

MONEY in ACTION

A guide to personal financial management

**FURTHER EDUCATION AND TRAINING
GRADE 10-12**

This project is a consumer education initiative by the
Financial Services Consumer Education Foundation.



**FINANCIAL SERVICES
CONSUMER EDUCATION**
plan your financial future

This resource is based on the three booklets viz.:

- Make the most of your money;
- Use your money wisely ; and
- Make your money work for you

that was developed by the FSB, Financial Industry Bodies and other interested parties under the Financial Services Consumer Education logo



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Introduction

Money in Action is a resource for FET Band learners and teachers which aims to familiarise them with money in terms of:

- Budgets to manage your money
- Getting out of trouble – and staying out of it
- Saving for a better future
- Living without unnecessary financial worries
- Banking

What does the resource consist of?

There are two components to the resource.

This book which provides

- worksheets for activities for each grade in the phase
- tips for teachers in implementing the activities
- guidelines for assessment

A compact disc which

- provides background information to the topic
- provides suggestions for conducting a lesson on the topic
- gives suggestions for activities other than those found in this book
- is used by the teacher as a resource for him/herself as well as for the learners

NB

It is important to remember that the worksheets are **not** the lesson. The ideas for the lessons will come from the CD. The worksheets are to be done once the learners have had one or more lessons on the topic. The worksheet activities may be used as assessment tasks, i.e. if the learners complete them successfully they will have met the relevant assessment standard.



How does the resource fit in with the NCS?

The focus of the programme is on Mathematical Literacy. Both the Learning Outcomes for the FET Band as well as the Assessment Standards for those Learning Outcomes are addressed.

We hope that this resource will be a welcome addition to your learning programmes and make it possible for your learners to achieve the necessary assessment standards.



How do I use the resource?

The resource should be used in conjunction with other resources in your work schedule per grade.

- We suggest that it should be introduced in the second or third term of the year. However, the point at which the resource is introduced will depend on each school's individual work schedule per grade. If your school has allocated weeks in the third and fourth terms to money and money calculations, it would be better to introduce the resource in those two terms.
- Many of the activities in these worksheets are in the form of word problems, or number stories – essential for giving context to mathematical problems. When doing this kind of activity with your class, follow these steps:
 - Go through the instructions with the learners
 - Ensure that they understand what the problem is. They should be able to explain it in their own words, e.g. "They want us to say how many there are altogether."
 - Ask if they know how to solve the problem on their own – if not, where can they go for assistance?
 - Ask what basic operations they will need to use to solve the problem
 - Once they have solved the problem, ask learners how they did this. If their answers are incorrect, ask them to see whether they can identify where they went wrong. If they can do so, give them a chance to work it out again.
 - Ask the learners whether they would solve the problem in the same way again. If not, what would they change?



Language

Before going to the CD to do the activities there, ensure that learners know some of the vocabulary for the topic involved, especially learners whose mother tongue differs from the target language. It is no use talking about debt and budgets unless learners have had these terms explained to them with examples.



How do I use the resource to assess my learners?

The worksheet activities can be done after the lesson and can then be assessed based on the relevant assessment standard/s for that lesson.

In addition, there is an assessment guideline at the back of this book to give you ideas of different ways of assessing and recording when using this resource.

Teachers Tips for Grades 10

- All the activities in these worksheets can be used to assess Learners' skills and knowledge
- Most of the activities come from the Mathematical Literacy Area, with the focus on Learning Outcome 1 although there are some activities with a Learning Outcome 2 or 5 focus
- The aim of these worksheets is to set problems in the context of personal finances and to give learners an idea of how they can deal with issues that arise when dealing with money
- In all instances, learners should be given more than one opportunity to get the correct answer. Checking and reworking the problem is an assessment standard in itself
- You should always be prepared to extend these worksheets and to discuss choices that learners make about budgets, spending, saving and borrowing. The aim of this programme is to give learners information about money management that they might not otherwise have acquired

→ Lesson 1: Managing your money

Answers:

1. a. R400.
 b. % increase = $\frac{1\,500 - 1\,100}{1\,100} = \frac{400}{1\,100} = 36.36\%$

2a. Wandile's rent has gone up by R40.00, food by R37.50, clothing by R45.00 and toiletries by R5.00

	Current costs	Additional costs	New
Rent	R400	R40	R440
Food	R250	R37.50	R287.50
Clothing	R300	R45	R345
Toiletries	R100	R5	R105
Total	R1 050	R127.50	

Wandile is now paying the following amounts:

Rent	R440
Food	R287.50
Clothing	R345
Toiletries	R105

2b. The average percentage increase is 12.428%

$$\frac{127.50}{1\,050} \times 100 = 12.14\%$$

Assessment:

Learners should show that they understand and can work with percentages, fractions and decimals.

→ Lesson 2: Budgets

Answers:

Changing costs		5% less
Accounts	R275	R13.75
Food	R600	R30.00
Cell phone	R225	R11.25
Clothing	R1 000	R50.00
Total	R2 100	R105.00

$$R3\,970 - R105 = R3\,865$$

Thus it will not be enough to bring her spending in line.

She will need to save a further R265.

Assessment:

Learners should be able to do the calculations and to identify the fixed and changing costs in a budget.

