**BASIC SCIENCE JSS 3**

**THIRD TERM**

## SCHEME OF WORK

**WEEKS TOPICS**

1. REVISION

2. MAN IN SPACE

3. OUR DISAPPEARING FOREST

4. CONTROLLING THE WEATHER

5. FAMILY LIFE EDUCATION

6 – 13 REVISION AND EXAMINATION

**WEEK 1**

**REVISION OF LAST TERM’S WORK**

**WEEK 2**

**Topic: Man in Space**

**Feeling of Man in Space:**

When a person stands on the floor, their weight acts downward, and the floor exerts an equal and opposite reaction. This sensation informs the person about their weight, which can be measured using a bathroom-weighing machine. If this machine is taken into a lift and used, it provides the same weight measurement. Earth is enveloped by a layer of air called the atmosphere, divided into troposphere, stratosphere, ionosphere, and exosphere. Beyond this layer is space.

Evaluation:

1. What is the name given to the layer of air surrounding the earth?

2. What is the term for the area beyond the atmosphere?

Subtopic: Gravitational Force

Gravitational force is the attraction that bodies experience towards the earth. When an object is thrown upwards, it is pulled back to the ground due to this force, explaining why fruits fall from trees. Earth acts like a magnet, attracting objects toward its center, and gravitational pull is a result of gravity.

Evaluation:

1. Define gravitational force.

2. What is gravity?

Subtopic: The Gravitational Pull and Weight

The force with which gravity pulls an object depends on its mass, the Earth's mass, and the distance between the object and the Earth's center. Weight varies when an object is weighed on Earth's surface and when it is weighed at a significant height. However, mass remains constant unless material is added or removed from the object.

Evaluation:

1. Name three factors on which the force of gravity pulling an object depends.

Subtopic: Weightlessness

Weightlessness is the sensation of having no weight. It does not imply the absence of weight; it's the feeling of being free from the gravitational pull of another object. Scientists study space travel to understand Earth and explore the potential for life on other planets. Centrifugal force keeps objects moving around the Earth, allowing them to float freely in weightlessness.

Weekend Assignment:

1. The moon is called the satellite of the earth because \_\_\_\_\_\_

(a) it rotates round the earth

(b) It rotates round the sun

(c) It is close to the earth

(d) It is in the universe

2. The quantity of matter in a body is called (a) weight (b) mass (c) gravity (d) height

3. The layers surrounding the earth do not include (a) Locosphere (b) Exosphere (c) Stratosphere (d) Ionosphere

4. The area beyond the atmosphere, which is vast, is called \_\_\_\_ (a) space (b) mass (c) vacant (d) vacuum

Theory:

1. Define weightlessness.

2. Explain centrifugal force.

**WEEK 3**

**Topic: Our Disappearing Forest**

Human activities such as road construction, house building, siting of industries, burning of forests for farming and hunting, and burning of wood as fuel for cooking purposes reduce the number of large trees and destroy the forests, leading to their disappearance.

Deforestation: The cutting down of trees in forests.

Afforestation: The planting of trees where they have not existed before.

Reforestation: The replanting of trees where they were originally.

Effects of Deforestation:

1. Gradual disappearance of wildlife in the environment.

2. Soil exposed to flood erosion.

3. Gradual disappearance of forests, leading to high costs of firewood, timber, paper, and other wood by-products.

Evaluation:

1. What is Deforestation?

2. What are the effects of deforestation?

Subtopic: Causes of the Disappearance of Forests

1. Mature forests in West Africa are almost non-existent due to human activities:

a. Poor farming methods like shifting cultivation leading to deforestation.

b. Overgrazing by animals.

c. Use of timber in building houses, furniture, and bridges.

d. Abundant use of firewood in rural areas for cooking.

2. Desert encroachment, such as the Sahara Desert, is due to climate factors.

Evaluation:

1. Mention three causes of the disappearance of forests due to human activities.

Subtopic: Ways of Preserving Our Forests

1. Reforestation: Replanting our forests.

2. Avoiding the nomadic way of life in Nigeria to prevent overgrazing.

3. Adoption of modern farming methods and abolishment of poor farming practices.

4. Checking desert encroachment through irrigation and afforestation.

5. Promoting the use of alternative fuels such as kerosene and gas to minimize firewood consumption.

Evaluation:

1. Mention ways of preserving our forests.

Subtopic: Nitrogen Cycle

Nitrogen is a crucial component of proteins, found in all living cells. About 79% of the air comprises gaseous nitrogen. In nature, nitrogen is continually removed from and returned to the soil through the nitrogen cycle, similar to the movement of water in a community.

Weekend Assignment:

1. The importance of our forests includes all of the following except:

(a) Providing wood for building and furniture.

(b) Providing pulp and paper.

(c) Harboring animals for food and materials like skins for bags, drums, and dresses.

(d) All of the above are uses of forests.

2. Paper is obtained from:

(a) Wood crops.

(b) Textile crops.

(c) Flowers.

(d) Leaves.

3. What percentage is the gas that supports burning in the air?

(a) 79%

(b) 0.03%

(c) 80%

(d) 0.003%

4. Modern tools are better than traditional tools for the following reasons except:

(a) They are smaller and handy.

(b) They require much human energy.

(c) They require little human energy.

(d) They require no human energy.

Theory:

1. Define (a) Reforestation and (b) Afforestation.

2. Draw the Nitrogen cycle.

**WEEK 4**

**Topic: Controlling the Weather**

Weather refers to the atmospheric conditions at a specific moment, encompassing elements such as temperature, wind, precipitation, and air pressure. Meteorology is the scientific study of the atmosphere and its dynamic changes, allowing meteorologists to predict future weather conditions by meticulously observing, recording, and analyzing atmospheric factors.

