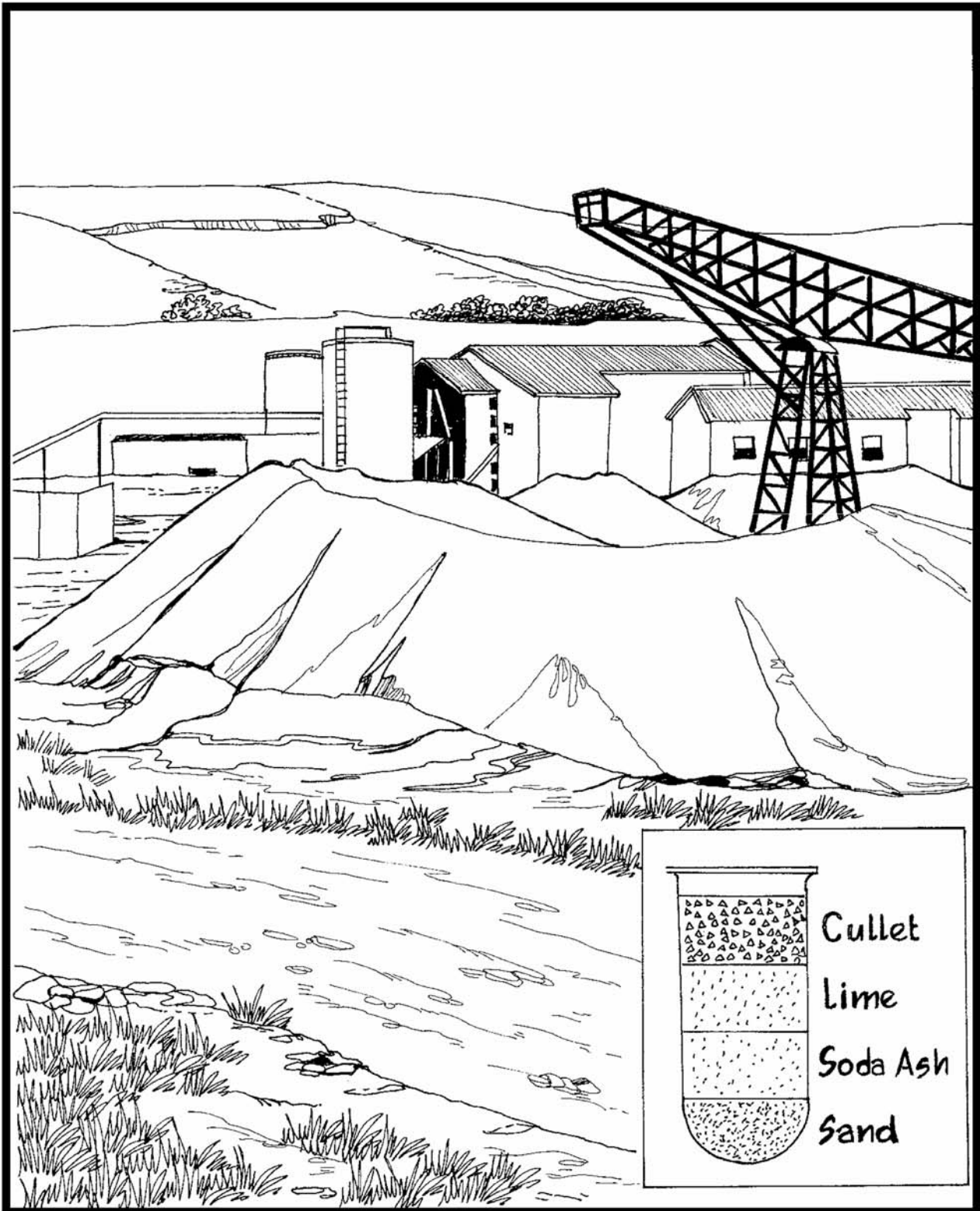


# Glass-Take



# GLASS - TAKE

## LEARNING AREA: Social Sciences

### LEARNING OUTCOME 1: Geographical enquiry

Use enquiry skills to investigate geographical and environmental concepts and processes

### LEARNING OUTCOME 2: Geographical knowledge & understanding

Demonstrate geographical and environmental knowledge and understanding

### LEARNING OUTCOME 3: Exploring Issues

Make informed decisions about social and environmental issues and problems.

