ENGLISH ACROSS THE CURRICULUM (EAC)
SCRIPTED LESSONS
GENERAL EDUCATION AND TRAINING (GET)
English Across the Curriculum (EAC)
Scripted lessons
General Education and Training (GET)

TABLE OF CONTENT

<table>
<thead>
<tr>
<th>NO</th>
<th>SUBJECT</th>
<th>PAGE NUMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ECONOMIC AND MANAGEMENT SCIENCES</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>NATURAL SCIENCES</td>
<td>17</td>
</tr>
<tr>
<td>3</td>
<td>MATHEMATICS</td>
<td>23</td>
</tr>
<tr>
<td>4</td>
<td>SOCIAL SCIENCES - GEOGRAPHY</td>
<td>34</td>
</tr>
<tr>
<td>5</td>
<td>SOCIAL SCIENCES – HISTORY</td>
<td>49</td>
</tr>
</tbody>
</table>
FOREWORD

It is a well-known fact that English is the language of learning and teaching (LoLT) for the majority of learners at South African schools. Equally well-known is the finding by numerous studies that English is a barrier to learning. Learners, the studies and reports state, are not able to read and comprehend instructions, neither are they able to express their knowledge in response to questions. In order to mediate this challenge, the DBE developed *The Strategy for Teaching English Across the Curriculum* (EAC). Development of the strategy booklet was quickly followed by development of *The Manual for Teaching English Across the Curriculum: Book 2*, which comprised content subject input on how the strategy should be implemented. Copies of the strategy and the manual were distributed to schools in provinces, with the intention to enhance implementation of the strategy and, subsequently, strengthen the LoLT.

However, reports on visits undertaken in provinces, as well as audits conducted on the implementation of the strategy, indicate that provinces need assistance with implementation of the strategy to ensure the intended goal is achieved. The Department presents herewith an EAC Toolkit for Teachers, comprising scripted lessons in both DVD and booklet form, in which subject experts demonstrate how the EAC can and should be infused in various subjects. The toolkit seeks to stimulate thought processes and creativity regarding how to implement the strategy. The scripted lessons, developed by subject specialists from provincial and national education departments, dispel the myth that subject teachers will spend more time teaching English instead of their subject. Instead, the lessons strengthen the hand of the subject teacher who, through addressing the language used in the subject, enhances the process of decoding the science in the subject.

The foregoing assertion is confirmed by Young, Van der Vlugt and Qanya (2005), who state that ‘concepts cannot be understood or used in isolation from the language in which they occur’ (pvi). This pursuit of strengthening the LoLT is supported in the study conducted by Thürmann (2017), who cites one of the Council of Europe’s projects - “Languages in Education, Languages for Education” - which has, as one of its major aims, devising and supporting strategies and actions that seek to ensure that ‘language awareness becomes a matter of course in content teaching across the curriculum’ (p1).

Experts quoted in Thürmann’s (2017: p1) study also came to the conclusion that ‘mastering the language of schooling is a key to successful learning across the curriculum and the most reliable track to school success and elevated socio-economic status after graduating from school’. This assertion affirms the Department’s approach in implementing the EAC strategy. You are urged to engage with the scripted lessons and employ your expertise in enhancing learner attainment through strengthening the LoLT.

Through turning the LoLT into a carrier - and not a barrier - to teaching and learning, we look forward to improved quality in learner attainment.

Best wishes.
# Economic Management Sciences (EMS)

<table>
<thead>
<tr>
<th>Subject</th>
<th>EMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic</td>
<td>Financial Literacy</td>
</tr>
<tr>
<td>Lesson content</td>
<td>Accounting concepts</td>
</tr>
<tr>
<td>Grade 7</td>
<td>Language aspects covered</td>
</tr>
</tbody>
</table>

## Pre-activities

**Vocabulary**
- Financial Literacy
- Assets (possessions):
  - Fixed assets
  - Current assets

- Divide the learners into groups of five (the number of learners per group will depend on the size of the group).
- Allocate a pack of flash cards to each group.
- Learners answer the above question on their flash cards. (Only ONE word is allowed per flash card.)
- Educator pastes the flash cards on the chalkboard / white board.
- Learners explain to the teacher their understanding of the vocabulary words.
- Allow for class discussion of the answers provided by the learners.

## Prediction

What does Financial Literacy mean?

## During teaching

**Introduction of topic:**
Refer learners to the flash cards pasted on the board.

Re-arrange the flash cards to make meaning of the following concepts:
- Financial
- Literacy
- Asset
- Current asset
- Fix asset

Ensure learners understand and can define the concepts in their own words.

**Vocabulary: meaning of words and context of use**

**Financial**
The finances or financial situation of a business; usually refers to money matters.

**Literacy**
To be able to read and write.

**Assets**
It is something valuable that a person or business owns.

**Fixed**
The possessions of a business that have a relatively long lifespan (more than a year). For example, land and buildings, vehicles and equipment.

**Current**
The possessions of a business with a short lifespan. These can be converted into cash in a short space of time e.g. trading stock, cash float and petty cash.

- Learners listen and answer questions posed by the teacher on the flash cards
- Learners discuss the answers
Content:

- **Financial Literacy:**
  The teacher summarises important concepts and explains the correct meaning of the term Financial Literacy
  
  **GM:** Literacy - to be able to read and write
  **AM:** Financial literacy means when a person is knowledgeable about finances or money

- **Assets:**
  The teacher explains that assets are the accounting term for possessions. It is something valuable that a person or business owns. Assets can be classified into two types.
  
  - **Fixed assets**
    The possessions of a business that have a relatively long lifespan (more than a year),
    e.g. land and buildings, vehicles and equipment.
  
  - **Current assets**
    The possessions of a business that have a short lifespan and which can be converted into cash in a short space of time, e.g. trading stock, cash float and petty cash.

  **GM:** Current – flow of water; flow of electricity in a circuit
  **AM:** Assets with a short lifespan; can be converted into cash easily

ASSESSMENT:

**CASE STUDY – Reading for understanding**

Read the case study below and answer the questions that follow:

Jabu started a business selling sweets. He is struggling to understand the terms used by his bank manager. Whenever his bank manager mentions that he is not financially savvy, he always laughs. He runs his small shop from a back room that he built himself. He owns a bicycle that he uses to collect sweets from the supplier and a few sweet jars to store his sweets. He has a current bank account with a balance of R350.

Questions to be answered:

1. Give a definition of the concept “Financial Literacy” (2)
2. Give another word from the case study for “Financial Literacy” (2)
3. Explain the difference between the general meaning of ‘literacy’ and ‘financial literacy’ (4)
4. From the case study above, compile a list of fixed assets and current assets (4)

Memorandum:

**Case Study**

1. When a person is knowledgeable about finance / money. ✓ (2)
2. Savvy ✓✓ (2)
3. Literacy means to be able to read and write, whereas Financial Literacy is when a person is knowledgeable on finance. ✓✓ (4)
4. ✓

<table>
<thead>
<tr>
<th>Fixed assets</th>
<th>Current assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Back room, ✓ bicycle, ✓ and sweet jars ✓</td>
<td>Money in the current bank account ✓ (4)</td>
</tr>
<tr>
<td>Pre-activities</td>
<td>Vocabulary: meaning of words and context of use</td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>• Vocabulary</td>
<td>• Cash Receipts Journal:</td>
</tr>
<tr>
<td></td>
<td>It is used to record all cash received</td>
</tr>
<tr>
<td>• Cash Receipts Journal</td>
<td></td>
</tr>
<tr>
<td>• Service business</td>
<td>• Service business:</td>
</tr>
<tr>
<td>• Cash transactions</td>
<td>A business that renders a service to the community, e.g. hair salon</td>
</tr>
<tr>
<td>• Source document:</td>
<td>• Cash transactions:</td>
</tr>
<tr>
<td></td>
<td>A transaction that is done with payment being made immediately in cash</td>
</tr>
<tr>
<td>o Receipt</td>
<td>• Source documents:</td>
</tr>
<tr>
<td>o Cash register roll</td>
<td>o Receipt:</td>
</tr>
<tr>
<td></td>
<td>This is issued for all cash received from customers</td>
</tr>
<tr>
<td>• Recap the important vocabulary words, as learners should have already been exposed to some of the words in previous grades; show learners a picture of the accounting cycle (banking, savings, financial records and transactions, etc.)</td>
<td>o Cash register roll:</td>
</tr>
<tr>
<td></td>
<td>The till roll that remains in the cash register. It is used for recording transactions in the CRJ</td>
</tr>
<tr>
<td>• Prediction</td>
<td>Possible questions posed by learners:</td>
</tr>
<tr>
<td></td>
<td>• Are the journals really necessary now that there are computerised accounting packages on the market?</td>
</tr>
<tr>
<td>What is a Cash Receipts Journal (CRJ) and what is it used for?</td>
<td>• Learners listen and are allowed to ask clarity-seeking questions.</td>
</tr>
<tr>
<td>(What types of transactions are recorded in the CRJ?)</td>
<td>• Learners answer questions posed by the teacher on the accounting cycle.</td>
</tr>
<tr>
<td></td>
<td>• Learners view the accounting cycle.</td>
</tr>
</tbody>
</table>

| During teaching |  |
| Introduction of topic: | |
| • Refer to the seven steps in the accounting cycle (Annexure 1) | |
| • Learners need to indicate where the journals are located in the accounting cycle, including the CRJ. |
Content:

- **Cash Receipts Journal:**
  It is used to record all cash received
  GM & AM: Cash = Money
  GM: Journal = newspaper or magazine, diary
  AM: Book of first entry

- **Service business vs Trading business**
  A business that renders a service to the community, e.g. hair salon
  A business where buying and selling occurs
  GM: Service = Church service
  AM: Doing something for others

- **Cash transaction**
  A transaction that is done immediately with cash payment.
  GM: Bartering
  AM: Action between two parties involving cash or credit

- **Source documents:**
  - Receipt
    It is issued for all cash received from customers
  - Cash register roll
    The till roll that remains in the cash register; it is used for recording of transactions in the CRJ
  GM: Sources = a place, person, or thing from which something originates; obtain from a particular source
  AM: Source = source from which entries are made
  GM & AM: Receipt = received
  GM: Register = an official list or record of names or items; detect and show (a reading) automatically
  AM: Cash register = till
  GM: Roll = move in a particular direction by turning over and over; bread roll
  AM: Roll = roll of paper that remains in the till from which the day’s sales are recorded.

- **Learners listen, take notes and answer questions posed by the teacher**
ASSESSMENT:
Answer the following questions on the worksheet provided (Annexure B):

1. Explain the role of the Cash Receipts Journal (CRJ) in the accounting equation.
2. Differentiate between the two types of businesses below:
   - Pick 'n Pay and a hair salon
3. What is a cash transaction? Give your own example.
4. In a service business, the following source documents are used for recording in the CRJ:
   (a) Receipt
   (b) Cash Register roll
   Explain what they are used for.
5. Read the short extract below and answer the questions that follow:
   “The dry-cleaner down the road receives cash from customers for services rendered.”
   5.1 What is the document that the dry-cleaner will issue to individual customers?
   5.2 Which source document will the dry-cleaning business use for recording the cash they receive from their many customers?

