**LEARNER GUIDE**

Numeracy Level 2

Unit Standard 7469 Level 2 Credits 2

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**PERSONAL INFORMATION**

|  |  |
| --- | --- |
| ***NAME*** |  |
| ***CONTACT ADDRESS*** |  |
|  |
| ***Code*** |  |
| ***Telephone (H)*** |  |
| ***Telephone (W)*** |  |
| ***Cellular*** |  |
| ***Learner Number*** |  |
| ***Identity Number*** |  |
| ***EMPLOYER*** |  |
| ***EMPLOYER CONTACT ADDRESS*** |  |
|  |
| ***Code*** |  |
| ***Supervisor Name*** |  |
| ***Supervisor Contact Address*** |  |
|  |
| ***Code*** |  |
| ***Telephone (H)*** |  |
| ***Telephone (W)*** |  |
| ***Cellular*** |  |

**INTRODUCTION**

***Welcome to the learning programme***

Follow along in the guide as the training practitioner takes you through the material. Make notes and sketches that will help you to understand and remember what you have learnt. Take notes and share information with your colleagues. Important and relevant information and skills are transferred by sharing!



This learning programme is divided into sections. Each section is preceded by a description of the required outcomes and assessment criteria as contained in the unit standards specified by the South African Qualifications Authority. These descriptions will define what you have to know and be able to do in order to be awarded the credits attached to this learning programme. These credits are regarded as building blocks towards achieving a National Qualification upon successful assessment and can never be taken away from you!

## Structure

### Programme methodology



The programme methodology includes facilitator presentations, readings, individual activities, group discussions and skill application exercises.

**Know what you want to get out of the programme from the beginning and start applying your new skills immediately. Participate as much as possible so that the learning will be interactive and stimulating.**

The following principles were applied in designing the course:

* Because the course is designed to maximise interactive learning, you are encouraged and required to participate fully during the group exercises
* As a learner you will be presented with numerous problems and will be required to fully apply your mind to finding solutions to problems before being presented with the course presenter’s solutions to the problems
* Through participation and interaction the learners can learn as much from each other as they do from the course presenter
* Although learners attending the course may have varied degrees of experience in the subject matter, the course is designed to ensure that all delegates complete the course with the same level of understanding
* Because reflection forms an important component of adult learning, some learning resources will be followed by a self-assessment which is designed so that the learner will reflect on the material just completed.

This approach to course construction will ensure that learners first apply their minds to finding solutions to problems before the answers are provided, which will then maximise the learning process which is further strengthened by reflecting on the material covered by means of the self-assessments.

***Different role players in delivery process***

* Learner
* Facilitator
* Assessor
* Moderator

### What Learning Material you should have

This learning material has also been designed to provide the learner with a comprehensive reference guide. It is important that you take responsibility for your own learning process; this includes taking care of your learner material. You should at all times have the following material with you:

|  |  |
| --- | --- |
| ***Learner Guide*** | ***This learner guide is your valuable possession:***  This is your textbook and reference material, which provides you with all the information you will require to meet the exit level outcomes. During contact sessions, your facilitator will use this guide and will facilitate the learning process. During contact sessions a variety of activities will assist you to gain knowledge and skills.  Follow along in the guide as the training practitioner takes you through the material. Make notes and sketches that will help you to understand and remember what you have learnt. Take and share information with your colleagues. Important and relevant information and skills are transferred by sharing!  This learning programme is divided into sections. Each section is preceded by a description of the required outcomes and assessment criteria as contained in the unit standards specified by the South African Qualifications Authority. These descriptions will define what you have to know and be able to do in order to be awarded the credits attached to this learning programme. These credits are regarded as building blocks towards achieving a National Qualification upon successful assessment and can never be taken away from you! |
| ***Formative Assessment Workbook*** | The Formative Assessment Workbook supports the Learner Guide and assists you in applying what you have learnt.  The formative assessment workbook contains classroom activities that you have to complete in the classroom, during contact sessions either in groups or individually.  You are required to complete all activities in the Formative Assessment Workbook. The facilitator will assist, lead and coach you through the process. These activities ensure that you understand the content of the material and that you get an opportunity to test your understanding. |

### Different types of activities you can expect

To accommodate your learning preferences, a variety of different types of activities are included in the formative and summative assessments. They will assist you to achieve the outcomes (correct results) and should guide you through the learning process, making learning a positive and pleasant experience.



The table below provides you with more information related to the types of activities.

| ***Types of Activities*** | ***Description*** | ***Purpose*** |
| --- | --- | --- |
| ***Knowledge Activities*** | You are required to complete these activities on your own. | These activities normally test your understanding and ability to apply the information. |
| ***Skills Application Activities*** | You need to complete these activities in the workplace | These activities require you to apply the knowledge and skills gained in the workplace |
| ***Natural Occurring Evidence*** | You need to collect information and samples of documents from the workplace. | These activities ensure you get the opportunity to learn from experts in the industry.  Collecting examples demonstrates how to implement knowledge and skills in a practical way |

### Assessments

The only way to establish whether a learner is competent and has accomplished the specific outcomes is through the assessment process. Assessment involves collecting and interpreting evidence about the learners’ ability to perform a task.