*Integrate with other Learning Areas:*

| Learning Area  | Learning Outcome                           | Description  |
|----------------|--|--|
| Technology     | 3: Technology, society and the environment | Demonstrate an understanding of the interrelationships between science, technology, society and the environment. |
| Arts & Culture | 1: Creating, interpreting and presenting   | Create, interpret and present work in each of the art forms  |
| Arts & Culture | 4: Expressing and communicating            | Analyse and use multiple forms of communication and expression in arts and culture.                              |
| Language       | 4: Writing                                 | Write different kinds of factual and imaginative texts for a wide range of purposes                              |

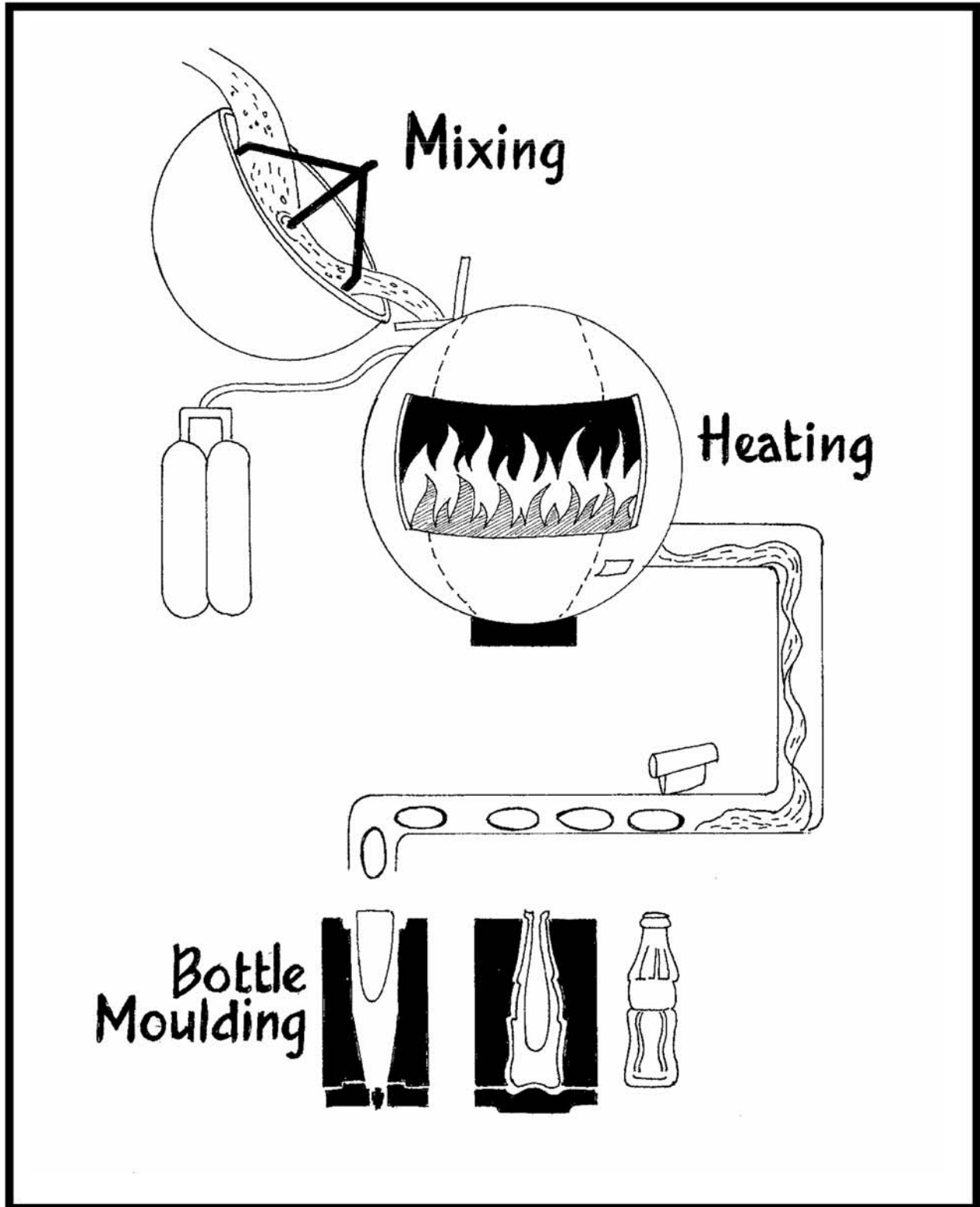
## ACTIVITIES

(E = Educator L = Learner)

|   |  |
|---|--|
| L | <b>How glass is made</b><br>Write a letter to <a href="#">Consol</a> or <a href="#">Nampak Wiegand Glass</a> and ask for information on how glass is made and where the glass making factories are.    |
| E | Post the best letter.  |
| L | Make a wall chart showing glass-making from raw materials to final product.  |
| E | <b>Model of a quarry</b><br>Explain - taking natural resources from the environment can harm it.   |
| L | Collect some leaves, seeds and twigs from under trees. Use a box of sand to make a model of a scene from nature using twigs and leaves for trees and bushes. Make the model as attractive as possible. |
| E | Take a large spoon and dig holes in the model to show how sand and minerals are dug out of the ground to make glass.   |
| E | Ask learners how they felt when you did this.  |
| E | Discuss the effect of mining on the environment and the need to repair any damage.   |
| E | <b>Study</b><br>Find a bare piece of ground and a "planted" piece of ground in the school grounds or in the neighbourhood.   |
| L | Write down the differences between the two.  |
| L | Draw a diagram showing suggestions on how to beautify or improve the piece of bare ground.   |



# Glass-Make



# GLASS - MAKE

## LEARNING AREA: Technology

### LEARNING OUTCOME 1: Technological processes and skills.

Apply technological processes and skills ethically and responsibly using appropriate information and communication technologies.

