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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **CLASSIFICATION OF MIXTURES**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Differentiate between a homogenous and a heterogeneous mixture
* Classify mixtures as either homogenous and a heterogeneous mixture
* Enjoy conducting the experiment.

**KEY INQUIRY QUESTION (S)**

* How do you classify different types of mixtures?
* What should be considered when separating various mixtures?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 63

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Ask them what you get when u put maize and beans together, similarly when put sugar in water and stir.

Guide then to explain the meaning of mixture

**LESSON DEVELOPMENT**

**STEP 1**

In pairs, guide the learners to find the meaning of the terms “homogeneous and heterogeneous” by searching in the dictionary and on the internet

* Group work enhances **social cohesion**

**STEP 2**

Provide the materials required and guide each group to classify the mixture as either homogenous and a heterogeneous

Let them copy table 2.1 in the learner’s book page 65 and complete it

**STEP 3**

Ask them to discuss the questions that come after the activity

**STEP 4**

Refer to the key points on page 65 of the learner’s book and elaborate on the difference between the two types of mixtures

Ask learners to correct any mistakes th3y had made when classifying the mixtures

Teacher to explain the content in table 2.2 on page 65 of the learner’s book as the learners listen

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Ask learners to come up with a list of types of mixtures they have come in contact with at their home

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **To determine if ice is a pure or an impure substance by checking its melting point**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Explain the effect of impurities on melting point of a substance
* Determine the purity of substances by using the melting point
* Have fun and enjoy conducting the experiment.

**KEY INQUIRY QUESTION (S)**

How can the melting point be used to differentiate between a pure and an impure substance?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 63

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Guide them to carry out the activity as instructed in activity 2 on page 66 of the learner’s book

**STEP 2**

Guide groups that have challenges following the steps of reading the thermometer

* Remind them to be careful when heating ice to avoid injuries –safety education

**STEP 3**

Encourage learners to record their results in a table

Guide the learners to answer the questions from the activity according to their results

**STEP 4**

Refer to the key points on page 66 of the learner’s book and elaborate on the fact that pure substances melt at a constant temperature

Ask learners to correct any mistakes they had made during the experiment

**CONCLUSION:**

Task learners to conclude if the ice was pure or not according to their results

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Ask learners to watch a video clip of distinguishing between a pure and impure substance from the internet

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **to determine if candle wax is pure or impure by determining its melting point**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Explain the effect of impurities on melting point of a substance
* Determine the purity of substances by using the melting point
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How can the melting point be used to differentiate between a pure and an impure substance?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 67

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Guide them to carry out the activity as instructed in activity 3 on page 67 of the learner’s book

Assist learners that have challenges coming up with the set up

Remind them to handle boiling tubes and thermometer carefully

* This promotes responsibility

**STEP 2**

Guide groups that have challenges following the steps of reading the thermometer and using stopwatch

* Remind them to be careful when heating ice to avoid injuries –safety education

**STEP 3**

Encourage learners to record their results in a table

Guide the learners to answer the questions from the activity according to their results/observations

**STEP 4**

Refer to the key points on page 67 of the learner’s book and explain the effect of impurities on melting point of a substance

Ask learners to correct any mistakes they had made during the experiment

**CONCLUSION:**

Task learners to explain whether the wax was pure or impure

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Search the internet to find out at what temperature ice and candle wax melt at sea level.

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **to determine the boiling point of pure and impure water**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Identify the materials used to distinguish between pure and impure water by boiling.
* Outline the procedure to distinguish between pure and impure water by boiling.
* Compare how pure distilled water and salt water behave when boiling.
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How can the melting point be used to differentiate between a pure and an impure substance?

What is the procedure of distinguishing between pure and impure water by boiling?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 68

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Guide the learners to set up the apparatus as instructed in the learner’s book page 68

Assist learners that have challenges coming up with the set up

Remind them to handle boiling tubes and thermometer carefully

* This promotes responsibility

**STEP 2**

Guide the learners to carry out the experiment as per the instructed in the learner’s book

* Group work promotes communication and collaboration

**STEP 3**

Encourage learners to record their results in a table and also be keen in making observation

Guide the learners to answer the questions from the activity according to their results/observations

**STEP 4**

Refer to the key points on page 69 of the learner’s book and elaborate how impurities affect the boiling points of substances

Ask learners to correct any mistakes they had made during the experiment

**CONCLUSION:**

Task learners to explain whether the water was pure or impure

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Search the internet to find out at what temperature water boils at sea level.

**REFLECTION ON THE LESSON:**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **Methods of separating mixture – Simple distillation- to separate salt and water from their solution**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe simple distillation as a method of separating mixtures
* Separate a mixture by simple distillation
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How is simple distillation used to separate mixtures?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 69

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Guide the learners to set up the apparatus as instructed in the learner’s book page 68

Assist learners that have challenges coming up with the set up

Remind them to handle boiling tubes carefully

* This promotes responsibility

**STEP 2**

Guide the learners to carry out the experiment as per the instructed in the learner’s book

Pay close attention to groups that have challenges carrying out any of the steps and guide them accordingly

* Group work promotes communication and collaboration

**STEP 3**

Encourage learners to record their results in a table and also be keen in making observation

Guide the learners to answer the questions from the activity according to their results/observations

Let them not heat the solution in boiling tube A to dryness so that they obtain crystals’ of salt after cooling

**STEP 4**

Refer to the key points on page 70 of the learner’s book and elaborate how simple distillation is used to separate mixtures

