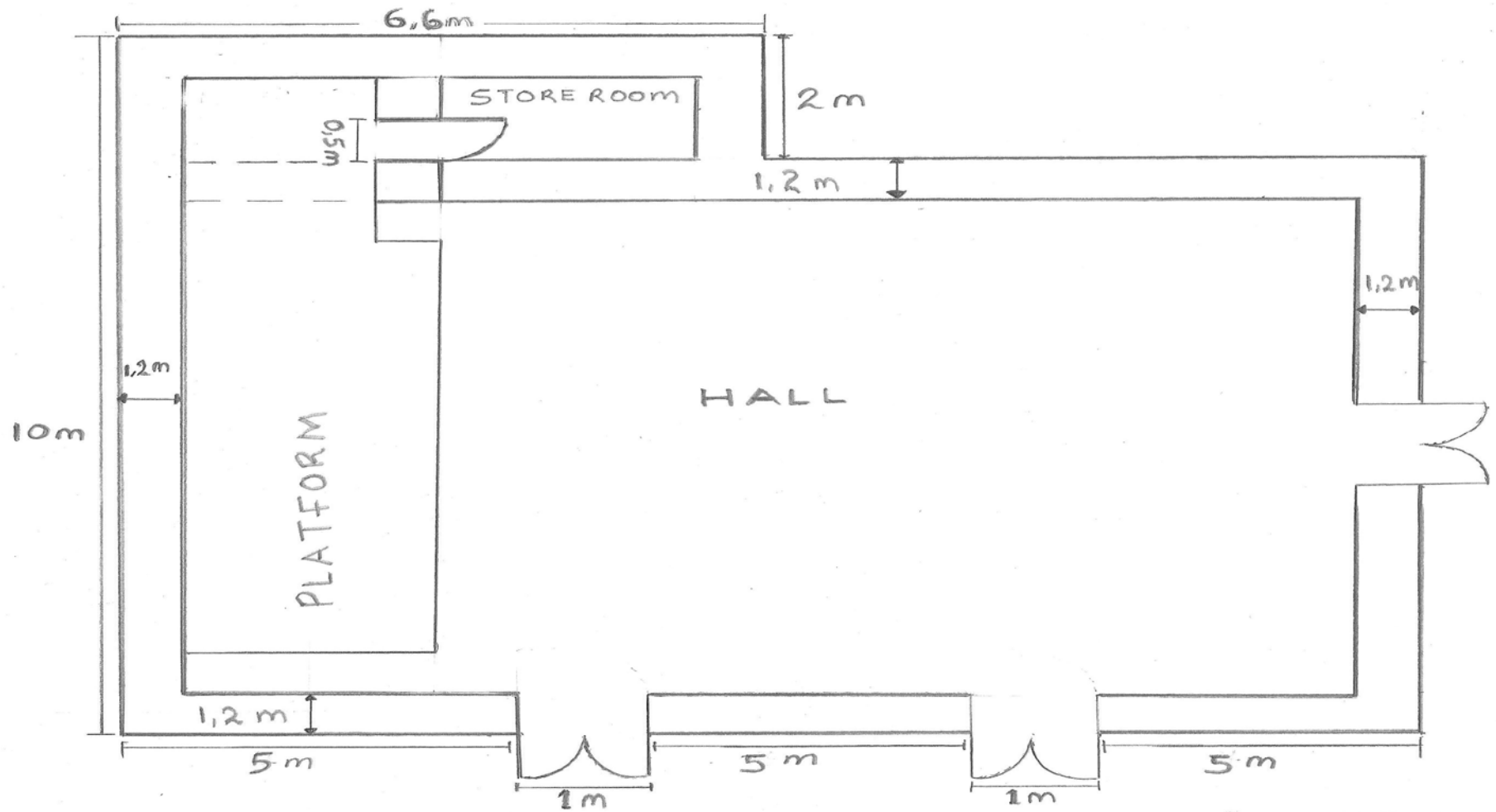
TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: question and answers, demonstration</p> <p>1.1 Introduction</p> <p>a. pre-knowledge required for the lesson Knowledge of measuring instruments such as tape measures, rulers, etc.</p> <p>b. baseline assessment</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Through question and answer, find out from learners the importance of measuring and how we encounter measurements in our daily lives. Indicate to learners that in our day-to-day activities, we usually measure time, speed and distance. Indicate to learners that the main units of length are: <ul style="list-style-type: none"> ✓ Millimetre (mm), used to measure small lengths such as the length of a grain of rice ✓ Centimetre (cm), used to measure medium lengths, such as the length of your exercise book ✓ Metre (m), used for larger distances, such as the length of a house ✓ Kilometre (km), used for much larger distances, such as the distance from school to your house. Give learners few questions where they need to choose the 	<p><u>Baseline assessment:</u></p> <ol style="list-style-type: none"> Mention three areas in our daily activities that involve measurements Write down three measuring instruments that you can think of. <p><u>Learner activity</u></p> <ol style="list-style-type: none"> Below is a list of some metric units: mm, cm, m, km. Select the most appropriate unit of measurement for each question that follow: <ol style="list-style-type: none"> 1.1. the dimensions of a floor plan 1.2. the length of a table 1.3. the length of a netball field. 1.4. the length of a bus 1.5. the height of a tree A High School wants to construct a school hall to enable them have a place large enough for functions and occasions. A 2-dimensional floor plan of the school hall is given on the page below. <ol style="list-style-type: none"> 2.1 Calculate how much it will cost the school to carpet the platform if the actual platform measures 15 meters x 7,5 meters 	<p>5 min for baseline assessment.</p> <p>45 min for the main activity</p> <p>10 min for corrections and conclusion</p>	<p>Measuring instruments</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<p>appropriate units of measurements.</p> <ul style="list-style-type: none"> • Explain to learners that sometimes accurate measurement is necessary but often an estimate is enough. • Make a copy of the floor plan that is attached to this lesson preparation and let them use it to solve the questions under learner activity. You may try to draw it if there are no means of being able to photocopy. • Give learners work to do. See under learner activity for some suggested questions. You may use your own or add to these ones. <p>2.3 Conclusion</p> <ul style="list-style-type: none"> • Indicate to learners that length is a one-dimensional measurement and as such you are not interested in how wide or deep something is when dealing with measurement of length. • Give learners home work. 	<p>and $1\frac{1}{2}$ square meters (m^2) of carpet costs R155,00.</p> <p>2.2 The hall will be tiled with ceramic tiles such as the one shown alongside. One square ceramic tile measures 60 cm x 60 cm.</p> <p>2.2.1 Convert the measurements of one ceramic square tile from (cm) to (m)</p> <p>2.2.2 Calculate the area of one ceramic square tile in (m^2)</p> <p>2.2.3 If the length of the actual hall is 80 meters and the width is 65 meters, calculate the number of square tiles that will be needed to tile the hall (excluding the platform). <i>Note: the actual platform measures 15 meters x 7,5 meters.</i></p>		
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Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

Reflection/Notes:

A 2-dimensional view of the school hall.



GRADE	11	SUBJECT	Mathematical Literacy	WEEK	5	TOPIC	Measurement Time: 60min	Lesson	2
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Distance	Determine distance using appropriate measuring instruments	household and school and/or wider community projects	<p>The learner should be able to:</p> <ul style="list-style-type: none"> Estimate distances and/or measure distances accurately between objects/positions in space using appropriate maps and scales. Calculate the cost associated with travelling a certain distance determine the time taken to complete a journey calculate the speed (distance travelled in terms of time taken)

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: question and answers, demonstration</p> <p>1.1 Introduction</p> <p>a. pre-knowledge required for the lesson Knowledge of measuring instruments such as tape measures, rulers, etc.</p> <p>b. baseline assessment Complete corrections for the previous lesson's home work.</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Allow learners to ask questions for clarity based on the previous lesson on measurement of length. Explain any misconceptions that may have arisen. Explain to learners that if you want to travel from Bloemfontein to Johannesburg, you are looking at the distance you travel and not how wide the road is. Assist learners to differentiate between length and distance. Indicate to learners that we use linear units, e.g. 	<p><u>Baseline assessment:</u></p> <p>Do corrections for the previous lesson's home work</p> <p><u>Learner activity</u></p> <p>1. Ishmael lives 19km away from his school. 1.1 What is the total distance he travels to and from school every day? 1.2 Determine the total distance he travels to and from school in one week. 1.3 What distance in total will Ishmael travel in a year of 38 weeks? 1.4 When Ishmael travels by taxi, it takes him 25 minutes to get to school. 1.4.1 How long will it take Ishmael to go to and from school? 1.4.2 In a week, what will be the travelling time for Ishmael?</p> <p>2. A map has been attached below. Use it to answer the following questions: 2.1 The scale of the map is shown as 1 : 100 000. How many cm on the map is equal to 1 km in actual distance?</p>	<p>5 min for corrections</p> <p>45 min for the main activity</p> <p>10 min for corrections and conclusion</p>	<p>Measuring instruments</p> <p>Maps with scale.</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<p>Millimetre (mm), Centimetre (cm), Metre (m), and Kilometre (km).</p> <ul style="list-style-type: none"> Indicate to learners that estimation is very important in our daily calculations. Explain that estimation is a calculated guess. Tell learners that before we make any accurate measurements, we need to make estimation and that will show us if our answers are more or less accurate. Indicate to learners that sometimes we have to make very accurate measurements, for example when we work with maps and scale drawings. Give learners work to do. See under learner activity for some suggested questions. You may use your own or add to these ones. <p>2.3 Conclusion</p> <ul style="list-style-type: none"> Highlight the important facts to note when dealing with measurement of distance. Give learners home work. 	<p>2.2 How long was the 2007 Comrades Marathon?</p> <p>2.3 How far is it from the Start to Camperdown?</p> <p>2.4 What is the approximate distance from Wintson Park to the top of Cowies Hill?</p> <p>2.5 The predicted arrival time of the first runner at Winston Park is 8:55 am and the last runner at Winston Park is 13:18 pm. How much time will there be between when the first and last runner will pass through Winston Park?</p> <p>2.6 The predicted arrival time of the first runner at Winston Park is 8:55 am and at the top of Cowies Hill is 9:50 am. If runners measure their speed in the number of minutes and seconds that it takes to run 1 km, calculate the predicted average speed at which the first runner will run this stretch of the race.</p>		
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Name of Teacher:		HOD:	
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Date:		Date:	

