PRY 4 BASIC SCIENCE FIRST TERM ENOTE

WEEK 1: CHANGES IN NATURE

UNITS:

- Types of changes :Temporary changes(reversible) and Permanent changes (irreversible)

WEEK 2: CHANGES IN PLANT

WEEK 3: CHANGES IN ANIMALS

WEEK 4: CHANGES IN NON LIVING THINGS

WEEK 5: OUR WEATHER

Units:

- Meaning of Weather
- Factors affecting the weather
- Weather instruments

WEEK 6: WEATHER SYMBOL AND RECORD CHART

Units:

- Weather Symbol
- Weather Record

WEEK 7: COLOURS

Units:

- Various colours around us
- Colour in the rainbow
- Primary and secondary Colours
- Producing new colours

WEEK 8: MEASUREMENT

- Measurement of length.
- Measurement of breath.
- Measurement of area of object.

WEEK 9: MEASURING OF LIQUIDS

- Measuring of volume of liquids in M, CL, and L.

WEEK 10: MEASURING SOLID

- Regular Solids
- Irregular Solids

WEEK 11: MEASURING TIME

- Measuring units.

WEEK 12: REVISION

WEEK 13: EXAMINATION

First Term Basic Science and Technology E-Lesson Note

WEEK: WEEK 1
CLASS: PRIMARY 4
DATE:
PERIOD:
TIME: 40 MINUTES
TOPIC: CHANGES IN NATURE
PERFORMANCE OBJECTIVES
At the end of this lesson, Pupils should be able to:

1. Know the meaning of change.
2. Mention the changes they observe in their surrounding
3. Tell the differences between temporary and permanent changes
4. Examples of temporary and permanent changes.

TEACHING AND LEARNING MATERIALS

- Pot
- Stove/cooking Gas
- Block
- Bucket
- Water
- Candle
- Green and yellow leaves
- knife
- Whiteboard/Chalkboard
- Explanatory posters/pictures
- Explanatory videos

REFERENCE MATERIALS

- NERDC Basic Education Curriculum for primary schools.
- Universal Basic Education Curriculum for primary schools.
- Lagos State Scheme of Work.
- Online Materials.
- Basic Science and Technology for Primary Schools.

ENTRY BEHAVIOUR/ PREVIOUS KNOWLEDGE: the students have been taught

LESSON CONTENT

CHANGES IN NATURE

What is change? Change is when something loses one's or its original nature or it is an event that occurs when something passes from one state or phase to another.

When things are no longer in their normal form, it means a change has occurred. Living things and non-living things do experience changes.

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Living things are things that have life like animals (cat, dog), Human beings (Male and female) while non-living things are things without life like stone, table, chairs chalkboard.

Examples of changes

1. Iron becoming rusty
2. Green leaves turning yellow
3. Melting of candle wax
4. Ice block changing to water
5. Girl changes to woman
6. Boy changes to man

Changes in Natures Occurs in two forms. These are: Temporary changes and Permanent changes

Types of changes

Temporary changes (Reversible Changes) are changes that happened for a short time and they are reversible.

Temporary changes occurs due to the change in position or condition in the Environment

Temporary changes occurs in living and non- living things.

Examples of Temporary changes

1. Water changes to ice block during low temperature.
2. Ice block changes to water when the temperature is raised.
3. Water becomes hot when heated.
4. Water becomes cold removed from fire after some time.
5. Chameleon change its colours to its environment.

Permanent changes (irreversible Changes)

Once permanent change occurred the body or thing affected cannot be reverse to the way, it was before. That is, it is irreversible.

Permanent change also occurs in both living and non-living things.

Examples of Permanent changes

1. A child changes to an adult.
2. cassava turn to Garri
3. A dead person cannot live again.
4. Trees cut into planks to make furniture.
5. Wood burnt into ashes.
6. Cement mixed with sand and water to make block.

INSTRUCTIONAL PROCEDURE

- The Teacher introduce the lesson (**CHANGES IN NATURE**).

- The Teacher explains the lessons.

LEARNERS ACTIVITIES
Learners participate in the class discussion

LESSON EVALUATION
Teacher ask the learners to:

1. Define change.
2. Mention three changes they observe in their surrounding
3. Tell the differences between temporary and permanent changes
4. Give three Examples of temporary and permanent changes.