→ Lesson 3: Managing your money

Answers:

$$\begin{aligned}
 1. \quad \text{FV} &= \text{PV} (1 + r)^n \\
 &= 2\,320(1 + 0.17)^{0.5} \\
 &= 2\,320(1.0817) \\
 &= \text{R}2\,509.46
 \end{aligned}$$

$$\begin{aligned}
 2. \quad \text{Saving of 25\% of R}3\,200 &= \text{R}800 \\
 \text{FV} &= \text{PV} (1 + r)^n \\
 3\,200 &= 800(1 + 0.17)^n \\
 4 &= 1.17^n \\
 n &= \text{approx 8.8 years}
 \end{aligned}$$

3a. Answers will vary from learner to learner but they should choose the option that is most likely to save them money.

3b. Borrow R900 at 25% for 6 months

$$\begin{aligned}
 \text{Interest} &= 900 \times \frac{6}{12} \times 25\% \\
 &= \text{R}112.50
 \end{aligned}$$

$$\begin{aligned}
 \text{Total to pay} &= 900 + 112.50 \\
 &= \text{R}1\,012.50
 \end{aligned}$$

$$\text{Instalment} = \frac{\text{R}1\,012.50}{6} = \text{R}168.75$$

$$\begin{aligned}
 3c. \quad \text{Cost} &= \text{R}4\,100 \\
 \text{Balance} &= \text{R}900 \\
 \text{Interest \%} &= 20\% \\
 \text{Interest} &= \text{R}900 \times 20\% = \text{R}180 \\
 \text{Total} &= \text{R}900 + \frac{\text{R}180}{2} = \text{R}990 \\
 \text{Instalment} &= \frac{\text{R}990}{6} = \text{R}165
 \end{aligned}$$

Assessment:

Learners should be able to calculate and also to make logical choices on how to spend their money.

→ Lesson 4: Preparing for the future

Answers:

The completed table is as follows:

Number of years that inflation has continued at 12% per year	Price of item with an initial price of R1
1. End of Year 1	$\text{R}1 \times 1.12 = \text{R}1.12$
2. End of Year 2	$\text{R}1.12 \times 1.12 = \text{R}1.25$
3. End of Year 3	$\text{R}1.25 \times 1.12 = \text{R}1.40$
4. End of Year 4	$\text{R}1.40 \times 1.12 = \text{R}1.57$
5. End of Year 5	$\text{R}1.57 \times 1.12 = \text{R}1.76$

- 112%
- R1.76
- $\text{R}1.25 - \text{R}1.12 = 13$ cents
- $\text{R}1.76 - \text{R}1.57 = 19$ cents

Assessment:

Learners should be able to complete the table using the relevant formula.

Grade 10 – Learning Outcomes, Assessment Standards and Summative Assessment

Learning Outcomes and Assessment Standards for this programme

These are the Learning Outcomes for FET Band that have been covered in the programme. In brackets are the Lesson Numbers for the worksheet activities.

Mathematical Literacy

Learning Outcome 1: Numbers and Relationships

The learner will be able to recognise, describe and represent numbers and their relationships, and to count, estimate, calculate and check with competence and confidence in solving problems

Assessment Standards

We know this when the learner is able to:

- Find a percentage by which a quantity was increased (All Lessons)
- Rework a problem if the first answer is not sensible or if the initial conditions change (All Lessons)
- Analyse and critically interpret a wide variety of financial situations mathematically, inclusive of:
 - personal and business finances; (All Lessons)
- Solve problems in various contexts, including financial contexts (All Lessons)
- Find a percentage by which a quantity was increased (All Lessons)
- Apply mathematical knowledge and skills to plan personal finances (so as to enable effective participation in the economy), inclusive of:
 - income and expenditure; (All Lessons)
- For example:
 - identify variable expenses and calculate new values to adapt a budget to deal with increased bond repayments due to rising interest rates,
 - adapt a budget to accommodate a change in the price of petrol

Learning Outcome 4: Data Handling

The learner is able to collect, summarise, display and analyse data and to apply knowledge of statistics and probability to communicate, justify, predict and critically interrogate findings and draw conclusions.

Assessment Standards

We know this when the learner is able to:

- Select, justify and use a variety of methods to summarise and display data in statistical charts and graphs inclusive of:
 - tallies
 - tables
 - pie charts
 - single bar and compound bar graphs

Life Orientation

Learning Outcome 4: Career and career choices

The learner is able to demonstrate self-knowledge and the ability to make informal decisions regarding further study, career fields and career paths.

Assessment Standards

We know this when the learner is able to:

- Explain changes associated with growing towards adulthood and describe values and strategies to make responsible decisions regarding sexuality and lifestyle choices in order to optimise personal potential. (Lesson 3 and Lesson 4)

Group Project

Divide the class into four groups. Three groups get a virtual amount of R300 and a shopping list each. Each list is the same. Learners must go to three different supermarkets and price the items on their list and return with their findings saying

- how much each item cost
- how much of their R300 they 'spent'

The fourth group is given all this information and they organise it and represent it graphically to show which supermarket was the most cost effective

Individual pen and paper tasks

Learners complete Maths worksheets that focus on percentages, fractions and decimals (especially those that focus on interest, financial adjustments and rate). You may use exercises from their Mathematical Literacy textbooks for these

Individual assessment

Learners are each given a virtual amount of R850 and they draw up a personal budget for themselves. This must include

- Fixed and changing costs
- An amount for saving and investment
- A breakdown of their budget showing what fraction or percentage of their money they spent on each item.

When they have done this, explain to them that this is more or less the amount of the senior citizen's state pension. Ask for suggestions as to how people can live on this amount.