Ask learners to correct any mistakes they had made during the experiment

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to search the internet on the applications of simple distillation as a method of separating mixtures

**REFLECTION ON THE LESSON:**

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|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **Methods of separating mixture – fractional distillation- to separate a mixture of ethanol and water**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe fractional distillation as a method of separating mixtures
* Separate a mixture by fractional distillation
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How is fractional distillation used to separate mixtures?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 69

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Guide the learners to set up the apparatus as instructed in the learner’s book page 71

Assist learners that have challenges coming up with the set up

Remind them to handle boiling tubes carefully

* This promotes responsibility

**STEP 2**

Guide the learners to carry out the experiment as per the instructed in the learner’s book

Pay close attention to groups that have challenges carrying out any of the steps and guide them accordingly

* Group work promotes communication and collaboration

**STEP 3**

Encourage learners to record their results in a table and also be keen in making observation

Emphasise the importance of maintain the temperature at around 80ºC

Guide the learners to answer the questions from the activity according to their results/observations

**STEP 4**

Refer to the key points on page 72 of the learner’s book and explain the principle behind fractional distillation

Ask learners to correct any mistakes they had made during the experiment

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to search the internet on the application of fractional distillation as a method of separating mixture

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **Methods of separating mixture – filtration- to separate a mixture of sand and water**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe filtration as a method of separating mixtures
* Separate a mixture by filtraction
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How is filtration used to separate mixtures?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 72

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Guide the learners to form a mixture of water and sand and fold the filter paper following the procedure in the learner’s book page 72

**STEP 2**

Let them filter the mixture as instructed in the learners book.

Give attention to groups facing challenges in ant of the steps and guide them accordingly

* Group work promotes communication and collaboration

**STEP 3**

Ask the learners to make observations and discuss the questions coming after the activity

Let them present their answers to the class

Ask learners to research and discuss the questions in the challenge section

* This promotes learning to learn

**STEP 4**

Refer to the key points on page 73 of the learner’s book and explain the principle behind filtration as a method of separating mixtures

Ask learners to correct any mistakes they had made during the experiment

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to search the internet on the application of filtration as a method of separating mixture

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **Methods of separating mixture – decantation- to separate a mixture of sand and water**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe decantation as a method of separating mixtures
* Separate a mixture by decantation
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How is decantation used to separate mixtures?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 73

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Ask learners, in groups to prepare the mixture as instructed in the learner’s book page 73

They should then separate the mixture as guide in the activity

Pay close attention to groups that have challenges carrying out any of the steps and guide them accordingly

* Group work promotes communication and collaboration

**STEP 2**

Ask them to discuss and answer the questions coming after the activity

Ask them to compare decantation to filtration and tell which one is more efficient

**STEP 3**

Refer to the key points on page 74 of the learner’s book and explain the principle behind decantation as a method of separating mixtures

Ask learners to correct any mistakes they had made during the experiment

**STEP 4**

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to search the internet on the application of decantation as a method of separating mixture

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **Methods of separating mixture – use of a magnet- to separate a mixture of iron fillings and maize flour using a magnet**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Explain how a magnet can be used to separate mixtures
* Separate a mixture by usin a magnet
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How is a magnet used to separate mixtures?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 74

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Let the learners, in groups , mix the iron fillings and maize flour on a piece of paper as instructed in the learner’s book

Pay close attention to groups that have challenges carrying out any of the steps and guide them accordingly

**STEP 2**

Ask them to separate the mixture following the procedure in the learner’s book

* Group work promotes communication and collaboration

**STEP 3**

Refer to the key points on page 75 of the learner’s book and elaborate on the principle behind the separation of mixture using magnet

Ask learners to correct any mistakes they had made during the experiment

**STEP 4**

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Give the questions in the challenge section page 75 of the learner’s book as a assignment

Learners should report their findings in the next lesson

This assignment promotes learning to learn

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **Methods of separating mixture – sublimation- to separate a mixture of sodium chloride and iodine by sublimation**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Explain how sublimation can be used separate mixtures
* Separate a mixture by sublimation
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How can sublimation be used to separate mixtures?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 75

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Collect the materials and guide the learners to the suitable site you have identified

Ask learners not to stand in the direction the wind is blowing to prevent them from inhaling the poisonous iodine vapour

Guide the learners to carry out the activity following the procedure in the learner’s book page 75 as the others watch keenly

Pay close attention to groups that have challenges carrying out any of the steps and guide them accordingly

**STEP 2**

Allow learners to discuss and answer the questions coming after the activity

Ask them to discuss and answer the questions in the Challenge section page 76 of the learner’s book

* This will promote learning to learn among learners

**STEP 3**

Refer to the key points on page 76 of the learner’s book and expound the principle behind the separation of mixtures by sublimation

Ask learners to correct any mistakes they had made during the experiment

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to search the internet on the application of sublimation as a method of separating mixture

**REFLECTION ON THE LESSON:**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **Methods of separating mixture – to separate the components of the extract of green leaves using paper chromatography**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Explain how separation of mixtures by chromatography takes place
* Separate a mixture by chromatography
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How are mixtures separated by chromatography?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 76

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Collect the materials and guide the learners to carry out the activity as instructed in the learner’s book page 76/77

Pay close attention to groups that have challenges carrying out any of the steps and guide them accordingly

**STEP 2**

Ask learners to draw the appearance of the filter paper at the end of the experiment, according to what they observe

