

## P.5 integrated Science Topic Outline

Themes or Unit	Topic
1. The Environment	Components of the environment: The Soil
2. Human Health	Immunisation
	Food and Nutrition
	Primary Health Care and Family Care
3. The World of Living Things	Bacterial Changes
4. The Human Body	The Digestive System
5. Matter and Energy	Measurement
	Heat Energy
6. Managing changes in the Environment	Types of Changes
7. Science in Human activities and occupation	Keeping goats, sheep and pig
	Occupation in our community: Crop growing
	Keeping Poultry and Bees
8. Community Population and Family Life	Community Health and Social Problems among young people

## TERM I

### THEME: SCIENCE IN HUMAN ACTIVITIES AND OCCUPATIONS

#### Topic: Keeping Poultry and Bees

##### General background

Keeping poultry and bees is a very important topic which helps learners to develop interest and basic skills for managing simple projects like poultry and bee keeping for self reliance. It is important to note that this topic will help learners to appreciate poultry and bee farming as a business. This topic has been retained from the old syllabus.

##### Learning outcome

- The learner is able to know and use basic scientific knowledge and skills in the management of poultry and bees.

Subject Competences	Language Competences	Content	Suggested Activities
<p>The learner:</p> <ul style="list-style-type: none"><li>• Identifies different types of poultry.</li><li>• Describes the external parts of a domestic fowl.</li><li>• Identifies the different types of chicken.</li><li>• Describes the breeds of chicken.</li><li>• Explains the uses of</li></ul>	<ul style="list-style-type: none"><li>• Names the different types of poultry.</li><li>• Labels with correct spelling a diagram showing the external parts of a domestic fowl.</li><li>• Correctly reads words and sentences on poultry.</li><li>• Listens to stories about poultry farming as a business.</li><li>• Recites rhymes about poultry farming.</li><li>• Writes words, sentences and stories about keeping</li></ul>	<ul style="list-style-type: none"><li>• Types of poultry (chicken, turkey, guinea fowls, ducks, pigeons).</li><li>• External features of a domestic fowl (male and female)<ul style="list-style-type: none"><li>- comb, beak, wing, legs, feathers, claws, wattle, scales</li></ul></li><li>• Types of chicken<ul style="list-style-type: none"><li>- broilers</li><li>- layers</li></ul></li><li>• Breeds of chicken</li></ul>	<ul style="list-style-type: none"><li>• Naming types of poultry.</li><li>• Describing the different types of poultry.</li><li>• Drawing the external structure of a hen.</li><li>• Labelling the different parts of a hen.</li><li>• Naming different types of chicken.</li><li>• Describing breeds of chicken.</li><li>• Explaining uses of poultry farming.</li><li>• Describing the systems</li></ul>

Subject Competences	Language Competences	Content	Suggested Activities
<ul style="list-style-type: none"> <li>poultry.</li> <li>Describes the systems of keeping poultry: chicken.</li> <li>Explains how to manage a poultry farm.</li> </ul>	<ul style="list-style-type: none"> <li>chicken.</li> </ul>	<ul style="list-style-type: none"> <li>Systems of keeping poultry (chicken)               <ul style="list-style-type: none"> <li>- Free range, deep litter, fold pen, battery</li> </ul> </li> <li>Management of poultry: chicken               <ul style="list-style-type: none"> <li>- Proper feeding, housing, pest and disease control and treatment e.g. spraying and vaccination.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>of keeping poultry: chicken.</li> <li>Explaining how to manage a poultry farm.</li> </ul>
<ul style="list-style-type: none"> <li>Describes the life history of bees.</li> <li>States the different types of bees.</li> <li>States the importance of bees.</li> <li>Explains the condition and reasons for swarming.</li> <li>Identifies the types of bee hives.</li> </ul>	<ul style="list-style-type: none"> <li>Spells the words correctly.</li> <li>Reads stories and poems about the importance of bee farming.</li> <li>Writes stories about bee farming.</li> <li>Draws and labels the life cycle of bees.</li> </ul>	<ul style="list-style-type: none"> <li>Types of bees               <ul style="list-style-type: none"> <li>- drones, workers, queen.</li> </ul> </li> <li>Importance of bees to plants and people.               <ul style="list-style-type: none"> <li>- pollination, honey, bee wax, propolis.</li> </ul> </li> <li>Conditions and reasons for swarming               <ul style="list-style-type: none"> <li>- leakage in the hive, excessive heat, attack by enemies, bad smell, noise, looking for a new hive.</li> </ul> </li> <li>Types of hives               <ul style="list-style-type: none"> <li>- Traditional bee hive e.g. Kigezi, dug out log, tin.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Naming different types of bees.</li> <li>Describing the life history of bees.</li> <li>Drawing and labelling the life cycle of bees.</li> <li>Stating the importance of bees.</li> <li>Discussing the conditions and reasons for swarming.</li> <li>Identifying the types of bee hives.</li> <li>Describing the different methods of harvesting honey.</li> <li>Spelling, reading and writing words,</li> </ul>

Subject Competences	Language Competences	Content	Suggested Activities
<ul style="list-style-type: none"> <li>Describes the different methods of harvesting honey.</li> <li>Explains the importance of bee farming as a business.</li> </ul>		<ul style="list-style-type: none"> <li>- Modern bee hives e.g. box hive, top bar hive.</li> <li>Harvesting honey <ul style="list-style-type: none"> <li>- Traditional and modern methods</li> </ul> </li> <li>Bee farming as a business <ul style="list-style-type: none"> <li>- Money, food, candles, plastics, employment.</li> </ul> </li> </ul>	sentences and stories about bee farming.

Life Skills	Values	Assessment Activities
<ul style="list-style-type: none"> <li>Effective communication.</li> <li>Critical thinking.</li> <li>Creative thinking.</li> <li>Problem-solving.</li> <li>Decision making.</li> </ul>	<ul style="list-style-type: none"> <li>Responsibility</li> <li>Care</li> <li>Concern</li> <li>Appreciation</li> <li>Love</li> <li>Patience</li> <li>Fluency</li> </ul>	<ol style="list-style-type: none"> <li>1. Name the different types of poultry.</li> <li>2. Describe the conditions and reasons for bee swarming.</li> <li>3. Explain the importance of poultry and bee farming as a business.</li> </ol>

## THEME: MATTER AND ENERGY

Topic: Measurement

### General background

This topic should be used for increasing the learner's skills of taking accurate measurements with the correct units and using different instruments and apparatus. The teacher should show the relationship between mass and weight and between capacity and volume. The language of measuring must be used correctly with demonstrations to explain the meanings. Examples of measuring language include heavy and light, big and small, floating and sinking. The topic is a preparation for future lessons on energy and so should be carefully taught with learners doing experiments. The teacher should relate this topic with what is taught in Mathematics. This topic is an overflow from P.4 Term Two.