**To qualify and receive credits towards your qualification, a registered Assessor will conduct an evaluation and assessment of your portfolio of evidence and competency.**

**This programme has been aligned to registered unit standards. You will be assessed against the outcomes as stipulated in the unit standard by completing assessments and by compiling a portfolio of evidence that provides proof of your ability to apply the learning to your work situation.**



***How will Assessments commence?***

***Formative Assessments***

The assessment process is easy to follow. You will be guided by the Facilitator. Your responsibility is to complete all the activities in the Formative Assessment Workbook and submit it to your facilitator.

***Summative Assessments***

You will be required to complete a series of summative assessments. The Summative Assessment Guide will assist you in identifying the evidence required for final assessment purposes. You will be required to complete these activities on your own time, using real life projects in your workplace or business environment in preparing evidence for your Portfolio of Evidence. Your Facilitator will provide more details in this regard.

**To qualify and receive credits towards your qualification, a registered Assessor will conduct an evaluation and assessment of your portfolio of evidence and competency.**

### Learner Support

**The responsibility of learning rests with you, so be proactive and ask questions and seek assistance and help from your facilitator, if required.**



Please remember that this Skills Programme is based on outcomes based education principles which implies the following:

* You are responsible for your own learning – make sure you manage your study, research and workplace time effectively.
* Learning activities are learner driven – make sure you use the Learner Guide and Formative Assessment Workbook in the manner intended, and are familiar with the workplace requirements.
* The Facilitator is there to reasonably assist you during contact, practical and workplace time for this programme – make sure that you have his/her contact details.
* You are responsible for the safekeeping of your completed Formative Assessment Workbook and Workplace Guide
* If you need assistance please contact your facilitator who will gladly assist you.
* If you have any special needs please inform the facilitator

## Learner Administration



***Attendance Register***

You are required to sign the Attendance Register every day you attend training sessions facilitated by a facilitator.

***Programme Evaluation Form***

On completion you will be supplied with a “Learning programme Evaluation Form”. You are required to evaluate your experience in attending the programme.

Please complete the form at the end of the programme, as this will assist us in improving our service and programme material. Your assistance is highly appreciated.

### Learner Expectations

Please prepare the following information. You will then be asked to introduce yourself to the instructor as well as your fellow learners



|  |
| --- |
| Your name: |
|  |
|  |
| The organisation you represent: |
|  |
|  |
| Your position in organisation: |
|  |
|  |
| What do you hope to achieve by attending this course / what are your course expectations? |
|  |
|  |
|  |
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|  |

# UNIT STANDARD 7469

#### Unit Standard Title

Use mathematics to investigate and monitor the financial aspects of personal and community life

#### NQF Level

2

#### Credits

2

#### Purpose

This unit standard will be useful to people who aim to achieve recognition at some level in Further Education and Training or to meet the Fundamental requirement of a wide range of qualifications registered on the National Qualifications Framework

#### Learning Assumptions

The credit value is based on the assumption that people starting to learn towards this unit standard are competent in Mathematics and Communications at NQF level 1

#### Range

Range statements are provided for specific outcomes and assessment criteria as needed

#### Specific Outcomes and Assessment Criteria

**Specific outcome 1:** Use mathematics to plan and control personal and/or household budgets and income and expenditure

**Assessment criteria**

* Plans describe projected income and expenditure realistically.
* Calculations are carried out using computational tools efficiently and correctly and solutions obtained are verified in terms of the context.
* Budgets are presented in a manner that makes for easy monitoring and control.
* Actual income and expenditure are recorded accurately and in relation to planned income and expenditure. Variances are identified and explained and methods are provided for control.

**Specific outcome 2:** Use simple and compound interest to make sense of and define a variety of situations

Range: Investments, stokvels, inflation, appreciation and depreciation

**Assessment criteria**

* The differences between simple and compound interest are described in terms of their common applications and effects.
* Methods of calculation are appropriate to the problem types.
* Computational tools are used efficiently and correctly and solutions obtained are verified in terms of the context or problem.
* Solutions to calculations are used effectively to define the changes over a period of time.

#### Essential embedded knowledge

The following essential embedded knowledge will be assessed by means of the specific outcomes in terms of the stipulated assessment criteria. Candidates are unlikely to achieve all the specific outcomes, to the standards described in the assessment criteria, without knowledge of the listed embedded knowledge. This means that the possession or lack of the knowledge can be inferred directly from the quality of the candidate’s performance against the standards.

