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Lesson plan/note for week 5 ending, 9th February,2024

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| Term | 2nd term |
| Week | Week 6 |
| Date | 5th/7th February,2023 |
| Class | JSS 3 |
| Subject | Basic Science |
| Topic | Electrical energy |
| Sub-topic | Electric meter reading and billing. |
| Period | 8th/9th |
| Time | 1:20-200pm/2:00-2:30pm |
| Duration | 40 minutes/ 30 minutes |
| Number in class | Twelve |
| Average age | 13 years |
| Sex | Mixed |
| Specific objectives | By the end of the lesson, the students should be able to:  1.Draw a simple electric circuit  2.Differentiate between series and parallel circuit  3.State the importance of fuses and circuit breakers  4.Calculate the cost of electricity |
| Rationale | To enable students understand the concept of electrical energy as well as how to calculate the cost of electricity used at a particular period of time. |
| Previous knowledge | Students are familiar with electricity and electric meter |
| Instructional resources | Pictures from textbook |
| Reference material | 1.Excellence in Basic Science and Technology for JSS 3 by Olushola Felix Bello et al.  2.Fundamentals of Basic Science for JSSS 3 by Adebesin O Michael |

LESSON DEVELOPMENT

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| Steps | Teacher’s Activities | Students’ Activities | Learning |
| Introduction | Teacher asks students to explain what they know about electricity | Students respond to teacher’s question | To arouse students' interest |
| Step I | Teacher explains electrical energy and how it work | Students listen to teacher | To keep students focus on the lesson |
| Step II | Teacher differentiates between series and parallel circuit with explanation. | Students listen and ask questions where necessary | To keep students focus on the lesson |
| Step III | Teacher explains the importance of fuses and circuit breakers | Students pay attention | To keep students focus on the lesson |
| Step IV | Teacher explains how to read and cost(bill) electric meter and guides students to solve the calculation involved | Students take part in class activity | To encourage critical thinking |
| Board summary | Electrical Energy  There are two types of electricity:. 1.Static electricity: Electricity that accumulates and stays on a substance.  2.Current electricity: Electricity that flows when connected.  Flow of Electrons  Electrons are negative changes which flow along conductors. The floe of electrons through a conductor is called current electricity represented by I. Current electricity moves in a continuous path called electric circuit.    Series and Parallel Circuit  There are two types of circuit: Series and Parallel.  In a series circuit, the circuit floes in a single path. The current is the same at all points in circuit but the voltage is different at different parts in the circuit.  In a series circuit, electricity has only one path to follow. The current that flows across each component connected in series is the same. If a light bulb(resistor) is missing or broken in a series circuit, the other bulb will not light because the path the electricity needs to follow is broken.  In a series arrangement, the total resistance, R is the sum of all the resistance.  >R= R1 + R2 + --------  Parallel Circuit  In a parallel circuit, the current is split into branching paths, but the voltage is the same at all points in the circuits.  In a parallel circuit, electricity has more than one path to follow. If a light bulb is missing or broken in a parallel circuit, the other bulb will light because electricity can move in different direction.  In a parallel arrangement, the total resistance is given as the sum of inverse of all the resistance.  >1/R= 1/R1+ 1/R2+----+1/Rz    Calculations  Example 1: Calculate the total resistance in a circuit with three resistance: 2, 3 and 2 connected in parallel.  Solution  1/R = 1/R1+1/R2+1/R3  1/R = ½+ 1/3 +1/2  = 3+2+3 = 8/6  6  1/R = 4/3  R= 3/4 ohms.  Example 2: Calculate the resistance of two 4ohm resistor connected in series.  Solution  R= R1+R2  = 4+4  =8 Ohms.  Fuses and Circuit Breakers  Fuses and circuit breakers are safety devices in house wiring. They cut off power to an electrical circuit if it becomes dangerously overloaded or if a fault in an appliance causes too much current flow. This protects the wiring and the appliance of something goes wrong.  The fuse contains a piece of wire that melts easily. If the current going through the fuse is too great, the wire heats up until it melts and breaks the circuit. Fuse in plugs are made with standard ratings. The most common are: 3A, 5A and 13A. The fuse should be rated at a slightly higher current than the device needs. For example, if the differences vice works at 3A, a fuse of 5A should be used.  The circuit breaker does the same job as the fuse, but it works in a different way. A spring loaded push switch is held in the close position by a springboard d soft iron bolt, the electromagnet pulls the bolt towards itself, which releases the pushed switch into the open position. An electromagnet is arranged so that it can pull the bolt from the switch if the current increases beyond a set limit.  Note: Fuses are used in older buildings while circuit breakers are used in modern or new buildings.  Electric Meter Reading and Billings  Electric meter record the total amount of electricity used in KWH (Kilo-Watt Hour).  The speed at which electrical energy is converted into a different form of energy is called power.  Power is measured in Watt(W)  Power = Work (electric energy)  Time  Electric energy or work =Electric power × Time  =Watt-Hour  Electrical energy consumed over time in homes and offices can be measured in Kulo-Watt Hour(KWH)  1KWH is the energy consumed over a period of 1 hour when 1KW of electricity is supplied.  Example  If the readings of an electric meter taken a month apart are: 5600KWH and 4800KWH and electricity sells at #5 per kilo-watt Hour, what will be the cost?  Solution  Difference in reading  =Present reading– Previous reading  = 5600KWH –4800KWH  =800KWH  Cost = difference in reading ×rate  = 800KWH × #5  Cost= #4000 | Students copy note | To serve as reference point to students |
| Evaluation | Teacher asks students the following questions:  1.Draw a simple electric circuit  2.Differentiate between series and parallel circuit  3.State the importance of fuses and circuit breakers  4.Solve the electric meter reading calculation in your examination digest, year 2018. Theory question 1d. | Students respond to teacher’s questions. | To ascertain students’ understanding of the lesson. |
| Conclusion | Teacher assesses students and make corrections where necessary | Students take correction | To ensure a better understanding |
| Assignment | A.Draw the diagrams and symbols used in the following circuit components:  1.Cell  2.Battery  3.Bulb  4.Conducting wire  5.Switch  B.Explain the following:  1.Resistance  2.Resistor  C.Calculate the resistance of two 5 ohms resistance connected in parallel. | Students write down the assignment | To engage students at home. |