### **Learning outcome**

The learner is able to know standard units for measuring mass, weight and volume and use correct instruments to measure mass, weight and volume.

<b>Subject Competences</b>	<b>Language Competences</b>	<b>Content</b>	<b>Suggested Activities</b>
<p>The learner:</p> <ul style="list-style-type: none"> <li>• States the different measurements of objects.</li> <li>• Explains the need for standard measures of mass, weight and volume.</li> <li>• Uses the correct instruments and apparatus to take measurements.</li> </ul>	<ul style="list-style-type: none"> <li>• Talks about measuring different objects and uses the correct English words to compare measurements.</li> <li>• Spells the words correctly.</li> <li>• Reads and writes scientific units used for measuring correctly.</li> </ul>	<ol style="list-style-type: none"> <li>1. Measuring             <ul style="list-style-type: none"> <li>- Mass and weight.</li> <li>- Capacity and volume.</li> </ul> </li> <li>2. Behaviour of objects with water             <ul style="list-style-type: none"> <li>- Floating and sinking</li> <li>- Displacement methods</li> </ul> </li> <li>3. Finding density of different objects in relation to mass and volume.</li> </ol>	<ul style="list-style-type: none"> <li>• Comparing different objects by mass, weight and volume.</li> <li>• Carrying out experiments on floating and sinking.</li> <li>• Measuring mass, weight and volume using standard measures and correct instruments.</li> <li>• Using the correct units of measure in different situations.</li> <li>• Finding densities of different objects.</li> </ul>

<b>Life Skills</b>	<b>Values</b>	<b>Assessment Activities</b>
<ul style="list-style-type: none"> <li>• Effective communication.</li> <li>• Critical thinking.</li> <li>• Decision-making.</li> <li>• Coping with emotions.</li> <li>• Coping with stress.</li> <li>• Problem-solving.</li> </ul>	<ul style="list-style-type: none"> <li>• Fluency</li> <li>• Confidence</li> <li>• Responsibility</li> <li>• Taking decisions</li> <li>• Logic</li> <li>• Endurance</li> <li>• Prediction</li> <li>• Sympathy</li> <li>• Care</li> </ul>	<ol style="list-style-type: none"> <li>1. Name the different units used when measuring various objects.</li> <li>2. Explain why objects float or sink in water.</li> <li>3. Measure mass, weight and volume of different objects.</li> </ol>

# THEME: HUMAN HEALTH

## Topic: Immunisation

### General background

Many children have perished due to diseases we could easily avoid. Learners should be made aware of the ways of preventing deadly childhood diseases. Immunisation is an important and most effective means of protecting the young from the killer diseases. The learners should therefore be vigilantly made to appreciate and take part in the immunization activities. This topic has been retained but taken from Term Two to Term One.

### Learning outcome

The learner is able to develop more knowledge on immunization, appreciate the importance of immunizations and actively take part in the immunisation activities.

Subject Competences	Language Competences	Content	Suggested Activities
<p>The learner:</p> <ul style="list-style-type: none"><li>Identifies the different types of immunity.</li><li>Explains the importance of immunity.</li><li>Identifies different vaccines and relates them to the immunisable diseases.</li></ul>	<ul style="list-style-type: none"><li>Talks about different types of immunity.</li><li>Spells the relevant words correctly.</li><li>Sings songs about immunisation.</li><li>Reads and writes words, sentences and stories about immunisation.</li><li>Recites poems about immunisation.</li></ul>	<ol style="list-style-type: none"><li>Immunity<ul style="list-style-type: none"><li>What it is</li><li>Types of immunity<ul style="list-style-type: none"><li>Natural</li><li>Acquired</li></ul></li></ul></li><li>Importance of immunity</li><li>Immunisable childhood diseases<ul style="list-style-type: none"><li>Polio</li><li>Tuberculosis</li><li>Diphtheria</li><li>Measles</li><li>Whooping cough</li><li>Tetanus</li><li>Hepatitis B</li><li>Hemophilia influenza</li></ul></li></ol>	<ul style="list-style-type: none"><li>Naming different vaccines.</li><li>Identifying different immunisable diseases.</li><li>Matching disease to vaccines.</li><li>Describing treatment and preventive measures.</li><li>Identifies different ways of administering vaccines.</li><li>Discussing signs and causes.</li></ul>

Subject Competences	Language Competences	Content	Suggested Activities
<ul style="list-style-type: none"> <li>Identifies signs and symptoms of different immunisable diseases.</li> <li>Identifies other immunisable diseases.</li> <li>Relates the vaccines to diseases.</li> <li>Identifies immunisation centres in the area.</li> <li>Describes treatment for immunisable diseases.</li> </ul>		<ol style="list-style-type: none"> <li>Causes, spread, signs, symptoms and effects.</li> <li>Vaccines <ul style="list-style-type: none"> <li>What they are</li> <li>Storage</li> </ul> </li> <li>Types of vaccines <ul style="list-style-type: none"> <li>Measles vaccine</li> <li>Polio vaccine</li> <li>DPT</li> <li>BCG, Hep B., Heb</li> </ul> </li> <li>Administration of vaccines <ul style="list-style-type: none"> <li>Orally</li> <li>By injection</li> </ul> </li> <li>Other immunisable diseases <ul style="list-style-type: none"> <li>Cholera</li> <li>Yellow fever</li> <li>Meningitis</li> <li>Signs, symptoms and effects of other immunisable diseases.</li> </ul> </li> </ol>	

Life Skills	Values	Assessment Activities
<ul style="list-style-type: none"> <li>Problem-solving.</li> <li>Critical thinking.</li> <li>Effective communication.</li> <li>Self-awareness.</li> <li>Empathy.</li> <li>Decision-making.</li> </ul>	<ul style="list-style-type: none"> <li>Responsibility</li> <li>Care</li> <li>Taking decisions</li> <li>Fluency</li> <li>Concern</li> <li>Confidence</li> <li>Sympathy</li> </ul>	<ol style="list-style-type: none"> <li>Name the childhood immunisable diseases.</li> <li>Describe the signs and symptoms of the childhood immunisable diseases.</li> <li>Explain the importance of immunisation.</li> </ol>

# THEME: HUMAN BODY

## Topic: The Digestive System

### General Background

Learners now know the major organs of the body and their locations. The teacher should make sure that learners understand that digestive system consists of different organs with different functions. You should relate digestive diseases with diarrhoea disease learnt in Primary Four. This topic should be used to promote good feeding habits in order to have a healthy digestive system. This topic is an overflow from P.4 term 3. It is also merged with a P.7 Term 1 topic.