* Budgets
* Terminology and definitions associated with financial situations.
* Estimation and approximation.
* Compound increase and decrease

#### Critical cross field outcomes

* Identify and solve problems using critical and creative thinking: Solving a variety of numerical and financial problems
* Collect, analyse, organise and critically evaluate information: Gather, organise, evaluate and interpret financial information to plan and make provision for monitoring budgets and other financial situations
* Communicate effectively: Use everyday language and mathematical language to describe relationships, processes and problem solving methods
* Use mathematics: Use mathematics to analyse, describe and represent financial situations and to solve problems

# Personal Budgets

#### Outcome

Use mathematics to plan and control personal and/or household budgets and income and expenditure

#### Assessment criteria

* Plans describe projected income and expenditure realistically
* Calculations are carried out using computational tools efficiently and correctly and solutions obtained are verified in terms of the context
* Budgets are presented in a manner that makes for easy monitoring and control
* Actual income and expenditure are recorded accurately and in relation to planned income and expenditure. Variances are identified and explained and methods are provided for control

## pe02260_Budgeting

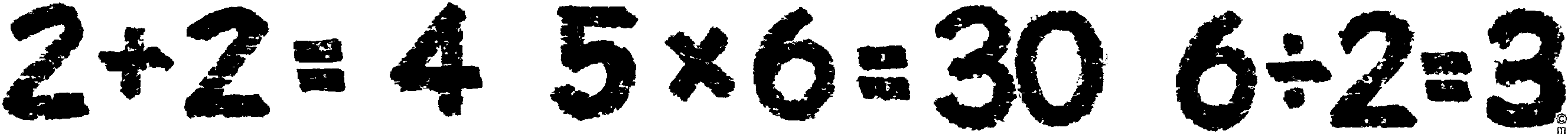
What is a Budget?

It has been said that becoming financially well off is not a matter of earning more money, but a matter of using the money you have in a better way. The only way to make the best use of your income is to draw up a money plan. The correct term for it is "budget".

A budget is a plan of the amount of money coming in and the amount of money going out. In other words, it is a written plan of all the money you are earning and spending.

The opposite of budgeting is to spend your salary on anything and everything that takes your fancy, only to discover halfway through the month that you have spent it all and have nothing left with which to buy urgent necessities or meet unforeseen expenses.

### Calculate Your Earnings



To calculate your monthly income, draw up a schedule like that illustrated in Schedule A. Fill in your income. This should be simple to work out, it should only be a matter of looking at your last pay slip. If you are married or "share" income, add your partner's income. If you are paid on a weekly basis rather than monthly, multiply your income by four to get your total monthly income. If you are paid fortnightly, multiply your income by two.

This figure is your net monthly income, and could include things such as overtime, travel allowances, accommodation costs, car or house allowance, etc. Unless you have other income from interest, dividends, rent, etc. this is all you have to live on for the month. The secret of financial success is planning what to do with it.

## Activity 1 (SO1, AC1-2)

### Types of Expenditure

#### Fixed Essential Expenditure

This is expenditure that occurs every month, and the amount cannot be varied by you, e.g. rent, insurances, rates, car registration and telephone rental.

#### Variable Essential Expenditure

These are things that will be hard to do without, but you can vary how much you spend on them by changing the pattern of your lifestyle, e.g. telephone calls, petrol consumption, shopping habits and electricity usage.

#### Discretionary Expenditure

These are things you would like to have but could cut down on or even cut out, if things got very tough, e.g. cigarettes, outings, holidays, gifts and newspapers.

### Reasons for Budgeting

The major reasons for budgeting for your expenses and savings are:

* to avoid getting into a situation in which you find that you have spent more than you can afford, and
* to exercise a measure of discipline over your spending, enabling you to save part of your salary, and accumulate a capital base on which to build the prosperity that you desire for yourself and your family.
* to save money for emergencies
* to save for large items, e.g. furniture, etc.
* to ensure that you can achieve your financial goals

When you to think about it, isn't this the **only way** for an intelligent person like yourself to set about providing the financial base for his or her life?

### Drawing up a Budget

For your monthly expenses, draw up a schedule like Schedule B in the activities guide. (make photocopies of your basic schedule, to save time in subsequent months).

1. In the estimate column, under the heading **fixed expenditure**, list all your expenses.
2. Under the heading **variable and discretionary expenditure**, give approximate amounts.
3. Add up the various items and insert a sub-total at the bottom of the estimate column.
4. Then add ± 5% of the subtotal for **unforeseen costs**, like a heavier than usual petrol bill.
5. The resultant total represents an **estimate** of your anticipated expenses for the coming month.
6. In the next column, for **actual** expenditure, keep a tally of your actual expenses incurred.
7. By writing in exactly when payments are due in the date paid column, you can control your finances even better.

It will be difficult to state **exactly** what you spent on each and every item, such as entertainment, snacks, etc. without keeping books of account for every cent you give out. However, by noting those items on which you *know* the costs incurred, you will probably be able to spot the area(s) in respect of which you have overspent or under-provided.

Use the values inserted in this "actual expenditure" column as your guide for estimating the next months' costs - and so on.

The point of keeping a budget in this form, is that it enables you to provide for each month's expenses, based more or less on the previous month's records. Thereby you are able to avoid ***under-providing* on the one hand, or *overspending* on the other.**

The time taken to fill in your schedule need not be more than a few minutes per month. The effort involved is certainly worthwhile compared with the financial trouble it keeps you out of!

## Activity 2 (SO3-4)

### Why should you save?

The money you save is used to pay for things that happen that you haven’t planned for. It is wise to always have savings for repairs to the house, the car, or any other type of emergency.