ANNEXURE A:

1. Transaction
2. Source Documents
3. Journals
4. Posting to the Ledger
5. Trial Balance
6. Income Statement
7. Balance Sheet
ANNEXURE B:

ASSESSMENT WORKSHEET

Answers the following questions on the worksheet provided:

1. Explain the role of the Cash Receipts Journal (CRJ) in the accounting cycle: (3)

2. Differentiate between the two types of businesses below:
   Pick ‘n Pay and a hair salon (4)

3. What is a cash transaction? Give your own example. (2)

4. In a service business, the following source documents are used for recording in the CRJ:
   (a) Receipt
   (b) Cash Register roll
   Explain what they are used for. (2)

5. Read the short extract below and answer the questions that follow: (2)
   “The dry-cleaner down the road receives cash from customers for services rendered.”
   (a) What is the document that the dry-cleaner will issue to individual customers?
   (b) Which source document will the dry-cleaning business use for recording the cash received from its many customers?
MEMORANDUM:

Answers the following questions on the worksheet provided:

1. **Explain the role of Cash Receipts Journal (CRJ) in the accounting cycle:** (3)
   
   When a cash transaction between a business and a customer occurs ✓ a source document will be issued ✓ and also used to record the transaction in the CRJ ✓.

2. **Differentiate between the two types of businesses below and motivate your answer:** (4)

   **Pick ‘n Pay and a hair salon**
   
   Pick ‘n Pay is a trading business ✓ and a hair salon is a service business ✓
   
   **Motivation:**
   
   Trading business – buying and selling occurs ✓
   
   Service business – they render a service to the community ✓

3. **What is a cash transaction? Give your own example.** (2)

   A transaction where payment is made immediately in cash ✓, e.g. buying clothes from Edgars using cash; paying for your clothes cleaned at the dry cleaner, paying school fees, etc. ✓
   
   (Accept any other relevant answer.)

4. **In a service business the following source documents are used for recording in the CRJ:** (2)

   (a) Receipt
   
   (b) Cash Register roll
   
   Explain what they are used for
   
   (a) For receiving cash from customers for services rendered ✓
   
   (b) The till roll that remains in the cash register use for recording transactions in the CRJ ✓

5. **Read the short extract and answer the questions that follow:** (2)

   “The dry-cleaners down the road received cash from their customers for services rendered”
   
   (a) What is the document that they will issue to their individual customers?
   
   (b) Which source document will the dry-cleaning business use for recording the cash they received from their many customers?
   
   **Answers:**
   
   (a) Cash Slip / Till Slip ✓
   
   (b) Cash Register Roll ✓
Lesson – content

<table>
<thead>
<tr>
<th>Grade 9</th>
<th>Language aspects covered</th>
</tr>
</thead>
</table>

Pre-activities
- Vocabulary
  - General Ledger
  - Posting
  - Account classification
  - Double-entry principle
  - Accounting rules
- Hand Matching activity to learners to complete
- Prediction

What is a General Ledger?
What is it used for?

<table>
<thead>
<tr>
<th>Possible questions learners could ask:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- If we have closed off the journals and our calculations are correct (cross casting), why do we still need to complete the ledger?</td>
</tr>
<tr>
<td>- Is it not a lot of work to complete the ledger?</td>
</tr>
<tr>
<td>- Can't we just make a list of all the accounts in the journals and their amounts and add them up?</td>
</tr>
<tr>
<td>- Are the journals really necessary now that there are computerised accounting packages on the market?</td>
</tr>
</tbody>
</table>
  - Learners view the completed CRJ and CPJ (Annexure 1).
  - Learners respond to questions based on the CRJ and CPJ.
  - Teach the link between the CRJ, the CPJ and the General Ledger.
Content:

- General Ledger
  GM & AM (of general) - Something most common, usual, most used or vague. An example of general used as an adjective is a general election, which is when voters can ...
  GM: Ledger – a book
  AM: The ledger holds account information that is needed to prepare financial statements; this includes accounts for assets, liabilities, owners’ equity, revenue and expenses.

- Posting
  GM: to post a letter or to post something on Facebook
  AM: To transfer figures from the journals

- Account classification
  GM (of account: To have an account at a store, for example Edgars
  AM: A record in the general ledger that is used to collect and store debit and credit amounts. For example, a company will have a bank account in which every transaction involving cash is recorded.

- Double-entry principle
  GM of double: two
  AM: two entries made in the ledger for one transaction
  GM of principle: A person with good morals and values
  AM: The rules and guidelines that companies must follow when reporting financial data. The common set of accounting principles is GAAP (Generally Accepted Accounting Principles)

- Accounting rules
  GM of accounting: To account for your actions
  AM: The systematic and comprehensive recording of financial transactions pertaining to a business,

- Debit
  GM: Your account at a business will increase
  AM: Entry on the left side of an account

- Credit
  General meaning: your account at a business will decrease
  Accounting: Entry on the right side of an account

- Debit side: The left-hand side of the ledger
- Credit side: The right-hand side of the ledger

- Show learners a completed CRJ and CPJ
  (Annexure 1).
- Ask learners if it can be assumed that all entries in the two journals are correct.
- Explain that we complete the General Ledger in order to verify the entries in the CRJ and CPJ.
  (Annexure 2)
ASSESSMENT:

Answer the following questions, using your own words, on the worksheet provided (Annexure 3):

1. What is a General Ledger and what is it used for?
2. Explain the term ‘posting’ and motivate why this is necessary in the accounting process.
3. Explain what the debit side of a ledger is and indicate the types of accounts that have debit balances, as per the classification of accounts.
4. What is meant by the credit side of a ledger?
5. In tabular form, classify the accounts below into Nominal and Balance Sheet Section Accounts:
   - Capital
   - Bank
   - Rent income
   - Electricity & water
   - Stationery
   - Equipment
   - Trading stock

ANNEXURE 1

Vocabulary

Match the concepts in Column A with the meaning / definitions in column B. Write only the letter of the alphabet in the Answer column.

<table>
<thead>
<tr>
<th>Concept</th>
<th>Definition</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ledger</td>
<td>A. The calculated answer of amounts in the columns of journals</td>
<td></td>
</tr>
<tr>
<td>2. Posting</td>
<td>B. The amount in an account at the end of the month</td>
<td></td>
</tr>
<tr>
<td>3. Account classification</td>
<td>C. An entry on the left-hand side of an account</td>
<td></td>
</tr>
<tr>
<td>4. Double-entry principle</td>
<td>D. The amount left in the bank account after payments are made</td>
<td></td>
</tr>
<tr>
<td>5. Accounting rules</td>
<td>E. The right-hand side of the ledger</td>
<td></td>
</tr>
<tr>
<td>6. T-account</td>
<td>F. The left-hand side of ledger</td>
<td></td>
</tr>
<tr>
<td>7. Debit</td>
<td>G. The numbering system used in Accounting / the numbering of accounts and journals in Accounting</td>
<td></td>
</tr>
<tr>
<td>8. Credit</td>
<td>H. Summary or list of accounts in an accounting book, used for record purposes</td>
<td></td>
</tr>
<tr>
<td>9. Debit side</td>
<td>I. A skeleton account in the form of a T</td>
<td></td>
</tr>
<tr>
<td>10. Credit side</td>
<td>J. International law regulating entries in the accounts in the ledger</td>
<td></td>
</tr>
<tr>
<td>11. Folio</td>
<td>K. The amount in an account at the beginning of the month</td>
<td></td>
</tr>
<tr>
<td>12. Balance</td>
<td>L. Transferring of accounts from the journals in the ledger and verification of correctness</td>
<td></td>
</tr>
<tr>
<td>13. Opening</td>
<td>M. A list of all the accounts used in a business under the following headings: balance sheet accounts, nominal accounts and types of accounts</td>
<td></td>
</tr>
<tr>
<td>14. Closing</td>
<td>N. Application of rules in the ledger</td>
<td></td>
</tr>
<tr>
<td>15. Total</td>
<td>O. An entry on the right-hand side of an account</td>
<td></td>
</tr>
</tbody>
</table>
**MEMORANDUM:**

**MATCHING COLUMNS**

Match the concepts in Column A with the meaning / definitions in column B. Write only the letter of the alphabet in the third column.

<table>
<thead>
<tr>
<th>Concept</th>
<th>Definition</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Ledger</td>
<td>A. The calculated answer of amounts in the columns of journals</td>
<td>H</td>
</tr>
<tr>
<td>2. Posting</td>
<td>B. An amount in an account at the end of the month</td>
<td>L</td>
</tr>
<tr>
<td>3. Account classification</td>
<td>C. An entry on the left hand side of an account</td>
<td>M</td>
</tr>
<tr>
<td>4. Double-entry principle</td>
<td>D. The amount left in bank account after payments were made</td>
<td>J</td>
</tr>
<tr>
<td>5. Accounting rules</td>
<td>E. The right hand side of the ledger</td>
<td>N</td>
</tr>
<tr>
<td>6. T-account</td>
<td>F. The left hand side of ledger</td>
<td>I</td>
</tr>
<tr>
<td>7. Debit</td>
<td>G. Numbering system used in Accounting / numbering of accounts and journals in Accounting</td>
<td>C</td>
</tr>
<tr>
<td>8. Credit</td>
<td>H. Summary or 000list of accounts in an accounting book for record purposes</td>
<td>O</td>
</tr>
<tr>
<td>9. Debit side</td>
<td>I. A skeleton account in the form of a T</td>
<td>F</td>
</tr>
<tr>
<td>10. Credit side</td>
<td>J. International law regulating the entries in accounts in the ledger</td>
<td>E</td>
</tr>
<tr>
<td>11. Folio</td>
<td>K. The amount in an account at the beginning of the month</td>
<td>G</td>
</tr>
<tr>
<td>12. Balance</td>
<td>L. Transferring and verification of accounts from the journals in the ledger</td>
<td>D</td>
</tr>
<tr>
<td>13. Opening</td>
<td>M. A list of all the accounts used in a business under the following headings balance sheet accounts, nominal accounts and types of accounts</td>
<td>K</td>
</tr>
<tr>
<td>14. Closing</td>
<td>N. Application of rules in the ledger</td>
<td>B</td>
</tr>
<tr>
<td>15. Total</td>
<td>O. An entry on the right side of an account</td>
<td>A</td>
</tr>
</tbody>
</table>
### ANNEXURE 2 - Cash Receipts Journal of Alex Stores for January 2017

<table>
<thead>
<tr>
<th>Doc. No.</th>
<th>Date</th>
<th>Details</th>
<th>Analysis of Receipts</th>
<th>Bank</th>
<th>Sales</th>
<th>Cost of Sales</th>
<th>Sundry Accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>R 1</td>
<td>1</td>
<td>R. Alexander</td>
<td>20 000</td>
<td></td>
<td>20 000</td>
<td></td>
<td>20 000 Capital</td>
</tr>
<tr>
<td>CRR</td>
<td>12</td>
<td>Cash</td>
<td>1 200</td>
<td>1 200</td>
<td>1 200</td>
<td>960</td>
<td></td>
</tr>
<tr>
<td>R 2</td>
<td>23</td>
<td>H. Maseko</td>
<td>800</td>
<td>800</td>
<td></td>
<td>800</td>
<td>20 800 Rent Income</td>
</tr>
</tbody>
</table>