### Learning outcome

The learner:

- acquires knowledge about the organs of the digestive system and what happens to food within the system.
- appreciates the importance of the digestive organs of the human body.

Subject Competences	Language Competences	Content	Suggested Activities
<p>The learner:</p> <ul style="list-style-type: none"><li>• Explains what the digestive system is.</li><li>• Identifies parts of the digestive system.</li><li>• Describes the functions of the different parts of the digestive system.</li><li>• Describes the signs and symptoms of diseases and disorders of the</li></ul>	<ul style="list-style-type: none"><li>• Names the different parts of the digestive system.</li><li>• Spells the words correctly.</li><li>• Recites rhymes about the different parts of the system.</li><li>• Reads words, sentences and stories about the digestive system.</li><li>• Draws and labels the different parts of the digestive system.</li></ul>	<ol style="list-style-type: none"><li>1. Digestive system<ul style="list-style-type: none"><li>- What it is</li></ul></li><li>2. Parts of the digestive system<ul style="list-style-type: none"><li>- The alimentary canal (mouth, aesophagus, stomach, small and large intestines).</li></ul></li><li>3. Functions of the different parts of the digestive system.</li><li>4. Diseases and disorders of the digestive system.<ul style="list-style-type: none"><li>- Causes</li><li>- Signs and symptoms</li></ul></li></ol>	<ul style="list-style-type: none"><li>• Naming the different parts of the digestive system.</li><li>• Spelling the words correctly.</li><li>• Reciting rhymes about parts of the digestive system.</li><li>• Reading words, sentences and stories about the parts of the digestive system.</li></ul>

<b>Object Competences</b>	<b>Language Competences</b>	<b>Content</b>	<b>Suggested Activities</b>
<p>digestive system.</p> <p>Demonstrates behaviours and habits of maintaining the efficiency of the digestive system.</p>		<p>5. Prevention and management of diseases and disorders of the digestive system.</p> <p>6. Behaviour and habits of maintaining the efficiency of the system.</p>	<ul style="list-style-type: none"> <li>• Drawing and labeling the different parts of the digestive system.</li> <li>• Discussing ways of prevention and management of diseases and disorders of the digestive system.</li> </ul>

<b>Skills</b>	<b>Values</b>	<b>Assessment Activities</b>
<p>critical thinking.</p> <p>Self-awareness.</p> <p>Problem-solving.</p> <p>Decision-making.</p> <p>Empathy.</p>	<ul style="list-style-type: none"> <li>• Logic</li> <li>• Responsibility</li> <li>• Taking decisions</li> <li>• Concern</li> <li>• Care</li> </ul>	<ol style="list-style-type: none"> <li>1. Name the different parts of the digestive system.</li> <li>2. Describe the functions of the different parts of the digestive system.</li> <li>3. Draw and label the different parts of the digestive system.</li> </ol>

## **TERM II**

### **THEME: THE ENVIRONMENT**

#### **Topic: Components of the Environment “Soil”**

##### **General background**

The environment is not a new theme. At this level learners should be guided to study soil which is a major component of the environment. Soil is composed of many living and non-living substances which makes things co-exist. The learners should be encouraged to find out how soil helps people to survive and its relationship with other components of the environment. Experiments should be carried out to find the components of soil. This topic existed here and has been retained.

##### **Learning outcome**

The learner is able to:

- Recognise causes of soil degradation.
- Demonstrate good practices of conserving and protecting soil.
- Appreciate the importance of soil in nature.

<b>Subject Competences</b>	<b>Language Competences</b>	<b>Content</b>	<b>Suggested Activities</b>
<p><b>The learner:</b></p> <ul style="list-style-type: none"> <li>• Identifies the different types of soil.</li>   <li>• Describes the different ways soil is formed.</li>   <li>• Investigates to show properties of different</li> </ul>	<ul style="list-style-type: none"> <li>• Names the types of soil.</li> <li>• Describes the components of soil.</li> <li>• Recites poems and rhymes about soil.</li> <li>• Sings songs about soil.</li> <li>• Reads words, sentences and stories about soil.</li> </ul>	<ol style="list-style-type: none"> <li>1. Soil             <ul style="list-style-type: none"> <li>- What it is</li> <li>- Types of soil                     <ul style="list-style-type: none"> <li>• Loam</li> <li>• Clay</li> <li>• Sand</li> </ul> </li> </ul> </li>   <li>2. Soil formation             <ul style="list-style-type: none"> <li>- Weathering of rock</li> <li>- Decomposition of matter</li> </ul> </li>   <li>3. Components of soil</li> </ol>	<ul style="list-style-type: none"> <li>• Identifying types of soil.</li>   <li>• Describing the different types of soil.</li>   <li>• Experimenting to show the properties of the soil.</li>   <li>• Describing the</li> </ul>