If you have savings in the bank, you will not get into money trouble. This will mean you will not have to borrow money from the bank.

### Example of a personal budget

Sipho earns a net (after deductions) salary of R5 475.00 per month. He has the following monthly expenses in October:

|  |  |
| --- | --- |
| Bond on his house | R1 450.00 |
| Transport | R1 350.00 |
| Groceries | R800.00 |
| School fees | R240.00 |
| Cell phone | R196.00 |
| Clothing account | R250.00 |
| Entertainment | R300.00 |
| Other/Sundries | R150.00 |
| Savings | R100.00 |

#### Sipho’s October budget

Income R5 475.00

Bond on his house R1 450.00

Water and electricity R 300.00

Transport R1 350.00

Groceries R 800.00

School fees R 240.00

Cell phone R 196.00

Clothing account R 250.00

Entertainment R 300.00

Sundries R 150.00

Total R 5136.00

Less Expenses R5 136.00

Net Cash Flow R 339.00

Beginning Cash Balance R 315.00 (money remaining from September)

**Ending balance R 654.00**

From Sipho’s budget we can make the following deductions:

* He is living within his means i.e. he is not spending more than he is earning. This is what we need to maintain in order to ensure financial discipline.
* Sipho could open a savings or investment account of R150.00 per month, or take out a life insurance policy or funeral cover insurance for R150.00 per month and still remain within his budget.

### Annual income/expenses

To calculate annual income/expenses, we take the monthly income/expenses and multiply it by 12, because there are 12 months in the year.

Annual income = R5 475.00 x 12

= R65 700.00

Annual expenses = R5 036.00 x 12

= R60 432.00

### Savings

If Sipho were to save R150.00 per month, after 1 year (12 months) he would have R1 800.00 extra to spend on a holiday, or buy something for his home like a TV, radio etc.

### Cash balance

In September Sipho had a cash balance of R315.00, this was the money remaining in his account after all his expenses had been paid, and it is money that he has not spent.

This amount may vary from month to month, due to sundry expenses, such as birthdays, repairs to their home, clothes that need to be bought, medical accounts etc. So Sipho’s actual budget varies from his planned budget.

## Variances

By completing a budget every month, you will be able to see variances such as using more petrol, an increase in the water and lights, or even where and when you are spending too much. Stick to your budget and your savings plan and very soon you will have developed a new habit of not spending but rather saving.

## What Is A Business?

A business is an organisation/undertaking in which the owner/partners sell goods or render services to customers in order to gain a profit.

Business exists:

* because a gap in the market is identified
* to meet needs and wants of potential customers
* to make a **profit** and create **wealth**

Business contributes tremendously to the wealth creation process in our land. Wealth is created through the processing of resources into products and services, which are sold to customers who have a need for the product or service.

For example, a contractor builds houses (a process) using bricks, sand and cement (resources), and these houses are sold to people who have a need for houses (market).

Businesses also create job opportunities, which is very important for the economic state of any country.

### Costs

Costs are payments that have to be made while a business is in operation. It costs money to buy raw materials and stock, to manufacture products and to sell the products. In the same way it costs you money to go to work, earn a salary, pay the rent and buy clothes and food.

The business must know the costs to determine how much money is needed to run a business, how much money is needed through income from sales, how much the business should charge for the products/services, the budget, and the estimated cash flow.

Costs in a business are divided into fixed costs and variable costs.

### Cost Saving Within A Business

Budgets need to be compiled in order to determine the profitability (whether or not the company will make a profit) of the business. These budgets have to be adhered to, to ensure that the company does not run at a loss, or that it does not go insolvent.

In an earlier section we learnt that a **budget is a prior estimation of income and expenditure**. All businesses estimate their income for the year and plan their expenditure around that. Businesses are also compelled to stick to their budgets, just as good money managers would.

Having a budget also helps us to cut back on spending and save costs. **If we ensure high productivity and quality within the business, we will ensure efficiency.**

### Income from Sales

Income from sales is the income received from the number of items that are sold, or services rendered. Income from sales is also called revenue.

Once sales have been worked out for a period of time, say one week or one month, the sales can be compared with the budget, and/or estimated sales.

Sales can be increased by:

* Selling more to the customers.
* Finding more customers.
* Changing prices

### Cost price

In a business the cost price of an item includes the actual price they paid for it plus the transport costs involved in getting the goods to their shops or warehouses.

From the cost price, the **Cost of goods sold**, **COGS**, or **"cost of sales" price** is calculated. To calculate this price, the following costs are added:

* costs to produce the goods, such as materials,
* and direct labour costs (the labour involved in producing the goods, not administrative costs).

This price gives a business the cost of sales. It means that goods have to be sold for more than this price in order to make a profit and pay overheads, such as sales commissions, delivery charges and administrative costs.

### Selling price

To calculate the selling price, a business uses the costs of sales (or cost of goods sold) and adds an amount for profit. This amount should include the indirect costs such as:

* Administrative overheads: rent, telephone, administrative salaries, insurance, etc.
* Sales commissions
* Delivery charges, leaving an amount left over for profit.