CONCLUSION: the teacher summarize the lesson**.**

WEEK: WEEK 2
CLASS: PRIMARY 4
DATE:
PERIOD:
TIME: 40 MINUTES
TOPIC: CHANGES IN PLANT
PERFORMANCE OBJECTIVES
At the end of this lesson, Pupils should be able to:

1. Mention the changes in plant.

TEACHING AND LEARNING MATERIALS

- Water
- Soil
- Jar
- A growing plant
- Whiteboard/Chalkboard
- Explanatory posters/pictures
- Explanatory videos

REFERENCE MATERIALS

- NERDC Basic Education Curriculum for primary schools.
- Universal Basic Education Curriculum for primary schools.
- Lagos State Scheme of Work.
- Internet.

- Basic Science and Technology for Primary Schools.

ENTRY BEHAVIOUR/ PREVIOUS KNOWLEDGE: The students have been taught changes in nature.

LESSON CONTENT

CHANGES IN PLANT

Plants are also living things, they experience changes too as they grow. Most changes in plants are permanent changes.

Using Maize as an Example.

When a maize seed is planted into the soil, after some time, we experience change as the seed begins to grow, it changes from seed to seedlings. We experience increase in growths and the leaves keep broaden itself and greenish in colour, this is another change, after some time it will start producing fruits and the leaves of the corn turns yellow and brown before it is harvested by the farmer. These are different changes in plant.

Examples of Changes in Plants

1. The seeds turn into seedlings when growing.
2. Increase in height.
3. Broaden leaves.
4. Changes from flowers to fruits.
5. Increase in fruit sizes.
6. Change from immature (unripe fruits) fruits to matured fruits (ripe fruits).
7. Green leave turn yellow.
8. Yellow leaves turning brown.
9. Leaves falls.

INSTRUCTIONAL PROCEDURE

- The Teacher revises the previous lesson (**CHANGES IN NATURE**).
- The Teacher introduces the lesson through question and answer (**CHANGES IN PLANT**).
- The Teacher explains the lessons.
- The Teacher write the note on the board.

LEARNERS ACTIVITIES

Learners participate in the class discussion

LESSON EVALUATION

Teacher ask the learners to:

1. Mention three changes they observe in plant

CONCLUSION: the teacher summarize the lesson**.**

WEEK: WEEK 3

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CLASS: PRIMARY 4
DATE:
PERIOD:
TIME: 40 MINUTES
TOPIC: CHANGES IN ANIMALS
PERFORMANCE OBJECTIVES
At the end of this lesson, Pupils should be able to:

1. Mention the changes in animals.
2. Names of some animals and their young ones

TEACHING AND LEARNING MATERIALS

- Fish and fry
- Water
- Whiteboard/Chalkboard
- Explanatory posters/pictures
- Explanatory videos

REFERENCE MATERIALS

- NERDC Basic Education Curriculum for primary schools.
- Universal Basic Education Curriculum for primary schools.
- Lagos State Scheme of Work for Basic Science and Technology.
- Unified Schemes of Work for Lagos State Primary Schools (MIDDLE BASIC)
- Online Materials.
  Basic Science and Technology for Primary Schools.

ENTRY BEHAVIOUR/ PREVIOUS KNOWLEDGE: the students have been taught changes in plant.

LESSON CONTENT

CHANGES IN ANIMALS

Animal are living things, they experience changes too as they grow. Changes in animal begins after birth. Most changes in plants are permanent changes. The changes that take place in animals are called **METAMORPHOSIS**.
Examples of changes in Animals

1. Change in body temperature like Lizard.
2. Changes in size.
3. Increase in height.
4. Changes in skin colour like chameleon.
5. Changes from child to adult.
6. Some gives birth to young one.

Names of some Animals and their young ones.

YOUNG ONE	MOTHER	FATHER
Piglet	Sow	Boar
Eaglet	Eagle	Eagle
Kitten	Tabby cat (Queen)	Tomcat
Calf	Cow	Bull
Chick	Hen	Cock
Lamb	Ewe	Ram
Gosling	Goose	Gander

INSTRUCTIONAL PROCEDURE

- The Teacher revises the previous lesson (CHANGES IN PLANT).
- The Teacher introduces the lesson through question and answer (**CHANGES IN ANIMALS**).
- The Teacher explains the lessons.
- The Teacher write the note on the board.