Subject Competences	Language Competences	Content	Suggested Activities
<ul style="list-style-type: none"> <li>Analyses the importance of soil.</li> </ul>	<ul style="list-style-type: none"> <li>Writes words, sentences and stories about soil.</li> </ul>	<ul style="list-style-type: none"> <li>- Rock particles (mineral)</li> <li>- Air</li> <li>- Water</li> <li>- Humus / organic matter</li> <li>- Bacteria and fungi (living things)</li> </ul>	<ul style="list-style-type: none"> <li>components of soil.</li> </ul>
<ul style="list-style-type: none"> <li>Describes the types and causes of soil erosion.</li> </ul>		<p>4. Importance of soil</p> <ul style="list-style-type: none"> <li>- Plant growth</li> <li>- Construction</li> <li>- Pottery</li> <li>- Animal habitat</li> <li>- Mining</li> </ul>	<ul style="list-style-type: none"> <li>Discussing the importance of soil.</li> </ul>
<ul style="list-style-type: none"> <li>States the effects of harmful materials on soil.</li> </ul>		<p>5. Soil erosion</p> <ul style="list-style-type: none"> <li>- What it is</li> <li>- Types of erosion</li> <li>- Causes of erosion</li> <li>- Agents of erosion</li> </ul>	<ul style="list-style-type: none"> <li>Describing the types and causes of soil erosion.</li> </ul>
<ul style="list-style-type: none"> <li>Demonstrates methods of soil conservation.</li> </ul>		<p>6. Effects of harmful materials on soil</p> <ul style="list-style-type: none"> <li>- Broken glasses / tins</li> <li>- Plastics</li> <li>- Polythene</li> <li>- Chemicals / oils</li> </ul>	<ul style="list-style-type: none"> <li>Stating the effects of harmful materials on soil.</li> </ul>
<ul style="list-style-type: none"> <li>Discusses ways of improving soil fertility.</li> </ul>		<p>7. Soil conservation</p> <ul style="list-style-type: none"> <li>- What it is</li> <li>- Methods of soil conservation</li> </ul>	<ul style="list-style-type: none"> <li>Practicing methods of soil conservation.</li> <li>Discussing ways of improving soil fertility.</li> <li>Investigating the advantages and disadvantages of artificial fertilizers and manure.</li> <li>Making compost manure.</li> </ul>

Subject Competences	Language Competences	Content	Suggested Activities
<ul style="list-style-type: none"> <li>• Investigates the advantages and disadvantages of artificial fertilisers and manure.</li> <li>• Demonstrates best ways of making compost manure.</li> </ul>		<p>8. Soil fertility</p> <ul style="list-style-type: none"> <li>- What it is</li> <li>- Ways of improving soil fertility.</li> <li>- Artificial fertilisers (inorganic).</li> <li>- Natural fertilisers (organic) e.g.           <ul style="list-style-type: none"> <li>• Compost manure</li> <li>• Farm yard manure</li> <li>• Green manure</li> <li>• Organic mulches</li> </ul> </li> </ul> <p>9. Advantages and disadvantages of artificial and natural fertilisers (manure).</p> <p>10. Making compost manure (project).</p>	<ul style="list-style-type: none"> <li>• Describing the various components of soil.</li> <li>• Discussing the importance of soil.</li> <li>• Participating in making compost manure.</li> </ul>

Life Skills	Values	Assessment Activities
<ul style="list-style-type: none"> <li>• Decision-making.</li> <li>• Effective communication.</li> <li>• Critical thinking.</li> <li>• Problem-solving.</li> </ul>	<ul style="list-style-type: none"> <li>• Logic</li> <li>• Care</li> <li>• Responsibility</li> <li>• Taking decisions</li> <li>• Appreciation</li> </ul>	<ol style="list-style-type: none"> <li>1. Name the different types of soil.</li> <li>2. Describe the components of soil.</li> <li>3. Discuss the methods of conserving soil.</li> </ol>

# THEME: MATTER AND ENERGY

## Topic: Heat Energy

### General background

Learners have been introduced to matter and energy in Term One. They learnt terms like mass, volume and density. You should build on what they learnt to introduce states of matter and forms of energy. Guide learners to identify the difference between types and forms of energy. Heat is a very essential form of energy in our day to day life. It provides optimum warmth for plant and animal growth. Many changes essential for the survival of the ecosystem. Learners should be exposed practically to the effects of heat in matter. This will enhance their understanding of their own environment and help them get ways of manipulating it, hence improving their lives. This topic existed in Term ... but has been taken to Term Two.

### Learning outcome

The learner is able to use basic scientific knowledge on the effects of heat on things in the environment and demonstrate skills of investigating effects of heat on matter.

Subject Competences	Language Competences	Content	Suggested Activities
<p>The learner:</p> <ul style="list-style-type: none"><li>Analyses what matter is.</li><li>Investigates the three states of matter.</li></ul>	<ul style="list-style-type: none"><li>Describes matter and its characteristics.</li><li>Role plays on transfer of heat.</li><li>Spells the words correctly.</li><li>Reads words, sentences and stories about heat energy.</li><li>Writes short stories on forms of energy.</li></ul>	<ol style="list-style-type: none"><li>Matter<ul style="list-style-type: none"><li>What it is</li><li>Weight / mass</li><li>Properties of matter (experiments)<ul style="list-style-type: none"><li>- Has weight</li><li>- Occupies space</li><li>- Exerts pressure</li></ul></li></ul></li><li>States of matter<ul style="list-style-type: none"><li>Solids</li><li>Liquids</li><li>Gases</li></ul></li></ol>	<ul style="list-style-type: none"><li>Naming different states of matter.</li><li>Experimenting mixing and separating mixtures.</li><li>Describing types and forms of energy.</li><li>Carrying out activities/experiments that show effects of heat on matter.</li></ul>

Subject Competences	Language Competences	Content	Suggested Activities
<ul style="list-style-type: none"> <li>Differentiates between solutes and solvents.</li> <li>Identifies the differences between types and forms of energy.</li> <li>Identifies different sources of heat.</li> <li>Describes the effects of heat on matter.</li> <li>Investigates methods of heat transfer.</li> </ul>	<ul style="list-style-type: none"> <li>Draws and labels the different types of thermometers.</li> </ul>	<ol style="list-style-type: none"> <li>Solutes, solvents and solutions.</li> <li>Energy <ul style="list-style-type: none"> <li>What it is.</li> <li>Types of energy <ul style="list-style-type: none"> <li>Kinetic energy</li> <li>Potential energy</li> </ul> </li> </ul> </li> <li>Forms of energy e.g. heat, sound, electric, magnetic, light (no details of each needed) <ul style="list-style-type: none"> <li>Characteristics of forms of energy (make work possible, transformation).</li> </ul> </li> <li>Heat energy <ul style="list-style-type: none"> <li>What it is</li> <li>Sources of heat e.g. sun, food, candle light; hot flat iron, hot charcoal, burning wood or coal, and so on.</li> <li>Uses of heat e.g. to cook, dry food, dry clothes, warm things.</li> </ul> </li> <li>Effects of heat gain and loss <ul style="list-style-type: none"> <li>Change of size/length</li> <li>Expansion (experiments on the expansion).</li> </ul> </li> </ol>	<ul style="list-style-type: none"> <li>Drawing and labeling thermometers.</li> <li>Measuring temperatures.</li> <li>Mixing and separating mixtures.</li> <li>Working out sums that involve conversions in °C and °F.</li> <li>Discussing what energy is (the concept of energy).</li> <li>Drawing and labelling different thermometers.</li> <li>Discussing the effects of heat on matter.</li> <li>Explaining types of heat in our everyday experiences.</li> <li>Practicing measuring temperature correctly.</li> <li>Drawing the different thermometers correctly.</li> </ul>