Lesson plan/note for week 6 ending, 17th February,2023

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| Term | 2nd term |
| Week | Week 7 and 8 |
| Date | 13th / 16th February,2023 |
| Class | JSS 3 |
| Subject | Basic Science |
| Topic | Radioactivity |
| Sub-topic | Uses and Dangers of Radioactivity |
| Period | 8th/9th |
| Time | 1:20-200pm/2:00-2:30pm |
| Duration | 40 minutes/ 30 minutes |
| Number in class | Thirteen |
| Average age | 13 years |
| Sex | Mixed |
| Specific objectives | By the end of the lesson, the students should be able to:  1.Define radioactivity and mention radioactive elements.  2.State the types of radioactivity and their properties  3.Explain the uses of radioactivity  4.State the dangers of radioactivity. |
| Rationale | To enable students understand the meaning, types, uses and dangers of radioactivity. |
| Previous knowledge | Students having not been taught radioactivity. |
| Instructional resources | Pictures and charts from reference textbook |
| Reference material | 1.Excellence in Basic Science and Technology for JSS 3 by Olushola Felix Bello et al.  2.Fundamentals of Basic Science for JSSS 3 by Adebesin O Michael |

LESSON DEVELOPMENT

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| Steps | Teacher’s Activities | Students’ Activities | Learning |
| Introduction | Teacher revises the previous topic | Students listen to teacher | To arouse students' interest |
| Step I | Teacher defines radioactivity and mentions some examples of radioactive elements | Students listen to teacher | To keep students focus on the lesson |
| Step II | Teacher states the types of radioactivity and explains their respective properties | Students listen and ask questions where necessary | To keep students focus on the lesson |
| Step III | Teacher explains the uses of radioactivity to students | Students pay attention | To keep students focus on the lesson |
| Step IV | Teacher guides students to state the dangers of radioactivity | Students take part in class discussion | To encourage critical thinking |
| Board summary | Radioactivity  Radioactivity is the spontaneous disintegration of an unstable atomic nucleus or isotope leading to an emission of radiation. It is thee release of particles or rays of energy when certain elements break down.  Radioactivity was first discovered by Henry Bacquerel in 1896. He noticed while performing some experiment that Uranium gave out some kind of rays that would penetrate through thick black paper and affect a photographic plate placed on the other side. His discovery was confirmed by Marie Curie and her husband, Pierre Curie in 1898.  Radioactive Elements  These are elements whose nucleus or isotope emits radiation or one or more particles and transform into different nuclei or isotopes.  Radioactive elements include:  1.Polonium  2.Radon  3.Radium  4.Thorium  5.Uranium  6.Plutonium  Radioactive Decay  Radioactive decay is the process in which unstable atoms lose energy by emitting radiation in the form of particles or electromagnetic waves. Decay is said to occur in the parent nucleus when it produces a daughter nucleus.  Half life of a Radioactive Element  This refers to the amount of time it takes for half of the original isotope to decay.  Example:  Let the half life (T1/2) of a radioisotope be 10 years starting now with 80 atoms of this isotope. How many atoms will be left after 40 years?  Solution  40÷10=4  The material will go through 4 half lives.  >80 atoms 1st half life 40 atoms  >40 atoms 2nd half life 20 atoms  >20 atoms 3rd half life 10 atoms  >10 atoms 4th half life 5 atoms.  Therefore, 5 atoms will be left after 40 years.  Types of Radiation  There are three(3) main types of radiation emitted by radioactive isotopes, namely:  1.Alpha particles  2.Beta particles  3.Gamma rays  Properties of Alpha Particles  1.It is heavier than other types of radiation with atomic mass of 4 and atomic number of 2 and are positively charged (Helium atom)  2.It has the least penetrating power.  