* This instills the value of integrity

Allow learners to discuss and answer the questions coming after the activity

**STEP 3**

Refer to the key points on page 77 of the learner’s book and explain how the separation of mixtures by chromatography takes place

Ask learners to correct any mistakes they had made during the experiment

**STEP 4**

Ask them to do the activity the Challenge section page 77 of the learner’s book

* This will promote learning to learn among learners

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to search the internet on the application of chromatography as a method of separating mixture

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **Methods of separating mixture – solvent extraction- to extract oil from nuts by solvent extraction**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Explain how separation of mixtures by solvent extraction takes place
* Separate a mixture by solvent extraction
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How are mixtures separated by solvent extraction?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 78

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Guide the learners to carry out the activity as instructed in the learner’s book page 78

Pay attention to learners that have challenges doing the activity and offer the necessary support

**STEP 2**

When all the groups have finished extracting the oil, ask them to discuss and answer the questions coming after the activity

**STEP 3**

Refer to the key points on page 78 of the learner’s book and elaborate on how separation of mixture by solvent extraction takes place

Ask learners to correct any mistakes they had made during the experiment

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to search the internet on the application of solvent extraction as a method of separating mixture

Give the task in the Challenge section page 78 of the learner’s book as a takeaway assignment

* This will promote learning to learn among learners

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **Methods of separating mixture – use of a separating funnel – to separate a mixture of kerosene and water using a separating funnel**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Explain how separation of mixtures using a separating funnel
* Separate a mixture using a separating funnel
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How mixtures are separated using a separating funnel?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 78

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Guide the learners to assemble the apparatus and carry out the activity as instructed in the learner’s book page 79

Pay attention to learners that have challenges doing the activity and offer the necessary support

Remind the learners to care of the apparatus’ as some can break

* This instills responsibility

**STEP 2**

Let learners discuss and answer the questions in the Challenge section and the questions coming after

**STEP 3**

Refer to the key points on page 80 of the learner’s book and elaborate on the separation of mixtures using a separating funnel

Ask learners to correct any mistakes they had made during the experiment

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to search the internet on the application of use of a separating funnel as a method of separating mixture

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **Methods of separating mixture – crystallisation – to separate a mixture of kerosene and water using a separating funnel**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Explain how separation of mixture by crystallisation takes place
* Separate a mixture by crystallisation
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How are mixtures separated by crystallisation?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 80

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Guide the learners to assemble the apparatus and carry out the activity as instructed in the learner’s book page 80-81

Pay attention to learners that have challenges doing the activity and offer the necessary support

Remind the learners to care of the apparatus’ as some can break

* This instil responsibility and

Learners to be careful when carrying out evaporation to avoid accidents

* This is safety education

**STEP 2**

Ask learners to brainstorm on the question in the challenge section page 82 of the learner’s book

**STEP 3**

Learners to identify a safe place where they can preserve the set ups so that they can make observation the following day

After observation, learners to discuss and answer questions coming after the activity

**STEP 4**

Refer to the key points on page 81 of the learner’s book and explain how separation of mixtures through crystallisation occurs

Ask learners to correct any mistakes they had made during the experiment

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to search the internet on the application of use of crystallisation as a method of separating mixture

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **MIXTURE, ELEMENTS AND COMPOUNDS**

**SUB STRAND**:  **Methods of separating mixture – application of different methods of separating mixtures in day to day life**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Explain the application of methods of separating mixtures
* Separate a mixture using differement methods of separating mixtures
* Have fun and enjoy conducting the experiment

**KEY INQUIRY QUESTION (S)**

How are mixtures separated by crystallisation?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 80

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups and distribute the materials

**LESSON DEVELOPMENT**

**STEP 1**

Distribute the research materials you had prepared to the learners

Ask them to find information on the application of materials of separating mixtures from them

* This develops learning to learn

**STEP 2**

Listen to them as they discuss and ensure that they do not digress from the main topic

Ask learners to present their findings

**STEP 3**

Guide the learners to identify and list application of different methods of separating mixtures in day to day life

**STEP 4**

Refer to the key points on page 82/83 of the learner’s book and elaborate on the applications of the methods of separating mixtures

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Learners to use digital devices to search videos and animations on the separation of mixtures

* This activity develops digital literacy

Do assessment exercise 5 page 84

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **ACIDS, BASES AND INDICATORS**

**SUB STRAND**:  **Plants extracts as acid-base indicators – to prepare an acid-base indicator from plants**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Use plant extracts as acid –base indicators
* Appriciate the application of acids and bases in real life

**KEY INQUIRY QUESTION (S)**

How can you tell if a substance is acidic or base?

What is the significance of acids and bases?

How can we prepare an acid-base indicator from plants?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 85

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups

**LESSON DEVELOPMENT**

**STEP 1**

Guide learners to obtain the flower petals as instructed in the learner’s book

Remind them not to damage the plants during the exercise

* This promotes environmental conservation

Back in the laboratory, guide each group to follow the procedure in the learner’s book page 85 to obtain the extract

Pay close attention to learners who experiences difficulties doing the activity and offer necessary support

**STEP 2**

Ask learners to discuss and answer the questions coming after the activity

Ask learners to present their findings to the class

**STEP 3**

Refer to the key points on page 85 of the learner’s book and elaborate on how the key steps in preparing a plant extract acid –base indicator

Ask learners to preserve the extract for next lesson

**STEP 4**

Let learners to clean their places after doing the activity

* This promotes health education

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Watch online videos on how to prepare an acid –base indicator from plants

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **ACIDS, BASES AND INDICATORS**

**SUB STRAND**:  **Using Plants extracts as acid-base indicators – to classify common household solutions as acidic or basic using a plant extract indicator**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Use plant extracts as acid –base indicators
* Categorise different household solutions as either acidic or basic using inicators
* Appriciate the application of acids and bases in real life

**KEY INQUIRY QUESTION (S)**

How can you tell if a substance is acidic or base?