Subject Competences	Language Competences	Content	Suggested Activities
<ul style="list-style-type: none"> <li>• States the difference between heat energy and temperature.</li> <li>• Relates heat to temperature.</li> <li>• Explains the types and uses of the thermometer.</li> </ul>		<ul style="list-style-type: none"> <li>• Contraction (experiments on contraction)</li> <li>• Change of state e.g. melting, evaporation, freezing, condensation, sublimation.</li> <li>• Increase in temperature</li> <li>• Heat transfer (how heat travels)</li> <li>• Conduction in solids</li> <li>• Convection in liquids and gases</li> <li>• Radiation in vacuum</li> </ul> <p>8. Uses of different methods of heat transfer in our surrounding e.g.</p> <ul style="list-style-type: none"> <li>• The thermos flask</li> <li>• The charcoal stove</li> </ul> <p>9. Heat and temperature</p> <ul style="list-style-type: none"> <li>• What temperature is</li> </ul> <p>10. Thermometers and measure of temperature</p> <ul style="list-style-type: none"> <li>• Types and uses of thermometers</li> <li>• Celsius scale</li> <li>• Fahrenheit scale</li> <li>• Six's (Minimum and Maximum)</li> </ul>	

Subject Competences	Language Competences	Content	Suggested Activities
<ul style="list-style-type: none"> <li>Converts degrees appropriately.</li> </ul>		<ul style="list-style-type: none"> <li>The clinical thermometer</li> <li>Differences between different thermometers.</li> </ul> <p>11. Conversion from celsius to fahrenheit and vice versa.</p>	

Life Skills	Values	Assessment Activities
<ul style="list-style-type: none"> <li>Effective communication.</li> <li>Problem-solving.</li> <li>Critical thinking.</li> <li>Decision-making.</li> <li>Creative thinking.</li> </ul>	<ul style="list-style-type: none"> <li>Responsibility</li> <li>Care</li> <li>Cooperation</li> <li>Confidence</li> <li>Logic</li> <li>Taking decisions</li> <li>Making right choices</li> </ul>	<ol style="list-style-type: none"> <li>Describe the characteristics of different states of matter.</li> <li>Explain how heat energy affects the environment.</li> <li>Draw and label the different types of thermometers.</li> </ol>

## THEME: SCIENCE IN HUMAN ACTIVITIES AND OCCUPATIONS

Topic: Occupations in Our Community: Crop Growing

### General background

Learners already have the basic knowledge and skills about the growing of crops in general. In this topic the teacher is required to guide the learners on how to grow and care for the common tuber crops in their locality and select one for a sample study. It is important to note that exposing learners to seeing, feeling, smelling and other practical activities enhances understanding of the concepts and skills you intend to develop in learners. This topic existed in Term Three but has been included in Term Two.

### Learning outcome

The learner is able to show knowledge about common tuber crops, demonstrate growing tuber crops and appreciate the importance of harvesting, processing and storing tuber crops properly.

Subject Competences	Language Competences	Content	Suggested Activities
<p>The learner:</p> <ul style="list-style-type: none"><li>Identifies the characteristics of common tuber crops.</li><li>Discusses ways of growing and caring for tuber crops.</li><li>Identifies pests and diseases of tuber crops.</li><li>Describes the characteristics of common tuber crop pests and their effects on crops.</li><li>Discusses methods of controlling pests and diseases of tuber crops.</li></ul>	<ul style="list-style-type: none"><li>Names the common tuber crops.</li><li>Describes ways of caring for tuber crops.</li><li>Recites rhymes about growing and caring for tuber crops.</li><li>Reads words, sentences and stories about growing and caring for tuber crops.</li><li>Writes words, sentences and stories about growing and caring for tuber crops.</li></ul>	<ol style="list-style-type: none"><li>Common tuber crops<ul style="list-style-type: none"><li>Root tubers<ul style="list-style-type: none"><li>sweet potatoes</li><li>carrots</li><li>turnips</li><li>cassava</li></ul></li><li>Stem tubers<ul style="list-style-type: none"><li>Irish potatoes and yams</li></ul></li></ul></li><li>Growing and caring for tuber crops.</li><li>Common pests and diseases of tuber crops.<ul style="list-style-type: none"><li>Characteristics of common tuber crop pests.</li><li>Effects of pests and diseases on tuber crops:<ul style="list-style-type: none"><li>Rotting of tubers</li><li>Holes on tubers and leaves</li><li>Leaf yellowing</li><li>Leaf curling</li></ul></li></ul></li><li>Methods of controlling pests</li></ol>	<ul style="list-style-type: none"><li>Identifying the common tuber crops.</li><li>Naming tuber crops.</li><li>Discussing the ways of growing and caring for tuber crops.</li><li>Describing the characteristics of common tuber crop pests.</li><li>Discussing the effects of pests and diseases on tuber crops.</li><li>Discussing methods of controlling pests and diseases of tuber crops.</li><li>Describing ways of harvesting, processing and storing tuber crops.</li></ul>

Subject Competences	Language Competences	Content	Suggested Activities
<ul style="list-style-type: none"> <li>Identifies dangers of fungi.</li> <li>Discusses ways of preventing and controlling bacteria and fungal diseases.</li> </ul>		<ul style="list-style-type: none"> <li>- Harmful</li> <li>- Harmless / useful</li> <li>• Uses of fungi (mushroom for food, mould for penicillin drug, in brewing).</li> </ul> <p>5. Dangers of fungi.</p> <p>6. Prevention and control of diseases caused by fungi.</p> <p>7. Facts about bacteria and fungi.</p>	

Life Skills	Values	Assessment Activities
<ul style="list-style-type: none"> <li>Critical thinking.</li> <li>Creative thinking.</li> <li>Decision-making.</li> <li>Coping with emotions.</li> <li>Coping with stress.</li> <li>Effective communication.</li> </ul>	<ul style="list-style-type: none"> <li>Sympathy</li> <li>Care</li> <li>Taking decisions</li> <li>Logic</li> <li>Concern</li> <li>Fluency</li> <li>Responsibility</li> </ul>	<ol style="list-style-type: none"> <li>1. Name the forms of bacteria and fungi.</li> <li>2. State the uses of bacteria and fungi.</li> <li>3. Describe ways of preventing, controlling and treating bacteria and fungal diseases.</li> </ol>

## **TERM III**

### **THEME 5:**

#### **Topic 1:**

### **MANAGING CHANGES IN THE ENVIRONMENT**

#### **Types of Changes – Biological, Physical and Chemical Changes**

##### **General background**

There are many changes that happen to living organisms as they grow. Changes also happen to other things in the environment and the atmosphere.