Evaluation:

1. What is meteorology?

2. Define weather.

Subtopic: Simple Weather Conditions

1. Temperature: This measures the degree of hotness or coldness in the atmosphere. Temperature is gauged using instruments like the maximum and minimum thermometer.

2. Rainfall: The quantity of rainfall is assessed using a rain-gauge. After rainfall, the collected water volume is measured with a graduated cylinder.

3. Atmospheric Pressure: Pressure is defined as force per unit area. Instruments named barometers measure atmospheric pressure, resulting from particle bombardment on surfaces.

4. Relative Humidity: Relative humidity denotes the ratio of moisture in the air concerning its saturation point. The hygrometer, a wet-and-dry bulb thermometer, gauges the water vapor content.

5. Wind Direction: Wind vane indicates wind direction.

6. Wind Speed: An anemometer measures wind speed.

Evaluation:

1. What is relative humidity?

2. Name six essential instruments for measuring weather.

Subtopic: Effect of Weather on Human Activitie

Weather profoundly influences human activities, varying from sunny to rainy days. Farmers rely on favorable weather for successful crop growth, while disruptive weather conditions can impede daily routines. Markets, transportation, and communication are also significantly impacted by weather changes.

Note:

1. Isohyets: Lines joining areas with the same rainfall amount.

2. Isobar: Lines connecting regions with identical barometric pressure.

3. Isotherm: Lines linking locations with the same temperature.

Weekend Assignment:

1. The instrument used to measure air pressure is \_\_\_\_\_

(a) Anemometer (b) Hygrometer (c) Barometer (d) Thermometer

2. The degree of visibility under specific weather conditions is termed \_\_\_\_\_

(a) Wind vane (b) Visibility (c) Feasibility (d) Clouds

3. All of the following impact a place's weather except \_\_\_\_\_

(a) Wind (b) Humidity (c) Gravity (d) Rainfall

4. Wind speed can be determined using an instrument called \_\_\_\_\_

(a) Wind vane (b) Anemometer (c) Barometer (d) Rain gauge

Theory:

1. What is weather?

2. Mention six factors that can affect weather.

**WEEK 5**

**Topic: Family Life Education**

Teenage pregnancy refers to pregnancy in a girl between the ages of 10-19. Teenage pregnancy is usually unintended and unwanted. Just because a girl is physically capable of becoming pregnant due to puberty, it does not mean she is socially, emotionally, educationally, or financially mature enough for motherhood.

Teenage pregnancy can pose significant risks for both the mother and the unborn child. Complications during childbirth and unsafe abortions are common outcomes of teenage pregnancy.

Subtopic: Consequences of Teenage Pregnancy and Delivery

Here are some consequences faced by girls who experience pregnancy during their teenage years:

1. Health Risks: Pregnancy-induced hypertension can lead to heart failure and endanger both the mother and the child. Teenage pregnancy may result in a condition where the girl's pelvic opening is too small for a safe delivery, causing tears between the vagina and the urinary tract or rectum. Caesarean section (C.S) might be necessary due to inadequate pelvic width.

2. Unsafe Abortion: Unwanted pregnancies often lead teenagers to seek abortions from untrained healthcare providers or resort to self-medication, risking their health and lives.

3. Socio-economic Impact:

- Discontinuation of education.

- Social stigma and isolation.

- Disruption of life goals and career aspirations.

- Early marriages forced by pregnancy.

- Isolation and low self-esteem.

- Financial instability and dependency.

- Forced marriages.

- Poverty.

- Emotional guilt and fear.

- Premature transition from childhood to adulthood.

Evaluation:

1. What is education?

2. Enumerate seven implications of teenage pregnancy.

Subtopic: Myths and Facts About Pregnancy

1. Myth: Young girls should not use contraceptives; it is perceived as a mark of promiscuity.

Fact: Contraceptives are essential tools for responsible family planning and are not harmful if used correctly.

2. Myth: Condoms reduce sensitivity during sexual intercourse.

Fact: Condoms provide essential protection against sexually transmitted infections and unwanted pregnancies while maintaining intimacy.

3. Myth: A woman can get pregnant through kissing.

Fact: Pregnancy occurs through sexual intercourse, not kissing.

4. Myth: Women should have children while young to witness their growth. The ideal age for pregnancy is between 25 and 35.

Fact: The right time for parenthood varies for each individual and depends on personal readiness and circumstances.

5. Myth: Women need to bear children to secure a man's love.

Fact: Love and commitment in a relationship are not contingent upon having children.

Weekend Assignment:

1. The female reproductive sex cell is (a) sperm (b) ovum (c) Testis (d) scrotum.

2. The two types of family are (a) nuclear and extended family (b) Mother and father family (c) nuclear and niece family (d) Extended and nephew family.

3. A nuclear family is \_\_\_\_ (a) a family bombarded with nuclear weapons (b) a family that includes father, grandmother, and children (c) a family that includes father, mother, and children (d) a family that includes father, mother, and blood relations.

4. The specialized care or service given to a pregnant woman before she gives birth is called \_\_\_\_\_\_ (a) Postnatal care (b) intrapartum care (c) pregnancy care (d) prenatal care.

5. What type of reproduction does man perform?

(a) Sexual (b) Asexual (c) None of the above (d) All of the above.

Theory:

1. Provide five reasons why you choose not to engage in sexual intercourse as a JSS 3 student.