What is the significance of acids and bases?

How can we prepare an acid-base indicator from plants?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 86

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups

**LESSON DEVELOPMENT**

**STEP 1**

Provide the materials to each group and guide them in carrying out the activity as instructed in the learner’s book page 86

Emphasise on the need to follow each of the steps carefully and record an observation immediately it is made

Ask learners to record their own observation

* This instills integrity

**STEP 2**

Ask learners to discuss their results and the questions coming after the activity

**STEP 3**

Refer to the key points on page 87 of the learner’s book and help learners interpret their results as recorded in the tables

**STEP 4**

Let learners to clean their places after doing the activity

* This promotes health education

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Watch online videos on how to prepare an acid –base indicator from plants

**REFLECTION ON THE LESSON:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **ACIDS, BASES AND INDICATORS**

**SUB STRAND**:  **Using Plants extracts as acid-base indicators – to classify common household solutions as acidic or basic using a commercial indicators**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Use plant extracts as acid –base indicators
* Categorise different household solutions as either acidic or basic using commercial inicators
* Appriciate the application of acids and bases in real life

**KEY INQUIRY QUESTION (S)**

How can you tell if a substance is acidic or base?

What is the significance of acids and bases?

How can we prepare an acid-base indicator from plants?

How can we tell if a substance is a basic or an acidic using commercial indicator?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices

Active Integrated Science GRADE 7 LEARNERS BK. PG. 87

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups

**LESSON DEVELOPMENT**

**STEP 1**

Provide each group with the resources and guide the learners to carry out the activity as instructed in the learner’s book

Emphasise the need to follow instructions as stipulated in the learner’s book

Provide the necessary support to learners experiencing difficulties in carrying out the activity

Guide them to record their findings in the table

* This activity develops learning to learn as learners classify household solutions as acidic or basic

**STEP 2**

Ask learners to discuss the questions coming after the activity

Encourage them to answer the questions as per their observations

**STEP 3**

Help the learners to interpret their completed tables

Refer to table 2.5 in the learner’s book page 88 to elaborate on the colours of different commercial indicators in acidic and basic solutions

**STEP 4**

Let learners to clean their places after doing the activity

* This promotes health education

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide learners to carry out digital activity on page 89

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **ACIDS, BASES AND INDICATORS**

**SUB STRAND**:  **strength of acids and bases – to study the pH scale and the universal indicator chart**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Determine the strength of acids and bases using universal indicators
* Appriciate the application of acids and bases in real life

**KEY INQUIRY QUESTION (S)**

How can you tell if a substance is acidic or base?

How can we determine the strength of acids and bases?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/ ph strip/universal indicator chart

Active Integrated Science GRADE 7 LEARNERS BK. PG. 89

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups

**LESSON DEVELOPMENT**

**STEP 1**

Provide learners with pH strip, the universal indicator chart and the universal solutions

Ask them to study them

**STEP 2**

Let them also study the pictures in the learner’s book page 89 and compare them with the relia

Guide them to draw a pH scale

**STEP 3**

Lead learners to discuss the questions coming after the activity

* The discussions will develop communication and collaboration

**STEP 4**

Refer to the key points in the learner’s book page 90 and elaborate on the features of the pH scale and the universal indicator chart

Let learners to clean their places after doing the activity

* This promotes health education

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **ACIDS, BASES AND INDICATORS**

**SUB STRAND**:  **strength of acids and bases – to classify acidic solutions as strong or weak**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Determine the strength of acids and bases using universal indicators
* Appriciate the application of acids and bases in real life

**KEY INQUIRY QUESTION (S)**

How can you tell if a substance is acidic or base?

How can we determine the strength of acids and bases?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/ ph strip/universal indicator chart

Active Integrated Science GRADE 7 LEARNERS BK. PG. 90

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups

**LESSON DEVELOPMENT**

**STEP 1**

Provide the necessary apparatus and solutions to the learners

(for lemon juice, provide a lemon and ask them to cut it into half then squeeze out the lemon juice into a beaker)

**STEP 2**

Ask them to first go through the procedure and discuss it before carrying out the actual tests

**STEP 3**

Guide the learners to carry out the test following the procedure in the learner’s book page 90

Ask them to record the observation immediately they make them

**STEP 4**

Let the learners discuss and answer the questions coming after the activity in the learners book page 91

**STEP 5**

Refer to the key points in the learner’s book page 91 and Task learners to explain whether the solution was weak or strong

Let learners to clean their places after doing the activity

* This promotes health education

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **ACIDS, BASES AND INDICATORS**

**SUB STRAND**:  **strength of acids and bases – to classify basic solutions as strong or weak**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Determine the strength of acids and bases using universal indicators
* Appriciate the application of acids and bases in real life

**KEY INQUIRY QUESTION (S)**

How can you tell if a substance is acidic or base?