Some business add a fixed amount to the cost of sales price of every product, other businesses add a percentage to the cost of sales price. Whatever methods a business chooses, after the goods have been sold, there must be enough money left over to show a profit.

### What Is Profit?

Profit is the reward a business reaps from high levels of productivity, quality, customer satisfaction, cost saving, investment in training, etc. Because companies make profit, reward systems can be put into place to benefit employers and employees. Profit is also invested by companies, to ensure that money works for them and to secure future existence in the market place. Shareholders have to share in the profits of a company as well.

The price at which you sell, the selling price, should always be more than the total cost price otherwise the business will only be breaking even. In other words, that means that there are no reward/returns to the business owners for investing their money in the business.

Profit is determined by the following equation:

**Profit = Margin x Volume - Expenses**

**Margin** The difference between the price at which each item is sold and the cost of the item. The cost includes raw materials, sales commissions (if salesmen are used) and packaging.

**Volume** The number of units sold over a given period of time. The more units sold, the higher the profit.

**Expenses** Costs like rent, wages, water and electricity, transport, replacement of machinery, etc. The greater the expenses are, the lower the profit will be. Reducing expenses is one way of achieving a bigger profit.

Earlier we concluded that purpose of doing business is to make profit. To be able to make profit, there will be expenses (expenditure). If the income (generated from sales or services) is more than the expenses, a profit was generated.

**A profit can only be generated if the expenses are managed carefully with the use of a budget.**

# Simple and Compound Interest

#### Outcome

Use simple and compound interest to make sense of and define a variety of situations: investments, stokvels, inflation, appreciation and depreciation

#### Assessment criteria

* The differences between simple and compound interest are described in terms of their common applications and effects
* Methods of calculation are appropriate to the problem types
* Computational tools are used efficiently and correctly and solutions obtained are verified in terms of the context or problem
* Solutions to calculations are used effectively to define the changes over a period of time

## Savings And Investments

bd06130_Savings means putting money aside on a regular basis or in lump sums when we are able to do so. Savings therefore is the "collection" or accumulation of capital. The interest rate which we earn on our savings accounts will probably be lower than the inflation rate, which results in our money losing its value slowly.

**On the other hand, investment is the long-term application of our collected or accumulated money, provided it is invested wisely, that grows faster than the inflation rate. It is only through this means that we can increase the real value of our assets.**

"But why then don't we simply invest our money right from the start?" you may ask. The answer is that investment normally involves "tying up" our money in some form where we cannot get at it as readily as if it were in a savings account. While our money is "tied up" for example, in fixed property or shares, it might temporarily drop in value, which means that for a period we will lose money if we withdraw our investment. It may even drop permanently if we made a bad investment.

So, a golden rule to remember is that the most important consideration before investing your money is to appreciate that you dare not invest money that you might need to meet every day living expenses over the next couple of months or years.

For example, if you know that you have to meet a certain expense in nine or twelve months' time, you should place the money with which you plan to do it into a savings account at the highest possible interest rate. Do not consider investing it, for example, in shares on the stock exchange hoping that it will grow rapidly in that period.

You might succeed in making a big profit, but you might not - and you will find yourself in a very unpleasant situation when the time comes to pay your debts, and the money with which you had planned to pay them has dropped in value by 25%.

The fact that it might have increased by 40% or 60% a year later won't help you explain to your creditors when they come with a court order to seize your belongings because you were unable to pay your debts on time.

To summarise, **you should only consider investing when you have enough money to meet all your everyday expenses**, have enough insurance to cover you against illness, theft, injury and other possible costs, and have a nest egg put aside to meet unexpected emergencies.

The money which you have in excess of the above, and which will not affect your life adversely if you cannot get it for the next couple of years, is the money which you can safely consider investing.

## Stokvels

Stokvels are community savings clubs. They sometimes also play the role of social clubs and burial clubs. Stokvels also create savings for members through their increased buying and bargaining power. Government has realized that it has to support and encourage informal community-based savings. Consequently legislation has been introduced that deals specifically with stokvels.

Most stokvels work as rotating savings clubs. Members contribute a specified monthly sum to the club, with each of them getting to keep all the contributions when their turn in the rotation arrives. Some stokvels work as funeral clubs and only pay out a specified amount, on the death of a registered beneficiary. They are a good tool for saving, and provide an exciting social environment as well.

Stokvel members contribute a fixed amount of money to a common pool weekly, fortnightly or monthly. Money is drawn either in rotation or when a particular need or occasion arises.

Burial societies, on the other hand, can be seen as informal self-insurance schemes, which absorb the costs of social activities and cultural requirements of funerals.

Nearly 50% of black adults in South Africa invest approximately R12-billion in stokvels and burial societies annually. Stokvels have been part of black South African history for the past 50 years with "stock fairs" being held in the Eastern Cape in the early 19th century. Labourers then adopted the concept as an indigenous alternative to "settler" banking. What started as a simple savings solution has today grown into a fascinating range of stokvels for every possible need in life, ranging from joyous occasions such as the Christmas stokvel (saving for a generous December food shopping spree), to a hybrid of the stokvel, the burial society, which lends financial and social support to grieving families.