Reflection/Notes:



GRADE	11	SUBJECT	Mathematical Literacy	WEEK	5	TOPIC	Measurement Time: 60min	Lesson	3
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Measuring weight	Determine mass (weight) using appropriate measuring instruments	household and school and/or wider community projects	<p>The learner should be able to:</p> <ul style="list-style-type: none"> • Measure out quantities to complete a task • Monitor and manage mass (weight) • manage and monitor mass (weight) of self and other family members over time, recording data in table

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: question and answers, demonstration</p> <p>1.1 Introduction</p> <p>a. pre-knowledge required for the lesson Knowledge of measuring instruments such as tape measures, rulers, etc.</p> <p>b. baseline assessment Complete corrections for the previous lesson's home work.</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> • Ask learners where they usually measure quantities at home and at school. • Indicate to learners that the terms mass and weight differ from each other. Explain that mass is the amount of material in an object, while weight is the measure of the heaviness of an object which is related to the force of gravity. • Explain to learners that estimation is an important skill in food preparation. Indicate to learners that an experienced cook usually judges quantities of everyday dishes such as mashed potatoes, 	<p><u>Baseline assessment:</u></p> <p>Do corrections for the previous lesson's home work</p> <p><u>Learner activity</u></p> <p>1. A recipe for rice needs 25 kg of rice to prepare food for 50 people. Look at the images of different brands of rice below and decide which combination you would buy to cook enough rice to cook for about 100 people so that:</p> <p>1.1 You have the least amount of rice left over</p> <p>1.2 you spent the least amount of money.</p> <p>2. A recipe for making Bread and tomato salad is attached below. Use it to answer the questions that follow:</p> <p>2.1 Copy and complete the table of ingredients for 2</p>	<p>5 min for corrections</p> <p>45 min for the main activity</p> <p>10 min for corrections and conclusion</p>	<p>Recipe book</p> <p>Measuring instruments</p> <p>Maps with scale.</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>

<p>chicken stew and breyani without using a scale to check the masses of the ingredients.</p> <ul style="list-style-type: none"> • Tell learners that developing their skill at estimating masses is a good way to improve their skills as well as their ability to shop efficiently for the correct quantities of food. • Demonstrate to learners how to estimate the required quantities of ingredients. See under reflections/notes. • Indicate to learners that the same ingredients can be adapted to bake e.g. 60 pancakes by multiplying all the ingredients by 2, because one recipe makes 30 pancakes. • Give learners work to do. See under learner activity for some suggested questions. You may use your own or add to these ones. • Make copies of the table and other information under reflection/notes for learners so that they may use them to answer the questions under learner activity <p>2.3 Conclusion</p> <ul style="list-style-type: none"> • Highlight the important facts to note when dealing with measurement of mass. • Give learners home work. <i>Ask learners to get any recipe book from home to be used in the next lesson.</i> 	<p>and 10 people. Show all calculations</p> <p>2.2 If one cup is equal to 250 ml, how much is 500 ml of Olive oil costs R29,90, how much will it cost to make for 10 people?</p>		
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Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

Reflection/Notes:



Bread and tomato salad

(4 portions)	2 Portions	10 Portions
1 sourdough bread (at least 1 day old), broken in chunks of 2 cm		
3 – 4 large, ripe tomatoes, chopped in 2 cm chunks OR at least 20 cherry tomatoes, halved		
2 cloves of garlic, crushed		
30 ml (2 tbsp) red wine vinegar		
1 red onion or 1 bunch of spring onions, chopped		
62,5 ml (1/4c) olive oil		
a handful of basil and rocket leaves, torn		
ground sea salt and black pepper		

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	5	TOPIC	Measurement Time: 60min	Lesson	4
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Measuring weight (BMI)	<ul style="list-style-type: none"> Determine mass (weight) using appropriate measuring instruments use recorded mass (weight) data together with recorded length (height) data to calculate Body Mass Index values and determine weight status for adults 	household and school and/or wider community projects	<p>The learner should be able to:</p> <ul style="list-style-type: none"> determining the weight status of adults using <i>Body Mass Index</i>) manage and monitor mass (weight) of self and other family members over time, recording data in table

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED										
<p>1. Teaching methods: question and answers, demonstration</p> <p>1.1 Introduction</p> <p>a. pre-knowledge required for the lesson Knowledge of adapting recipes to feed more or less people depending on the needs.</p> <p>b. baseline assessment Complete corrections for the previous lesson's home work. Use the recipe books brought by learners and ask them to adapt it to feed more or few people.</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> ask learners to tell you how much they weigh if they know. Tell learners that our body mass is an indication of how healthy we are. Indicate that one of the tools that doctors have developed to assess healthy body mass is called Body Mass Index (BMI). Explain to learners the need to measure body mass index. See under 	<p><u>Baseline assessment:</u></p> <p>Do corrections for the previous lesson's home work</p> <p><u>Learner activity</u></p> <p>1. Below is a table used to classify the weight status of an adult according to the following categories:</p> <table border="1"> <thead> <tr> <th>BMI</th> <th>CLASSIFICATION</th> </tr> </thead> <tbody> <tr> <td>< 18,5</td> <td>Underweight</td> </tr> <tr> <td>≥18,5 and <25</td> <td>Normal</td> </tr> <tr> <td>≥25 and < 30</td> <td>Overweight</td> </tr> <tr> <td>≥30</td> <td>Obese</td> </tr> </tbody> </table> <p>Determine the weight status of the following adults by</p>	BMI	CLASSIFICATION	< 18,5	Underweight	≥18,5 and <25	Normal	≥25 and < 30	Overweight	≥30	Obese	<p>5 min for corrections</p> <p>45 min for the main activity</p> <p>10 min for corrections and conclusion</p>	<p>Recipe book</p> <p>Measuring instruments</p> <p>Maps with scale.</p> <p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p> <p>Calculators</p>
BMI	CLASSIFICATION												
< 18,5	Underweight												
≥18,5 and <25	Normal												
≥25 and < 30	Overweight												
≥30	Obese												

<p>reflections/notes for some explanation.</p> <ul style="list-style-type: none"> Do examples with learners on how they can determine their body mass index. See under reflections/notes. Give learners work to do. See under learner activity for some suggested questions. You may use your own or add to these ones. You can also let learners measure their height in metres and use a scale to measure their weight so that they can determine their BMI. <p>2.3 Conclusion</p> <ul style="list-style-type: none"> Highlight the important facts to note when dealing with measurement of mass. Give learners homework. 	<p>determining their BMI</p> <table border="1" data-bbox="1032 177 1671 675"> <thead> <tr> <th>Male/Female</th> <th>Height(m)</th> <th>Weight (kg/m²)</th> </tr> </thead> <tbody> <tr> <td>Male</td> <td>1,7</td> <td>60</td> </tr> <tr> <td>Female</td> <td>1,4</td> <td>45</td> </tr> <tr> <td>Male</td> <td>1,5</td> <td>66</td> </tr> <tr> <td>Female</td> <td>1,6</td> <td>49</td> </tr> <tr> <td>Male</td> <td>1,59</td> <td>69</td> </tr> <tr> <td>Female</td> <td>1,79</td> <td>98</td> </tr> <tr> <td>Male</td> <td>1,61</td> <td>75</td> </tr> </tbody> </table>	Male/Female	Height(m)	Weight (kg/m ²)	Male	1,7	60	Female	1,4	45	Male	1,5	66	Female	1,6	49	Male	1,59	69	Female	1,79	98	Male	1,61	75		
Male/Female	Height(m)	Weight (kg/m ²)																									
Male	1,7	60																									
Female	1,4	45																									
Male	1,5	66																									
Female	1,6	49																									
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Female	1,79	98																									
Male	1,61	75																									

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

Reflection/Notes:

Body Mass Index

Calculating body mass index (BMI) is the first step in determining whether a patient is overweight, or obese. BMI is comparable to blood pressure, a measurement that should be recorded every time a patient is weighed during a doctor's visit.

BMI can be used to gain insights into a patient's health risks. Once you know what your BMI is, you can start to adapt your eating and exercise habits so that you reach the BMI value that is healthy for your particular body.