How can we determine the strength of acids and bases?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/ ph strip/universal indicator chart

Active Integrated Science GRADE 7 LEARNERS BK. PG. 91

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Organise learners in groups

**LESSON DEVELOPMENT**

**STEP 1**

Provide the necessary apparatus and solutions to the learners

Let the learners do the activity following the procedure in the learner’s book

Remind them to record their own results and not to copy from other groups

* This is integrity

**STEP 2**

Ask them to interpret the observations and discuss the questions coming after the activity on page 92 of the learner’s book

**STEP 3**

Task learners to empty one of the test tubes and rinse it then carry out the activity in the challenge section

Let them discuss their observation

**STEP 4**

Refer to the key points in the learner’s book page 92 and Task learners to explain whether the solution was weak or strong and emphasising the pH ranges of weak and strong bases

Let learners to clean their places after doing the activity

* This promotes health education

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Learners to list commonly acids found in the science laboratory

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **ACIDS, BASES AND INDICATORS**

**SUB STRAND**:  **to explore the applications of acids in real life**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Outline the applications of acids, bases and indicators in real life
* Appriciate the application of acids and bases in real life

**KEY INQUIRY QUESTION (S)**

What is the significance of acids, bases and indicators?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/ ph strip/universal indicator chart

Active Integrated Science GRADE 7 LEARNERS BK. PG. 92

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Ask learners to brainstorm and highlights some of the applications of acids they might be familiar with their locality

* This will develop critical thinking and problem solving

**STEP 2**

Guide the learners in identify and listing the applications of acids, bases and indictors in real life

**STEP 3**

In their groups, allow the learners to read the notes in the learner’s book page 92 to 93 and discuss them

**STEP 4**

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices and search the internet more uses of acids and bases in daily life

**REFLECTION ON THE LESSON:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **ACIDS, BASES AND INDICATORS**

**SUB STRAND**:  **to explore the applications of bases in real life**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Outline the applications of acids, bases and indicators in real life
* Appriciate the application of acids and bases in real life

**KEY INQUIRY QUESTION (S)**

What is the significance of acids, bases and indicators?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/ ph strip/universal indicator chart

Active Integrated Science GRADE 7 LEARNERS BK. PG. 93

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Provide learners with the required resources (sachets of anti acid tablets, powder and bar soap)

**STEP 2**

Allow learners to study the materials and discuss the bases found in each of them

Give close attention to learners that have challenges identifying the bases

* Learning about the use of antacids to relieve stomach upsers links to health education

**STEP 3**

Let learners study the pictures in the learners book page 93 and discuss the importance of adding lime to soil

* This links agriculture

**STEP 4**

Refer to the key points in the learner’s book page 93-94 to elaborate of uses of bases in real life

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices and search the internet more uses of acids and bases in daily life

**REFLECTION ON THE LESSON:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **ACIDS, BASES AND INDICATORS**

**SUB STRAND**:  **to explore the applications of indicators in real life**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Outline the applications of acids, bases and indicators in real life
* Appriciate the application of acids and bases in real life

**KEY INQUIRY QUESTION (S)**

What is the significance of acids, bases and indicators?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/ ph strip/universal indicator chart

Active Integrated Science GRADE 7 LEARNERS BK. PG. 94

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Ask learners to read and discuss the procedure in the learner’s book page 94

Guide them to understand the process of collecting soil in preparing for testing the soil Ph

**STEP 2**

Ask learners to obtain some soil

Let them follow the procedure in the learner’s book to test the pH of the soil

Let them also compare their results

* This activity links to agriculture and equips learners with life skills

**STEP 3**

Ask learners to discuss the uses of acid-base indicators in real life

Let them present their discussions points in class

**STEP 4**

Refer to the key points in the learner’s book page 95 to elaborate on the importance of the universal indicator and acid-base indicator

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to organise a debate

Motion – acids, bases and indicators are important in our lives

Debate is meant to make learners appreciate that acids, bases and indicators are useful in our lives

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **Reproduction in human beings – the human menstrual cycle**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe the menstrual cycle in human beings
* Appreciate the existence of sex related challenges

**KEY INQUIRY QUESTION (S)**

What is menstrual cycle?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital device

Active Integrated Science GRADE 7 LEARNERS BK. PG. 98

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Let the learners sit in groups.

Guide them to carry out activity 1 as instructed in the learner’s book page 98

Let the learners find the meaning of the words “menstrual and cycle” from the dictionary

Let them study figure 3.1 and answer the questions that follow

Pay attention to learners that face challenges understanding the process involved in the menstrual cycle and provide the necessary support

* This activity develops self awareness as learners understand the menstrual cycle

**STEP 2**

Remind the learners that all girls that have started menstruating can get pregnant if they engage in sex

Inform them that the best way to avoid early pregnancies is to abstain from sex

* This instils life skills in the learners

**STEP 3**

Teacher to invite the resource person to explain the process that occur during the menstrual cycle

**STEP 4**

Refer to the key points in the learner’s book page 99 to elaborate on the process involved in the menstrual cycle

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Learners to watch video clip explaining process involved in the menstrual cycle

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **Reproduction in human beings – challenges related to the menstrual cycle**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe the menstrual cycle in human beings
* Describe the challenges related to the menstrual cycle
* Appreciate the existence of sex related challenges

**KEY INQUIRY QUESTION (S)**

What is menstrual cycle?