There are at least 800000 active stokvels in South Africa with a total membership of approximately 10 million people, representing a formidable economic force. Contrary to a prevalent belief, they are legal institutions.

Today stokvels are used for a wide variety of other purposes, including:

* Women's clubs - to buy groceries, furniture or presents;
* Joint ventures - to buy major items such as buses, cars or taxis;
* Investment syndicates - to help members invest in fixed deposits or unit trusts or to start their own businesses;
* Stokvel parties - where members take turns to organise huge celebrations at which food and liquor are sold. The host takes the profits. These parties may go on for two or three days.

### Negotiating body

The enormous growth of the stokvel movement has led to the formation of a 'super-stokvel', the National Stokvels Association of South Africa (NASASA). Registered as an 'association not for gain', it represents the interests of the movement country-wide, negotiates benefits for its members from banks, insurance companies and commercial firms and aims to establish its own financial institutions. It also operates a funeral scheme. Members pay an annual fee of R30.

With a large South African bank, it has organised a People's Benefit Scheme (PBS) which helps a stokvel, or 'group', to manage its funds efficiently and achieve a financial track record. The scheme covers savings and fixed deposits, offers group loan facilities and has its own unit trust company.

NASASA can be contacted at PO Box 130459, Bryanston, 2021, on the telephone number (011) 832-1069 or by fax at the number (011) 838-1642.

### Warning

Certain organisations claiming to be stokvels may in fact be running illegal get-rich-quick 'pyramid' schemes which offer exceptionally high returns on investments but make payouts from members' current contributions without having sufficient capital in reserve.

In 1996 an organisation guaranteeing a return of 300 per cent to its 53000 members had its funds frozen by the Registrar of Banks. This was done when the Registrar found that it held about R50 million - R40 million more than the R9,9 million limit for stokvels stipulated by the Banks Act.

These labourers worked and lived far away from their traditional homes and used the societies as a means of ensuring they had adequate funds to pay for the transport of their dead to their home areas and the cost of funeral rites.

Whenever any investment scheme promises returns or interest of 300%, you should stay away from that scheme. The prime bank lending rate is a good indicator of the economic situation in the country and what type of returns you can expect on investments. If the banks’ lending rate is 14%, no investment scheme or business can afford to pay 300% interest – it is probably a pyramid scheme and will collapse, taking your money with it. On the other hand, if an investment offers you a return of 20% while the banks’ rate is 14%, you could consider investing – but be aware that this is still risky, so do not invest all your money in one scheme.

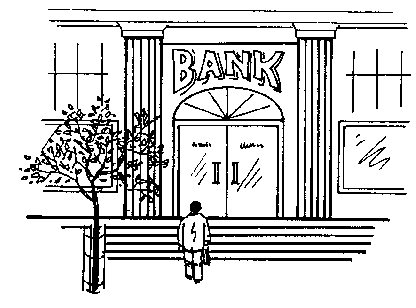
Return on investments should always be compared to the current bank lending and investment rates as this is a good indicator of what you can realistically expect. Don’t be greedy, you could lose big if you don’t invest right.

## Interest

**Interest is the cost of money** - it is money which is paid for the privilege to use the money. Interest is a very important aspect in every day life and business. Whether you buy a house, car or use a credit card, or invest for retirement or invest in business, the fluctuation in interest rates will influence you. It is vital to be able to understand and manage interest to your benefit.

**Interest rates** are based on the supply and demand of money. When the supply is good, the money gets cheaper (interest rates are lower); when the supply is poor, the money gets more expensive (interest rates are higher).

Interest can change at any time. If too many people want to borrow money, or if the Reserve Bank decides that there is too much money in circulation, then interest rates go up.

If too few people are borrowing money, interest rates usually go down. It works in the same way as the supply and demand for goods. When the interest rate goes up, the money borrowed becomes more expensive, repayment amount increases proportionally and it may take longer to repay the loan.

Only those who are judged **creditworthy** by the bank or the money lender will be given a loan. Banks want **security** to protect their money in case the business does not succeed.

They will request things like the bond on a property, personal and/or business assets, any guaranteed sum of money which they can take over like fixed savings and insurance policies.

If you were to take out a loan or buy on credit, and were to repay your debts in the time given, and at the required interest rate, you would be considered to be worthy of more credit.

If you do not do this, you lose your **creditworthiness**. The person, bank or business that loaned you the money or extended your credit is entitled to take your assets after a judgement of the court. If you have assets that can cover your debt, for example a house or a car, these assets can be used as security against a further debt.

### Simple interest

The calculation of interest may be ‘simple’ or ‘compound’. **Simple interest** is the application of a percentage rate to the principal sum for the period in question.

### Compound interest

**Compound interest** is interest on the principal sum, plus the accruing (added) interest, as expressed in the equation. Compound interest means “interest on interest”.

Where ***i*** is the actual interest, ***p*** is the principal sum (sum borrowed), ***t*** is the time or period of the loan in years and *r* is the percentage rate of interest.