LEARNERS ACTIVITIES

Learners participate in the class discussion

LESSON EVALUATION

Teacher ask the learners to:

1. Mention three changes they observe in animals.
2. List three names of young ones, mothers and fathers animals.

CONCLUSION: the teacher summarize the lesson**.**

WEEK: WEEK 4
CLASS: PRIMARY 4
DATE:
PERIOD:
TIME: 40 MINUTES
TOPIC: CHANGES IN NON – LIVING THINGS
PERFORMANCE OBJECTIVES

At the end of this lesson, Pupils should be able to:

1. Mention the changes in non-living things.

TEACHING AND LEARNING MATERIALS

- Candle

- Mould
- Wood
- Rusting iron
- Whiteboard/Chalkboard
- Explanatory posters/pictures
- Explanatory videos

REFERENCE MATERIALS

- NERDC Basic Education Curriculum for primary schools.
- Universal Basic Education Curriculum for primary schools.
- Lagos State Scheme of Work for Basic Science and Technology.
- Online Materials.
- Basic Science and Technology for Primary Schools.

ENTRY BEHAVIOUR/ PREVIOUS KNOWLEDGE: the students are familiar with changes in animals.

LESSON CONTENT

CHANGES IN NON – LIVING THINGS

As living things experience changes also changes occurs in non-living things. Changes in non-living things can be permanent or temporary changes.

Examples of changes in non-living things

1. Using clay to form a sculpture (Moulding).
2. Iron/metal start getting rust due to lack of maintenance.
3. Melting of candle wax.
4. Burning of wood to ashes.

INSTRUCTIONAL PROCEDURE

- The Teacher revises the previous lesson (**CHANGES IN ANIMALS**).
- The Teacher introduces the lesson through question and answer (**CHANGES IN NON LIVING THINGS**).
- The Teacher explains the lessons.
- The Teacher write the note on the board.

LEARNERS ACTIVITIES

Learners participate in the class discussion

LESSON EVALUATION

Teacher ask the learners to:

1. Mention three changes they observe in non-living things.

CONCLUSION: the teacher summarize the lesson**.**

First Term Basic Science and Technology E-Lesson Note

WEEK: 5
CLASS: PRIMARY 4
DATE:
PERIOD:
ENTRY BEHAVIOUR/ PREVIOUS KNOWLEDGE: the students are familiar with changes in non – living things.
TIME: 40 MINUTES
TOPIC: OUR WEATHER
Units:

- Meaning of Weather
- Factors affecting the weather
- Weather instruments

PERFORMANCE OBJECTIVES
At the end of this lesson, Pupils should be able to:

1. Define weather.
2. Identify the factors affecting weather.
3. Mention weather instruments
4. Identify and write simple weather symbols.

TEACHING AND LEARNING MATERIALS

- Thermometer
- Rain gauge
- Clock
- Graph sheets
- Funnel
- Beaker
- Empty tins
- Whiteboard/Chalkboard
- Explanatory posters/pictures
- Explanatory videos

REFERENCE MATERIALS

- NERDC Basic Education Curriculum for primary schools.
- Universal Basic Education Curriculum for primary schools.
- Lagos State Scheme of Work for Basic Science and Technology.
- Online Materials.
- Basic Science and Technology for Primary Schools.

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LESSON CONTENT

OUR WEATHER

Weather is the state of a particular environment at a given period of time.
Climate is the weather condition of a place over a long period of time.
A person that studies the weather and predict the weather is called a Meteorologist or weather forecaster.

Factors affecting Weather

The condition of the weather affect the way we behave and react.

There are different factors that affect weather, these are:

1. Wind
2. Sunshine
3. Rainfall
4. Temperature
5. Humidity
6. Cloud
7. Atmospheric pressure

Weather instrument and functions

The following are weather instruments:

1. **Thermometer – it is used to measure the temperature of a person.**
2. **Barometer – it is used to measure the pressure of the atmosphere.**
3. **Anemometer – it is used to measure the speed of the wind.**
4. **Rain gauge – it is used to measure the quantity or amount of rainfall.**
5. **Hygrometer – it is used to measure water vapor in the air (relative humidity).**
6. **Clock – it is used to show time.**
7. **Photometer – used to measure Light intensity.**

Weather Symbols

Meteorologist make use of these symbols when recording and forecasting weather.
The following are some of the symbols used to observe the condition of weather.