- Draw up a questionnaire to
 - Find out how many people in their community have bank accounts (They need to use a sample of at least twenty people)
 - Find out from people with no bank accounts why this is so
- Find out how many people have hire purchase agreements
- Show the results on a frequency table
 - Draw up a graph or pie chart representing the responses
 - Present their findings to the class

Individual Assessment

Learners write a paragraph on each of these:

- the dangers of debt
- the importance of saving
- different methods of savings and investments

They complete Maths worksheets that focus on ratio, percentages, fractions and decimals (especially those showing equivalence and conversion). You may use exercises from their Mathematics textbooks for these.

GRADE 10

Lesson 1 - Managing your money Worksheet

1. Vicky earns R1 100 a month. She is offered a new job paying R1 500.
- What is the difference between what she earns now and R1 500?
 - Represent this as a percentage increase.

You may use the space below to work it out.

2. Wandile was managing his money very well last year. This year however, he finds that the costs of some items have gone up. Food and clothing have gone up by 15%. His rent has gone up by 10% while he is paying 5% more for toiletries. This is what Wandile was spending every month on these items last year.

Rent	R400
Food	R250
Clothing	R300
Toiletries	R100

- What is Wandile paying for these items now?
- What is the average percentage increase for these items?

Lesson 2 - Budgets Worksheet

Susannah earns R3 600 a month. She is spending R3 970 and wants to cut down on her expenses. This is her budget

Fixed costs

Bond repayments	R900
Transport	R200
School Fees	R350
Insurance	R420
Total	R1 870

Changing costs

Accounts	R275
Food	R600
Cell phone	R225
Clothing	R1 000
Total	R2 100

Susannah decides to spend 5% less on each of the changing costs. Will this be enough to bring her spending within her income?

GRADE 10

Lesson 3 - Saving and borrowing Worksheet

1. Patrick has saved R2 320 and wants to invest the whole amount in an interest bearing account. He is told that he can save the money in a fixed deposit account at a compound interest rate of 17% over 6 months. How much will he get at the end of the six months?

2. Janine has been given a bonus of R3 200. She saves 25% of it in a fixed deposit account at a compound interest rate of 17% p.a. How long will it take for her money to reach the amount of the bonus?

3. Sam gets a bonus of R3 200 and goes out to buy the dining room suite he has wanted for a long time. However, the suite has gone up in price to R4 100. There is a similar suite for R3 000 but Sam doesn't believe it is as good.
 - a) Should Sam buy the cheaper suite? Give reasons for your answer.

 - b) Should he borrow R900 from a micro lender at an interest rate of 25% payable in instalments over a six month period? How much would he end up paying the micro-lender?

 - c) Should he put down a deposit on the suite and pay the balance over six months? If the store charges 20% interest on the R900, how much will he have paid in instalments at the end of the 6 months?

GRADE 10

Lesson 4 - Preparing for the future Worksheet

When we talk about preparing for our future, we should not focus only on savings and investments but also in changes in the economy, e.g. rising inflation rates and fluctuating interest rates. We need to take these into consideration.

Let us say that inflation remains constant at 12% per year. Fill in the following table to see how prices will increase. We have used an item costing R1 as an example.

Number of years that inflation has continued at 12% per year	Price of item with an initial price of R1
1. End of Year 1	$R1 \times 1.12 = R1.12$
2. End of Year 2	$R1.12 \times 1.12 = R1.25$
3. End of Year 3	
4. End of Year 4	
5. End of Year 5	

1. By how much do you multiply the prices each year?

2. What has the original price of R1 increased to in five years?

3. What is the price increase between the first and second year?

4. What is the increase in price between the fourth and fifth year?

Teachers Tips for Grade 11

- All the activities in these worksheets can be used to assess Learners' skills and knowledge
- Most of the activities come from the Mathematical Literacy Area, with the focus on Learning Outcome 1 although there are some activities with a Learning Outcome 2 or 5 focus
- The aim of these worksheets is to set problems in the context of personal finances and to give learners an idea of how they can deal with issues that arise when dealing with money
- In all instances, learners should be given more than one opportunity to get the correct answer. Checking and reworking the problem is an assessment standard in itself
- You should always be prepared to extend these worksheets and to discuss choices that learners make about budgets, spending, saving and borrowing. The aim of this programme is to give learners information about money management that they might not otherwise have acquired

→ Lesson 1: Managing your money

Answers:

1a. 3 ways means equally:

$$\text{Thus } \frac{800}{3} = \text{R}266.67 \text{ each}$$

b. Maria: $\frac{266.67}{1\ 550} = 0.172 = 17.2\%$

Tom: $\frac{266.67}{6\ 230} = 0.0428 = 4.28\%$

Paulus: $\frac{266.67}{3\ 100} = 0.086 = 8.6\%$

2. Paying 2% of their salaries works out as follows:

Maria: $2\% \times 1\ 550 = \text{R}31.00$

Tom: $2\% \times 6\ 230 = \text{R}124.60$

Paulus: $2\% \times 3\ 100 = \text{R}62.00$

Total **R217.60**

This will not work because the total needs to be R800. They will all need to contribute a higher percentage of their salaries.

3. Dividing it up in their salary ratios will work like this:

Person	Salary	%
Maria	R1 550	14,25%
Tom	R6 230	57,26%
Paulus	R3 100	28,49%
Total	R10 880	100,00%

4. Maria contributes:	R114
Tom contributes:	R458
Paulus contributes	R228
Total	R800

Assessment:

Learners should show that they understand and can work with percentages and ratios and that they can make fair and logical decisions.