The formula for calculating BMI is:

$$\text{BMI} = \frac{\text{body mass in kilograms}}{(\text{height})^2}$$

The BMI unit of measurement is kg/m²

Example

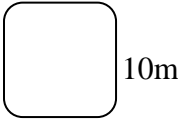
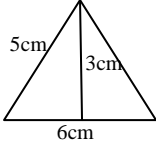
Nkuthalo weighs 95 kg and is 1,6 m tall. Determine his BMI

Solution

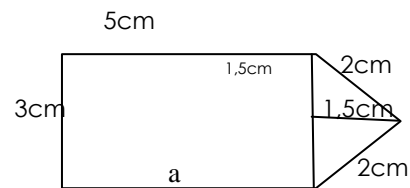
$$\text{BMI} = \frac{\text{body mass in kilograms}}{(\text{height})^2} = 95 \text{ kg} \div (1,6 \text{ m})^2 = 95 \text{ kg} \div 2,56 = 37,1 \text{ kg/m}^2$$

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	6	TOPIC	Measurement Time: 60min	Lesson	1
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Perimeter and area of shapes	Calculating the area and perimeter of household objects as well as the shapes of objects in real life situations.	household and school and/or wider community projects	The learner should be able to: <i>Calculate the area and perimeter of polygon shapes</i> <i>Use measured values to make adjustments and accommodate measurement error in relation to real life situations</i>

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: <i>Demonstration, Question and answer, Discussion.</i></p> <p>2. Lesson development:</p> <p>2.1 Introduction</p> <p>a. <i>Pre-knowledge required for the lesson.</i></p> <ul style="list-style-type: none"> ▪ <i>Know different shapes</i> ▪ <i>Knowledge of properties of shapes</i> ▪ <i>Calculation the area of rectangle and square</i> <p>b. Baseline assessment</p> <p>Revise the concepts of perimeter and volume. Ask learners the question under baseline.</p> <p>Do corrections to the base line activity</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> • Explain to learners that shapes are part of our lives. It is important that we know how to calculate the area and the perimeter of all shapes. • Explain to learners that other shapes consist of two or more different shape 	<p>1. Base line assessment</p> <ol style="list-style-type: none"> a. How many sides does a rectangle have? b. Measure the length of your note book in cm c. Name two properties of a rectangle and square? <p>2. Activity</p> <p>1. Calculate the area and the perimeter of the following shape</p> <p>a.</p>  <p>b.</p> 	<p>Baseline: 10min.</p> <p>Lesson presentation: 10 min</p> <p>Learner activity and corrections: 35min.</p>	<p>Any Grade 11 Mathematical Literacy CAPS approved textbook</p> <p>Calculators</p> <p>Pencils and rulers.</p>

- remind learners about the basic formula use to calculate the shape i.e.
 perimeter rectangle = $2(l+b)$
 circumference (circle) = diameter $\times \pi$
 triangle = sum of 3 sides
 calculate the area of the basic shape:
 rectangle: $A = l \times b$
 square: $A = l \times l$
 Circle: $A = \pi r^2$
 Triangle : $A = \frac{1}{2} \times h \times b$ (h= perpendicular height)
- Demonstrate to learners how to calculate the perimeter and the area of a polygon:



Step : to calculate the perimeter you add all the sides. (if one side does not have a measurement, use the properties of the shape to find the other side) In this shape have a combination of rectangle and triangle. In a rectangle opposite sides is equal.

$$A = 5 \text{ cm}$$

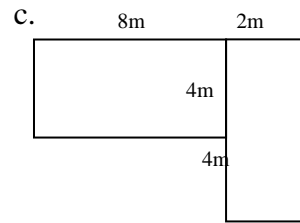
$$P = 3 + 5 + 5 + 2 + 2$$

$$P = 12 \text{ cm}$$

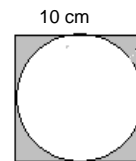
Step: To calculate the area:

The shape consists of two shapes, a triangle and rectangle.

1. Divide the shape into two shapes i.e. triangle and a rectangle.
2. Calculate the area of each shape;



2. Calculate the area of the shaded area

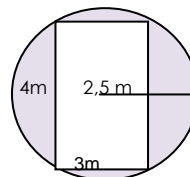


3. Calculate the area of the top part of the can of cold drink (in cm)

4. Home work

4.1

- a. Calculate the area of the un-shaded part for the shape below
- b. Calculate the area of the shaded part for the shapes below



4.2

- a. Calculate the area covered by the round biscuits if the radius of each biscuit is 2,4 cm

Conclusion: 5 min

$$\text{Rectangle} = l \times b$$

$$= 3 \times 5 \approx 15 \text{ cm}^2$$

$$\text{Triangle} = \frac{1}{2} h \times b$$

$$= \frac{1}{2} \times 1,5 \times 1,5 \approx 1,13 \text{ cm}^2$$

3. Calculate the total area by adding the two areas

$$A(\text{total}) = A(\text{rectangle}) + A(\text{triangle})$$

$$= 15 + 1,13$$

$$= 16,13 \text{ cm}^2$$

4. calculate the area and the perimeter of the circle when the diameter is 6m



$$C = 6 \times \pi \text{ or } 3 \times 2 \times \pi$$

$$= 18,9 \text{ m}^2$$

- Demonstrate to learners that when you have two shapes in one picture you calculate their area separately then add them or subtract them i.e. calculate the area of the shaded part

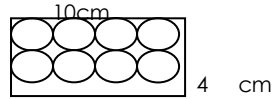


$$A(\text{shaded}) = A(\text{rectangle}) - A(\text{circle})$$

- Give learners some questions to revise area and perimeter. **See under learner activity for some questions.**
- Give learners home work. See under learner activity for some questions.

Conclusion

- Summarise the lesson by emphasizing on the key words and



b. Calculate the area not covered by the biscuits

Solution to the activity

$$1. \quad \mathbf{a. \quad P = 4L \approx 4 \times 10}$$

$$= 40 \text{ m}$$

$$\mathbf{A = L \times L \approx 10 \times 10}$$

$$= 100 \text{ m}^2$$

$$\mathbf{b. \quad P = 5 + 5 + 6 \approx 16 \text{ cm}}$$

$$\mathbf{A = \frac{1}{2} \times 6 \times 3 \approx 9 \text{ cm}^2}$$

$$\mathbf{c. \quad P = 8 + 2 + 8 + 2 + 4 + 8 + 4 \approx 36 \text{ m}}$$

$$\mathbf{A = (8 \times 4) + (8 \times 2) \approx 48 \text{ m}^2}$$

$$2. \quad \mathbf{A(\text{square}) = 10 \times 10 \approx 100 \text{ cm}^2}$$

$$\mathbf{A(\text{circle}) = \pi \times 5^2 \approx 78,53 \text{ cm}^2}$$

$$A(\text{shade}) = 100 - 78,53$$

$$= 21,47 \text{ cm}^2$$

3. Learners own calculations

Solution to the homework

$$1. \quad \mathbf{a. \quad A(\text{un-shaded}) = 4 \times 3 \approx 12 \text{ m}^2}$$

$$\mathbf{b. \quad A(\text{circle}) = \pi 2,5^2 \approx 19,6 \text{ m}^2}$$

<p><i>their meaning. i.e. mathematical probability and relative frequency</i></p>	<p>A (shaded) = $19,6 - 12 \approx 7,6 \text{ m}^2$</p> <p>2. a. A (circle 1 biscuit) = $\pi 1,2^2 \approx 3,8 \text{ cm}^2$</p> <p>A(biscuits) = $8 \times 3,8 \approx 30,4 \text{ cm}^2$</p> <p>b. A (box) = $10 \times 4 \approx 40 \text{ cm}^2$</p> <p>A (not covered) = $40 - 30,4 \approx 9,6 \text{ m}^2$</p>		
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Reflection / Notes:

Name of Teacher:		HOD:	
Sign:		Sign:	
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GRADE	11	SUBJECT	Mathematical Literacy	WEEK	6	TOPIC	Measurement Time: 60min	Lesson	2
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Surface area of objects	Calculate/measure surface area of objects by direct measurement (perimeter using rulers, etc. area using grids)	household and school and/or wider community projects	The learner should be able to: Solve problems and complete tasks/projects, including: determining and/or calculating appropriate quantities of materials/components needed to complete a task/project (e.g. sewing tablecloths; painting a classroom; construction/building projects such as an RDP house),

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: <i>Demonstration, Question and answer, Discussion.</i></p> <p>2. Lesson development:</p> <p>2.1 Introduction</p> <p>a. <i>Pre-knowledge required for the lesson.</i></p> <ul style="list-style-type: none"> ▪ Know different shapes ▪ Knowledge of properties of shapes ▪ Calculation surface area <p>b. Baseline assessment</p> <p>Revise the concepts of perimeter and volume. Ask learners the question under baseline.</p> <p>Do corrections to the base line activity</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> • Explain to learners that shapes are part of our lives. It is important that we know how to calculate the area and the perimeter of all shapes. • Explain to learners that other shapes consist of two or 	<p>1. Base line assessment</p> <ol style="list-style-type: none"> a. How many sides does a rectangle have? b. How many side does a room have? c. If you were to tile a room, which areas would you tile? <p>Activity</p>	<p>Baseline: 10min.</p> <p>Lesson presentation: 10 min</p>	<p>Any Grade 11 Mathematical Literacy textbook</p> <p>Calculators</p> <p>Pencils and rulers.</p>

more different shape

- Inform learners that packaging also involves decorations and labelling, i.e. in a can of coke the portion for the bar code is not covered with red, that portion has to be subtracted from the total surface area of the can when calculating the surface area that has to be covered with red.