### Cash Payments Journal of Alex Stores for January 2017

<table>
<thead>
<tr>
<th>Doc. No.</th>
<th>Date</th>
<th>Details</th>
<th>Bank</th>
<th>Trading Stock</th>
<th>Wages</th>
<th>Sundry Accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>CC1</td>
<td>3</td>
<td>Star Suppliers</td>
<td>9 900</td>
<td></td>
<td></td>
<td>9 900 Equipment</td>
</tr>
<tr>
<td>CC2</td>
<td>15</td>
<td>Cash</td>
<td>750</td>
<td></td>
<td>750</td>
<td></td>
</tr>
<tr>
<td>CC3</td>
<td>21</td>
<td>Makro</td>
<td>5 400</td>
<td>5 400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CC4</td>
<td>25</td>
<td>R. Alexander</td>
<td>1 330</td>
<td></td>
<td>1 330</td>
<td>Drawings</td>
</tr>
<tr>
<td>CC5</td>
<td>28</td>
<td>Ace Properties</td>
<td>2 350</td>
<td></td>
<td>2 350</td>
<td>Rent Expense</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DR</th>
<th>ASSETS</th>
<th>CR</th>
<th>DR</th>
<th>OWNER’S EQUITY</th>
<th>CR</th>
<th>DR</th>
<th>LIABILITIES</th>
<th>CR</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

**ASSETS**
(My possessions)

**Owner’s Equity**
(The interest of the owner in the business)

**LIABILITIES**
(My debt)

**Balance Sheet Accounts**

**Fixed assets:**
- Land & buildings (NCA)
- Vehicles (NCA)
- Equipment (NCA)

**Current Assets:**
- Bank
- Trading Stock
- Debtors’ Control
- Petty Cash
- Cash Float

**Nominal Accounts:**

**Income:**
- Sales
- Rent Income
- Current Income
- Interest Income

**Expenses:**
- Cost of Sales
- Rent Expense
- Stationery
- Telephone
- Wages
- Salaries
- Water and Electricity
- Interest Expense
- Material Cost

**Balance Sheet Accounts**

**Non-current liabilities:**
- Loan: Name of bank
- Mortgage bond

**Current Liabilities:**
- Creditors’ Control
ANNEXURE 3: Classification of Accounts

ANNEXURE 4:

ASSESSMENT WORKSHEET

1. Answer the following questions on the worksheet provided:
   
   Explain what a General Ledger is.

   __________________________________________________________________________________________
   __________________________________________________________________________________________

2. Explain the term ‘posting’ and motivate why it is necessary in the accounting process.

   __________________________________________________________________________________________
   __________________________________________________________________________________________

3. Explain the debit side of a ledger and indicate the types of accounts that have debit balances.

   __________________________________________________________________________________________
   __________________________________________________________________________________________

4. What do you understand by the credit side of a ledger?

   __________________________________________________________________________________________
   __________________________________________________________________________________________

5. In tabular form, classify the accounts below into Nominal and Balance Sheet Section Accounts:

   - Capital
   - Bank
   - Rent Income
   - Water and Electricity
   - Stationery
   - Equipment
ANNEXURE 4: MEMORANDUM:

1. Answer the following questions on the worksheet provided:

   **Explain what a General Ledger is.**

   It is a summary / list of all the accounts posted from the journals.

2. **Explain the term posting and motivate why it is necessary in the accounting process.**

   Posting is when accounts are transferred from the journals to the General Ledger. It is important because it assists with verifying that recordings have been done correctly in the journals.

3. **Explain the debit side of a ledger and indicate the types of accounts that have debit balances.**

   It is the left-hand side of the ledger and assets and expenses have debit balances.

4. **What do you understand by the credit side of a ledger and indicate the types of accounts that have a credit balance.**

   It is the right-hand side of the ledger. Owner’s Equity and liabilities have a credit balance.

5. **In tabular form, classify the accounts below into Nominal and Balance Sheet Section Accounts.**

<table>
<thead>
<tr>
<th>Balance Sheet accounts section</th>
<th>Nominal accounts section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital ✓</td>
<td>Rent Income ✓</td>
</tr>
<tr>
<td>Bank ✓</td>
<td>Water &amp; Electricity ✓</td>
</tr>
<tr>
<td>Equipment ✓</td>
<td>Stationery ✓</td>
</tr>
</tbody>
</table>
### Natural Sciences

<table>
<thead>
<tr>
<th>Subject:</th>
<th>Natural Sciences Grade 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic:</td>
<td>Forces</td>
</tr>
<tr>
<td>Lesson content</td>
<td>Introduction to force: What is force, motion, gravity and mass?</td>
</tr>
</tbody>
</table>

#### Language aspects covered

- **Vocabulary:**
- **Force:** A force is a push or a pull. It can cause a change in shape, speed or direction.
- **Push:** To push is to move something away from you.
- **Pull:** To pull is to move something towards you. You can also pull something behind you, like a wagon.
- **Newton (N):** The unit of force.
- **Motion:** A change in the position of an object over time.
- **Direction:** A path along which an object moves
- **Speed:** The distance moved per unit of time.
- **Friction:** *fricare* (Latin) means “to rub”. Friction is force acting between two objects that are touching each other.
- **Mass:** The measure of the amount of matter in an object.
- **Gravity:** The force that attracts something toward the center of the Earth or toward any other physical body that has mass.
- **Kilograms (kg):** The unit used for measuring mass.
- **Grams (g):** The unit used for measuring mass.
- **Contact forces:** Forces resulting from objects that are in contact with each other.
- **Non-contact (field) forces:** Force acting on an object or objects at a distance with no contact.
- **Magnetic forces:** The attraction or repulsion that arises between electrically charged particles. Magnetic forces are non-contact forces: they pull or push on objects without touching them.
- **Electrostatic forces:** Forces of attraction or repulsion of particles or objects because of their electric charge. Electrostatic forces are non-contact forces: they pull or push on objects without touching them.
### Activity 1:

**Objective:** To engage learners to explore the concepts of force, motion, gravity and mass.

#### What will the teacher do?

Provide learners with:
- an article or material to be read aloud (see article below)
- a vocabulary worksheet to complete (see worksheet below)
- a comprehension exercise to complete
- a video clip to watch
- a quiz on force to complete
- Facilitate reading, unpacking of terminology, completion of a vocabulary worksheet and a comprehension exercise.
- Have learners brainstorm forces and motion vocabulary.
- Walks around assessing the learners' accuracy in creating working definitions and ensure there is at least one person in each group with an accurate definition for each term.
- Provide feedback to the learners.
- Explain force, motion, gravity and mass.
- Show a video clip to the learners.

#### What will learners do?

- Take turns to read parts of the article / material aloud.
- Listen to the article being read aloud.
- Asking any clarifying questions as they read the material.
- Discuss and explain various actions highlighted in the text / material.
- Explain common, ordinary, everyday words they associate with what they think of as a force.
- Use dictionaries or computers to complete the science vocabulary and create a sentence for each word using the scientific definition.
- Complete a comprehension.
- Watch a video clip focusing on force, motion, gravity and mass.
- Learners complete a quiz on force.

### Post-teaching:

**Assessment words**
- **Give** = write a list of items with no additional detail
- **Draw** = a labelled diagram
- **Define** = give a clear meaning
- **Name** = state the name (noun) of something
- **Identify** = pick out, find or select the answer
- **Describe** = state in words the main points; say what happens
- **Explain** = define key terms and substantiate with relevant facts

**Assessment activity:**

Allow learners to complete the assessment activity. (15 minutes)
- Force vocabulary worksheet
- Force and Motion Comprehension
- Force Quiz

1. Explain how forces work against one another in your everyday life?
2. How are forces in nature related to the motion of objects?
3. How can forces be used to make objects move, change direction, or stop?

---

**Contact forces vs non-contact (field) forces**

Contact forces: Forces resulting from physical interaction

Non-contact (field) forces: A force resulting from non-physical interaction

**Newton:** The unit of force. It has the symbol $N$.

The Newton is defined as the force needed to accelerate 1 kilogram of mass at 1 metre per second squared ($m/s^2$).

---

**Activity 1:**

Objectives: To engage learners to explore the concepts of force, motion, gravity and mass.

**What will the teacher do?**

Provide learners with:
- an article or material to be read aloud (see article below)
- a vocabulary worksheet to complete (see worksheet below)
- a comprehension exercise to complete
- a video clip to watch
- a quiz on force to complete

- Facilitate reading, unpacking of terminology, completion of a vocabulary worksheet and a comprehension exercise.
- Have learners brainstorm forces and motion vocabulary.
- Walks around assessing the learners' accuracy in creating working definitions and ensure there is at least one person in each group with an accurate definition for each term.
- Provide feedback to the learners.
- Explain force, motion, gravity and mass.
- Show a video clip to the learners.

**What will learners do?**

- Take turns to read parts of the article / material aloud.
- Listen to the article being read aloud.
- Asking any clarifying questions as they read the material.
- Discuss and explain various actions highlighted in the text / material.
- Explain common, ordinary, everyday words they associate with what they think of as a force.
- Use dictionaries or computers to complete the science vocabulary and create a sentence for each word using the scientific definition.
- Complete a comprehension.
- Watch a video clip focusing on force, motion, gravity and mass.
- Learners complete a quiz on force.

**Title:** Force | Types of Force | Contact Force | Non-Contact Force

**URL:** https://youtu.be/FVLAyphuZOU
Force and Motion

How can you detect the presence of motion energy? Motion is movement. If an object is moving, then you know motion energy is present. Some examples of motion energy are a toy car moving, a sailing boat, a moving wagon, and a door opening. Forces make objects move. Two of these forces are push and pull.

You can make an object move by pushing on the object. If you push a toy car, it will roll across the floor. The wind can also push things. A sail boat moves when the wind pushes on the sails and makes it move. Water can also push things. Have you ever been in the ocean? The waves can be very strong and push you in the water.

Objects can also be set in motion from a pull. You can pull a wagon behind you. If you want the door to open, you have to pull it open. Another example of a pull is when you pull on your socks.

The motion of an object can be changed. Pretend you are having a toy car race with a friend. You will push your car to make it move, but you can also use a ramp to make it move faster. Friction is a force that will slow a toy car down. If the surface that you are driving the car on is bumpy, the car will slow down because of friction. A car will move the fastest down a smooth ramp.

Motion can also be transferred from one object to another. For example, when you hit a ball with a baseball bat, the motion of the bat transfers, or moves, to the ball to make the ball move. In a dominos game, the motion of one domino moves to the next domino when they hit. The motion transfers through all the dominos until all of them fall down.