Which challenges are associated with menstruation in human beings?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 100

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Let the learners to page 100 of the learner’s book and read the conversation between James and Emily. Let the learners take up the characters

**STEP 2**

Let the learners form groups and discuss the questions on page 101 of the learner’s book

Encourage the learners to share their experiences openly

Let them understand that different people face different challenges but most of them can be mitigated.

* They should show respect by embracing those facing different menstrual challenges

**STEP 3**

Teacher to summarize the common challenges associated with menstrual cycle

**STEP 4**

Refer to the key points in the learner’s book page to101 elaborate on the challenges the menstrual cycle

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **Reproduction in human beings – Management of issues related to the menstrual cycle**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe the challenges related to the menstrual cycle
* Discuss how to mamange issues realted to the menstrual cycle
* Appreciate the existence of sex related challenges

**KEY INQUIRY QUESTION (S)**

What is menstrual cycle?

Which challenges are associated with menstruation in human beings?

How best can we manage the issues related to the menstrual cycle?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 101

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Start by asking learners to mention some the methods they use to manage the challenges associated with the menstrual cycle.

Let the learners read the speech in the learner’s book page 101-102

**STEP 2**

Let the learners form groups and discuss the questions coming after the speech

* This activity develops self efficacy as learners discuss the management of the challenges
* The discussion activity also enhances respect for one another

**STEP 3**

Teacher to summarize the how issues associated with menstrual cycle can be well managed

**STEP 4**

Refer to the key points in the learner’s book page to102 elaborate on the management of issues related to menstrual cycle

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

**REFLECTION ON THE LESSON:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **fertilisation in human beings – to describe the process of fertilisation in human beings**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe the process of ferilisation
* Appreciate the existence of sex related challenges

**KEY INQUIRY QUESTION (S)**

Where does fertilisation in human beings occur?

How does fertilisation occur in human beings?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 102

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Guide the learners, in groups, to study the charts/pictures in the learners book page 103

Guide them to identify the different features of the sperm and the ovum

Let them see how fertilisation takes place

**STEP 2**

Ask learners to discuss the questions coming after the pictures

Guide them to give correct answers

**STEP 3**

Guide learners to watch a video clip on fertilisation and implantation

* This activity develops digital literacy

Guide the learners to discuss and answer the questions on page 104 of the learner’s book

Guide each group to present their answers in class

**STEP 4**

Refer to the key points in the learner’s book page to104 elaborate on the process of fertilisation

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Learners to scan the QR code on the back cover of the learner’s book as instructed in the learner’s book page 103 1nd 104

**REFLECTION ON THE LESSON:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **implantation in human beings – to discuss the process of implantation**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe the process of implantation
* Appreciate the existence of sex related challenges

**KEY INQUIRY QUESTION (S)**

What is implantation?

Where does implantation occur?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 104

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Guide the learners to look up the meaning of the word implantation from the dictionary as instructed in the learner’s book page 102

**STEP 2**

Display the chart showing the process of implantation for the learners to study

Let them also study the picture on page 105 of the learner’s book

Let them re-play and re-watch the video on fertilisation and implantation

**STEP 3**

Ask them to discuss and answer the questions coming after the activity and present their findings to the class

**STEP 4**

Refer to the key points in the learner’s book page to105 elaborate on the process of implantation

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Learners to scan the QR code on the back cover of the learner’s book as instructed in the learner’s book page 103 1nd 104

**REFLECTION ON THE LESSON:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **Healthy living during pregnancy – to discuss healthy living and proper nutrition during pregnancy**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Discuss healthy living and proper nutrition during pregnancy
* Appreciate the existence of sex related challenges

**KEY INQUIRY QUESTION (S)**

How should a pregnant mother take care of her foetus?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 106

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Ask learners to sit in groups and carry out the discussions activity in the learner’s book page 106

**STEP 2**

Let each group decide on the person to present the group’s findings to the class

Other learners should listen to the presentations and correct any mistakes made by the presenters

* Citizenship is promoted as learners appreciate the significance of protecting life from inception to birth
* Group discussion promotes social cohesion

**STEP 3**

Teacher to elaborate about the healthy living during pregnancy

**STEP 4**

Refer to the key points in the learner’s book page to106 and summarize on how expectant mother should protect the foetus

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

**REFLECTION ON THE LESSON:**

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|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **sex related challenges**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Say the meaning of the terms: hermaphrodite and intersex people
* Sensitize the community on sex related disorders
* Appreciate the existence of sex related challenges

**KEY INQUIRY QUESTION (S)**

How best can we manage sex related challenges?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 106

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Provide the materials to the learners

Ask them to discuss and come up with a message they can use to sensitize the community about intersex conditions

Let them write the messages on the manila paper

**STEP 2**

Let the learners choose the best posters

**STEP 3**

Let the posters be for championing for equal treatment of all people regardless of their gender

**STEP 4**

Emphasise that we should not discriminate against people with intersex conditions but we should instead accept them

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Ask the learners to show the posters to their parents

* This encourages parental empowerment

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **Human excretory system – parts of the human skin and their functions**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Identify parts of the human skin and their function
* Draw a well labelled diagram of the human skin
* Appreciate the human skin as part of the human excretory system

**KEY INQUIRY QUESTION (S)**

* Why is the skin important?
* Why is excretion important to human body?
* Which parts form the human skin

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 110

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Guide the Learners in pairs to Explain the meaning of excretion

**LESSON DEVELOPMENT**

**STEP 1**

Let learners get into groups and carry out the activity as instructed in the learner’s book page 110

**STEP 2**

Guide them to identify the hair, the epidermis and the sweat glad from the chart and the picture in the learner’s book