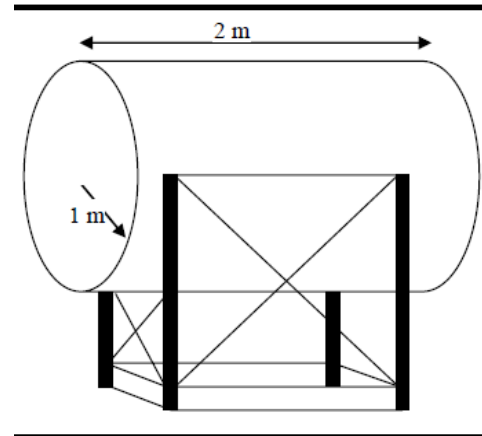
Eg. A can of Coca cola, with the height of 11 cm and diameter of 6cm is covered with a red plastic paper, except the base. Then a portion of this can is covered with a white sticker for the bar code. Calculate the amount of red sheet that is used to cover the can (ignore the portion with the words)



- a. Calculate the surface area of the bathroom that needs to be tiled (include the ceiling and the floor) but excluding the windows, baths and the toilet (above picture)

7. Home work

1.



As a result of load shedding, Wayne, a chicken farmer, goes back to using a generator to provide dependable power for his chicken sheds and his farmhouse. He buys a second-hand diesel tank with a radius of 1 m and a length of 2 m to store the fuel for the generator. Calculate the surface area of the generator.

Memo Activity

$$c. A (w) = 0,1 \times 0,1 \approx 0,01m^2$$

$$A (d) = 1 \times 2 \approx 2 m^2$$

$$A (b) = 0,1 \times 0,25 \approx 0,025 m^2$$

$$A (T) = 0,1 \times 0,2 \approx 0,2 m^2$$

$$SA (Room) = 2(3 \times 4) + 2(3 \times 1) + 2(4 \times 1) \approx$$

Learner activity and corrections: 35min.

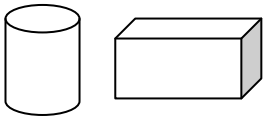
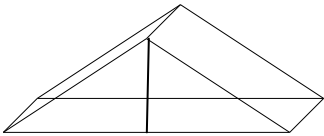
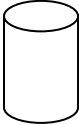
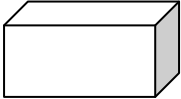
<p>1. Calculate the area of the bar code sticker (4cm length and 3cm width) [$A = 4 \times 3 \approx 12 \text{ cm}^2$]</p> <p>2. calculate the surface area of the can (exclude the top and the bottom) [$SA = 2\pi rh \approx 2\pi \times 3^2 \times 11 = 622,035 \text{ cm}^2$]</p> <p>3. How much area of the can is covered by the red plastic sheet? [$SA = 622,035 - 12 \approx \text{cm}^2$]</p> <ul style="list-style-type: none"> • Inform learners that surface area is also used at homes when painting the house or tilling the house. • Demonstrate to learners how to calculate surface area of the portion to be decorated or painted. Use the classroom as an example i.e. to tile the wall and the floor of the class. The area of the windows have to be calculated, area of the door has to be calculated, the area of the chalkboard has to be calculated, the surface area of the class excluding the ceiling. Indicate to the learners that the chalkboard, windows and the door are not going to be filled but they were included in the calculation of the class surface area. Subtract them from the surface area of the class that will give you the surface area to be tilled • Give learners some questions to practice surface area. See under learner activity for some questions. • Give learners home work. See under learner activity for some questions. <p>Conclusion</p> <ul style="list-style-type: none"> • Summarise the lesson by emphasizing on the key words and the steps to calculating surface area 	<p>35m^2</p> <p>$A \text{ (to be tiled)} = 35 - (0,01 + 2 + 0,025 + 0,2)$</p> <p>$= 32,78 \text{ m}^2$</p> <p>Solution</p> <p>Home work</p> <p>$SA = 2 \pi r^2 + 2\pi h$</p> <p>$= 2 \pi \times 1 + 2\pi \times 1 \times 2 \approx 18,85 \text{ m}^2$</p>	<p>Conclusion: 5 min</p>	
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Reflection / Notes:

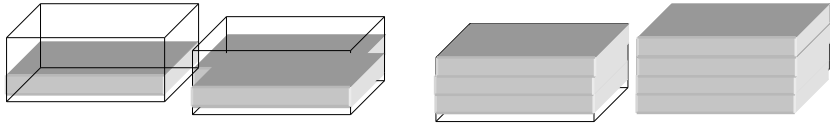
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GRADE	11	SUBJECT	Mathematical Literacy	WEEK	6	TOPIC	Measurement Time: 60min	Lesson	3
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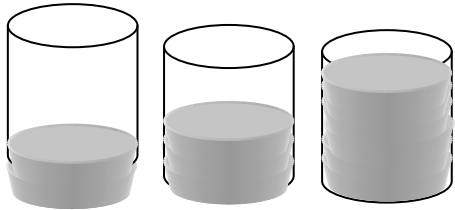
LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Volume	Calculate/measure values using a formula involving volume of objects	household and school and/or wider community projects	<p>The learner should be able to:</p> <ul style="list-style-type: none"> Describe the height of a prism Identify the base shape of the prism Identify the Volume formulas for different prism Calculate the volume of different shapes that makes up a prism e.g. cuboid, cylinders, cones, pyramid <p>Substitute in the correct formula to calculate the volume of different prism</p>

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: Telling, explaining, question and answers, demonstration</p> <p>1.1 Introduction</p> <p>a. pre-knowledge required for the lesson calculate area of different shapes, identify different shapes</p> <p>b. baseline assessment</p> <ul style="list-style-type: none"> do correction to the homework do correction to the base line assessment <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Show learners different containers of packaging shapes, ask learners to show the shapes they brought. i.e. <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <ul style="list-style-type: none"> Inform learners that these objects need to be filled with the product that needs to be sold. The product could be in liquid or solid form. Explain to learners that the amount of space that is occupied by the product in the container is called the volume, and is measured in cubic units. Explain to learners that the containers have a base shape, which is the shape that continues from one end of the prism to another Demonstrate the concept of base shape i.e. its like packing same shape on top 	<p>1. Baseline assessment: $d=6\text{cm}$ $h=8\text{cm}$ $L=5\text{cm}$; $b=3\text{cm}$ $h=8\text{cm}$</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p>a. Calculate the area of the base for each shape</p> <p>b. Calculate the surface area of each shape</p> <p>2. Activity:</p> <p>a. Ask learners to calculate the volume of the cylinder they have brought i.e. can of coke</p> <p>b. Calculate the volume of the rectangular prism (box of powder soap or cereals)</p>	<p>5min corrections 5 min- base line 5 min- corrections 25 min- for the presentation and demonstration 15 min for the main activity 5 min for corrections and conclusion</p>	<ul style="list-style-type: none"> Step Ahead series: mathematical Literacy grade 11 by Marc North Maths Lit for All grade 11 by Macmillan

of the other until it fills the top of the container



- Explain to learners that as you pack each shape on top of the other you are creating the height of the prism e.g. the height of this rectangular prism is 4 units. To know how much of the space is occupied by the object [Volume = area of the shape x height of the prism] ($V=l \times b \times h$)



- Volume of cylinder = area of the base x height of the prism [$\pi r^2 h$]
- Volume triangular prism = area of triangle x height of the prism
[$V= \frac{1}{2} b \times h(\text{triangle}) \times h(\text{prism})$]

Conclusion

- Summarize the key points on how to calculate surface area and the key distinctions of the prisms

3. Home work

- a. Complete the home work worksheet

Reflection / Notes:

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

Solution to the homework

a. $V = \pi r^2 h$
 $= \pi \times 10^2 \times 120$
 $= 37699,11 \text{ cm}^3$

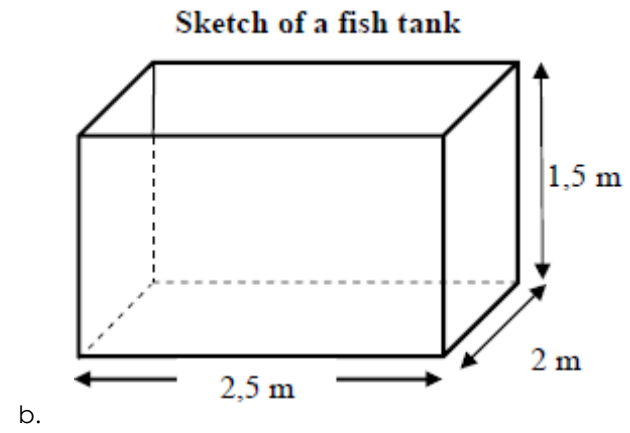
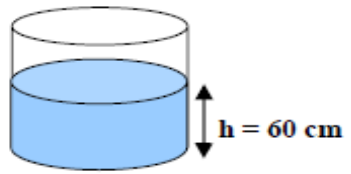
b. $V = L \times B \times H$
 $= 2,5 \times 2 \times 1,5$
 $= 7,5 \text{ m}^3$

c. $V = L \times B \times H$
 $= 80 \times 80 \times 120$
 $= 768000 \text{ cm}^3$

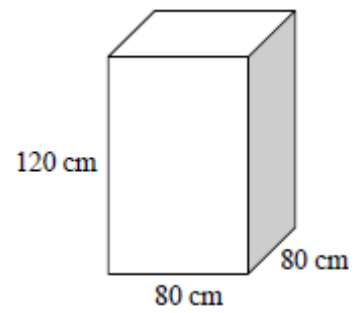
Home work worksheet

Calculate volume for the following shapes:

a. For the cylinder with the radius of 20 cm



c.