For interest compounded annually, or



For interest compounded *q* times per year.

Interest on bank accounts is ‘simple’ interest but is compounded in the case of a deposit account to the extent that interest is allowed on interest previously credited to the account. The ‘rests’ between interest dates are critical. Clearly, the compounding effect of interest allowed yearly in arrears is not as good as the compounding on interest allowed, say, quarterly.

In the case of an overdrawn current account, interest is calculated from the actual date when a customer’s cheque is paid (not from the date on the cheque), and from the actual date when money is credited to the account (usually at the computer centre.

As the rate of interest on borrowing rises, more and more investments that previously looked profitable start to loo unprofitable. The demand for borrowing for investment purposes, therefore, is lower at higher rates of interest. If the interest rate goes up, people will spend less because is costs more to spend if they have to borrow the money.

At compound interest, an amount **doubles** itself:

|  |  |  |
| --- | --- | --- |
| At 7 percent in | 10 years | 89 days |
| At 6 percent in | 11 years | 327 days |
| At 5 percent in | 14 years | 75 days |

At simple interest, an amount doubles itself:

|  |  |  |
| --- | --- | --- |
| At 7 percent in | 14 years | 104 days |
| At 6 percent in | 14 years | 239 days |
| At 5 percent in | 20 years | - |

#### Example: Compound interest

A man invests R5 000 in a company at 13% interest per year for 3 years. He decides not to use any of the interest he earns until the end of the investment period. How much will he have earned after 3 years

**Solution:**

|  |  |
| --- | --- |
| Amount at the beginning of the 1st year | R5 000 |
| Interest(13% of R5 000) | R650 |
| Amount at the beginning of the 2nd year | R5650 |
| Interest (13% of R5 650) | R734.50 |
| Amount at the beginning of the 3rd year | R6 384.50 |
| Interest (13% of R6 384.50 | R829.99 |
| Amount at the end of the 3rd year | R7 214.49 |

#### Example: Calculating compound interest using the formula

Calculate the compound interest on an investment of R200 000 which is invested for a period of 2 years at 10% interest per year.

**Solution Procedure with calculator:**

****

200000 **X (** 1 **+** 10**÷**100 **) yx** 2 - 200000= 42000

- *200 000*

**Remember:** Interest = Final amount – Initial amount

**The interest paid for the privilege to use R200 000 for 2 years at 10%, is R44 038.01**

## Activity 3(S01-4) Costs, prices, revenue, profit

## What is Inflation?

In its simplest form, inflation is an unhealthy and steady increase in the price of goods and services. Since the early seventies, South Africans have been faced with an average inflation rate of well above 10%. The end result has been a steady erosion in the buying power of money. It affects all of us; it will make all of us poorer over time. It will eventually reduce our standard of living, it will destroy our confidence and peace of mind. Speak to anyone who retired on a fixed income in the last ten to fifteen years. At an inflation rate of 15%, the purchasing power of your money halves every 4,8 years.

This creates uncertainty and fear about the future. You cannot make plans for anything worthwhile in your life, not for your old age, not for the education of your children, not for the care of your loved ones.

### How is Inflation Measured?

Inflation is measured by means of the CPI (Consumer Price Index).

**This is done by measuring the cost of a representative basket of goods and services consumed by the average consumer and includes things such as cars, food, clothing, equipment, rentals, services etc.**

Calculated on a monthly basis, the difference in cost is thus the inflation rate.

### What Inflation Does To R50.00

Magnus Heystek's story of the disappearing R50 note:

He explains that R50.00 now will still be R50.00 in five years' time, but we will be able to buy much less with the same R50.00.

R50 in itself is not worth anything. It's what you can do with it in the future that is important.

So, the biggest threat to your money is something called INFLATION.

The purchasing power of money is one of the most important concepts when it comes to formulating an investment plan for yourself.

All investments must be geared towards protecting the purchasing power of your money.

### How To Combat Inflation

The effect of inflation is that the value of the rand is dropping. Thus the value of assets rises as the purchasing power of the rand in which they are valued drops. But inflation is not bad for everybody - for every person who loses by inflation, another will gain.

The value of the average family home rises by 12% per annum due to inflation. The winners are present home-owners who see the value of their asset increase. The losers are those who have not yet bought, as it now costs them more to buy.

To beat inflation, one has to earn a real rate of return which means a return that beats the inflation rate after taxes. The successful investor is one who always strives to earn a rate of return equal or above the inflation rate.

Investments in the so-called "traditional" category of investments in banks have, on average, lost 5% of the purchasing power of their money per annum, over the last 20 years or more.

By investing in equities and mortgage bonds, your chances of beating inflation are better.

So it is clear that in times of inflation it is sound strategy to keep the major part of your assets in a form which should increase in value, and only a small part in banks, building societies and other areas where it is losing value every day.

### The Rule of 72

The Rule of 72 is a simple way to calculate the effects of inflation. If we take the number 72 and divide it by the expected inflation rate, the answer will be the number of years for money in cash form to lose HALF of its purchasing power or assets to DOUBLE in value.