1. **Sunny**
2. **Rainy**
3. **Cold**
4. **Cloudy**
5. **Lightning**
6. **Hot**

GLOBAL WARMING

Global warming is an increase in the average temperature of the earth's atmosphere that leads to the change of climate. This is caused by the release of harmful gases like carbon dioxide (co2), chlorofluorocarbons (CFCs) into the atmosphere.

The effect of global warming

1. **Rising sea level**
2. **Increase in temperature**
3. **Excessive flood.**

INSTRUCTIONAL PROCEDURE

- The Teacher revises the previous lesson (**CHANGES IN NON – LIVING THINGS)**.
- The Teacher introduces the lesson through question and answer (**OUR WEATHER**).
- The Teacher explains the lessons.
- The Teacher write the note on the board.

LEARNERS ACTIVITIES

Learners participate in the class discussion

LESSON EVALUATION

Teacher ask the learners to:

1. Define weather.
2. Identify three factors affecting weather.
3. Mention three weather instruments
4. Identify and write three simple weather symbols.

CONCLUSION: the teacher summarize the lesson**.**

PREVIOUS LESSON: CHANGES IN NON – LIVING THINGS

WEEK: 6
CLASS: PRIMARY 4
DATE:
PERIOD:
TIME: 40 MINUTES
TOPIC: WEATHER SYMBOL AND RECORD CHART
Units:

- Weather Symbol
- Weather Record

PERFORMANCE OBJECTIVES

At the end of this lesson, Pupils should be able to:

1. Identify the symbols.
2. Identify and write simple weather symbols.

TEACHING AND LEARNING MATERIALS

- Thermometer
- Rain gauge
- Clock

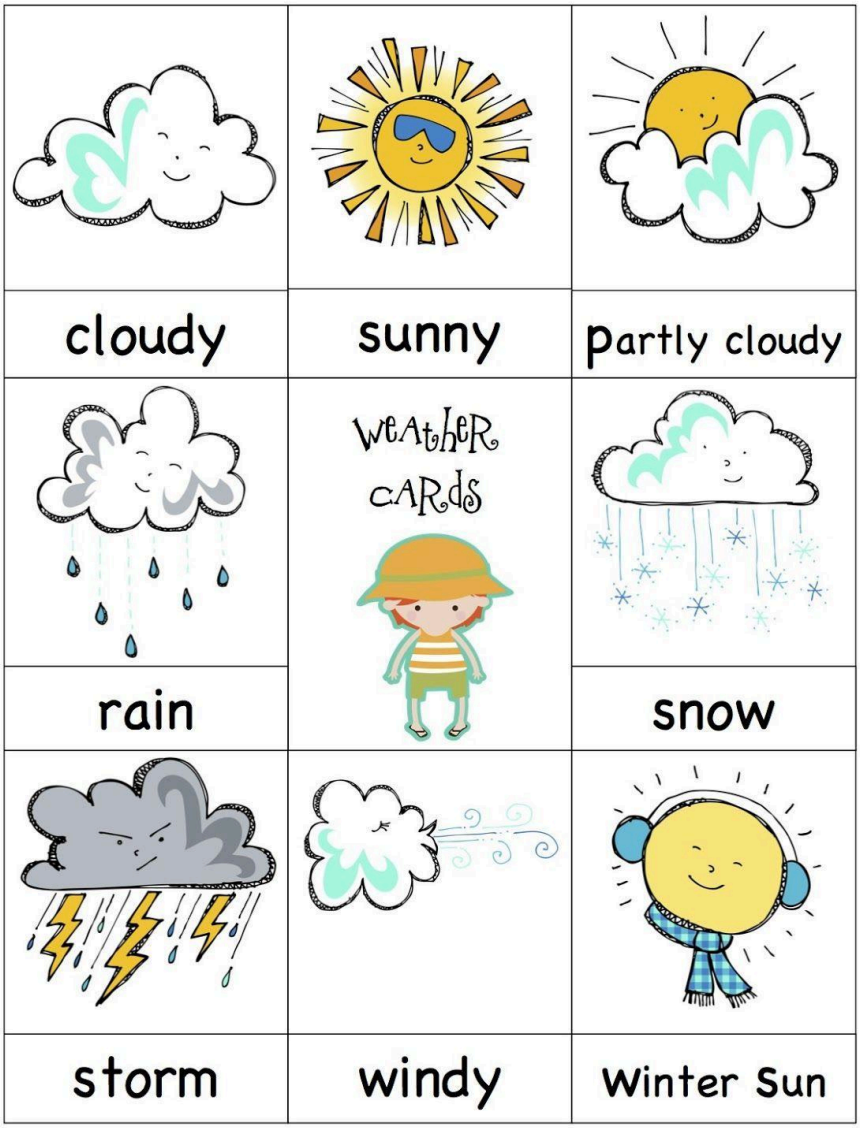
- Graph sheets
- Funnel
- Beaker
- Empty tins
- Whiteboard/Chalkboard
- Explanatory posters/pictures
- Explanatory videos