GRADE	11	SUBJECT	Mathematical Literacy	WEEK	6	TOPIC	Measurement Time: 60min	Lesson	4
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Surface area of prisms	Calculate/measure surface area of objects.	household and school and/or wider community projects	The learner should be able to: <ul style="list-style-type: none"> calculate the total surface area of a prism Calculate values to accommodate measurement error adjust calculated values to accommodate errors and inaccuracies

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED								
<p>1. Teaching methods: Telling, explaining, question and answers, demonstration</p> <p>2.1 Introduction</p> <p>a. pre-knowledge required for the lesson calculate area of different shapes, identify different shapes</p> <p>b. baseline assessment</p> <ul style="list-style-type: none"> do correction of the homework <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Tell learners that surface area helps at finding the quantity of paint that need to be bought. In order to know how much paint you need to buy, you need to know the total area to be painted. Explain to learners that the quantity of paint is in liquids, and the surface area is in square meters. This means that you need to convert from m² to litres. Tell learners that different paints have different thickness. The amounts of paint you use depend on how thick you paste the paint on the wall or material. Explain to learners that when you buy paint, in its container you are told how much area it will cover. In some instances they even indicate how much area a litre of paint covers. For example: <table border="1" data-bbox="73 1249 918 1396"> <thead> <tr> <th>Type of paint</th> <th>Coverage (per litre)</th> </tr> </thead> <tbody> <tr> <td>Wood primer</td> <td>9 m²</td> </tr> <tr> <td>Acrylic</td> <td>10m²</td> </tr> <tr> <td>Undercoat</td> <td>7 m²</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Remind learners that paints when they are brought they do come in decimals, the quantity is in whole numbers i.e. 2l, 5l, 20l Demonstrate to learners how to calculate the amount of paint using surface 	Type of paint	Coverage (per litre)	Wood primer	9 m ²	Acrylic	10m ²	Undercoat	7 m ²	<p>1. Baseline assessment:</p> <p>2. Activity:</p> <p>a. This activity is on the 3rd page.</p> <p>Solution to Activity SA (roof) = $2 \frac{1}{2} \times h \times b + 2 (l \times b)$ = $1 \times 3 \times 4 + 2 \times 5 \times 3$ = 42 m² SA(wall) = $2(h \times b) + 2 (l \times h)$ = $2(3 \times 4,5) + 2(4,5 \times 3,5)$ = 52,50 m² A (door) = $1 \times 2 \approx 2\text{m}^2$ SA (total) = $42 + 52,50 - 2$ = 92,50 m² Paint needed = $92,50/7,5$ = 12,3 l</p> <p>b. SA = $2\pi r^2 + 2\pi rh$ = $2\pi \times 1^2 + 2\pi \times 2$ = 18,84 m² Paint needed = $18,84/3$ = 6,28 l ≈ 7 l</p>	<p>5min corrections</p> <p>5 min- base line</p> <p>5 min- corrections</p> <p>20 min- for the presentation and demonstration</p> <p>15 min for the main activity</p> <p>5 min for corrections</p> <p>5 min for conclusion</p>	<p>Any grade 11 CAPS approved textbook.</p> <p>Chalkboard</p>
Type of paint	Coverage (per litre)										
Wood primer	9 m ²										
Acrylic	10m ²										
Undercoat	7 m ²										

area and finding the cost.

The dimensions below are of the room build outside Sizi's house.

Room	Door	Window
Length = 4m	Height = 2,1m	Length = 1,6m
Breath = 3,5m	Width = 0,9m	Breath = 1m
Height = 3m		

a. Calculate the total surface area that needs to be painted.

$$\begin{aligned} SA &= 2(l \times h) + 2(b \times h) \\ &= 2(4 \times 3) + 2(3,5 \times 3) \\ &= 24 + 21 \\ &= 45 \text{ m}^2 \end{aligned}$$

$$A(\text{door}) = 2,1 \times 0,9 = 1,89$$

$$A(\text{room}) = 1,6 \times 1 = 1,6 \text{ m}^2$$

$$SA(\text{Total}) = 45 - 1,6 - 1,89$$

$$SA(\text{total}) = 41,51 \text{ m}^2$$

b. how many litres of paint should she buy, if 1l of paint covers 9m².

$$1 \text{ l} : 9 \text{ m}^2$$

$$\begin{aligned} \text{This means} &= 41,51/9 \\ &= 4,61 \text{ l} \end{aligned}$$

2.3 Conclusion

- Summarize the key points on how to calculate surface area and the key distinctions of the prisms

$$\begin{aligned} 2. \text{Buy in 1 l} &= 7 \times 23,63 \\ &= R165,41 \end{aligned}$$

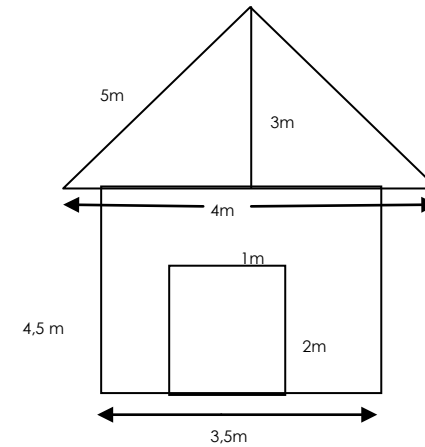
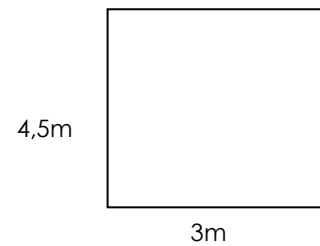
$$\begin{aligned} \text{Buy 5l and 2 x 1l} &= 113,15 + \\ &2 \times 23,63 \approx R160,45 \end{aligned}$$

The most economical
Buying one 5l and 2 x 1l.

Reflection / Notes:

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

Class activity



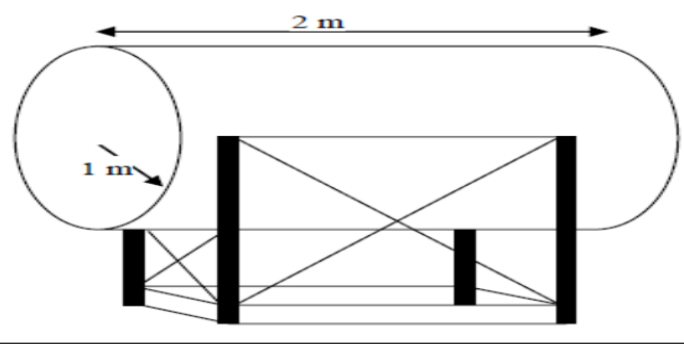
a. Thami wants to paint the roof and the house of his dog. How much paint would she need if she will paint using enamel? 1 litre covers $7,5 \text{ m}^2$.

the picture of the dog's house and its 2-D shape are shown above.

b.

As a result of load shedding, Wayne, a chicken farmer, goes back to using a generator to provide dependable power for his chicken sheds and his farmhouse.

He buys a second-hand diesel tank with a radius of 1 m and a length of 2 m to store the fuel for the generator.



1. He decides to paint the outside surface area of the tank. It takes 1 l paint to paint 3 m^2 of the surface. Calculate the surface area of the tank and the quantity of paint needed.
2. If a 1 l tin of paint costs R23,63 and a 5 l tin of paint costs R113,15, calculate the most economical way to purchase the amount of paint

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	7	TOPIC	Maps, plans & other representations of the physical world Time: 60min	Lesson	1
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Scale	Calculate actual length and distance when map and/or plan measurements are known	household and school and/or wider community projects	The learner should be able to: <ul style="list-style-type: none"> • Explain why scale drawing of objects is important. • Estimate values according to scale

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: Telling, explaining, question and answers, demonstration</p> <p>2.1 Introduction</p> <p>a. pre-knowledge required for the lesson knowledge of building plans</p> <p>b. baseline assessment</p> <ul style="list-style-type: none"> • do correction of the previous lesson's homework <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> • Discussion with learners to find out how automobile companies as well as architectural engineers are able to come up with various models of cars and designs of buildings. • Assist learners to identify the importance of scale drawings and building plans in real-life situations. • Brainstorm with learners to understand the term scale drawing. See under reflections/notes. • Explain to learners that when an architect designs a new house, the architect normally considers the original (plan) as the object and the final product (the house) as the image. • Indicate to learners that scale can be represented in various ways. See under reflections/notes. <p>2.3 Conclusion</p>	<p><u>Baseline assessment:</u></p> <p>Do corrections for the previous lesson's home work and clarify any misconceptions that may have arisen.</p> <p><u>Activity:</u></p> <ol style="list-style-type: none"> 1. Explain why it is important to have scale drawings of objects and plans of buildings. 2. Mention at least two ways in which objects can be drawn 3. A particular map shows a scale of 1 : 5000. What is the actual distance if the map distance is 8 cm? 4. A particular map shows a scale of 1 cm : 5 km. What would the map distance (in cm) be if the actual distance is 14 km? 5. The table below shows the dimensions of different parts of a house as measured on a plan. If the plan is drawn in the scale 1 : 50, use the scale to determine the actual length of each feature of the house. 	<p>Baseline: 5min</p> <p>2. Discussion and explanations: 15 min</p> <p>Activity: 35 min</p> <p>4. conclusion and summary: 5 min</p>	<p>Refer to any grade 11 CAPS approved textbook</p> <p>Rulers Chart or pictures showing building plans and model of cars</p>

Reflection / Notes:**A. Map Scale**

Map scale is the relationship between a unit of length on a map and the corresponding length on the ground.

1. Types of Map Scales

We can relate map and ground with three different types of scale. **Verbal scale** expresses in words a relationship between a map distance and a ground distance. Usually it is along the lines of:

One centimetre represents 16 kilometres.

Here it is implied that the one centimetre is on the map, and that one centimetre represents 16 kilometres on the ground. Verbal scales are commonly found on popular atlases and maps.