→ Lesson 2: Budgets

Answers:

1. Pay rise of 7% on R3 970 = R277.90

Expenses have increased by R290.00

She is thus short by R12.10

This will thus not be enough to cover her expenses

2. Bob's costs have risen by 9.45%

$$\frac{375}{3\ 970} = 9.45\%$$

Assessment:

Learners should be able to do the calculations and to identify the fixed and changing costs in a budget.

→ Lesson 3: Saving and borrowing

Answers:

$$\begin{aligned} 1. \quad FV &= PV(1+r)^n \\ &= 12\,320(1+0.17)^{0.5} \\ &= R13\,326.12 \end{aligned}$$

2. Bonus is spent as follows:

$$\text{Debt: } 12\,320 \times \frac{2}{5} = R4\,928$$

$$\text{Funeral: } 12\,320 \times 0.125 = R1\,540$$

$$\text{Furniture: } 12\,320 \times 25\% = R3\,080$$

$$\text{Total: } \underline{\hspace{10em}} R9\,548$$

Amount left over is thus: $12\,320 - 9\,548 = R2\,772$

$$\text{Fraction: } \frac{2\,772}{12\,320}$$

$$\text{Decimal fraction: } 0.225$$

$$\text{Percentage: } 22.5\%$$

3. Micro-lender interest cost

$$R3\,200 \times 25\% = R800 \text{ interest}$$

Friend interest cost

Friend charges R350

Conclusion

She saves R450

Thus, Janine did benefit from this.

Assessment:

Learners should be able to calculate in a context and then reach a conclusion about whether this was a good or bad move financially.

→ Lesson 4: Preparing for your future

Answers:

1. The things that Nolethandu should not have done that contribute to inadequate retirement benefits are:

Only beginning retirement planning at 40.

Relying entirely on your company pension fund to provide you with an income after retirement.

Changing jobs and spending your withdrawal benefit on a holiday or a new car. This is one of the most dangerous things you can do.

Paying large outstanding debts such as your housing bond after retirement.

Unexpected retrenchments.

2. Living expenses at age 40: $80\% \times R120\,000.00 = R96\,000.00$
Living expenses in 15 years time: $R96\,000.00 \times 1.12^{15} = R525\,462.30$
Monthly figure: $R43\,788.53$

3. Income at age 40: $R120\,000.00$
In 15 years time: $R120\,000(1.1)^{15} = R501\,269.80$ and Monthly = $R41\,772.48$

4. Her annual income at retirement is $R501\,269.80$
Her annual expenses at retirement is $R525\,462.30$
Had she made no withdrawals her income would have been 20% more which is $R626\,587.25$ ($R501\,269.80/0.8$)
Thus she would had enough, in fact a surplus of $R101\,124.95$

5. $R56\,000.00 + R50\,000.00 + R30\,000.00 = R136\,000.00$

6. Answers will vary.

Assessment:

Learners should be able to understand the questions, do the calculations and come to a conclusion about Nolethandu's choices based on everything they have seen and heard on this programme.

Grade 11 - Learning Outcomes, Assessment Standards and Summative Assessment

Learning Outcomes and Assessment Standards for this programme

These are the Learning Outcomes for FET Band that have been covered in the programme. In brackets are the Lesson Numbers for the worksheet activities.

Mathematical Literacy

Learning Outcome 1: Numbers and Relationships

The learner will be able to recognise, describe and represent numbers and their relationships, and to count, estimate, calculate and check with competence and confidence in solving problems.

Assessment Standards

We know this when the learner is able to:

- Checks a claim that costs of phone calls have risen by 8% by doing relevant calculations (All Lessons)
- Reworks a problem if the first answer is not sensible or if the initial conditions change (All Lessons)
- Relates calculated answers correctly and appropriately to the problem situation by:
 - specifying and calculating the value of income and expenditure items (All Lessons)
- Relates calculated answers correctly and appropriately to the problem situation by:
 - reworking a problem if the first answer is not sensible or if the initial conditions change (All Lessons)
- Analyses and critically interprets a wide variety of financial situations mathematically, inclusive of:
 - personal and business finances; (All Lessons)
- Investigates opportunities for specifying and calculating the value of income and expenditure items (All Lessons)

Learning Outcome 4: Data Handling

The learner is able to collect, summarise, display and analyse data and to apply knowledge of statistics and probability to communicate, justify, predict and critically interrogate findings and draw conclusions.

Assessment Standards

We know this when the learner is able to:

- Appropriately choose and interpret the use of methods to summarise and display data in statistical charts and graphs inclusive of:
 - tallies
 - tables
 - pie charts
 - single and compound bar graphs

Life Orientation

Learning Outcome 1: Personal Well-being

The learner is able to achieve and maintain personal well-being.

Assessment Standards

We know this when the learner is able to:

- Apply various life skills to provide evidence of an ability to plan and achieve life goals. (Lesson 3 and Lesson 4)

Learning Outcome 4: Career and career choices

The learner is able to demonstrate self-knowledge and the ability to make informal decisions regarding further study, career fields and career paths.

Assessment Standards

We know this when the learner is able to:

- Apply various life skills to provide evidence of an ability to plan and achieve life goals. (Lesson 3 and Lesson 4)
- Research the requirements for admission to additional and higher education courses, as well as options for financial assistance. (Lesson 3 and Lesson 4)
- Demonstrate competencies, abilities and ethics that will assist in securing a job (Lesson 3 and Lesson 4)

Group Project

Divide the class into four groups. Each group is given R1 500 in 'virtual' money and asked to draw up a budget which takes into account

- Needs and wants
- Fixed and changing costs
- Savings and investment

They then work out what proportion of the R1 500 they are spending on fixed costs and what proportion on changing costs. They then work out what proportion they are spending on each item and represent these in fractions, decimal fractions and percentages.