©AccuTeach  Standards: S2P1. Identify sources and use of energy  http://www.AccuTeach.com
**Force vocabulary worksheet**

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
</table>

**Use your resources to define the meanings in your own words**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Force</td>
<td></td>
</tr>
<tr>
<td>Mass</td>
<td></td>
</tr>
<tr>
<td>Gravity</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td></td>
</tr>
<tr>
<td>Friction</td>
<td></td>
</tr>
<tr>
<td>Motion</td>
<td></td>
</tr>
<tr>
<td>Contact forces</td>
<td></td>
</tr>
<tr>
<td>Non-contact (field) forces</td>
<td></td>
</tr>
<tr>
<td>Gravitational forces</td>
<td></td>
</tr>
<tr>
<td>Magnetic forces</td>
<td></td>
</tr>
<tr>
<td>Electrostatic forces</td>
<td></td>
</tr>
</tbody>
</table>

**Force and Motion Comprehension Questions**

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
</table>

1. According to paragraph 1, what are the two forces that can make an object move? _______________ and _______________

2. Wind is an example of a force that ________________ things to make them move.

3. Explain how the wind can make an object to move?

4. Give an example of how a pull force can make an object move.

5. What force will slow a toy car down?

6. Explain how motion energy can be transferred from one object to another.
### FORCE QUIZ

Identify the option that best completes the statement or answers the question

<p>| | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1.</strong></td>
<td>A force is described as:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. A push only</td>
<td>B. A pull only</td>
<td>C. A push or a pull</td>
<td>D. None of the above</td>
<td></td>
</tr>
<tr>
<td><strong>2.</strong></td>
<td>Which of these is an example of force?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Listening to a school choir</td>
<td>B. Pulling your book case to the classroom</td>
<td>C. Watching a movie</td>
<td>D. Tasting your mother’s food while cooking</td>
<td></td>
</tr>
<tr>
<td><strong>3.</strong></td>
<td>What would you need to move a soccer ball?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Gravity</td>
<td>B. Friction</td>
<td>C. Weight</td>
<td>D. Force</td>
<td></td>
</tr>
<tr>
<td><strong>4.</strong></td>
<td>What is the name of the unit used to measure force?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Neutron</td>
<td>B. Newton</td>
<td>C. Nucleus</td>
<td>D. Norton</td>
<td></td>
</tr>
<tr>
<td><strong>5.</strong></td>
<td>What is an example of friction?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. Dropping a book on the floor</td>
<td>B. Diving into a swimming pool</td>
<td>C. Dropping a book on the floor</td>
<td>D. Wind blowing against you as you walk</td>
<td></td>
</tr>
<tr>
<td><strong>6.</strong></td>
<td>Which object will require the most amount of force to set it into motion?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>A. A refrigerator</td>
<td>B. A dinner plate</td>
<td>C. A microwave oven</td>
<td>D. A school bus</td>
<td></td>
</tr>
</tbody>
</table>
7. When you slide a box across the floor, what force must your push be stronger than?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Gravity</td>
</tr>
<tr>
<td>B</td>
<td>Support force</td>
</tr>
<tr>
<td>C</td>
<td>Friction force</td>
</tr>
<tr>
<td>D</td>
<td>Air resistance</td>
</tr>
</tbody>
</table>

8. Which force always pulls downward on objects?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Air resistance</td>
</tr>
<tr>
<td>B</td>
<td>Gravity</td>
</tr>
<tr>
<td>C</td>
<td>Friction force</td>
</tr>
<tr>
<td>D</td>
<td>Support force</td>
</tr>
</tbody>
</table>

9. Which ball will hit the ground first?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>They will all hit the ground at the same time.</td>
</tr>
<tr>
<td>B</td>
<td>Metal first, then plastic, then wood last.</td>
</tr>
<tr>
<td>C</td>
<td>Wooden first, then plastic, then metal last.</td>
</tr>
<tr>
<td>D</td>
<td>There is no way to tell.</td>
</tr>
</tbody>
</table>

10. When you walk across the ground and push on it with your feet ...

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>There is no effect on the ground.</td>
</tr>
<tr>
<td>B</td>
<td>The ground pushes back on your feet with equal force.</td>
</tr>
<tr>
<td>C</td>
<td>The ground pushes back more strongly than your feet.</td>
</tr>
<tr>
<td>D</td>
<td>The ground pushes back less strongly than your feet.</td>
</tr>
</tbody>
</table>
SUBJECT: MATHEMATICS (Grade 6)

TOPIC: MEASUREMENT

LESSON CONTENT: CAPACITY AND VOLUME (LESSON 1)

1. CONCEPTS & SKILLS TO BE ACHIEVED
   By the end of the lesson, learners should be able to:
   • Estimate, measure and record capacity
   • Compare and order capacity

2. INTRODUCTION (Suggested time: 5 minutes)
   History of volume measurement

   During the early days of civilization, people used weight rather than volume or capacity to determine the volume of substances. However, in Babylon (605 BC – 562BC) royal archives (Bible & tablets) show that they used sila as the unit for measuring oil. Presently, the SI unit of volume is cubic metres (m³).

   Adapted: ncetm.org.uk/resources/17510

   Activity 1: The primary purposes of this activity are: firstly, to use unmathematical, but related, understanding of the term as a platform to understand the use of the same term in the mathematics context; and, secondly, to bridge the gap between the meaning of the term used in everyday contexts that are unrelated to mathematics and the use thereof in a mathematics context.

   Ask learners to define the following words used in the vocabulary section of their exercises:

<table>
<thead>
<tr>
<th>Terminology</th>
<th>Explain using general understanding</th>
<th>Mathematical definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity</td>
<td>Total amount of space inside a container</td>
<td></td>
</tr>
<tr>
<td>Volume</td>
<td>Amount of space that something takes up.</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td>To find the size of a quantity</td>
<td></td>
</tr>
<tr>
<td>Calibration</td>
<td>Marking units of measurement on an instrument</td>
<td></td>
</tr>
<tr>
<td>Convert</td>
<td>Changing one thing into another thing</td>
<td></td>
</tr>
<tr>
<td>Ascending order</td>
<td>Ordering things from smallest to biggest</td>
<td></td>
</tr>
<tr>
<td>Descending order</td>
<td>Ordering things from biggest to smallest</td>
<td></td>
</tr>
</tbody>
</table>

   Ask learners to use examples to differentiate between capacity and volume.

   Capacity is the total amount of space inside a container. It tells you how much content a container can hold.

   Example: in the picture above, the bucket has a capacity of and and the jug is not filled to capacity.

   Volume: the amount of space that something takes up.
### 3. LESSON PRESENTATION / DEVELOPMENT (Suggested time: 45 minutes)

<table>
<thead>
<tr>
<th>Teaching activities</th>
<th>Learning activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activity 2 (Practical activity)</strong></td>
<td>Work in groups to estimate and measure the quantity of water inside the glasses and then record their values.</td>
</tr>
<tr>
<td>Containers are not always filled to capacity. A container can have space for a maximum of (capacity), however the amount of liquid in the container may be half a . In this case, the volume of water in the container is .</td>
<td><strong>Language in the topic</strong></td>
</tr>
<tr>
<td><strong>Estimating and recording:</strong></td>
<td>Learners should be able to define the following terms:</td>
</tr>
<tr>
<td>Provide learners with a different quantity of water in four different glasses. Ask them to estimate the different volume of water in each glass.</td>
<td>• Capacity</td>
</tr>
<tr>
<td><strong>Measuring and recording:</strong></td>
<td>• Volume</td>
</tr>
<tr>
<td>Provide learners with four measuring cylinders and ask them to measure the amount of water inside the four glasses:</td>
<td>• Calibrated</td>
</tr>
<tr>
<td><img src="image" alt="Image of measuring cylinders" /></td>
<td>• Gradation lines</td>
</tr>
<tr>
<td><strong>To estimate the capacity of a container, think about how many litres or millilitres it can hold.</strong></td>
<td><strong>Assessment words</strong></td>
</tr>
<tr>
<td><strong>To consolidate learners’ estimation and measuring skills, allow them to:</strong></td>
<td>Learners should be able to:</td>
</tr>
<tr>
<td>• measure capacity using calibrated measuring jugs or other instruments with numbered and un-numbered gradation lines.</td>
<td>• estimate</td>
</tr>
<tr>
<td>• use measuring jugs with different calibrations (numbered intervals and gradation lines).</td>
<td>• measure</td>
</tr>
<tr>
<td>• practise using examples in which the number intervals are divided into multiples of 2; 4; 5 and 10.</td>
<td>• represent</td>
</tr>
<tr>
<td><strong>Example:</strong> In the above figure, there are 4 spaces between each gradation line. Each small space shows 1000 ÷ 4 = 250.</td>
<td></td>
</tr>
</tbody>
</table>
Activity 3

To compare measures of capacity, first convert them to the same unit of measurement.

Convert a mixed measure (e.g.) to either litres or millilitres and express this as a decimal fraction.

Example: Arrange the following capacity figures in ascending order: 4 509ml; 4l 450ml; 4,49l; 4,5l

• First, convert all the measurements to millilitres:
  44509ml; 4450ml; 4490ml; 4500ml

• Arrange the capacity figures from smallest to biggest:
  4450ml < 4490ml < 4500ml < 4509ml

• Change the figures back to the original measurements:
  4l 450ml < 4,49l < 4,5l < 4509ml

Work in groups to compare and order the capacity figures.

Language in the topic

Learners should be able to define the following terms:
- Measurement
- Decimal
- Millilitres
- Litres
- Ascending order

Assessment words:
- convert
- compare
- order

4. CLASSWORK (Suggested time: 45 minutes)

DBE Workbook: pg 162, exercise 1; pg 164, exercises 1, 2 & 3

5. CONSOLIDATION / CONCLUSION & HOMEWORK (Suggested time: 5 minutes)

a) Emphasise the following:
   • Difference between capacity and volume.
   • Difference between estimating and measuring capacity.
   • Difference between comparing and ordering capacity.

b) Homework:

The primary purpose of Homework is to give each learner an opportunity to demonstrate mastery of mathematics skills taught in class. Therefore, Homework should be purposeful and the principle of ‘Less is more’ is recommended, i.e. give learners a few high-quality activities that address a variety of skills, rather than many activities that do not enhance learners’ conceptual understanding. Carefully select appropriate activities from the workbooks and textbooks for learners’ homework. The selected activities should cover different cognitive levels.

1. Identify the appropriate units (millilitres or litres) that you would use to measure the capacity of each of the following:
   (i) a glass of juice
   (ii) a rainwater tank
   (iii) a fish tank

2. Arrange the set of measurements below from smallest to greatest: 2 \(\frac{3}{4}\); 2,3 l; 2,28l; 2 200ml
SUBJECT: MATHEMATICS (Grade 8)

TOPIC: ALGEBRAIC EQUATIONS

LESSON CONTENT: SETTING UP EQUATIONS (LESSON 1)

1. CONCEPTS & SKILLS TO BE ACHIEVED:

By the end of the lesson, learners should be able to:

- set up equations to describe a problem situation
- analyse and interpret equations that describe a given situation

2. INTRODUCTION (Suggested time: 10 minutes)

Activity 1: The primary purposes of this activity are: firstly, to use unmathematical but related understanding of the term as a platform to understand the use of the same term in a mathematics context; and, secondly, to bridge the gap between the meaning of the term used in everyday contexts that are unrelated to mathematics and the use thereof in a mathematics context.

Ask learners to define the terms listed below.