The second type of scale is a **graphic scale, or bar scale**. This shows directly on the map the corresponding ground distance. For example:



The third type of scale is a **representative fraction, or ratio scale**. A representative fraction, or RF, shows the relationship between one of any unit on the map and one of the same unit on the ground. RFs may be shown as an actual fraction, for example $1/24,000$, but are usually written with a colon, as in 1:24,000. In this example, one unit of any length (one mm, one cm, one inch, one foot, etc.) on the map represents 24,000 of those same units on the ground (24,000 mm, 24,000 cm, 24,000", 24,000', etc.). The RF is versatile because you are not tied to any specific units. You may work in any unit you choose, either metric, English, or other.

Measure	Measure on the Plan	Actual Real-World Measure (metres)
House Length	14 cm	
House Width	10,5 cm	
Height of the walls	4,4 cm	
Height of the roof	3 cm	
Height of the doors	4 cm	
Width of the doors	1,6 cm	
Height of big windows	2,4 cm	
Width of big windows	3,6 cm	
Height of small windows	1,2 cm	
Width of small windows	2,5 cm	

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	7	TOPIC	Maps, plans & other representations of the physical world Time: 60min	Lesson	2
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Scale	Calculate map and/or plan measurements when actual lengths and distances are known using a given scale to inform the drawing of 2-dimensional plans	household and school and/or wider community projects	The learner should be able to: <ul style="list-style-type: none"> Identify types of scale and describe them Determine the actual measurements of objects according to a given scale Determine the scale factor used to draw given objects. Represent and identify views.

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching Methods: Discussion, Question and answer.</p> <p>2. Lesson development</p> <p>2.1 Introduction</p> <p>i. Pre-knowledge required for the lesson.</p> <p>✓ Knowledge of building plans</p> <p>✓ Knowledge of floor plans</p> <p>ii. Baseline assessment:</p> <p>• Refer to learner activity column.</p> <p>i. Do corrections with learners and clarify misconceptions.</p> <p>2.2 Main Body (Lesson presentation)</p> <p>i. Discussion:</p> <p>➤ Explain to learners that there are types of scales used in drawings, namely RATIO/NUMBER SCALES and LINEAR/BAR SCALES.</p> <p>➤ Encourage learners to give a visual description of these types scale either on the chalkboard or in their workbooks.</p>	<p>1. Baseline:</p> <p>1.1. Which of the views of a house when facing it, will give the floor plan?</p> <p>1.2 mention any two types of scales used in drawings</p> <p>Activity</p> <p>1. Mention two types of scale used in drawings and describe them</p> <p>2. If using the scale of 1:30, state what each of the following on the plan equal to in the actual length:</p> <p>2.1 1mm on plan= ____mm in actual length</p> <p>2.2 3cm on plan=____cm in actual length</p> <p>2.3 25m on the plan=___m in actual length.</p> <p>2.4 50cm on plan=__cm in actual length which</p>	<p>1. Baseline: 5min</p> <p>2. Discussion and explanations: 15 min</p> <p>Activity: 35 min</p> <p>4. conclusion and summary: 5 min</p>	<p>Refer to any grade 11 CAPS approved textbook</p> <p>Rulers</p> <p>Chart or pictures showing building plans and model of cars</p>

➤ Discuss with learners and explain to them that, RATIO/NUMBER SCALE is a representation of points on a line with numbers arranged in some order. It should take the form of same unit, while LINEAR/BAR SCALE helps you find the distance between two places on a map.

➤ Engage learners in a discussion to identify ways in which a scale can be written. Explain that a scale can take the form of a ratio, and should be a relation that allows for the use of units or not. E.g. 1: 20 or 1 cm: 20cm.

➤ Assist learners to mention situations in which scales are used. Explain that scales are used in plans as well as on maps.

➤ Introduce the idea of SCALE FACTOR and explain to learners that the following formula may be used to calculate the scale factor:

Scale factor =	The actual measurements
	The plan measurements

➤ Give learners home work: see under learner activities. You may include your own questions as well.

2.3 Conclusion

Summarise the lesson by highlighting the following points to learners: types of scale, situations in which scales are used, formula for determining the scale factor.

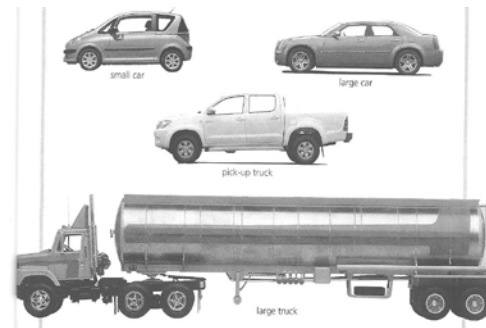
can also be equal to ___ km in actual length.

3. Determine the scale factor of the following:

3.1) 1:6 3.2) 1:4 3.3) 2:1

4. An architect is drawing a plan of a building in the scale 1 : 20. The table below shows the actual real-world measurements of some of the dimensions of the building. You need to use the scale to determine how long the architect will need to draw these dimensions on the plan.

Home work



1. Find out the actual length of a small car, a large car, a pick-up truck and a large truck.

2. Measure the lengths of the vehicles in the drawing and use it to estimate the scale used for each vehicle in the drawing

Reflection/Notes:

Feature	Measure on the Plan (cm)	Actual Real-World Measure
Wall Length		8 m
Wall Width		4,5 m
Wall Height		2,2 m
Roof Height		1,2 m
Door Height		1,8 m

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	7	TOPIC	Maps, plans & other representations of the physical world Time: 60min	Lesson	3
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Scale	Calculate map and/or plan measurements when actual lengths and distances are known using a given scale to inform the drawing of 2-dimensional plans	household and school and/or wider community projects	The learner should be able to: <ul style="list-style-type: none"> • Calculate values according to scale. • Calculate the real area available on a plan. • Study a given plan and interpret it appropriately.

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching Methods: Brainstorming, Discussion, Demonstration, Question and answer.</p> <p>2. Lesson development</p> <p>2.1 Introduction</p> <p>i. Pre-knowledge required for the lesson.</p> <ul style="list-style-type: none"> • Knowledge of 3-dimensional objects • Knowledge of building plans of houses. • Knowledge of household appliances <p>ii. Baseline assessment:</p> <ul style="list-style-type: none"> • Brainstorm with learners to find out some objects or appliances they use at their homes and their importance to their daily living. • Discuss the space (area) covered by such objects in their homes and assess whether learners can calculate the areas covered by objects. <p>2.2 Main Body (Lesson presentation)</p> <p>i. Discussion:</p> <p>➤ Take a magazine, chart or newspapers containing pictures of</p>	<p>Activity</p> <p>a. Measure the length, breadth and height of at least five appliances from a magazine or newspaper.</p> <p>b. Using the given scale, determine the actual measurements of the appliances.</p> <p>c. Refer to a house plan and use it to calculate the actual area available in the house.</p>	<p>Baseline: 5 min</p> <p>Discussion: 15 min</p> <p>Learner activity: 35 min</p> <p>conclusion and summary: 5 min</p>	<p>Refer to any grade 11 textbook</p> <p>Plan of a house.</p> <p>Calculators, Pencils, Rulers</p> <p>Chart or newspapers with pictures of household appliances.</p>

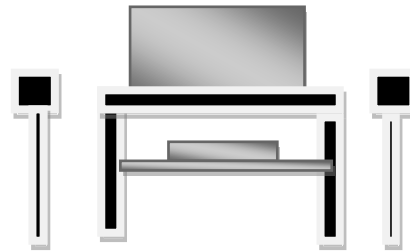
home appliances and discuss with learners the real sizes of these appliances.

- Discuss with learners to establish the area occupied by objects in their homes.
- Let learners come with newspapers and magazines having pictures of objects such as speakers, TV sets, DVD players, amplifiers, etc.
- Give learners a scale, e.g. 1:40. The scale means that for every 1 unit measured on the diagram, it represents **40** units in actual size.
- Using rulers and calculators, instruct learners to take measurements of some of the objects in the magazines and use the given scale to determine the actual measurements of the objects.
- Assist learners to come up with reasons why it's important to scale drawings of objects. Move round to check the progress of learners and provide assistance where needed.
- Provide a floor plan of a house with items such as built-in wardrobes, bath tub, etc. in it and guide learners to determine the area available in the house. Assist learners in the conversion of units of measurements if applicable.
- Guide learners to determine the actual space available in the house by determining the area of the house and subtracting the areas covered by the objects in it.
- Give learners home work: see under learner activities.

2.3 Conclusion

Summarise the lesson by asking learners questions on the lesson learnt.

2. Homework



Two speakers on stands, a TV set, a DVD player and a cupboard are shown. The scale used is 50:1. Give the measurements of

2.1. speakers

2.2. TV set


2.3. Cupboard.

Reflection/Notes:

Name of Teacher:		HOD:	
Sign:		Sign:	
Date:		Date:	

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	7	TOPIC	Maps, plans & other representations of the physical world Time: 60min	Lesson	4
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Scale	Calculate actual length and distance when map and/or plan measurements are known	household and school and/or wider community projects	The learner should be able to: <ul style="list-style-type: none"> • Represent and identify views. • Estimate and calculate values according to scale • Perform various calculations based on given information on plans as well as other objects.