The groups then paste their budgets up on the wall (including the proportions allocated to the different items). They check to see whether other groups spent the same percentage of their income on these items.

Hold a class discussion on the merits of each budget.

Individual pen and paper tasks

Learners complete Maths worksheets that focus on percentages, fractions and decimals (especially those that focus on interest, financial adjustments and rate). You may use exercises from their Mathematical Literacy textbooks for these

Individual assessment

Project

Tell learners that they are now going to do a project on the work that they have done in this programme. Make sure that they are given clear instructions as to how to proceed:

- Draw up a questionnaire to:
 - o Find out how many people in their community have bank accounts (They need to use a sample of at least twenty people)
 - o Find out from people with no bank accounts why this is so
 - o Show the results on a frequency table
 - o Draw up a graph or pie chart representing the responses
 - o Present their findings to the class

Group Assessment

Divide learners into groups.

Learners are asked to phone or visit a number of financial institutions and savings clubs to find out how much they will earn on R5 000 over five years. They bring their findings back to the group and, together they organise and graphically represent their findings. They then present their findings to the class and say which of the organisations they visited provided the best return on their money.

GRADE 11

Lesson 1 - Managing your money Worksheet

1. Maria and her two brothers all help to support their mother and send her R800 a month between them. They are arguing about how this amount should be split up.

Maria earns	R1 550
Tom earns	R6 230
Paulus earns	R3 100

- a. Tom says that the best way is for them to split the R800 three ways. If they go along with Tom's idea, how much will they each pay?
- b. What fraction of their salaries is each person contributing?
Write this as decimal fractions and percentages.
2. Paulus says that this isn't fair. Tom earns more than he does so he should pay more. Maria agrees and suggests that they should each pay 2% of their salaries. Work this out and say whether Maria's suggestion will work.
3. Tom says he has a better idea. They should look at what each person earns and decide on an amount based on the ratio of one salary to another.
In what percentage would the R800 be divided among them?
4. How much would each person pay?

Lesson 2 - Budgets Worksheet

1. Joan earns R3 970 a month. She is living within her income as the budget below shows.

Fixed costs

Bond repayments	R900
Transport	200
School Fees	350
Insurance	420
Total	R1 870

Changing costs

Accounts	R275
Food	600
Cell phone	225
Clothing	1 000
Total	R 2 100

The following year Joan's fixed expenses go up by R290 because of rising interest rates and fuel costs. Joan has received a pay rise of 7%. Will this be enough to cover her expenses?

2. Bob earns the same amount as Joan but his fixed costs go up by R375. By what percentage have Bob's costs risen?

GRADE 11

Lesson 3 - Saving and borrowing Worksheet

1. Patrick has saved R12 320 and wants to invest the whole amount in an interest bearing account. He is told that he can save the money in a fixed deposit account at a compound interest rate of 17% over 6 months. How much will he get at the end of the six months?

2. Janine has been given a bonus of R12 320. She must use $\frac{2}{5}$ of that to pay off debt. She needs to contribute 0.125 of it towards funeral expenses. She wants to spend 25% on new furniture.

How much will she have left to save?

Represent that amount as a fraction, decimal fraction and percentage of R12 320.

3. Simone borrows R3 200 from a friend to pay a micro-lender in full. The micro-lender was charging her 25% to pay off the debt over six months. The friend lends her the money on condition that she will pay back the full amount in six months time plus R350. Did Janine benefit from this?

GRADE 11

Lesson 4 - Preparing for the future Worksheet

The following information relates to Nolethandu and how she planned for her future.

Age she started working:	25 years old
Retirement age:	55 years old
Annual income at 25 years of age:	R60 000.00
Annual income at 40 years of age:	R120 000.00
Expected annual salary increase at 40 years of age:	10%
Living expenses at 40 years of age:	80% of salary
Contribution to pension fund starting at age 40	15% of salary
Inflation year-on-year from age 40:	12% per annum

Based on the above amounts, the insurance company provides a schedule showing the estimated projected future amounts that would arise on retirement from the pension fund.

These are:

The pension fund which is reinvested at maturity will produce a lump sum that will provide a fixed monthly income of R15 000.00 per month.

She relied solely on her company pension to provide her with an income after retirement.

She changed jobs three times during her career and when she was 47 years of age she withdrew 40% of her withdrawal benefit to buy a new car. The new car cost R56 000.00

When she retired, at the age of 55, she also withdrew funds to pay off R50 000.00 of debts she had accumulated.

She was also unexpectedly retrenched for 6 months during her working career and she had to withdraw R30 000.00 from the pension fund to support her during those months.

The cumulative withdrawals diminished the value of her pension fund monthly income by 20%.

1. List the things that you think that Nolethandu did wrong or should not have done.
2. What were Nolethandu's monthly living costs when she retired?
3. What income did she have per month when she retired?
4. If Nolethandu had no withdrawals, would the pension fund have been sufficient to cover her monthly expenses at retirement?
5. What is the total amount Nolethandu drew out of her pension fund?
6. Write a letter to Nolethandu advising her how she could have prepared for her future in a more sensible way.