In P.4 the learners learnt about changes in the water cycle. They also learnt about changes caused by heat to different things in the environment. You build on what has been learnt to guide learners to understand the different changes like those they may experience. Child growth and monitoring cards should be used to develop an understanding of biological changes. Note that physical and chemical changes happen in our environment now and then. You should focus on daily experiences which are familiar and which the learners can easily learn from. This topic has been retained but taken to Term Three.

##### **Learning outcome**

The learner is able to demonstrate basic knowledge and simple skills for managing changes in the environment.

<b>Subject Competences</b>	<b>Language Competences</b>	<b>Content</b>	<b>Suggested Activities</b>
<p><b>The learner:</b></p> <ul style="list-style-type: none"> <li>Describes how changes take place in the environment.</li> </ul>	<ul style="list-style-type: none"> <li>Names agents of change.</li> <li>Recites poems.</li> <li>Role plays.</li> <li>Reads words and sentences about the types of changes.</li> <li>Writes words and sentences about the environmental changes.</li> </ul>	<ol style="list-style-type: none"> <li>Changes in the environment             <ol style="list-style-type: none"> <li>Biological changes                     <ul style="list-style-type: none"> <li>What they are.</li> <li>Growth in plants and animals.</li> </ul> </li> <li>Physical changes in plants and animals.</li> <li>Managing body changes                     <ul style="list-style-type: none"> <li>- Body care</li> </ul> </li> </ol> </li> </ol>	<ul style="list-style-type: none"> <li>Naming different changes in the environment.</li> <li>Classifying changes under biological, physical and chemical.</li> <li>Writing and singing songs about environmental changes.</li> <li>Experimenting on physical changes of</li> </ul>

Subject Competences	Language Competences	Content	Suggested Activities
<ul style="list-style-type: none"> <li>• Identifies the different changes in the environment.</li> <li>• Describes the different changes in the environment.</li> <li>• Describes the different effects/consequences of various changes in the environment.</li> </ul>	<p>The teacher should encourage students to observe and record changes in the environment around them. This can be done through field trips, experiments, and discussions. Students should be encouraged to ask questions and explore different ways to observe changes.</p>	<p>- Guidance</p> <p>b) Chemical changes</p> <ul style="list-style-type: none"> <li>• What they are           <ul style="list-style-type: none"> <li>- Rusting</li> <li>- Fermentation</li> <li>- Respiration</li> <li>- Rotting and decaying</li> </ul> </li> </ul> <p>c) Physical changes</p> <ul style="list-style-type: none"> <li>• What they are.</li> <li>• Changes in weather.</li> <li>• Changes in the states of matter.           <ul style="list-style-type: none"> <li>- Land slides</li> <li>- Earth quakes</li> </ul> </li> <li>• Placement faulting / volcanic actions.</li> </ul> <p>2. Characteristics of various types of changes in the environment.</p> <p>3. Consequences of various types of changes to people, animals and plants</p> <ul style="list-style-type: none"> <li>• Increases in size.</li> <li>• Increases in temperature.</li> <li>• Mountain formation.</li> <li>• Rain formation.</li> </ul>	<p>states of water.</p>

Subject Competences	Language Competences	Content	Suggested Activities
		<ul style="list-style-type: none"> <li>• Change of state.</li> <li>• New things are formed.</li> <li>• Placement of things.</li> </ul>	
Life Skills	Values	Assessment Activities	
<ul style="list-style-type: none"> <li>• Critical thinking.</li> <li>• Creative thinking.</li> <li>• Effective communication.</li> <li>• Problem-solving.</li> <li>• Self-esteem.</li> <li>• Empathy.</li> </ul>	<ul style="list-style-type: none"> <li>• Responsibility</li> <li>• Sharing</li> <li>• Care</li> <li>• Concern</li> <li>• Logic</li> <li>• Confidence</li> <li>• Acceptance</li> </ul>	<ol style="list-style-type: none"> <li>1. Name different changes that happen to living things.</li> <li>2. List changes in the environment under:               <ol style="list-style-type: none"> <li>a) Biological</li> <li>b) Physical</li> <li>c) Chemical</li> </ol> </li> <li>3. Describe ways of managing different changes that happen in our environment.</li> </ol>	

## THEME 5: SCIENCE IN HUMAN ACTIVITIES AND OCCUPATIONS

### Topic 2: Keeping Goats, Sheep and Pigs

#### General background

Learners learnt about the keeping of rabbits in P.4. In this topic, the teacher should build on that scientific knowledge to learners to keep other bigger animals like goats, sheep and pigs. It is important to arrange field visits to nearby animal farms to emphasise the importance and skills of keeping goats, sheep and This topic existed in Term One but has been taken to Term Three.

#### Learning outcome

The learner is able to demonstrate scientific knowledge and skills necessary for keeping bigger animals and to start and manage animal keeping projects.