**If inflation was at 16% on average over the last 20 years (i.e. 72 ÷ 16 = 4,5), every four and a half years an asset such as an income-producing property would double in price, and the money you have left sitting as interest-bearing deposits would buy half the products it would have bought four and a half years ago. If inflation goes to 20%, this doubling or halving will occur every three and a half years, (i.e. 72 ÷ 20 = 3,6).**

Let's see how inflation can affect a typical married retiree who leaves work with what appears to be a large sum of money. Bill retires at 60 years of age with R200 000 which he invests in fixed deposits at 15%. The return is R30 000 per year of which tax takes around R5 000, leaving just over R25 000 to live on.

Let's look at what happens if inflation runs at 16%.

After four and a half years the purchasing power of the capital is down to R100 000 and the purchasing power of the annual income is down to R12 000.

In another four and a half years the capital is only worth around R50 000 and the income will buy only R6 000 worth of goods and services.

**Certainly the face value of the fixed deposit would still be a nominal R200 000 but money is only worth what it can buy and its purchasing power has been slashed by 75% in just nine years.**

Contrast this to the position of Jim who retired at the same age and used the R200 000 to buy income-producing property. The return of 10% after all costs meant that initially Jim's income was only R20 000 per year before tax, but due to inflation, grew every year. After nine years the property was worth nearly R800 000 and the income had risen to almost R80 000. By using inflation-beating techniques, Jim had managed to maintain his standard of living. On the other hand, Bill was forced to live on a decreasing (in real terms) income from his investment in fixed deposits.

### Long-Term Effects of Inflation

What would you say if you were told that a twenty-five year old person, earning R2 000 per month today, will need to earn R530 000 per month by the time he/she is 65, just to be on an equal footing? (This is based on this person's salary increasing in line with an inflation rate of 15%).

This is exactly what will happen if inflation is not brought under control.

The following table illustrates the decreasing purchasing power of R1 000 at various inflation rates

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Inflation | **10%** | **12%** | **15%** | **8%** | **20%** |
| After 5 years | 620 | 567 | 497 | 437 | 402 |
| After 10 years | 386 | 322 | 247 | 197 | 162 |
| After 15 years | 239 | 183 | 123 | 84 | 65 |
| After 20 years | 149 | 104 | 61 | 37 | 26 |

Frightening, isn't it?

Just imagine retiring on a fixed income at the age of 65, still fairly strong and healthy. If you are male, you can expect to live another 12 years on average. The average female can expect to live another 14 years.

You've saved and skimped all your life. And what happens? Inflation destroys it all, at a time when you are no longer able to work and protect yourself against price increases.

#### Example

John Smith takes out an endowment policy in 1998 which matures in the year 2014, i.e. in 16 year's time.

Assuming inflation stays at an average of 9% over the next few years, we can calculate what the real value of his money will then be, if the projected maturity value is R1.8 million, by using the Rule of 72.

**72 ÷ 9 = 8 years**

That means that the value of this money will halve every eight years, i.e. R1.8 million has to be halved twice in 16 years.

In other words, R1.8 million divided by 2 = R900 00

And R900 000 divided by 2 = R450 000

**His R1.8 million payout in 2014 will only be worth R450 000.**

## Activity 5 SO2, (AC1-4) Inflation

## Depreciation And Appreciation

Depreciation is a reduction in accounting earnings which are intended to reflect the reduction in value of an asset. In other words, the car, furniture, clothes, cell phones and computer equipment you buy decrease in value every year, meaning they are worth less than you paid for them. Depreciation occurs when your assets, including the buying power of your money, loses value.

Appreciation, on the other hand is when assets, including the buying power of your money, increases in value. Property such as houses and flats are seen as assets that increase in value.

Interest is sometimes seen as a method of protecting your money against losing buying power due to inflation, provided you let the interest accumulate and don’t use it.

### Let's look at two case studies:

Thabo and Aletta are paying rent of R866 per month and decide to buy a smart new motor car for R36 000. They let the motor dealer arrange a loan on the car for them through a finance company. They are told that the interest rate is 19% FLAT. They don't know what that means, so assume it is REDUCING interest. In fact the TRUE RATE IS JUST UNDER 31%. Their monthly payments are R1320 per month for four years.

In addition they have to pay R866 per month for rent. Their monthly payments total R2 186. At the end of four years, they have spent R104 928 in rent and car payments and own a second-hand car worth R20 000, if they are lucky.

Now consider Mandla and Jackie who buy a R110 000 house with a R100 000 loan. If they voluntarily pay R2 186 monthly off the loan (that is no more than the other couple are paying) the bond will be down to R36 902 at the end of four years. Obviously these figures change depending on the rate of interest payable on the bond. If the house gains value at 12% per annum, it will be worth R157 336 at the end of that time.

You can now vividly see how varied spending and borrowing priorities can make such a difference to the start that two different couples can give themselves. Their incomes are the same and their monthly payments are the same. Yet, at the end of four years, Mandla and Jackie are very well off and the other couple have NOTHING to show for four years' work.

## Activity 6 (SO 1-4) Appreciation and depreciation