<table>
<thead>
<tr>
<th>Terminology</th>
<th>Explain using general understanding</th>
<th>Mathematical definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Sum</td>
<td>Total</td>
<td>An answer obtained after adding figures.</td>
</tr>
<tr>
<td>2 Product</td>
<td>Item offered for sale</td>
<td>An answer obtained after multiplying figures.</td>
</tr>
<tr>
<td>3 Difference</td>
<td>Not alike</td>
<td>The answer obtained after subtracting figures.</td>
</tr>
<tr>
<td>4 Quotient</td>
<td></td>
<td>The answer obtained after dividing figures.</td>
</tr>
<tr>
<td>5 Number sentence</td>
<td>A sentence made of numbers</td>
<td>An equation expressed using numbers and operations.</td>
</tr>
<tr>
<td>6 Variable</td>
<td>Something that differs</td>
<td>A symbol that can represent different values in an expression.</td>
</tr>
<tr>
<td>7 Expression</td>
<td>The act of making your feelings known</td>
<td>A mathematical phrase containing numbers and variables joined by mathematical operator(s).</td>
</tr>
<tr>
<td>8 Solution</td>
<td>• An answer to a problem</td>
<td>The value of the variable that will satisfy the equation</td>
</tr>
<tr>
<td></td>
<td>• a liquid solution</td>
<td></td>
</tr>
<tr>
<td>9 Operation</td>
<td>Medical operation</td>
<td>Operational signs (+, -, x, ÷)</td>
</tr>
<tr>
<td>10 Equivalent</td>
<td>Equal</td>
<td>Two things that have the same value, or produce the same effect but which have different forms.</td>
</tr>
<tr>
<td>11 Substitute</td>
<td>Replace</td>
<td>Replace variables with numbers in an expression or equation.</td>
</tr>
<tr>
<td>12 Trial and</td>
<td>Keep trying to find a solution</td>
<td>A method of reaching the correct solution.</td>
</tr>
<tr>
<td>Improvement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 Inspection</td>
<td>Look carefully</td>
<td>To find a solution without doing actual calculations.</td>
</tr>
</tbody>
</table>

Present the following important words associated with mathematical equations to help learners develop conceptual understanding.

A closed number sentence is a true statement about numbers, for example, \(21+5 = 26\). In this example, all numbers are given.

In an open number sentence, for example, \(15 + y = 21\), one or more numbers are unknown (y).

An open number sentence is also called an equation.

The unknown in the equation is called a variable, for example in the above equation.

An equation is a mathematical sentence that is true for some numbers but false for other numbers. The following are examples of equations: \(x + 3 = 11\) and \(2x = 8\)

\(x + 3 = 11\) is true if \(x = 8\), but false if \(x = 3\).

When we look for a number or numbers that make an equation true, we say that we are solving the equation. For example, \(x = 4\) is the solution of \(2x = 8\) because it makes \(2x = 8\) true. (Check: \(2 \times 4 = 8\))
Activity 2
The following activity serves to help learners to write an equation.

Write an equation to represent the following:
Think of a number. Add 5 then multiply the answer by 3.
The answer is 60. What is the number?

Possible solution:
Interpretation: \((\text{Number} + 5) \times 3 = 60\)
Let number = "\(x\)" (Remember that "\(x\)" is a variable)
\((x + 5) \times 3 = 60\)
\(3x + 15 = 60\)

To determine the solution for the value of "\(x\)"; two methods may be employed, namely: the \textit{inspection method} OR the \textit{trial and improvement method}.

(i) Inspection method
\[ 3(15) + 15 = 60 \]
The LHS must be equal to the RHS, check \textit{solution}
Therefore the number is 45, that is, \(x = 15\)

NB: Check the solution by substitution: \(60 - 15 = 3 \times 15\)

(ii) Trial and improvement method
\[ 3x + 15 = 60 \]
Additive inverse of +15: \(3x + 15 - 15 = 60 -15\)
\[ 3x = 45 \]
Multiplicative inverse of 3.
\[ \frac{3x}{3} = \frac{45}{3} \]
\[ x = 15 \]
### Activity 3

Ask learners to explain in words what the following equation means?

\[ 3x - 4 = 32 \]

Identify and clarify misconceptions noted in the learners' responses, for example “3 times x is 4 less than 32”

Discuss and come up with different interpretations of the same equation.

Possible responses:

a) 3 multiplied by x is 4 more than 32, or
b) 32 is 4 less than 3x, or
c) 32 plus 4 is equal to 3 times x, or
d) 3 times x is 4 less than 32

### Activity 4

- Group learners into groups of 4
- Give each group its own question to discuss, analyse, interpret, write as an equation, solve and check the solution.
  - A number plus 6 is 28.
  - When I divide a number by 9 the answer is 3.
  - The difference between 13 and the number is 15.
  - The difference between 4 times a number and 16 is 48.
- Allow groups to present their answers to the whole class.

- discuss, analyse, interpret, write equations, solve and check the solutions for the questions assigned to the learners
- present their solutions to the class

### Language in the topic
- Multiplied
- Less than
- More than
- Equation

### Assessment words
- Explain
- Identify
- Clarify
### 4. CLASSWORK (Suggested time: 15 minutes)

<table>
<thead>
<tr>
<th>Sasol-Inzalo book 1, pg 121-122: No. 1 (a), (b) and (e); No. 2 (c) and (e); No 3 (b) and (f)</th>
</tr>
</thead>
</table>

Choose the correct answer from the options provided (A – E):

1. Martin bought a packet of 15 chocolates for R27,96. He used the equation \(15 \alpha \ 27,96\) to find the cost of one chocolate, \(\alpha\).

   The equivalent to this equation is:

   A \( \alpha = 27,96 - 15\)
   B \( \alpha = (27,96) (15)\)
   C \( \alpha = 27,96 + 115\)
   D \( \alpha = \frac{27,96}{15}\)
   E \( \alpha = 27,96 + 15\)

### Language in the topic:
- Equation
- Equivalent

### Assessment words
- Choose
- Justify (SI Workbook)

2. If \(3x - 15 = 0\), then \(x\) is equal to:

   A 2
   B 3
   C 4
   D 5
   E 6

### Language in the subject:
- Substitute

### 5. CONSOLIDATION / CONCLUSION & HOMEWORK (Suggested time: 5 minutes)

a) Emphasise that learners should:
   - understand the meaning of **mathematical terminology** and **operations** used.
   - ensure that the steps are mathematically correct
   - use **trial and improvement** or **inspection** to obtain the answer
   - substitute the solution into the original equation to **check** or verify if it is correct.

b) Homework

The primary purpose of Homework is to give each learner an opportunity to demonstrate mastery of mathematics skills taught in class. Therefore, Homework should be purposeful and the principle of ‘less is more’ is recommended, i.e. give learners a few high-quality activities that address a variety of skills, rather than many activities that do not enhance learners’ conceptual understanding.

Carefully select appropriate activities for homework from the Sasol-Inzalo books, workbooks and textbooks. The selected activities should cover different cognitive levels.

<table>
<thead>
<tr>
<th>Sasol-Inzalo book 1, pg 121-122, No. 1 (c), No. 2 (g), No. 3 (d)</th>
<th></th>
</tr>
</thead>
</table>
SUBJECT: MATHEMATICS (Grade 8)

TOPIC: GEOMETRY OF 3D OBJECTS

LESSON CONTENT: CLASSIFYING 3D OBJECTS (LESSON 1)

1. CONCEPTS & SKILLS TO BE ACHIEVED:

By the end of the lesson, learners should know and be able to describe, name and compare the 5 platonic solids in terms of: the shape and number of faces, the number of vertices, and the number of edges.

2. INTRODUCTION (Suggested time: 10 minutes)

(PRE-ACTIVITIES)

Activity 1: The primary purposes of this activity are: firstly, to use unmathematical but related understanding of the term as a platform to understand the use of the same term in the mathematics context; and, secondly, to bridge the gap between the meaning of the term used in everyday contexts that are unrelated to mathematics and the use thereof in a mathematic context.

Revise the work on 3D objects done in grade 7 with learners by asking them to define the terms listed below. Learners should be allowed to use diagrams to communicate the meaning of each term.

<table>
<thead>
<tr>
<th>Terminology</th>
<th>Define according to your general knowledge</th>
<th>Mathematical definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face</td>
<td>Front part of the head</td>
<td>A flat surface of a solid</td>
</tr>
<tr>
<td>Edge</td>
<td>Border</td>
<td>A line where two faces meet</td>
</tr>
<tr>
<td>Cube</td>
<td>• Ice cube</td>
<td>A solid with six equal faces, twelve edges and eight vertices.</td>
</tr>
<tr>
<td></td>
<td>• Number to the exponent of 3</td>
<td></td>
</tr>
<tr>
<td>Vertex</td>
<td></td>
<td>The point at which three or more edges meet</td>
</tr>
<tr>
<td>Congruent</td>
<td>Same</td>
<td>Two or more objects are exactly the same shape and size</td>
</tr>
<tr>
<td>Base</td>
<td>Bottom part of something, e.g. a bed</td>
<td>Bottom part or landing side of 3D object</td>
</tr>
<tr>
<td>Regular</td>
<td>• Usual</td>
<td>A 2D shape with equal sides and angles</td>
</tr>
<tr>
<td></td>
<td>• Normal</td>
<td></td>
</tr>
<tr>
<td>Parallel</td>
<td>Lines that do not meet</td>
<td>Lines that are equidistant</td>
</tr>
<tr>
<td>Polygon</td>
<td></td>
<td>A closed plane figure (2D) bounded by straight line segments that form many angles</td>
</tr>
<tr>
<td>Polyhedron</td>
<td></td>
<td>A polyhedron is a 3D object with flat faces (surfaces) only or a solid shape with faces that are all polygons, e.g. a cube</td>
</tr>
<tr>
<td>Tetrahedron</td>
<td></td>
<td>A polyhedron composed of four triangular faces, six straight edges and four vertices</td>
</tr>
<tr>
<td>Pyramid</td>
<td>Ancient monument found in Egypt</td>
<td>A 3D object with outer surfaces that are triangular and converge to a single point at the top</td>
</tr>
<tr>
<td>Prism</td>
<td></td>
<td>A solid that has congruent bases supporting parallelograms</td>
</tr>
</tbody>
</table>
Activity 2: Discuss the following with the learners:

NOTE: The term “face” and “phase” are homophones and learners should be made aware of the differences between the two and which of the two is used in mathematics.

- **Polygon**: a Greek word for a closed plane figure (2D) bounded by straight line segments that form many angles. (“poly” is the Greek word for many, and “gon” is taken from “gono”, which means “angles”)

- **Polyhedron**: A polyhedron is a 3D object with flat faces (surfaces) only or a solid shape with faces that are all **polygons**, e.g. a cube

- **Face**: The flat surface of a solid.

Ask learners to count the number of faces in a **cube**. (6 faces)

- **Edge**: A line where two faces meet.