SUBJECT COMPETENCES	LANGUAGE COMPETENCES	CONTENT	SUGGESTED ACTIVITIES
<p>The learner:</p> <ul style="list-style-type: none"> <li>Identifies names of external parts of goats, pigs and sheep.</li> <li>Describes different breeds of goats and sheep.</li> <li>Describes uses of goats and sheep.</li> <li>Discusses the causes, signs, symptoms, prevention and control measures of diseases in goats and sheep.</li> <li>Discusses the causes, signs, symptoms, prevention and control measures of parasites and diseases in pigs.</li> </ul>	<ul style="list-style-type: none"> <li>Names the external parts of goats, sheep and pigs.</li> <li>Recites a rhyme about products of goats, sheep and pigs.</li> <li>Reads words, sentences and stories on goats, sheep and pigs.</li> <li>Writes words, sentences and stories of goats, sheep and pigs.</li> <li>Draws and labels external parts of goats, sheep and pigs.</li> </ul>	<ol style="list-style-type: none"> <li>Goats and sheep keeping <ul style="list-style-type: none"> <li>External parts of goats and sheep <ul style="list-style-type: none"> <li>- Uses</li> <li>- Breeds</li> </ul> </li> </ul> </li> <li>Housing and management of goats and sheep.</li> <li>Products from goats and sheep: <ul style="list-style-type: none"> <li>Meat</li> <li>Skins</li> <li>Wool</li> <li>Milk</li> </ul> </li> <li>Diseases of goats and sheep <ul style="list-style-type: none"> <li>Causes</li> <li>Signs and symptoms</li> <li>Prevention and control</li> </ul> </li> <li>Pig keeping <ul style="list-style-type: none"> <li>External parts of the pig.</li> <li>Breeds of pigs.</li> <li>Proper housing and management of pigs.</li> <li>Common parasites and diseases of pigs.</li> </ul> </li> </ol>	<ul style="list-style-type: none"> <li>Listing external parts of goats, sheep and pigs.</li> <li>Naming different breeds of goats, sheep and pigs.</li> <li>Listing products of goats, pigs and sheep.</li> <li>Discussing how to control parasites and diseases of goats, sheep and pigs.</li> <li>Drawing and labelling the external parts of goats, sheep and pigs.</li> <li>Caring for goats, sheep and pigs (a project).</li> <li>Draws and labels external parts of goats and sheep.</li> <li>Lists products from goats and sheep.</li> <li>Identifies breeds of pig.</li> <li>Describes ways of housing and managing pigs.</li> <li>Names common parasites and disease in pigs.</li> </ul>

SUBJECT COMPETENCES	LANGUAGE COMPETENCES	CONTENT	SUGGESTED ACTIVITIES
<ul style="list-style-type: none"> <li>Designs a work plan for and starts an animal keeping project.</li> </ul>		<ul style="list-style-type: none"> <li>Causes, signs and symptoms, prevention, control and treatment of pig diseases and worm infestations.</li> <li>Starting pigs, goats and sheep projects and record keeping of activities carried out.</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>

Life Skills	Values	Assessment Activities
Effective communication. Decision-making. Critical thinking.	<ul style="list-style-type: none"> <li>Responsibility</li> <li>Care</li> <li>Logic</li> <li>Concern</li> </ul>	<ol style="list-style-type: none"> <li>Name the different breeds of goats, sheep and pigs.</li> <li>Identify the diseases and parasites of goats, sheep and pigs.</li> <li>Draw and label the external parts of goats, sheep and pigs.</li> </ol>

## THEME 5: HUMAN HEALTH

### Food and Nutrition

#### Topic 3:

#### General background

Food and Nutrition is a primary aspect of life for both plants and animals. Food is important for growth and development of living things. In P.4 the learners learnt the need for food and classified available foodstuffs under carbohydrates, proteins, vitamins and minerals. Learners will now learn the advantages and disadvantages of breastfeeding, bottle-feeding, traditional customs and taboos.

You should guide the learners to determine the importance of feeding vulnerable groups of people well. Lead learners to discuss appropriate and prevailing views on the right use of the staple foods in a community. This will enable them increase their knowledge on proper food and nutrition and acquire skills for feeding people with different needs in the community. This topic existed in Term Two but has been taken to Term Three.

#### Learning outcome

The learner is able to use scientific knowledge and skills necessary for keeping bigger animals and is able to start and manage a keeping projects.

Subject Competences	Language Competences	Content	Suggested Activities
<p>The learner:</p> <ul style="list-style-type: none"><li>Explains what breastfeeding is, its advantages and disadvantages.</li><li>Explains what bottle-feeding is, its advantages and disadvantages.</li></ul>	<ul style="list-style-type: none"><li>Lists the food for different communities.</li><li>Recites poems and sings songs on breastfeeding.</li><li>Writing food diets for the vulnerable people.</li><li>Explains some dishes for the vulnerable.</li></ul>	<ol style="list-style-type: none"><li>1. Breastfeeding<ul style="list-style-type: none"><li>• What it is</li><li>• Advantages and disadvantages to:<ul style="list-style-type: none"><li>- mother</li><li>- baby</li><li>- family</li></ul></li></ul></li><li>2. Bottle-feeding<ul style="list-style-type: none"><li>• What it is.</li><li>• Advantages and disadvantages to:</li></ul></li></ol>	<ul style="list-style-type: none"><li>• Writing advantages and disadvantages of breastfeeding to:<ul style="list-style-type: none"><li>• mother</li><li>• baby</li><li>• care family</li></ul></li><li>• Explaining the instances when bottle-feeding is necessary.</li><li>• Listing different vulnerable groups of people.</li></ul>

Subject Competences	Language Competences	Content	Suggested Activities
<ul style="list-style-type: none"> <li>Identifies vulnerable groups of people.</li> </ul> <p>Explains traditional customs and their advantages and disadvantages to the community.</p>		<ul style="list-style-type: none"> <li>- mother</li> <li>- baby</li> <li>- family</li> </ul> <p>3. The vulnerable groups</p> <ul style="list-style-type: none"> <li>Who they are <ul style="list-style-type: none"> <li>- weaning babies</li> <li>- sick</li> <li>- elderly</li> <li>- convalescents</li> <li>- breastfeeding</li> <li>- pregnant mothers and their unborn children.</li> </ul> </li> <li>Food for the vulnerable <ul style="list-style-type: none"> <li>- soft drinks</li> <li>- soft foods</li> <li>- balanced diet</li> </ul> </li> <li>Traditional customs and food taboos in communities <ul style="list-style-type: none"> <li>- what taboos are e.g. women should not eat chicken, eggs, and so on.</li> <li>- effects of food taboos in nutrition.</li> </ul> </li> </ul> <p>4. Food consumption patterns in the community.</p> <ul style="list-style-type: none"> <li>Staple foods of different communities.</li> <li>Other foods of different</li> </ul>	<ul style="list-style-type: none"> <li>Explaining why vulnerable people need special feeding.</li> <li>Discussing the customs and food taboos in your society.</li> <li>Writing advantages and disadvantages of food taboos.</li> <li>Identifying different food consumption patterns in a community.</li> <li>Describing food for vulnerable.</li> <li>Differentiating bottle feeding.</li> </ul>