**STEP 3**

Guide the learners to discuss the functions of the parts of a skin in groups

* Group work develops communication and collaboration

**STEP 4**

Guide the learners to draw a well labelled diagram of part of the skin

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices to search the internet videos of parts of the skin and their functions

**REFLECTION ON THE LESSON:**

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|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **Human excretory system – to observe external parts of the human skin using a hand lens**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Identify parts of the human skin and their function
* Observe external parts of the skin using a hand lens
* Appreciate the human skin as part of the human excretory system

**KEY INQUIRY QUESTION (S)**

* Why is the skin important?
* Why is excretion important to human body?
* Which parts form the human skin?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 111

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Distribute the hand lenses and let learners carry out activity 2 as instructed in the learner’s book page 11

Caution learners not to use the hand lens in direct sunlight

**STEP 2**

Guide the learners to search and watch videos as instructed in the digital activity that comes after activity 2

**STEP 3**

Ask learners to discuss what they have observed harmoniously respecting other’s opinion

**STEP 4**

Refer to the Key Points in the learner’s book page 111 to summarize on the parts of the skin

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices to search the internet videos of external parts of the skin and their functions

**REFLECTION ON THE LESSON:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **Human excretory system – functions of the parts of the human skin**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Identify parts of the human skin and their function
* Draw a well labelled diagram of the human skin
* Appreciate the human skin as part of the human excretory system

**KEY INQUIRY QUESTION (S)**

* Why is the skin important?
* Why is excretion important to human body?
* Which parts form the human skin?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 111

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Let learners, in groups , carry out activity 3 as instructed in the learner’s book

**STEP 2**

Display the chart showing the external parts of the skin and model of the human skin

Learners can also use the picture in the learner’s book page 110 as the reference

**STEP 3**

Ask learners to discuss the questions coming after the activity

Ask them to present their findings to the class

**STEP 4**

Refer to the Key Points in the learner’s book page 111 to summarize on the functions of the parts of the human skin

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices to search the internet videos of external parts of the skin and their functions

**REFLECTION ON THE LESSON:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **Human excretory system – functions of the parts of the human skin**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Identify the waste products excreted through the skin
* Discuss the waste products excreted through the skin
* Appreciate the human skin as part of the human excretory system

**KEY INQUIRY QUESTION (S)**

* Why is the skin important?
* Why is excretion important to human body?
* Which waste products are excreted through the skin?

**LEARNING RESOURCES**

Realia/Charts /hotographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 112

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Guide the learners to carry out activity 4 as instructed in the learner’s book page112

**STEP 2**

Let learners discuss the questions coming after the activity

**STEP 3**

Teacher to emphasise on the waste products excreted through the skin

**STEP 4**

Refer to the Key Points in the learner’s book page 113 to summarize on the waste product excreted through the human skin

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices to search the internet videos of waste products excreted through the skin

**REFLECTION ON THE LESSON:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **The urinary system – to identify parts of the urinary system and their functions**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Identify parts of the urinary system and their functions
* Draw and correctly label the parts of the urinary system
* Appreciate the urinary system

**KEY INQUIRY QUESTION (S)**

Which parts form the urinary system?

**LEARNING RESOURCES**

Realia/Charts /photographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 113

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Display the chart showing the parts of the urinary system

Ask learners to study the picture in the learner’s book page 113 and identify the different part

**STEP 2**

Display the model of the urinary system and lt the learners identify the kidneys , the uterus, the urinary bladder and the parts of the urinary system

**STEP 3**

Guide the learners to draw a well labelled diagram of the urinary system

**STEP 4**

Refer to the Key Points in the learner’s book page 114 and elaborate on the function of each parts of the urinary system

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices to search the internet videos of the parts of the urinary system

**REFLECTION ON THE LESSON:**

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| **SCHOOL** | **LEARNING AREA** | **GRADE** | **DATE** | **TIME** | **ROLL** |
|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **The urinary system – to identify the external structure of the kidney**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Identify the external structure of the kidney
* Draw and correctly label the external parts of the kidney
* Appreciate the urinary system

**KEY INQUIRY QUESTION (S)**

How is the external structure of the kidney?

**LEARNING RESOURCES**

Realia/Charts /photographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 113

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Guide the learners to carry out activity 6 as instructed in the learner’s book page 114

Guide them to observe the shape of the kidney and the blood vessels that serve the kidney

**STEP 2**

Let the learners discuss the functions of the blood vessels that serve the kidney

**STEP 3**

Guide the learners to draw a well labelled diagram of the urinary system

Guide the learners to use digital devices to search the internet videos on the structure of the kidney and the functions of the blood vessels serving it

**STEP 4**

Refer to the Key Points in the learner’s book page 115 and elaborate on the external structure of the kidney and the function of the blood vessels that serve it

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices to search the internet videos on the structure of the kidney and the functions of the blood vessels serving it

**REFLECTION ON THE LESSON:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

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|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **The urinary system – to discuss the waste products excreted through the kidneys**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe the waste products that are excreted through the kidneys
* Appreciate the urinary system

**KEY INQUIRY QUESTION (S)**

Which waste products are excreted through the kidneys?

**LEARNING RESOURCES**

Realia/Charts /photographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 113

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Go use the internet to search information about the waste products excreted through the kidney as instructed in the learner’s book

**STEP 2**

Ask the learners to discuss their findings and present them in class.