Teachers Tips for Grades 12

- All the activities in these worksheets can be used to assess Learners' skills and knowledge
- Most of the activities come from the Mathematical Literacy Area, with the focus on Learning Outcome 1 although there are some activities with a Learning Outcome 2 or 5 focus
- The aim of these worksheets is to set problems in the context of personal finances and to give learners an idea of how they can deal with issues that arise when dealing with money
- In all instances, learners should be given more than one opportunity to get the correct answer. Checking and reworking the problem is an assessment standard in itself
- You should always be prepared to extend these worksheets and to discuss choices that learners make about budgets, spending, saving and borrowing. The aim of this programme is to give learners information about money management that they might not otherwise have acquired

→ Lesson 1: Managing your money

Answers:

Unit Price	R	
500 g No Name Brand sugar	- 7.50	15c or R0.15 per gram
750g Super Sweet sugar	- 10.00	1,33c or R0.0133 per gram
Six pack of brand cola	- 22.00	R3.67 per cola
Single No name brand cola	- 3.50	R3.50 per cola
2 litre Dairy Best milk	- 16.80	R8.40 per litre
No name Milk – 4 litres	- 28.00	R7.00 per litre
3 pair No Name men's socks	- 47.00	R15.67 per pair
6 pairs of Soft and Silky socks	- 60.00	R10.00 per pair

The best buys are thus:

750g Super Sweet sugar	- 10.00	R0.0133 or 1,33c per gram
Single No name brand cola	- 3.50	R3.50 per cola
No name Milk – 4 litres	- 28.00	R7.00 per litre
6 pairs of Soft and Silky socks	- 60.00	R10.00 per pair

Assessment:

Learners should show that they understand and can identify the best prices for a product by calculating the unit price.

→ Lesson 2: Budgets

Answers:

a.
A

Income:	R2 500 per month
Fixed expenses:	20% = R500
Rent	5% = R125
Insurance	20% = R500
Food	15% = R375
School fees	5% = R125
Transport	5% = R125
Clothing	5% = R125
Telephone	5% = R125
Takeaways	5% = R125
Savings	15% = R375
Total	R2 500

B

Income:	R1 150 per month
Fixed expenses:	
Rent	R287.50 = 25%
Insurance	R115.00 = 10%
Food	R230.00 = 20%
School fees	R115.00 = 10%
Transport	R57.50 = 5%
Clothing	R115.00 = 10%
Telephone	R57.50 = 5%
Takeaways	R57.50 = 5%
Savings	R57.50 = 5%
Total	R1 150 = 100%

b. They are all the same except:

- Fixed expenses
- Food
- Transport
- Rent

Assessment:

Learners should be able to work with amounts and proportions represented in different ways, e.g. fractions, decimals and percentages.

→ Lesson 3: Saving and borrowing

Answers:

$$\begin{aligned} 1. \quad FV &= PV(1+r)^n \\ &= 120\,320(1+0.18)^{0.5} \\ &= 120\,320(1.0863) \\ &= R130\,700.97 \end{aligned}$$

Patrick will thus not have enough.

$$\begin{aligned} 2. \quad a. \text{ Debts} &= 300\,000 \times 1.25 \\ &= R375\,000 \\ \\ b. \quad 300\,000 \times 15\% &= R45\,000.00 \\ \text{Proceeds from sale of house} &= R255\,000.00 \end{aligned}$$

Conclusion:

He can pay R255 000.00 of his debt if he uses the proceeds from the sale of his house.

$$3. \quad \text{Endowment value:} \quad R300\,000$$

$$\begin{aligned} FV &= 24\,000(1+0.14)^{16} \\ &= 24\,000(8.1371) \\ &= R195\,293.98 \end{aligned}$$

$$\text{Total: } R300\,000 + R195\,293.98 = R495\,293.98$$

4. Contact details can be seen on the back cover of the book.

Assessment:

Learners must demonstrate an ability to work with a given amount and an amount that they must calculate (e.g. capital plus interest) to solve a personal financial problem.

→ Lesson 4: Preparing for your future

Answers:

$$1. \quad \text{Current salary} = R12\,000.00$$

$$\text{Invests 25\%} = R3\,000.00$$

$$\text{Year 1} = R3\,000.00 \times 12 = R36\,000.00$$

$$\text{Year 2} = R3\,000.00 \times 1.10 \times 12 = R39\,600.00$$

$$\text{Year 3} = R3\,000.00 \times 1.10 \times 1.10 \times 12 = R43\,560.00$$

$$\text{Interest on year 1 balance} = 10\% \times R36\,000.00 = R3\,600.00$$

$$\text{Interest on year 2 balance} = 10\% \times (R39\,600.00 + R39\,600.00) = R7\,920.00$$

$$\begin{aligned} \text{Interest on year 3 balance} &= 10\% \times (R36\,000.00 + R39\,600.00 + R43\,560.00 + R3\,600.00 + R7\,920.00) \\ &= R13\,068.00 \end{aligned}$$

$$\text{Balance in account} = R143\,748.00$$

$$\begin{aligned} 2. \quad \text{Amount invested:} &= R143\,748.00 \\ \text{FV} &= (143\,748.00 \times 1.15)^5 \\ &= R289\,128.60 \end{aligned}$$

3. Contributions of 10% of salary for 4 years for 2 people, which means 5% per person:

$$\text{Contributions: Year 1: } R144\,000.00 \times 5\% = R7\,200.00$$

$$\text{Year 2: } R158\,400.00 \times 5\% = R7\,920.00$$

$$\text{Year 3: } R174\,240.00 \times 5\% = R8\,712.00$$

$$\text{Total contributions} = R23\,832.00$$

$$\text{Funeral cost} = R20\,000.00$$

$$\text{Stokvel paid out} = R17\,000.00$$

No it was not beneficial since the contributions exceed the payout by R6 832.00

4. Answers will vary.

Grade 12 - Learning Outcomes, Assessment Standards and Summative Assessment

Learning Outcomes and Assessment Standards for this programme

These are the Learning Outcomes for FET Band that have been covered in the programme. In brackets are the Lesson Numbers for the worksheet activities.