<b>Object Competences</b>	<b>Language Competences</b>	<b>Content</b>	<b>Suggested Activities</b>
Identifies different food patterns for different communities.		communities.	
<b>Life Skills</b> Effective communication. Self-awareness. Creative thinking. Self-esteem. Problem-solving. Critical thinking.	<b>Values</b> <ul style="list-style-type: none"> <li>• Responsibility</li> <li>• Care</li> <li>• Love</li> <li>• Appreciation</li> <li>• Respect</li> <li>• Patience</li> <li>• Fluency</li> </ul>	<b>Assessment Activities</b> <ol style="list-style-type: none"> <li>1. Write advantages and disadvantages of: a) Breastfeeding b) Bottle-feeding c) Food taboos</li> <li>2. List five groups of vulnerable people in the community.</li> <li>3. Describe different staple foods for different communities.</li> </ol>	

## **THEME: HUMAN HEALTH**

### **Topic 4: Primary Health Care (PHC)**

#### **General background**

In this topic, learners should be involved in activities which enable them to carry out health activities that use the knowledge so far gained in health education theories. Community hygiene activities at this level should mainly be confined to keeping the compound clean, disposing of rubbish, cleaning latrines, maintaining hygiene, and so on to be an example. This topic was merged from P.5 Term Three, P.6 Term Two and P.7 Term One.

#### **Learning outcome**

The learner is able to apply knowledge of the elements and principles of Primary Health Care for an improved quality of life.

Subject Competences	Language Competences	Content	Suggested Activities
<p>The learner:</p> <ul style="list-style-type: none"> <li>Describes what PHC is, its elements and principles.</li> </ul>			<ul style="list-style-type: none"> <li>Describing PHC, its elements and principles.</li> </ul>
<p>Demonstrates activities of PHC in promotion of community hygiene.</p>			<ul style="list-style-type: none"> <li>Practicing activities PHC in the community.</li> </ul>
<p>Explains the responsibilities of individuals, families and the community in health promotion.</p>	<ul style="list-style-type: none"> <li>Reads words, sentences and stories about PHC activities in the community.</li> <li>Writes words, sentences and stories about PHC activities in the community.</li> </ul>	<ol style="list-style-type: none"> <li>Primary Health Care <ul style="list-style-type: none"> <li>What it is.</li> <li>Elements and Principles of PHC.</li> </ul> </li> <li>Activities in PHC in promotion of community hygiene e.g.: <ul style="list-style-type: none"> <li>Rubbish and excreta disposal.</li> <li>Protecting water sources.</li> </ul> </li> <li>Responsibility of individuals, family and community in health promotion.</li> <li>Suitable lifestyles and good health practices.</li> </ol>	<ul style="list-style-type: none"> <li>Demonstrating the responsibilities of individuals, families and the community in health promotion.</li> <li>Naming people with special needs in the community.</li> <li>Discussing how to care for people with special needs.</li> </ul>
<p>Identifies the different types of people with special needs in the community and how to care for them.</p>			
		<ol style="list-style-type: none"> <li>People with special needs in the community e.g.: <ul style="list-style-type: none"> <li>the sick</li> <li>the elderly</li> <li>the disabled</li> <li>the young</li> </ul> </li> <li>Care for people with special needs e.g.: <ul style="list-style-type: none"> <li>protection</li> </ul> </li> </ol>	

<b>Life Skills</b>	<b>Values</b>	<b>Assessment Activities</b>
<ul style="list-style-type: none"> <li>• Self-awareness.</li> <li>• Self-esteem.</li> <li>• Empathy.</li> <li>• Problem-solving.</li> <li>• Decision making.</li> <li>• Critical thinking.</li> </ul>	<ul style="list-style-type: none"> <li>• Sympathy</li> <li>• Confidence</li> <li>• Responsibility</li> <li>• Care</li> <li>• Logic</li> <li>• Concern</li> <li>• Acceptance</li> <li>• Love</li> <li>• Sharing</li> <li>• Appreciation</li> </ul>	<ol style="list-style-type: none"> <li>1. List the activities of PHC in promotion of community hygiene.</li> <li>2. Describe the responsibilities of individuals, family and the community in health promotion.</li> <li>3. Discuss how to care for people with special needs in the community.</li> </ol>

## Word List

### Poultry Keeping

- poultry
- external functions
- systems
- layers
- beak
- claws
- wattle
- scales
- broilers
- free range
- deep litter
- fold pen
- fowl

### Bee Keeping

- swarming
- drones
- pollination
- wax
- propolis
- leakage
- dug out log
- top bar hive
- excessive heat

### **Measurement**

- mass
- weight
- volume
- capacity

### • instruments

- floating
- sinking
- displacement
- density (ies)

### **Immunisation**

- immunity
- vaccine(s)
- immunisable
- symptoms
- diphtheria
- meningitis

### hemophilia influenza

- Hepatitis B
- whooping cough
- Tuberculosis
- Tetanus
- Yellow fever

### **Digestive System**

- digestion
- aesophagus
- rectum
- salivary glands
- pancreas
- disorder(s)
- efficiency
- ulcers
- intestinal obstruction
- constipation
- vomiting
- digestive system
- habit
- maintain(ing)

### **Components of the Environment: Soil**

- fertilisers
- artificial
- mulches
- erosion
- agent(s)
- conservation
- compost
- properties
- harmful
- components
- fungi
- chemicals
- fertility
- manure

### humus

- loam
- clay
- bacteria
- fungi
- chemicals
- mining
- polythene
- mineral

## **Heat Energy**

- solutes
- mixtures
- forms
- kinetic energy
- gases
- contraction
- freezing
- radiation
- convection
- clinical thermometer
- dissolving
- exerts
- pressure
- solid
- magnetism
- melting
- condensation
- vacuum
- Celsius scale
- potential energy
- exerts
- pressure
- solid
- magnetism
- melting
- condensation
- vacuum
- Celsius scale

## **Occupations in our Community: Crop Growing**

- tuber crops
- rotting
- spraying
- storage
- tubers
- crop rotation
- potato blight
- pests
- cassava mosaic

## **Bacteria and Fungi**

- organisms
- harmless
- agent(s)
- fungal diseases
- bacterial diseases

## **Types of Changes – Biological, Physical and Chemical Changes**

- biological
- rusting
- placement faults
- chemical
- fermentation
- adolescents
- respiration
- melting
- decaying
- freezing

## **Keeping Goats, Sheep and Pigs**

- parasite(s)

- swine flu

- flock

## **Food and Nutrition**

- proteins
- carbohydrates
- vitamins
- staple food(s)
- minerals
- vulnerable
- weaning
- consumption

## **Primary Health Care (PHC)**

- elements
- principles
- hygiene
- excreta
- disposal
- suitable
- practices