Task them to also discuss the questions in the challenge section on page 115 of the learner’s book

**STEP 3**

Guide the learners to present their answers to the class

Let the teacher explain the challenge questions

**STEP 4**

Refer to the Key Points in the learner’s book page 115 and summarise on the waste products excreted through the Kidney

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices to search the internet videos on search information about the waste products excreted through the kidney

**REFLECTION ON THE LESSON:**

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|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **The urinary system – causes of kidney disorders**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe the causes of kidney disorders
* Reflect on solutions to kidney disorders and diseases
* Appreciate the urinary system

**KEY INQUIRY QUESTION (S)**

What causes kidney disorders?

**LEARNING RESOURCES**

Realia/Charts /photographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 115-116

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

Probe learners to mention some kidneys dieseases they have heard about

**LESSON DEVELOPMENT**

**STEP 1**

Ask learners in groups to discuss the kidney disorders in table 3.3 learner’s book page 116 and their causes

**STEP 2**

Let the learners search from the internet the cause of kidney disease and present the information they get to the class

**STEP 3**

Teacher to explain the causes of each of the kidney disorders mentioned by the learners

**STEP 4**

Refer to the Key Points in the learner’s book page 116 and summarise the cause of kidney disorders

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices to search the internet videos on search information about the cause of kidney disease

**REFLECTION ON THE LESSON:**

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|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **The urinary system – to find out ways of preventing kidney disorders**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Describe the causes of kidney disorders#
* Write ways of overcoming kidney diseases and disorders
* Reflect on solutions to kidney disorders and diseases
* Appreciate the urinary system

**KEY INQUIRY QUESTION (S)**

What causes kidney disorders?

How can we prevent kidney disorder?

**LEARNING RESOURCES**

Realia/Charts /photographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 117

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Probe learners to mention some ways they think can be used to prevent kidney disorders

Ask them to study the pictures on page 117 of the learner’s book and identify some ways of preventing kidney disorders

* This links to health education

**STEP 2**

Guide the learners to find information from the internet as instructed in the digital activity

And present they answers to the class

**STEP 3**

Teacher to explain ways of preventing the kidney disorders mentioned by the learners

**STEP 4**

Refer to the Key Points in the learner’s book page 117-118 and elaborate ways of preventing kidney diseases

Ask learners to take care of their kidneys

* This instils responsibility
* Learning to learn is developed as learners develop self awareness on how to protect their kidneys

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices to search the internet videos on search information about the cause of kidney disease

**REFLECTION ON THE LESSON:**

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|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **to identify some healthy lifestyles that promote skin health**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Identify healthy lifestyles promoting skin health
* Write short notes about healthy lifestyles promoting skin health
* Desire to adopt healthy lifestyles promoting skin health

**KEY INQUIRY QUESTION (S)**

What should we do keep our skin healthy

**LEARNING RESOURCES**

Realia/Charts /photographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 118

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Ask learners in groups to read and discuss the points on page 118 in the learner’s book

They should compare them with the points they raised in activity 10

**STEP 2**

Encourage them to be honest when answering the discussion questions that come after the points in the learner’s book

* Learning to learn is promote as it brings self awareness
* The concept also links to home science as learners learn about nutrition for healthy skin

**STEP 3**

Teacher to expound on each of the ways of maintaining a healthy skin

Learners to educate members of their family on ways of keeping their skin healthy

* This will lead to parental empowerment

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices to search the internet videos on search information about skin health

**REFLECTION ON THE LESSON:**

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|  | **SCIENCE AND TECH** | 7 |  |  |  |

**STRAND**: **LIVING THINGS AND THEIR ENVIRONMENT**

**SUB STRAND**:  **to discuss the importance of proper use of cosmetics**

**SPECIFIC LEARNING OUTCOMES**: by the end of the lesson, the learner should be able to:

* Identify healthy lifestyles promoting skin healthy
* Read information on the packaging label on the containers or tubes of skin care products
* Write short notes about healthy lifestyles promoting skin health
* Desire to adopt healthy lifestyles promoting skin health

**KEY INQUIRY QUESTION (S)**

What should we do keep our skin healthy

**LEARNING RESOURCES**

Realia/Charts /photographs/Pictures/Digital devices/

Active Integrated Science GRADE 7 LEARNERS BK. PG. 119

**ORGANISATION OF LEARNING**

Learning will take place in an actual classroom. Learners will work individually, in pairs and small groups

**INTRODUCTION**

Review the previous lesson

**LESSON DEVELOPMENT**

**STEP 1**

Ask learners in groups to discuss the contents of the poster in the learner’s book page 120

**STEP 2**

Let them answer the questions that come after the poster

This activity promotes responsibility as learners learn about ways of using cosmetics to protect their skin

**STEP 3**

Ask learners to sensitize people in their community on the importance of using cosmetic properly

**STEP 4**

Refer to the Key Points in the learner’s book page 120 to elaborate on the importance of proper use of cosmetics

Emphasise the fact learners know which cosmetics are friendly to their skin

* This instils life skills as learners develop self awareness

**CONCLUSION:**

Teacher to highlight the main points of the lesson

Elaborate on the learners’ main points

Make a recapitulation of the lesson as you focus on learners’ attention to the next lesson

Teacher to conclude the lesson by asking oral question

**EXTENDED ACTIVITIES:**

Guide the learners to use digital devices to search the internet videos on search information about skin health

**REFLECTION ON THE LESSON:**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**