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching Methods: Discussion, Question and answer.</p> <p>2. Lesson development</p> <p>2.1 Introduction</p> <p>i. Pre-knowledge required for the lesson.</p> <ul style="list-style-type: none"> • Knowledge of scale factor • Knowledge of types and uses of scale <p>ii. Baseline assessment:</p> <ul style="list-style-type: none"> • Refer to learner activity column. <p>iii. Make clarifications where necessary.</p> <p>2.2 Main Body (Lesson presentation)</p> <p>Discussion:</p> <ul style="list-style-type: none"> ➤ Engage learners in various activities involving scale drawing, measuring of objects, etc. ➤ Go through the home work given in the previous lesson with learners. Assist learners 	<p>Baseline:</p> <ol style="list-style-type: none"> 1. State two ways in which scales are used 2. Determine the scale factor used in the following: 1:2, 4:1, 2:8 3. Identify two ways in which scales may be represented <p>Activity</p> <p>1.1 Measure the length of the truck below and use a scale of 1:100 to determine the actual length of the car:</p>  <p>1.2 Draw a floor plan, giving a scale used, of a bachelor flat which is rectangular in shape and has a floor area of 36m²</p> <p>1.3 A blueprint shows a bedroom to be 6cm long and 4cm wide. The</p>	<ol style="list-style-type: none"> 1. Baseline: 5 min 2. Discussion: 5 min 3. activity: 45 min 4. conclusion and summary: 5 min 	<p>Refer to any grade 11 CAPS approved textbook</p> <p>Rulers</p> <p>Pencils</p> <p>Chart or pictures showing building plans and model of cars</p>

to do peer marking.

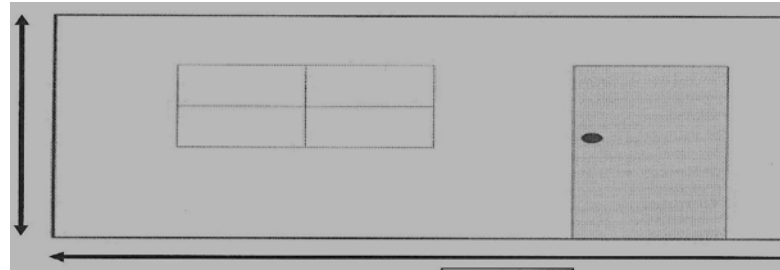
- Refresh learners memories on lessons taught in scale drawing and interpretation of scale drawings.
- Give learners activity: see under activity column. You may include your own questions
- Give learners home work: see under learner activities

2.3 Conclusion

- Give a summary of the topic "scale drawing and interpretation of scale" and explain any points that learners may need clarity on.

scale on the blueprint is $2\text{cm} = 9\text{m}$. What are the actual dimensions of the bedroom?

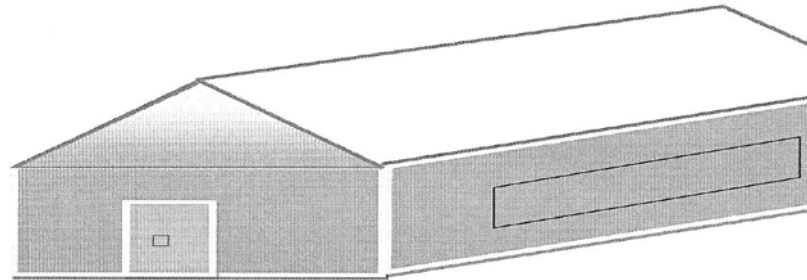
1.4 Consider the front view of a house below:



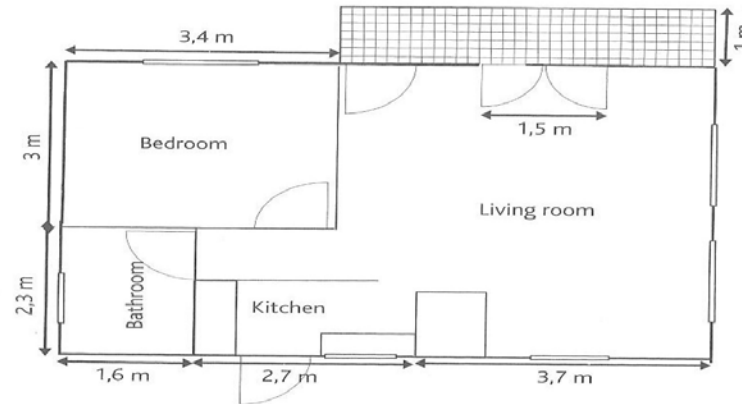
If the height and length measure $5,7\text{cm}$ and $13,4\text{cm}$ respectively on a plan, determine the actual height and the actual length of the house.

Leave your answers in (m)

1.5 The picture below shows the outline of a house. Sketch the top, side and front views of the house.



1.6 Look at the drawing of a flat below:

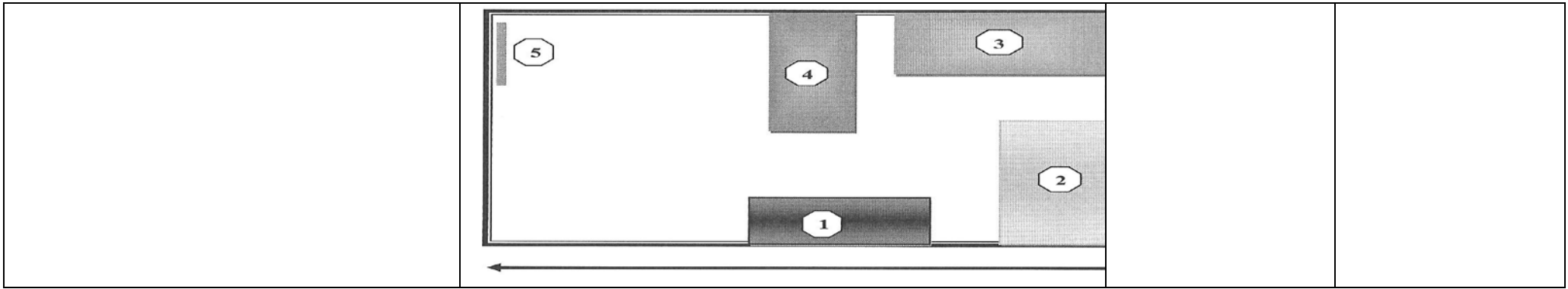


- Determine the total area of the flat
- If Kenneth bought the flat for R240 000, how much did he pay per square metre for the flat?
- If a cupboard of 1200mm by 800mm and a bed 1,9m by 1.1m are placed in the bedroom, calculate the area of open floor space left in the bedroom?
- The kitchen and bathroom floors are tiled at a cost of R125/m². Calculate the cost of tiling these areas.

Homework

1. Below is an illustration of a rough plan of Mandy's bedroom. The scale used is 2cm to 1m. Item 1 is a couch which is 2cm long. Item 2 is a bed which is 3,7cm X 1,7cm. item 3 is a wardrobe which is 3,9cmX1,6cm. Item 4 is a table which is 2cm X 1cm, and item 5 is a door. Determine the dimensions of the following:

- bedroom in metres
- wardrobe
- couch and
- table



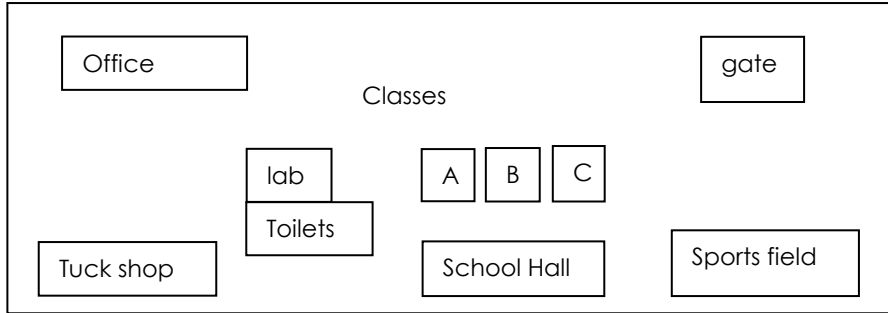
Reflection/Notes:

Name of Teacher:		HOD:	
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GRADE	11	SUBJECT	Mathematical Literacy	WEEK	8	TOPIC	Maps, plans & other representations of the physical world Time: 60min	Lesson	1
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LESSON SUMMARY FOR: DATE STARTED:	DATE COMPLETED:		
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Maps	Work with street maps with and without grid reference.	household and school and/or wider community projects	The learner should be able to: <ul style="list-style-type: none"> Describe the position of an object (e.g. <i>buildings, furniture, seats</i>) in relation to surrounding objects. Use map scale and determine the actual distance between two places Use grids to determine location and describe relative position State compass direction of locations on the map

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: Telling, explaining, question and answers, demonstration</p> <p>2.1 Introduction</p> <p>a. pre-knowledge required for the lesson compass direction, name of provinces</p> <p>b. baseline assessment</p> <ul style="list-style-type: none"> Ask learners the questions listed under the baseline assessment <p>c. Do corrections</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> map, house plans, soccer stadiums, supermarkets use some reference system to locate where things are, or to make it easy for people to find their ways around. This system involves using letters or numbers and sometimes a combination of both. direction can be given using compass directions. North, West, East, South. Draw the compass direction and indicate where each point is located <div style="text-align: center;"> </div> <ul style="list-style-type: none"> Explain to learners that North is the benchmark position, and you always have to find North first and use North to find any other direction. angles are also used to locate a place, and these use a reference point. Demonstrate to learners the use of compass direction and the angles to locate a place. [use any Map] 	<p><u>Baseline assessment:</u></p> <p>a. Give the names of the 9 provinces found in South Africa</p> <p>b. On which province do we find Cape Town, Johannesburg, Bloemfontein</p> <p><u>Learner activity</u></p> <p>a. Estimate in which of the eight main compass directions:</p> <ol style="list-style-type: none"> Durban lies from East London Mmabatho from Pietersburg Pretoria lies from Cape town <p>b. A tourist flies from Upington to Durban to Port Elizabeth and then to Cape Town. Give the compass direction of each trip of the tourist flight.</p> <p>Included other questions for learners.</p> <p>Give homework using other textbooks</p>	<p>5 min for home work correction</p> <p>5 min- base line</p> <p>5 min- corrections</p> <p>20 min- for the presentation and demonstration</p> <p>20 min for the main activity</p> <p>5 min for corrections and conclusion</p>	<ul style="list-style-type: none"> Any CAPS approved Mathematical Literacy textbook News papers



1. If you are in class A, what direction is the gate from you? [NE]
2. If you leave the class A and go towards the westerly direction and then northerly direction where would you end up? [OFFICE]
3. If you are located SE of the toilets, where are you?