Ask learners to count the number of edges in a **cube**. (12 edges)

- **Vertex**: A point where three or more edges meet

Ask learners to count the number of vertices in a **cube**. (8 vertices)

- Ask learners to list the names of all polyhedrons that they know or learnt about in Grade 7.
3. LESSON PRESENTATION / DEVELOPMENT (Suggested time: 20 minutes)

<table>
<thead>
<tr>
<th>Teaching activities</th>
<th>Learning activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Present the following activities to learners:</strong></td>
<td>• Be actively engaged by answering questions during lesson presentation.</td>
</tr>
<tr>
<td><strong>Activity 3:</strong> Consider the geometric objects below:</td>
<td>Language in the topic</td>
</tr>
<tr>
<td><img src="image" alt="Geometric objects" /></td>
<td>Learners identify 3D objects according to the following classifications:</td>
</tr>
<tr>
<td>a) Identify which of the above objects are <strong>polyhedrons</strong>?</td>
<td>• Polyhedrons</td>
</tr>
<tr>
<td>b) List the polyhedrons in (a) that are <strong>prisms</strong>?</td>
<td>• Prisms</td>
</tr>
<tr>
<td>c) Name the polyhedrons in (a) that are <strong>pyramids</strong>?</td>
<td>• Pyramids</td>
</tr>
<tr>
<td>Solutions:</td>
<td>Assessment words</td>
</tr>
<tr>
<td>a) B C E F and G</td>
<td>Learners explain the following terms in their own words:</td>
</tr>
<tr>
<td>b) C and E</td>
<td>• Identify</td>
</tr>
<tr>
<td>c) B and G</td>
<td>• List</td>
</tr>
<tr>
<td><img src="image" alt="Activity 4" /></td>
<td>• Name</td>
</tr>
<tr>
<td><strong>Activity 4:</strong> Describe the differences between <strong>prisms</strong> and <strong>pyramids</strong>.</td>
<td>Language in the topic</td>
</tr>
<tr>
<td><em>(NOTE: provide clarity on the term “describe” and how it differs from “explain”).</em></td>
<td>Learners explain the following terms in their own words:</td>
</tr>
<tr>
<td>Solution:</td>
<td>• congruent</td>
</tr>
<tr>
<td><strong>Prism:</strong> A prism is a special type of polyhedron. Two of the faces of a prism are parallel identical (<strong>congruent</strong>) faces; the rest of the faces are either rectangles or parallelograms. Example: in E above, the bottom and top faces are parallel identical (hexagons) and the rest are rectangles. <strong>Pyramid:</strong> A pyramid is a special type of polyhedron. The base of the pyramid can be any polygon, but the rest of the faces are all triangles.</td>
<td>• edge</td>
</tr>
<tr>
<td>In the pyramid below, the base is a square and all the other faces are triangles.</td>
<td>• vertex</td>
</tr>
<tr>
<td><img src="image" alt="Pyramid" /></td>
<td>• face</td>
</tr>
<tr>
<td></td>
<td>• base</td>
</tr>
<tr>
<td><strong>Assessment words</strong></td>
<td>Learners <strong>describe</strong> the features of a pyramid and prism</td>
</tr>
</tbody>
</table>
In the next activity, explain key terms such as “classify” and “describe”, so that learners become familiar with the English meaning of these terms as they are regularly used in question papers.

**Activity 5**: Consider the polyhedrons below:

![Image of polyhedrons A, B, C, D, and E]

a) **Classify** these objects in terms of them being *prisms* or *pyramids*?

b) **Describe** the faces of each polyhedron?

c) What common features are observed in the above polyhedrons?

**Solutions:**

a) Polyhedron A is a *prism*; Polyhedron B is a *pyramid*.
b) Polyhedron A: all faces are congruent regular squares.
   Polyhedrons B, C and E: all faces are congruent regular triangles.
   Polyhedron D: all faces are *congruent regular* pentagons.
c) All faces are congruent and regular polygons.

*Note*: All polyhedrons with faces that are congruent regular polygons are called *Platonic solids*.

4. **CLASSWORK** (Suggested time: 15 minutes)

   Sasol-Inzalo Book 2: pg 203, No. 4 and 6; pg 204, No. 6

5. **CONSOLIDATION /CONCLUSION & HOMEWORK** (Suggested time: 5 minutes)

a) **Emphasise** that:
   - A face is a flat surface of a solid.
   - A vertex is a point where three or more edges meet.
   - An edge is a line where three or more faces meet.

b) **Homework**

   The primary purpose of Homework is to give each learner an opportunity to demonstrate mastery of mathematics skills taught in class. Therefore, Homework should be purposeful and the principle of ‘less is more’ is recommended, i.e. give learners a few high-quality activities that address a variety of skills, rather than many activities that do not enhance learners’ conceptual understanding.

   Carefully select appropriate activities from the Sasol-Inzalo Books, DBE workbooks and textbooks for learners’ homework. The selected activities should address different cognitive levels.

   - DBE workbook 2, pg 174, No. 1
   - Sasol-Inzalo Book 2, pg 204, No. 7

---

**Language in the topic**
- Pyramid
- Congruent
- Regular
- Platonic solids

**Assessment words**
- Describe
- Classify
### Social Sciences - Geography

<table>
<thead>
<tr>
<th>Subject:</th>
<th>Social Sciences – Geography</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic:</td>
<td>Water in South Africa</td>
</tr>
<tr>
<td>Lesson content:</td>
<td>Uses of water</td>
</tr>
<tr>
<td>Grade 4:</td>
<td>Language aspects covered</td>
</tr>
</tbody>
</table>

#### How is water used?

**Pre-activities**
- Vocabulary
- Language in the subject
- Prediction

**Vocabulary:**
1. **Recreation use** - when water is used for enjoyment.
2. **Industrial use** – when water is used in industries for things like cooling, diluting or transporting goods.
3. **Power use** – when water is used to generate electricity and hydro-electric power.
4. **Agricultural use** – when water is used for agricultural purposes like irrigation and for livestock.
5. **Home use** – when water is used for household purposes like cooking and bathing.

**Action verbs**
1. Explain – give details

#### During teaching
- Teacher asks learners what water is and what it is used for.
- Explain new concepts to the learners
- Teacher divides learners into five groups.
- Each group is allocated one use of water from the following list:
  - Recreational use
  - Industrial use
  - Home use
  - Power use
  - Agricultural use
- Teacher provides learners with a visual source that deals with the use of water

**Explains:**
- Viewing and seeing
- Adding new concepts to glossary
- Listening and speaking
Water supply and uses

http://www.water.ca.gov/education/images/watersupplyuse-sm.jpg

- Each group should use the source and own knowledge to discuss how water is used in their allocated water use category.
- One person from each group reports back to the class about the use of water in each category.
- Educator consolidates the lesson by alluding to the different uses of water.

Post-teaching
Assessment words

1. Using the information and your own knowledge, write a paragraph of about 5 lines explaining the use of water.

- Explain – make clear.
- Sentence construction
- Paragraph writing
# Social Geography - Term 1 - Grade 5

<table>
<thead>
<tr>
<th>Subject:</th>
<th>Social Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic:</td>
<td>World map &amp; compass direction</td>
</tr>
<tr>
<td>Lesson – content</td>
<td>Eight directions from a fixed point in the world on a map.</td>
</tr>
</tbody>
</table>

**Language aspects covered**

<table>
<thead>
<tr>
<th>Vocabulary:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Direction: The course/way in which a person/something moves or faces.</td>
</tr>
<tr>
<td>• Latitude: Imaginary (not real) lines on a map. These lines are horizontal lines on maps.</td>
</tr>
<tr>
<td>• Equator: Imaginary (not real) line on a map that separates the Earth into two equal parts. This line is a horizontal line.</td>
</tr>
<tr>
<td>• Continent: A large piece of land, e.g. Africa.</td>
</tr>
<tr>
<td>• Globe: Another name for the Earth.</td>
</tr>
<tr>
<td>• North Pole: This is the furthest part found to the top (north) of the Earth.</td>
</tr>
<tr>
<td>• South Pole: This is the furthest part found to the bottom (south) of the Earth.</td>
</tr>
<tr>
<td>• Compass: An instrument used to find direction.</td>
</tr>
<tr>
<td>• Based on topic analysis, e.g. expansion; contraction; meander</td>
</tr>
</tbody>
</table>

**Pre-activities**

- Vocabulary: In order to introduce learners to vocabulary related to the lesson, do a flash card activity in which learners must match a definition to a word.

**During teaching**

**Introduction**

Introduce topic to learners by showing a political map of the world on the board and asking:

- In which direction is north? (ask other directions as well)
- What are the lines on the map called? What are they used for?
- Where is the equator? How can we locate it on a map or globe?
- What are the names of the seven continents?
- What are the North and South poles? Point them out to me on the map or globe.
- Indicate the same features as mentioned above on a globe if possible.

**Main Body (Lesson presentation)**

- Learners to watch a short video

[North South East West - Cardinal Directions - Geography for Kids - Geography Games.mp4](#)

- Based on the video ask learners probing questions such as:
  - Why is it important to know direction?
  - Name two instruments that can be used to determine direction.
  - What is an easy way to remember the four direction points on a compass? Ask learners to come up with their own analogy.

**Answers to questions:**

- Direction helps you to find your way from one place to another
  - It helps you to give directions to someone else
  - It helps you to read a map
- Compass & GPS
- Never Eat Slimy Worms
Provide learners with a worksheet with the following questions that they answer using the world population map on display or in their atlases:

- Name the seven continents and arrange them from smallest to biggest.
- Name three countries (where possible) on each continent.
- Which countries are dissected by the equator?
- Indicate whether I would have to travel generally north, south, east or west in the following journeys to get to the destination in the shortest time:
  - South Africa to Egypt
  - South Africa to Argentina
  - Canada to England
  - China to Iran
  - Cape Town to Montevideo
  - Johannesburg to Brisbane

**Conclusion**

- Teacher to end the lesson with a video to consolidate the lesson.

5th Grade- Compass Directions I.mp4

**Post-teaching**

- Assessment words

**If time permits, a video can be shown as a final summary or as a recap before the next lesson.**

- Allow learners to mark the activity (peer marking).

**Assessment words – definition and requirements**
Subject: Social Sciences - Geography  
Grade 6

Topic:  
Map skills (focus: World)

Content and skills:  
Latitude and Longitude

<table>
<thead>
<tr>
<th>Pre-activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Latitude and Longitude.mp4](attachment://Latitude and Longitude.mp4)</td>
</tr>
</tbody>
</table>

Language aspects covered – vocabulary

**Lines of latitude:** These are imaginary lines that go around the world from east to west.

**Lines of Longitude:** These are imaginary lines that go around the world from north to south.

**Globe:** A model (copy / representation / example) of the world.

**Hemisphere:** Half of the Earth.

**Equator:** A line of latitude that divides the Earth into the northern and southern hemispheres.

**Greenwich Meridian:** A line of longitude that divides the Earth into the eastern and western hemispheres.

## During teaching

Write the terms latitude and longitude on the board.

Let the learners share what they know about the terms.

Correct learners’ responses (if there is a need) and correct any misconceptions.

Explain that the lines of latitude and longitude are an imaginary (unreal / invented) grid (criss-cross of lines) that has been placed on the globe.

Use the illustration below to introduce the learners to the key lines of latitude and longitude (Equator and Greenwich Meridian line) and show them where they are located on the globe.

![Illustration of Earth with Equator and Greenwich Meridian](attachment://Equator-and-Greenwich-Meridian.png)

Explain the function of the Equator: it divides the Earth into two equal halves. These halves are called **hemispheres. The Equator is located at 0°.**

Ask learners to name countries that are located in the southern hemisphere and northern hemisphere.

Show learners the Greenwich Meridian (also called the Prime Meridian) and explain its function. (It divides the Earth into the eastern hemisphere and western hemisphere).

Use the illustration below to explain to the learners that every place on Earth is located in two hemispheres: the northern or southern hemisphere; and the eastern or western hemisphere.