### LEARNING OUTCOME 2: Technological knowledge and understanding

The learner will be able to understand and apply relevant technological knowledge ethically and responsibly.

### LEARNING OUTCOME 3: Technology, society and the environment

Demonstrate an understanding of the interrelationships between science, technology, society and the environment.

*Integrate with other Learning Areas:*

| Learning Area    | Learning Outcome                   | Description  |
|------------------|------------------------------------|--|
| Arts & Culture   | 3: Participating and Collaborating | Demonstrate personal and interpersonal skills through individual and group participation in arts and culture activities.                                       |
| Natural Sciences | 1: Scientific investigations       | Act confidently on curiosity about natural phenomena, and investigate relationships and solve problems in scientific, technological and environmental contexts |

## ACTIVITIES

(E = Educator L = Learner)

|                                 |  |
|---------------------------------|--|
| E                               | <p><b>How glass is made</b></p> <p>Discuss: The steps involved in making a glass bottle - earth, rocks, sand, glass, bottle.</p>   |
| E<br>L<br>E<br>L<br>L<br>E      | <p><b>Game</b></p> <p>Announce the "trace back chain game" for glass.</p> <p>Stand in a large circle.</p> <p>Move around the circle naming the learners in turn - bottle, glass, sand, rocks, and earth - until everyone has become part of the glass-making chain.</p> <p>Move around so that you are no longer in any sort of order.</p> <p>Reassemble in groups of five, each forming one chain.</p> <p>Explain how important each step is.</p>   |
| L<br>L<br>E<br>E<br>E<br>L<br>E | <p><b>Factory visit</b></p> <p>Draw up a list of all the glass factories and sand mines in South Africa.</p> <p>Find the towns in an atlas. Draw a map of South Africa showing these towns.</p> <p>Find the factory or mine closest to the school.</p> <p>Discuss whether it is practical to visit it. If so, arrange a visit.</p> <p>If not, find any factory close to the school. Arrange a visit.</p> <p>Draw up a survey form to include the questions :<br/>Where is it? What is made or done on the site? How big is the site? How many people work on the site? How many are office staff? How many work in the factory itself? How safe is it to work there?</p> <p>In small groups discuss the outcomes of the survey with the class.</p> |



# Glass-Buy



# GLASS - BUY

## LEARNING AREA: Mathematics

### LEARNING OUTCOME 1: Numbers, operations and relationships

Recognise, describe and represent numbers and their relationships, and to count, estimate, calculate and check with competence and confidence in solving problems.

### LEARNING OUTCOME 5: Data Handling

Collect, summarise, display and critically analyse data in order to draw conclusions and make predictions, and to interpret and determine chance variation.

*Integrate with other Learning Areas:*

| Learning Area                    | Learning Outcome                        | Description   |
|----------------------------------|---|---|
| Economic and Management Sciences | 4: Entrepreneurial Knowledge and Skills | Develop entrepreneurial knowledge, skills and attitudes.                                  |
| Language                         | 2: Speaking                             | Communicate confidently and effectively in spoken language in a wide range of situations. |

## ACTIVITIES

(E = Educator L = Learner)