Mathematical Literacy

Learning Outcome 1: Numbers and operations in context

The learner will be able to recognise, describe and represent numbers and their relationships, and to count, estimate, calculate and check with competence and confidence in solving problems.

Assessment Standard:

We know this when the learner:

- Reworks a problem if the first answer is not sensible or if the initial conditions change (All Lessons)
- Interprets calculated answers logically in relation to the problem and communicates processes and results (All Lessons)

By now, learners are preparing to write their final exams and to prepare for the years ahead. In this summative assessment task, they are required to write a short essay, explaining what they understand by:

- Budgets and the way that a good budget can prevent indebtedness
- Savings and investments
- Preparing for their future

Life Orientation

Learning Outcome 4: Career and career choices

The learner is able to demonstrate self-knowledge and the ability to make informal decisions regarding further study, career fields and career paths.

Assessment Standard:

We know this when the learner is able to:

- What to do when a disaster strikes – doing things in advance such as planning, budgeting, saving, taking out insurance etc, planning for the future (Lesson 3 and Lesson 4)
- Investigate the human and environmental factors that cause ill health, accidents, crises and disasters, and explore appropriate ways to deal with them. (Lesson 3 and Lesson 4)
- What to do when a disaster strikes – doing things in advance such as planning, budgeting, saving, taking out insurance etc, planning for the future (Lesson 3 and Lesson 4)

GRADE 12

Lesson 1 - Managing your money Worksheet

One way of keeping control over what we spend is to check and compare price, quality and quantity to ensure that we get the best buy for our money. Often we need more information than the advertisement gives us. We should always look for the unit price on any product, e.g. if 1kg of coffee costs R15,00 the unit price, that is the price per gram, is 15 cents.

Work out the unit prices on these products and then write down the products that represent the best buy

	R
500 g No Name Brand sugar	- 7.50
750g Super Sweet sugar	- 10.00
Six pack of brand cola	- 22.00
Single No name brand cola	- 3.50
2 litres Dairy Best milk	- 16.80
No name Milk - 4 litres	- 28.00
3 pair No Name men's socks	- 47.00
6 pairs of Soft and Silky socks	- 60.00

Write your list of best buys here

GRADE 12

Lesson 2 - Budgets Worksheet

1. Here are two different budgets. Budget A shows you the percentage of income spent on each item, while Budget B gives the money amount.

A

Income:	R2 500 per month
Fixed expenses:	20%
Rent	5%
Insurance	20%
Food	15%
School fees	5%
Transport	5%
Clothing	5%
Telephone	5%
Takeaways	5%
Savings	15%
Total	

B

Income:	R1 150 per month
Fixed expenses:	R287.50
Rent	R115.00
Insurance	R230.00
Food	R115.00
School fees	R57.50
Transport	R172.50
Clothing	R57.50
Telephone	R57.50
Takeaways	R57.50
Savings	R57.50
Total	

- a) Are these two people spending the same percentage of their income on each item? Complete both budgets to show the Rand amount and the percentage.
- b) If there is a difference in percentages, state which items are different.

GRADE 12

Lesson 3 - Saving and borrowing Worksheet

1. Patrick had an endowment policy which has now matured. He receives R120 320 and he wants to pay off the balance of his bond, which is R135 000. If he invests the whole sum for six months at 18% compound interest, will he have enough to pay off the bond?

2. David has gambled heavily and is deeply in debt. His only asset is his house, which is worth R300 000 but his debts come to 25% more than this.
 - a. What is the total debt amount?
 - b. How much of this debt is he able to pay if he sells his house for 15% less than market value?

3. Maura has these investments:
Endowment policy worth R300 000 which matures when she turns fifty.
Savings account balance of R24 000 invested at 14% compound interest.

Maura is thirty-four years old now.
How much money will she have at age fifty (i.e. in 16 years time)?

4. Using the information on the back of this workbook, say who you would write to if you had a complaint about banking, insurance, consumer affairs, pyramid schemes and micro lenders.

GRADE 12

Lesson 4 - Preparing for the future Worksheet

Rijad realizes that it is very important to prepare for the future and for a rainy day.

He currently earns a salary of R12 000.00 per month and he estimates his salary will increase by 10% every year for the next 4 years and thereafter by 15% per year for 6 years.

He decides that to prepare for his future that he needs to do various things.

This is what he does:

- He invests 25% of his salary for the next 15 years in a savings account that pays 10% simple interest on the balance in the account at the end of that year.
- He takes out an endowment policy with the accumulated balance at the end of 3 years and the insurance company invests the capital for 5 years at 15% compound interest. He continues to invest his salary in his savings account.
- He joins a stokvel recommended by his friends and invests 10% of his annual income into the stokvel to save up for funeral costs for himself and his father who is 68 years old. He pays this monthly. The stokvel rules state that if someone dies it pays out 85% of the funeral costs. Rijad's father dies 4 years after he has made contributions and the funeral costs amount to R20 000.00

1. How much will Rijad have accumulated in his savings account at the end of 3 years assuming he does not withdraw any of the savings?