Describe the position of South Africa (South Africa is located south of the Equator and east of the Greenwich Meridian or Prime Meridian).
Classroom activity: Informal Assessment

In this activity, learners will identify hemispheres.

1. Copy out the statements below. State whether the following statements apply to the Greenwich Meridian OR the Equator.
   a) A line that goes from north to south.
   b) A line that divides the earth into the northern and southern hemispheres.
   c) A line that divides the world into the eastern and western hemispheres.
   d) A line that goes from east to west around the world.

2. Describe the location of Africa in relation to the Equator and the Greenwich Meridian.

Subject: Social Sciences – Geography

Topic: Volcanoes, earthquakes and floods

Lesson content: floods

Grade 7

What are the causes and the effects of floods?

Pre-activities
The teacher will give learners a source depicting an area after it is flooded. The teacher will ask learners to say what they see in the source and what could have caused the situation depicted in the source.

Vocabulary:
• Floods - an overflow of a large amount of water beyond its normal limits, especially over dry areas

Action verbs
• Discuss - talk about

During teaching
• The teacher focuses on floods and explains that it is a weather phenomenon.
• The teacher explains to learners what floods are and what causes them.
• The teacher then plays a short video clip illustrating the 2000 floods in Mozambique and asks learners to take notes.

Mozambique Floods of 2000.mp4

https://youtu.be/DTRK9Dw8S5o

• Learners will be asked questions based on the video.
• The teacher consolidates the lesson by focusing on the effects of floods.

Assessment
Based on the information in the video as case-study, learners will answer the following questions:
1. Name 5 things that cause floods.
2. In a paragraph, discuss the effects of the 2000 floods in Mozambique, according to the video.

• Reading and viewing
• Paragraph writing
  - Opening / topic sentence
  - Supporting evidence
  - Concluding / closing sentence.

• New words are explained and added to a glossary.
• Learners view and listen to the video.
• Learners take down notes.
• Learners answer questions based on the video clip and on own knowledge.
## Social Geography Term 1 Grade 8

<table>
<thead>
<tr>
<th>Subject: Social Sciences</th>
<th>Topic: MAPS AND ATLASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lesson – content</td>
<td>Types of scales used in an atlas (world, regional and local)</td>
</tr>
</tbody>
</table>

### Language aspects covered

- Vocabulary:
  - Index: an alphabetical list of names, subjects, etc., in a book and the page numbers where they are mentioned.
  - Atlas: a book of maps and charts
  - Location: a place or position.
  - Row: information represented horizontally.
  - Column: information represented vertically.
  - Scale: the ratio of the size in a drawing (or model) to the size of the real thing.
  - Flow Chart: a diagram or chart that shows the relationship between concepts.
  - Ratio: a mathematical representation showing the relationship between two values.
  - Linear: arranged in or extending along a straight or nearly straight line.
  - Features: a representation of an item on a map / sketch / diagram.
  - Regional: a geographical location.

### Pre-activities

- As an introduction to new words/terms, the teacher can have a classroom quiz for matching words with definitions using flashcards.

### During teaching

#### Introduction

- Pre-knowledge required for the lesson: ‘How to use an Index’
- Reinforce Index by having learners go to the back page of the Atlas.
- **Key Question 1**: What method is used to make it easy to locate places in an atlas?
- **Key Question 2**: Choose one place in the index and ask learners to identify each number / letter in the row, e.g. 34 = page number.
- **Key Question 3**: Ask learners to find the place in the Atlas identified in Key question 2.

#### Main Body (lesson presentation)

- Explain the different size scales using the PowerPoint presentation - slides 1-7.
- Learners copy the flow chart of the small scale into their books.
- After the learners have completed copying the flow chart, present the memorandum. Accept other correct answers of maps and scales. 1: 500 000 and smaller scales.
- Repeat with the flow chart of the large scale. A large scale is larger than 1:250 000. Often used are: 1:10 000 and 1:50 000.

- Language in the subject – Atlas & Index
- Determine if learners comprehend key questions posed by the teacher
- Establish learners' understanding of key concepts such as:
  - Index
  - Locate
  - Identify
  - Row
- Language in the subject – Scale & Comparing a variety of scales
- Reading – Learners need to read & understand the content on the selected PowerPoint slides
- Determine the learners' comprehension skills by assessing responses to the flow chart
- When requesting learners to revise the lesson taught – the key concepts mentioned during the lesson must be used by learners in their explanations.
- If time permits, the video can be shown as a final summary, or as a recap for the next lesson.
**Conclusion**

- To summarise the lesson, reiterate the difference between large scales and small scales.
- Ask one or two learners to explain the difference between the two scales to determine if learners understand the concepts.
- Repeat the next information:
  - World map - small scale
  - Regional map - large scale / medium scale
  - Local area map - large scale
  - Use Google Earth to illustrate different scales.
  - Hand out Activity 4.
  - If learners complete the activity in class, mark the answers.
- Show the video (VLC)
- The video is not in focus for the first 20 seconds.

Find out what large and small scale mean on maps.3g

**Post-teaching**

- Assessment words

**Assessment words – definition and requirements:**
  - Copy the table
  - Study the source
Activity 4

Types of scales in an Atlas

1. Copy the table into your book. Add the following items in the correct column:
   - Features are usually less detailed
   - Features are generally more detailed
   - 1:1000 000
   - 1:10 000
   - Map of South Africa
   - Map of the world
   - Map of the city Kempton park

<table>
<thead>
<tr>
<th>Small scale map</th>
<th>Large scale map</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Why are atlas maps not all drawn to the same scale?

3. Study the next map and answer the questions that follow.
3.1 Would you identify the above map as a small scale map or a large scale map?

3.2 Find Soccer City on the map.

3.3 Do you think you will be able to see Soccer City on a small scale map?

3.4 Give a reason for your answer.

3.5 Find two other features that will not be visible on a small scale map.

3.6 Choose one of the following scales for the map of Johannesburg:

1:50 000 or 1:1000 000.

**MEMORANDUM**

Activity 4

Types of scales used in an atlas

1. |

<table>
<thead>
<tr>
<th>Small scale map</th>
<th>Large scale map</th>
</tr>
</thead>
<tbody>
<tr>
<td>Features are usually less detailed</td>
<td>Features are generally more detailed</td>
</tr>
<tr>
<td>1:1000 000</td>
<td>1 :10 000</td>
</tr>
<tr>
<td>Map of South Africa</td>
<td>Map of the city of Kempton Park</td>
</tr>
<tr>
<td>Map of the world</td>
<td></td>
</tr>
</tbody>
</table>

2. The scale of a map changes with the size of the area on the map. The smaller the area shown, the larger the map scale.

3.1 Large scale map

3.2 Soccer City on map

3.3 No

3.4 The small scale map doesn’t show detailed information. / Feature will be to small.

3.5 Any other 2 features, e.g. Southgate Mall / Gold Reef city, etc.

3.6 1:50 000
# Social Geography Term 3 Grade 9

<table>
<thead>
<tr>
<th>Subject:</th>
<th>Social Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Topic:</td>
<td>Erosion and deposition</td>
</tr>
<tr>
<td>Lesson – content</td>
<td>Rivers – Features of erosion and deposition along a river course</td>
</tr>
</tbody>
</table>

## Pre-activities
- **Vocabulary**
  - Ask learners to match the definition with the correct word – quiz, flashcards

## Language aspects covered
- **Vocabulary:**
  - Youth Stage: This refers to the part of the river as it flows from the point where the river starts to where it ends. The youth stage is also known as the first or upper course of a river. There are three stages of a river:
    - Youth/Upper/First
    - Mature/Middle/Second
    - Old/Lower/Final
  - Source: This refers to the point where a river starts, e.g. the top of a mountain.
  - Erosion: The action of the Earth’s surface being worn away by water, wind, animals, man or ice.
  - Slope: A land surface where one end / side is at a higher level than the other; a rising or falling surface. Upslope is uphill and downslope is downhill.
  - Valley: a low area of land between two higher places, e.g. mountains
- Based on topic analysis, e.g. expansion; contraction; meander.

## During teaching

### Introduction of topic:
- Learners are shown a video on the course of a river from source to mouth

### Main Body
- Learners are shown a video on the course of a river.
- Ask probing questions on the First stage or Youth stage of a river:
  - Describe the beginning point a a river.
  - Name the kind of erosion that takes place in this stage.
  - Describe the slope of a youth stage river.
  - Describe the shape of the valley in the youth stage of a river.
- the educator explains the characteristics of an Upper course river, with reference to the video.
- The educator could use a poster / diagram to label the different features that occur along the river in this stage.
- Language in the subject –
  - Link the description of the First stage of a river with an illustration to assist learners to conceptualise the content.
- Sketch / diagram activity – Learners complete a worksheet after watching the video and listening to the teacher’s explanation.
Conclusion
- The educator explains the worksheets to the pupils and they complete these in their workbooks.
  Or
- The educator divides the class in two groups and each group completes a different worksheet.

Post-teaching
- Assessment words:
  - Flow Chart / Diagram
  - Match columns
  - Label the diagram

**Term 3 - Geo Lesson 9 - Activity and memo**

**Activity**
1. Fill in the missing words on the source below using the words provided.

![Image](image-url)

When it rains, some lands directly in the , some falls on and plants and the rest falls on the ground. The water that lands on trees and plants may from the leaves to the or run down the stem of the plant.

If the ground is and the water cannot soak in, it may across the surface. This can sometimes cause . However, most of the water that reaches the ground will into the soil and to the river by flowing underground.

- river
- runoff
- precipitation
- soak
- ground
- trees
- flooding
- return
- drip
- permeable

Choose a word from the list and click where you think it should go in the sentence.
Activity

Pupils create a flow diagram of the *Youth stage / Upper course* of a river. Each block must have a drawing that supports the words.

>>Waterfalls>>First stage>>Rapids>>V-shape valley>>Mountains>>Steep slope>>Quick flowing water>>
Activity

1. Match column A with column B

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This is the beginning of a river.</td>
<td>A. Waterfalls</td>
</tr>
<tr>
<td>2. The river is smaller and has ...</td>
<td>B. Downwards erosion, rapids and v-shaped valleys</td>
</tr>
<tr>
<td>3. It cuts a narrow channel through ...</td>
<td>C. Mountains</td>
</tr>
<tr>
<td>4. This is characteristic of the Youth stage of a river.</td>
<td>D. Youth stage</td>
</tr>
</tbody>
</table>

2. Label the diagram of a waterfall.  
   Use the following words.  
   (hard rock, soft rock, plunge pool) ![Diagram]

3. Give two reasons why valleys in the lower course of a river are better for settlement than those in the upper course.
   - In the upper course, the environment is unsuitable because of the steep slopes.
   - In the lower course, the ground is more level.