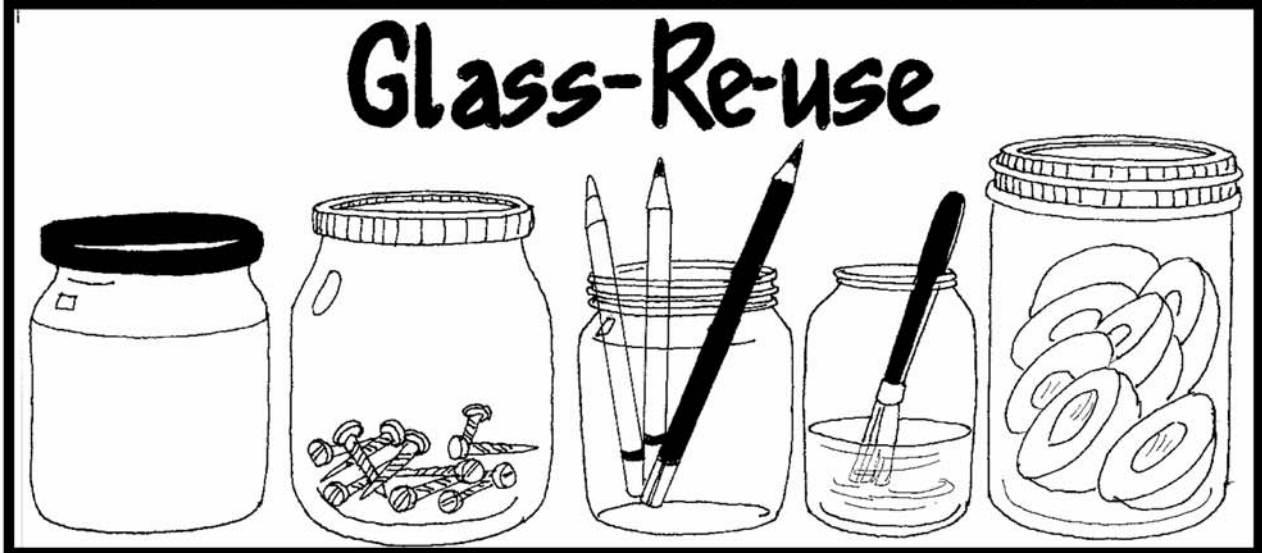
|                            |  |
|----------------------------|--|
| L<br>E<br>L                | <p><b>Glass products</b></p> <p>Play "I spy with my little eye something beginning with ...." until all items made from glass in the classroom have been found.</p> <p>Write names of items on the board.</p> <p>Sort items into two lists. Write C next to items that are containers made of glass, e.g. bottles or jars. Write G next to those items that are products made of glass, e.g. cups, windows, light bulbs, etc.</p>  |
| L<br>E<br>L<br>L<br>L<br>E | <p><b>Deposits on glass bottles</b></p> <p>Visit a local shop or tuck shop. Find out the cost and refund for return of all cooldrink bottles.</p> <p>Discuss: The difference in price between cost of bottles with refund and those not returnable.</p> <p>Collect a variety of glass containers.</p> <p>Identify which are returnable for a refund.</p> <p>Calculate for each different bottle size how many cooldrinks you will need to buy in order to collect R50 in deposits.</p> <p>Discuss: Which bottles are the best to buy - returnable or non-returnable and why.</p> |
| L<br>E                     | <p><b>Debate</b></p> <p>In small groups discuss the advantages and disadvantages of buying cooldrinks in glass bottles.</p> <p>Organise a debate about this topic.</p>   |



# Glass-Use



# Glass-Re-use



# GLASS - USE AND RE-USE

## LEARNING AREA: Social Sciences

### LEARNING OUTCOME 2: Geographical knowledge & understanding

Demonstrate geographical and environmental knowledge and understanding.

### LEARNING OUTCOME 3: Exploring Issues

Make informed decisions about social and environmental issues and problems.

*Integrate with other Learning Areas:*

| Learning Area                    | Learning Outcome                | Description   |
|----------------------------------|---------------------------------|---|
| Economic and Management Sciences | 1: The Economic Cycle           | Demonstrate knowledge and understanding of the economic cycle within the context of 'the economic problem'.   |
| Arts & Culture                   | 4: Expressing and communicating | Analyse and use multiple forms of communication and expression in arts and culture.   |
| Life Orientation                 | 2: Social development           | Demonstrate an understanding of and commitment to constitutional rights and responsibilities, and to show an understanding of diverse cultures and religions. |
| Life Orientation                 | 3: Personal development         | Use acquired life skills to achieve and extend personal potential to respond effectively to challenges in his or her world.                                   |

## ACTIVITIES

(E = Educator L = Learner)

|   |   |
|---|---|
| E | <b>Needs and wants</b><br>Discuss the difference between needs and wants.<br><b>Needs</b> to survive - food, shelter, clothing, clean water, sanitation, etc.<br><b>Wants</b> - not needed to survive but make life pleasant. |
| E | Divide learners into two groups.  |
| L | One group to make a collage - to show products that we need to survive. The other group to make a collage - to show "luxury" items.   |
| E | <b>Plan a function</b><br>Plan a prize-giving function for the school. Decide on what food and drinks will be served. Use as many glass containers or bottles as possible.  |
| E | Together with learners, draw a table on the board with headings - ITEM, THROW AWAY, RE-USE, RETURN FOR REFUND, RECYCLE. Choose items that will result in as little waste as possible that needs to be thrown away.            |
| L | In small groups suggest ideas how items are to be disposed of once the function is over.  |
| E | <b>Re-use of glass</b><br>Contact a home industry or women's organisation in your area and ask what glass containers they need.   |
| E | Set up a scheme in your school to collect glass containers for the organisation.  |
| L | Bring in glass jars or bottles.   |
| E | Advise the organisation when the glass containers may be collected.   |