REFERENCE MATERIALS

- NERDC Basic Education Curriculum for primary schools.
- Universal Basic Education Curriculum for primary schools.
- Lagos State Scheme of Work for Basic Science and Technology.
- Online Materials.
- Basic Science and Technology for Primary Schools.

ENTRY BEHAVIOUR/ PREVIOUS KNOWLEDGE: the students have been taught weather.

LESSON CONTENT



The weather chart

The weather can change often in a day. These weather changes can be recorded in a chart. Such a chart is called a weather chart. In the next activity, you will make a weather chart.

Preparing a weather chart

Materials required

Your science notebook, weather-measuring instruments such as thermometer, wind vane, rain gauge and barometer.

Procedure

1. Observe the weather for one day.
2. Enter your findings into a table such as shown

Weather chart

Time of the day	Sunshine (bright, moderate, dull)	Tempe-rature	Cloudy or clear sky	Rain	Wind	Wind direction
8 a.m.						
9 a.m.						
10 a.m.						
11 a.m.						
12 noon						
1 p.m.						
2 p.m.						
3 p.m.						
4 p.m.						
5 p.m.						

EVALUATION

Answer these questions

1. Does the sun shine to the same extent throughout the day?
2. Does the temperature remain the same throughout the day?
3. Do the clouds remain the same throughout the day?
4. Does the wind change in speed and direction during the day?
5. Does it rain throughout the day?

Answer these questions

1. Explain the meaning of weather.
2. Name three factors that affect the weather.
3. Describe the effects of changes in weather factors on the weather.
4. Name three weather-measuring instruments and describe their uses.

WEEK: WEEK 7
CLASS: PRIMARY 4
DATE:
PERIOD:
TIME: 40 MINUTES
TOPIC: COLOURS
Units:

- Various colours around us
- Colour in the rainbow

- Primary and secondary Colours
- Producing new colours

PERFORMANCE OBJECTIVES

At the end of this lesson, Pupils should be able to:

1. Identify different colours around us
2. List the colours of rainbow
3. Know the types of colours

TEACHING AND LEARNING MATERIALS

- Whiteboard/Chalkboard
- Explanatory posters/pictures
- Explanatory videos

REFERENCE MATERIALS

- NERDC Basic Education Curriculum for primary schools.
- Universal Basic Education Curriculum for primary schools.
- Lagos State Scheme of Work for Basic Science and Technology.
- Unified Schemes of Work for Lagos State Primary Schools (MIDDLE BASIC)
- Online Materials.
- Basic Science and Technology for Primary Schools.

ENTRY BEHAVIOUR/ PREVIOUS KNOWLEDGE: the students have been taught weather symbols and records.

LESSON CONTENT

COMPONENTS OF WHITE LIGHT

Colours can give us in different emotion. It can make us to be happy, confuse, sad, angry,

The sun gives us natural light. The light is made up of seven colours. We also use ROYGBIV to remember and name the colours of light.

The colours of light using ROYGBIV

The colours of light can also be called the spectrum of white light or rainbow colours.