Activity Memo

1. Match column A with column B

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. This is the beginning of a river.</td>
<td>D. A. Waterfalls</td>
</tr>
<tr>
<td>2. The river is smaller and has ...</td>
<td>A. B. Downwards erosion, rapids and v-shaped valleys</td>
</tr>
<tr>
<td>3. It cuts a narrow channel through ...</td>
<td>C. C. Mountains</td>
</tr>
<tr>
<td>4. This is characteristic of the Youth stage of a river.</td>
<td>B. D. Youth stage</td>
</tr>
</tbody>
</table>

2. Label the diagram of a waterfall.
   - A. hard rock
   - B. soft rock
   - C. plunge pool

3. Give two reasons why valleys in the lower course of a river are better for settlement than those in the upper course.
   - In the upper course, the environment is unsuitable because of the steep slopes.
   - In the lower course, the ground is more level.
Term 3 - Geo Lesson 9 - Videos

Videos

A river’s journey from source to mouth.mp4 3.26 min

Geography Rivers Song.mp4 1.50 Min

The River Courses.mp4 2.07 min

The Formation of an Oxbow Lake.mp4 4.24 min

What is Floodplains by Design.mp4 6.00 min

Term 3 - Geo Lesson 10 - Videos

Video

Meandering Rivers.mp4 6.07 min

Meanders.mp4 3.33 min

rivers meander.mp4 2.56 min
Social Sciences – History

Subject: Social Sciences – History

Topic: Learning from leaders

Lesson content – Ask and answer questions about the lives and qualities of good leaders

Grade 4

Language aspects covered

What makes a good leader?

Pre-activities
- Vocabulary
- Language in the subject
- Prediction

Language:
- Leader - an individual who influences and guides followers and members of an organisation

Action verb
- Explain – to make clear

During teaching
- The teacher asks learners what a leader is and prompts learners to give examples of a leader.
- The teacher explains to learners what a leader is.
- Play the video about qualities of a good leader

Top 21 Qualities That Make a Great Leader.mp4

https://youtube/jZPAYykO8hY

- Learners are given strips of paper on which they have to each write what a good leader should be like.
- The teacher draws a circle on the board with ‘good leader’ written inside.
- Learners are requested to come up to the front and read out their idea of a good leader and then paste their papers around the circle.

Assessment

Based on the information pasted on the board and the video learners will write a paragraph explaining the characteristics of a good leader.

Paragraph writing
- opening / topic sentence
- supporting evidence
- concluding sentence
### Subject: Social Sciences - History

#### Grade 5

**Topic:** An Ancient African Society

**Content:**

Way of life in Ancient Egypt

**Key question:** What was the way of life in the early Egyptian society?

New vocabulary is being introduced in context.

- **Ancient** - belonging to the very distant past and no longer in existence.
- **Pharaoh** – a ruler in ancient Egypt
- **Nobles** - people of noble rank or birth.
- **Scribes** - writers in ancient Egypt.
- **Artisans** - highly skilled workers.
- **Pyramid** – a big structure that has sloped sides that meet in a point.
- **Hierarchy** – an organisation or society where members are ranked according to status or authority.

Learners need to understand the new vocabulary and use it when writing a paragraph.

**Language covered**

Action verbs:

- Demonstrate – show

---

**Introduction:**

Ancient Egypt Part 1.mp4

- [https://www.youtube.com/watch?v=8IvlvPL1LBY](https://www.youtube.com/watch?v=8IvlvPL1LBY) (accessed 22 August 2017).
- Ask learners to view and listen to the YouTube video about ancient Egypt.
- Assist learners to comprehend the new concepts from the pyramid source and the video and to answer the key question.

- Learners watch the YouTube video.
- Learners identify new words and answer questions.

---

**Assessment**

- Write a paragraph of 5 to 6 full sentences, in your own words, about the way of life of the ancient Egyptians.
- Show learners how to put the sentences in the correct order.
- Demonstrate how to put the ideas together to write a logical paragraph.
- Learners practice the skill of paragraph writing:
  - Pre-writing – put sentences in the correct order, etc.
  - Drafting
  - Revising
  - Editing
  - Learners use the information in the video to write a logical guided paragraph and shared writing.
Subject: Social Sciences - History  
Grade 6

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Explorers from Europe find South Africa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content:</td>
<td>Reasons for European exploration</td>
</tr>
</tbody>
</table>

What factors led to the difficult life the sailors experienced during the voyages of discovery?

The map illustrates some of the voyages of discovery from Europe that took place in the 15th century.

![Map of European voyages](image)

Taken from: Social Sciences Grade 6, P. Ranby and A. Zimmerman, pg 83

<table>
<thead>
<tr>
<th>Language covered</th>
</tr>
</thead>
<tbody>
<tr>
<td>New vocabulary is being introduced in context</td>
</tr>
<tr>
<td><strong>Voyages</strong> - a long journey involving travel by sea or in space</td>
</tr>
<tr>
<td><strong>Trade</strong> – the exchange of goods.</td>
</tr>
<tr>
<td><strong>Explorer</strong> - a person who explores a new or unfamiliar area.</td>
</tr>
<tr>
<td>Learners need to understand the vocabulary and use it when writing a paragraph.</td>
</tr>
</tbody>
</table>

**Action verbs**

- Demonstrate - show

**Stimulate the learner’s interest.**

- Learners watch the video.
- Learners are asked questions.

- Write a paragraph of 8 - 10 full sentences in your own words about the life of a sailor on a sailing ship.
- Show the learners how to put sentences in the correct order.
- Demonstrate how to put the ideas together to write a logical paragraph.

- Learners practice the skill of paragraph writing:
  - Pre-writing
  - Drafting
  - Revising
  - Editing
  - Learners use the information from the source and map to write a logical guided paragraph and shared writing.
Subject: Social Sciences – History

Topic: The Kingdom of Mali and the city of Timbuktu

Lesson content: Trade across the Sahara Desert

Grade 7

Language aspects covered

**What is meant by ‘trade across the Sahara Desert’ and what goods were traded?**

**Pre-activities**

Introduce new vocabulary by using flash cards or mix and match the concepts with explanations. The teacher corrects what the learners did not get right.

<table>
<thead>
<tr>
<th>Vocabulary</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Kingdom</strong> – a country ruled by a king.</td>
</tr>
<tr>
<td>2. <strong>Trade</strong> - buying and selling of goods.</td>
</tr>
<tr>
<td>3. <strong>Camel caravan</strong> - a group of camels travelling together.</td>
</tr>
<tr>
<td>4. <strong>Goods</strong> - items that you buy such as food, clothing, ornaments, etc.</td>
</tr>
<tr>
<td>5. <strong>Desert</strong> – a dry area of land where few plants and animals can live.</td>
</tr>
<tr>
<td>6. <strong>Sahara Desert</strong> – the world’s largest hot desert, which covers most of northern Africa.</td>
</tr>
</tbody>
</table>

**Action verbs:**

1. **Tabulate** – arrange information in a particular way
2. **Explain** – to make clear

**During teaching**

**Introduction of topic:**

- Asks learners probing questions on trade.
- The teacher shows learners Mali on the map and explains why it was called a kingdom.

[Map of Mali indicating the trade routes](http://ridgeaphistory.wikispaces.com/the+trans-saharan+trade+route) (accessed 24 August 2017)

- Explain trade across the Sahara Desert by elaborating on camels as a suitable mode of transport in the desert.
- Explain goods brought to Mali and bought from Mali.

**Assessment**

- List the dangers of travelling in the desert
- Tabulate the goods that were bought from and brought to Mali – draw a table and list items under each category.
- In a paragraph of about 6-8 lines explain why the camel was a suitable mode of transport in the desert – give reasons.

<table>
<thead>
<tr>
<th>Write sentences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paragraph writing</td>
</tr>
<tr>
<td>- opening / topic sentence</td>
</tr>
<tr>
<td>- supporting evidence</td>
</tr>
<tr>
<td>- concluding sentence</td>
</tr>
<tr>
<td>Subject:</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>Topic:</td>
</tr>
<tr>
<td>Lesson content</td>
</tr>
<tr>
<td>Grade 8</td>
</tr>
</tbody>
</table>

What was the aim of the Berlin Conference?

<table>
<thead>
<tr>
<th>Pre-activities</th>
<th>Vocabulary:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Vocabulary</td>
<td>1. Berlin - capital city of Germany</td>
</tr>
<tr>
<td>• Language in the subject</td>
<td>2. Conference - people gather together to discuss issues of importance and take decisions.</td>
</tr>
<tr>
<td>• Prediction</td>
<td>3. Colonization – when one country takes control of the other.</td>
</tr>
<tr>
<td></td>
<td>4. Imperialism – a system in which a country rules other countries, sometimes using force to gain power over those countries.</td>
</tr>
<tr>
<td></td>
<td>5. Political boundaries - borders or frontiers that divides one political unit from another.</td>
</tr>
</tbody>
</table>

Action verbs

1. Identify – recognise
2. Discuss - talk about
During teaching

Introduction of topic:
- The teacher explains new words to the learners.
- The teacher explains the reasons why the chancellor of Germany called for the Berlin Conference.
- Asks learners to analyse the cartoon by answering the following questions:
  - What do you see in the cartoon?
  - To which event is this cartoon referring?
  - What do the letters in the cartoon say?
  - What does the cake in the cartoon represent?
  - Why do you think Africa is shown as a cake?
  - What message is the cartoonist trying to convey?

A Cartoon illustrating the Berlin Conference of 1884.

Adapted from: Slideshare.net

- Discuss who was represented at the conference and what the aim of the conference was.
- Explain the decisions taken at the conference and the implications of the decisions.

Assessment
- Identify the characters around the table in the source.
- Which countries do they represent?
- What is strange about the representation at this conference?
- In a paragraph, discuss the results of the Berlin conference?

- Analysis and communication
- Sentence construction
- Paragraph writing
  - opening sentence
  - supporting evidence
  - closing / concluding sentence

- New words as identified above will be added to the glossary
- Analysis of cartoon and communicating understanding
- Seeing and viewing
Subject: Social Sciences – History

Topic: The Nuclear Age and the Cold War

Lesson content – increasing tensions between the Allies after the end of World War II in Europe

Grade 9

What were the ideological differences between the East (Soviet Union) and the West (USA)

Pre-activities

- Learners are asked what their understanding of a cold war is.

Vocabulary:

1. **Nuclear Age** – a period in history following the use of the first nuclear bomb.
2. **Cold War** – the non-violent conflict between the USA and the Soviet Union. It was an ideological war.
3. **Communism** – a system of government in which government controls the means of production in the country on behalf of the people.
4. **Capitalism** - a system of government in which the means of production is privately owned or controlled by a few individuals.

**Action verbs**

1. Define – give the meaning
2. Distinguish - set apart

During teaching

- Introduction of topic: The teacher explains the new words to the learners: Nuclear Age, Cold War, Communism, Capitalism
- Explain why this period was called the nuclear Age.
- Explain why the Cold War is referred to as an ideological war.
- Explain the difference between Communism and Capitalism.
- The teacher plays a video clip that learners will use to identify the characteristics of Communism and Capitalism. They must also identify new words they hear during the video.

![The Cold War video thumbnail](http://www.youtube.com/watch?v=wziwme4wrhd)

- Lead a short debate on which system of government the learners feel is the best.

Assessment

Define (give the meaning of) the following concepts:

1. Cold War
2. Capitalism
3. Communism

Learners are to write an essay using their own knowledge and information from the source to distinguish (give the differences) between a capitalist state and a communist state.

**Explain:**

- New words, as indicated above. Add them to the glossary.
- Read source and tabulate the characteristics of Capitalism and Communism.
- Identify new words in the source and seek their meaning.
- Communication during the debate.

**Definition of concepts**
- Sentence construction
- Paragraph writing
- Essay writing