2.3 Conclusion

- Do corrections, and emphasis on the technique on how to use compass direction to locate the a place

Reflection/Notes:

Name of Teacher:		HOD:	
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GRADE	11	SUBJECT	Mathematical Literacy	WEEK	8	TOPIC	Maps, plans & other representations of the physical world Time: 60 mins	Lesson	2
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Maps	Work with street maps with and without grid reference.	household and school and/or wider community projects	The learner should be able to: <ul style="list-style-type: none"> Describe the position of an object (e.g. <i>buildings, furniture, seats</i>) in relation to surrounding objects. use maps to determine location and describe relative position find distance upon maps find places in the map

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED																
<p>1. Teaching methods: Telling, explaining, question and answers, demonstration</p> <p>2. Prepare a lesson and consider the following:</p> <p>2.1 Introduction</p> <ol style="list-style-type: none"> pre-knowledge required for the lesson compass direction, map reading baseline assessment <ul style="list-style-type: none"> Ask learners the questions listed under the baseline assessment Do corrections <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> we have different maps, street maps, suburb map, town map, province map and the world map. maps have grid references that are used to locate a place. Town map, province and world map use compass directions and degrees. Street maps and suburb maps use letters and numbers as references. Grid system consists of set of lines that cross each other at right angles. They allow a person to be able to locate a specific location. When referencing a point degrees and compass directions are used. i.e. 24° North. <div style="text-align: center;"> <p>28°E 29°E</p> <p>28°E</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </table> <p>28°S 27°S 26°S 27°S</p> </div>																	<ol style="list-style-type: none"> Baseline assessment: Do corrections for the previous lesson's home work Learner activity <ol style="list-style-type: none"> Use grid reference to locate the following places in the street map provided. <ol style="list-style-type: none"> Sandton Illovo Dennehof Which main street is found in C1 Which place is found in A1 	<p>5 min for home work correction</p> <p>10 min- for the presentation and demonstration</p> <p>10 min for the main activity</p> <p>5 min for corrections and conclusion</p>	<ul style="list-style-type: none"> CAPS approved textbook Maps News papers

- Explain to learners that in the street maps the same lines are labelled with numbers and alphabet e.g.

	1	2	3	4	
A					A
B					B
C					C
D					D
E					E

- Explain to learners that the grid reference location combine both the letter and the number to locate the place e.g. B2
- Demonstrate to learners the use of grid reference and the angles to locate a place. [use any Map]

Reflection/Notes:

Name of Teacher:		HOD:	
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A

B

C

1

2

3

GRADE	11	SUBJECT	Mathematical Literacy	WEEK	8	TOPIC	Maps, plans & other representations of the physical world Time: 60min	Lesson	3
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Maps	Work with street maps with and without grid reference.	household and school and/or wider community projects	The learner should be able to: <ul style="list-style-type: none"> Describe the position of an object (e.g. <i>buildings, furniture, seats</i>) in relation to surrounding objects. use maps to determine location and describe relative position find distance upon maps find places in the map

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: Telling, explaining, question and answers, demonstration</p> <p>2. Prepare a lesson and consider the following:</p> <p>2.1 Introduction</p> <ol style="list-style-type: none"> pre-knowledge required for the lesson compass direction, measurement baseline assessment Ask learners to write directions on how to get to their homes from school. Ask learners to give the names of the streets which they use every day they come to school <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> maps are also good in assisting a person to locate a place. Explain to learners that when giving directions you need to use the street names, compass direction to help the person locate a place. Distance is also important, GPS give also the distance you going to travel before you reach your destination knowing the symbols used to describe different places it's important. i.e. H for hospital Explain to learners that street maps show the position, names of all roads in a town or city. They also show position of police stations, hospitals. Demonstrate to learners how to locate a place using street maps and directions <ol style="list-style-type: none"> Locate the place using the symbols i.e. Esselen clinic [look for the symbol H which represent clinics and hospital Direction to find the place use street names, compass direction and words such as left, right. i.e. how to get to Hillbrow Protea inn from Hillbrow tower. From Hillbrow 	<ol style="list-style-type: none"> Baseline assessment: Learner activity <ol style="list-style-type: none"> Which hospital is found in Bruce Street? Which theatre is found in Nugget Street? Park lane clinic is found in which street A parent is lost and is looking for the direction to travel to the Library to collect children. If the parent is travelling from the theatre at twist street, write down the direction that would lead him/her to the library 	<p>5 min- corrections 3 minutes baseline assessment 10 min- for the presentation and demonstration 10 min for the main activity 2 min for corrections and conclusion</p>	<ul style="list-style-type: none"> CAPS approved text books News papers

<p>tower go westerly direction in Caroline street, pass Banket street , at Claim street you take southerly direction, pass Godreich and Van Der merwe street until you reach Pretoria street, at Pretoria street take easterly direction, pass Banket street and turn southerly to Catherine street and then turn easterly to Soper strret and you reach the Hillbrow Protea inn</p> <p>2.3 Conclusion</p> <ul style="list-style-type: none"> Do corrections, and emphasis on the technique on how to calculate rate problems 			
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GRADE	11	SUBJECT	Mathematical Literacy	WEEK	8	TOPIC	Maps, plans & other representations of the physical world Time: 60min	Lesson	4
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LESSON SUMMARY FOR: DATE STARTED:		DATE COMPLETED:	
SECTION	CONTENT	CONTEXT	LESSON OBJECTIVES/APPLICATION
Maps	Work with street maps with and without grid reference.	household and school and/or wider community projects	The learner should be able to: <ul style="list-style-type: none"> Describe the position of an object (e.g. <i>buildings, furniture, seats</i>) in relation to surrounding objects. use maps to determine location and describe relative position estimate distance between towns on maps find places in the map

TEACHER ACTIVITIES	LEARNER ACTIVITIES	TIMING	RESOURCES NEEDED
<p>1. Teaching methods: Telling, explaining, question and answers, demonstration</p> <p>2. Prepare a lesson and consider the following:</p> <p>2.1 Introduction</p> <p>a. pre-knowledge required for the lesson compass direction, map reading, grid reference</p> <p>b. baseline assessment</p> <ul style="list-style-type: none"> Ask learners the questions listed under the baseline assessment <p>c. Do correction and discuss about the events that take place to these places</p> <p>2.2 Main Body (Lesson presentation)</p> <ul style="list-style-type: none"> Indicate to learners that if you want to visit a place, it would be much easier to plan the visit using a map as it will give you a good idea of issues such as the distance to travel, the costs involved, etc. Explain to learners that seats in the stadium and in the cinema are arranged alphabetically and allocated numbers. Explain to learners that the stadium consist of stands, these stands are identified using the compass direction i.e. North stand, East stand, South stand etc. each stand has its grid numbers and alphabets to locate a seat in the stadium, grid reference system is used. [give learners the picture of the stadium] the cinemas and theatres also use grid reference to locate the sit when you buy the ticket. The cinemas most have two stands. These stands share the alphabets and 	<p><u>Baseline assessment:</u></p> <ol style="list-style-type: none"> Give the name of any stadium that you know or have been too. Name the types of cinema's we have in Gauteng? <p><u>Learner activity</u></p> <ol style="list-style-type: none"> Use the map of South Africa attached below to answer the following questions: <ol style="list-style-type: none"> Use the scale to estimate the rail distance between Polokwane and Middelburg. In which direction from Upinton does Musina lie? In which direction from Mafikeng does Harrismith lie? Answer the following questions using the Cinema attached below: <ol style="list-style-type: none"> Which row is closest to the screen? 	<p>5 min for home work correction</p> <p>3min- base line</p> <p>min- correction</p> <p>10 min- for the presentation and demonstration</p> <p>10 min for the main activity</p> <p>2 min for corrections and conclusion</p>	<ul style="list-style-type: none"> Mathematical literacy textbook maps News papers

<p>splits the numbers [give learners the picture of the cinema]</p> <ul style="list-style-type: none"> Grid system consists of set of lines that cross each other at right angles. They allow a person to be able to locate a specific location. <p>2.3 Conclusion</p> <ul style="list-style-type: none"> Do corrections and emphasis to the learners the importance of reading the reference number on the ticket to be able to reach the correct location. 	<p>2.2 Which choices do Jabu and Jane have if they like sitting more or less in the middle of the cinema?</p> <p>2.3 Explain to a friend who received a ticket written E8, how the seating is numbered in the cinema.</p> <p>3 The following questions are based on the stadium</p> <p>3.1 How many seats are in each column in a stadium?</p> <p>3.2 You receive a ticket to a soccer match at this stadium and are located a seat in south C9. Indicate on the sitting plan where you will be sitting.</p>		
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Reflection/Notes:

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