1. **R = Red**
2. **O = Orange**
3. **Y = Yellow**
4. **G = Green**
5. **B = Blue**
6. **I = Indigo**
7. **V = Violet**

CLASSIFICATION OF COLOUR

We have two types of colours, these are:

1. **Primary colours or natural colours: they are green, red and blue. Things with primary colours are biter leaf (green), pumpking leaf (green), clay soil (reddis brown), Kolanut (redish brown), rose flower (red), hibiscus flower (red).**
2. **Secondary colours: it is gotten by mixing two primary colours. The process of producing secondary colour is called Additive colour mixing. Examples of secondary colours are magenta, cyanm yellow and orange.**

Other colours are Tertiary colour.

PRODUCTION OF COLOURS FROM PRIMARY COLOURS

Red + Green = Yellow

Blue + Green = Cyan

Red + Blue = Magenta

INSTRUCTIONAL PROCEDURE

- The Teacher revises the previous lesson **WEATHER SYMBOLS AND RECORDS**).
- The Teacher introduces the lesson through question and answer (**COLOURS**).
- The Teacher explains the lessons.
- The Teacher write the note on the board.

LEARNERS ACTIVITIES

Learners participate in the class discussion

LESSON EVALUATION

Teacher ask the learners to:

1. Identify three colours around us
2. List the colours of rainbow
3. Mention the types of colours.

CONCLUSION: the teacher summarize the lesson**.**

WEEK: WEEK 9

CLASS: PRIMARY 4

NAME OF TEACHER:

DATE:

AGE OF STUDENTS:

CLASS COMPOSITION: Slow and fast learners.

PERIOD:

TIME: 40 MINUTES

TOPIC: MEASURING LIQUIDS

Units:

- Measuring the volume of liquids in mm3 and cm3
- Improvising a measuring cylinder

PERFORMANCE OBJECTIVES

At the end of this lesson, Pupils should be able to:

1. Measure the amount of liquids accurately using graduated measuring cylinders, cups or jars.

2. State the metric unit of volume
3. Improvise a measuring cylinder with estimated scales for volumes in the metric system.

TEACHING AND LEARNING MATERIALS

- Water
- Paper
- Card board
- Empty Jar
- Pen
- Whiteboard/Chalkboard
- Explanatory posters/pictures
- Explanatory videos

TEACHING AND LEARNING METHODS

- Explanation
- Discussion
- Questions and answer

REFERENCE MATERIALS

- NERDC Basic Education Curriculum for primary schools.
- Universal Basic Education Curriculum for primary schools.
- Lagos State Scheme of Work for Basic Science and Technology.
- Unified Schemes of Work for Lagos State Primary Schools (MIDDLE BASIC)
- Online Materials.
- Basic Science and Technology for Primary Schools.

ENTRY BEHAVIOUR/ PREVIOUS KNOWLEDGE: the students have been taught measurement.

LESSON CONTENT

MEASURING LIQUIDS

Liquid is measured using standard measuring instrument like measuring cylinder and beaker to get it quantity and amount of volume.

MEASURING THE VOLUME OF LIQUIDS IN MM3 AND CM3

Liquids like water, kerosene, petrol, oil can be measured. Graduated jars, measuring cylinder, pipette can be used to measure the volume of liquids.

Units of Measurement of Liquids:

1000 CUBIC millimetres (MM3) = 1 cubic centimeter (cm3)

1000 cubic centi metres (cm3) = 1 cubic decimeter (dm3)

1000 cubic decimeter (dm3) = 1 cubic metre (m3).

1 cubic metres = 1000 litres.

IMPROVISING A MEASURING CYLINDER

Measuring cylinder can be gotten by making use of the following materials: paper, cardboard, empty jar, ruler and pen.

INSTRUCTIONAL PROCEDURE

- The Teacher revises the previous lesson **(Measurement)**.
- The Teacher introduces the lesson through question and answer (**MEASURING LIQUIDS**).
- The Teacher explains the lessons.
- The Teacher write the note on the board.

LEARNERS ACTIVITIES

Learners participate in the class discussion

LESSON EVALUATION

Teacher ask the learners to:

1. State three ways by which Liquids can be measured.
2. The unit of volume is _____
3. Mention three local materials that you can used to make a cylinder.

CONCLUSION: the teacher summarize the lesson**.**