2. How much does the endowment policy pay out in ten years time?

3. Was it financially beneficial to Rijad to belong to the Stokvel when his father died?

4. Do you think that Rijad has been sensible in his approach to preparing for future? Write a letter to Rijad as if you were his financial adviser letting him know what you think and making suggestions and recommendations to him.

FET Band (Grades 10, 11, 12)

→ Additional Worksheet

Answers:

Learners' answers will differ but they should be assessed on clarity of meaning and understanding of the question, as well as sentence construction, grammar and spelling.

(These activities are specially designed to assess learners' understanding of concepts and their ability to express themselves when explaining these. They are all based on English first additional language, LO 4: Writing: The learner will be able to write different kinds of factual and imaginative texts for a wide range of purposes.)

You may use any or all of these with all grades in the intermediate phase, depending on your learners' level of writing ability. Grade 12 learners should be able to answer all the questions.

Additional Worksheet

1. Explain the terms:

- fixed and changing costs

- budget

- debt

- investment

2. Give five reasons why it is a good idea to save part of your salary or wages every month

3. Write an essay explaining the benefits of saving and the disadvantages of impulse spending.

4. Write three paragraphs explaining why it is necessary to save or invest for our future.

Assessment Tools & Techniques

Assessment

There are many ways to assess learners, and as educators, we have to select the assessment tools and techniques that are most appropriate to the assessment task.

When we plan lessons we do so with assessment in mind, so we select the assessment standards and then plan a lesson around these, so that, at the end of a lesson, we can check to see that our learners have achieved the standard.

Baseline Assessment

This is the assessment that we do to assess what learners can and can't do at the beginning of a term, a year or when a new teacher takes over a class. Its purpose is to establish what learners can and can't do and to guide teachers, when planning lessons, as to which areas need to be addressed for the class as a whole and for individual or groups of learners who may have gaps in their knowledge and skills.

Continuous Assessment

We need to assess on an ongoing basis to ensure that we are monitoring and recording, not only learners' progress, but any problems that may arise and may need remediation. Observation books give us an ongoing record on which we can look back at the end of the year and see how well a learner has progressed.

Formal Assessment

In a formal assessment task, learners are told beforehand that they will be assessed in a particular way and they are told what they are expected to do in order to meet the standards. Tests and projects are examples of formative assessment.

Summative Assessment

When we do a summative assessment, we are looking at a whole section of work. A summative assessment could be a project, a pen and paper test or an interview, but it will cover all Assessment Standards addressed in that section.

1. Assessment techniques a) Teacher assessment

Teacher assesses learners according to the Assessment Standards chosen in planning the lesson. Be careful not to choose too many Assessment Standards for one lesson, but rather to **focus** on one or two. If there are many opportunities for integration in one lesson, don't try to assess all of them. Remember that in this programme the focus is on EMS with a strong link to Mathematics and the worksheets in this book are mainly number problems (Mathematics LO 1) while the activities on the CD have more of an EMS focus.

Remember, that when assessing, we look at the **verb** in the assessment standard. This tells us what it is that learners are expected to do to meet the requirements, e.g.

We know this when the learner:

- Recognises and uses equivalent forms of the rational numbers listed above, including:
 - percentages.

This means that our learners must do activities that show us that they recognise and can use percentages in relevant situations.

b) Self-assessment

Learners assess their own work. It is important to remember that learners cannot do this effectively unless they fully understand what the assessment standards mean and what is required. However, they can become accustomed to reviewing and examining their work with simple rubrics such as this.

Self-assessment

Group participation Criteria	Always	Most of the time	Some-times	Never
I understood and followed the instructions				
I contributed to the work that the group did				
My group worked well together				
My group successfully completed all the tasks				

c) Peer/group assessment

Learners assess each other. This may be done in pairs, or it may be an assessment of the group as a whole. Again, the learners can not at this stage assess each other against the standard, but they can comment on participation and contribution and whether or not the task they were given was completed.

2. Assessment tools

In addition to rubrics, teachers may use any or all of these to assess learners

- Observation of learners' understanding and implementation of tasks, which can be recorded in an observation book
- Pen and paper tasks, such as the worksheets in this book
- Interviews/question and answers, which do not always require a 'right' answer, but rather an explanation of why the learner used a particular method, or where they thought they went wrong. This kind of technique is vital in establishing the learner's knowledge and values
- Projects and presentations, where groups or individuals are given time to design, plan and implement a project and to make a presentation of what they have done
- Drawings, painting and sculpture (using clay or Plasticine) where learners create a representation of something they have done or learned
- Rubrics which note learners' performance on a scale according to given criteria
- Drama where learners role play or dramatise a concept
- Portfolios, where any or all of learners' work can be kept as a physical record of progress. Remember that not only the best work should go into a portfolio. A learner who is performing badly at the beginning of the year should put inadequate work into the portfolio (dated) and as the year progresses, the learner's upward progress and improvement can be tracked.

Rating Code	Rating	Marks (%)
7	Outstanding achievement	80 – 100
6	Meritorious achievement	70 – 79
5	Substantial achievement	60 – 69
4	Adequate achievement	50 – 59
3	Moderate achievement	40 – 49
2	Elementary achievement	30 – 39
1	Not achieved	0 – 29

These tools and techniques are more appropriate for some learning areas than for others but you should use as many of them as possible, in order to get an in-depth understanding of your learners' learning style, and to note which kind of activities they do best in.

For more information on Assessment refer to the Assessment Guidelines for each learning area where examples of rubrics, observation sheets and recording tools are clearly laid out.

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