3.They are deflected by both electric and magnetic fields.  4.They are stopped by thin sheet of paper.  5.It has the highest ionizing energy.  Properties of Beta Particles  1.It is heavier than gamma ray but not as heavy as alpha particles and are negatively charged electrons  2.Its penetrating power is higher than that of alpha particles but less than that of gamma rays.  3.It cannot be stopped by thin sheet of paper but by only metal of few millimeters thick e.g Aluminum  4.They can be deflected by both electric and magnetic field.  5.Their ionizing power is much less than that of alpha particles.  Properties of Gamma Rays  1.Gamma rays have no mass and no charge.  2.It has the most penetrating power age compared to alpha and beta particles.  3.They are not deflected by both electric and magnetic fields.  4.They cannot be stopped by paper nor thin sheet of metal but by thick block of lead.  5.They have the least ionization energy.  Uses of Radioactivity  Radioactivity is useful in the following ways:  1.Medical treatment of cancer: Skin, breast and other forms of cancer can be treated with gamma ray from radioisotope of Cobalt.  2.Carbon dating: Animals and plants have a known proportion of carbon-14 (a radioisotope of carbon) in their tissue. The age of the ancient organic materials can be found by measuring the amount of carbon-14 that is left.  3.Sterilization of food and medical equipment: Gamma ray can be used to sterilize medical equipment. It can also be used to irradiate food in order to kill germs especially in canned foods.  4.Radioactive tracers: Radioisotopes can be used as tracer in the industry and hospitals. They are used to find out what is happening inside an object without the need to break into the object.  5.Thickness control: In paper mill, the thickness of the paper can be controlled by measuring how much beta radiation passes through the paper to a Geiger counter.  6.Checking welds: If a gamma source is placed on one side of the welded metal, and a photographic film on the other side, weak points or air bubbles will show up on the film, like an X-ray.  Dangers of Radioactivity  1.Radioactivity can cause gene mutation which can result in deformities in unborn children.  2.It causes cancer of the blood also known as leukemia.  3.Beta particles can penetrate the body destroying healthy living cells causing the abnormal growth of cells (tumours)  4.Due to its emission of great amount of energy, it can be used in making bomb which is a destructive tool in fighting wars. | Students copy note | To serve as reference point to students |
| Evaluation | Teacher asks students the following questions:  1.Define radioactivity and mention four(4) radioactive elements.  2.State the three types of radiation and two(2) properties of each.  3.Explain three(3) uses of radioactivity.  4.State four(4) dangers of radioactivity. | Students respond to teacher’s questions. | To ascertain students’ understanding of the lesson. |
| Conclusion | Teacher assesses students and make corrections where necessary | Students take correction | To ensure a better understanding |
| Assignment | 1.In a tabular form, state the differences among the three types of radiation.  2.State two uses each of radiation in medicine and industrial process respectively. | Students write down the assignment | To engage students at home. |

Lesson plan/note for week 7 ending, 24th February, 2023

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| Term | 2nd term |
| Week | Week 7 and 8 |
| Date | 23rd/26th January, 2023 |
| Class | JSS 3 |
| Subject | Basic Science |
| Topic | Skill Acquisition |
| Sub- topic | Types of skills and Important of skill acquisition |
| Period | 8th/9th |
| Time | 1:20-200pm/2:00-2:30pm |
| Duration | 40 minutes/ 30 minutes |
| Number in class | Thirteen |
| Average age | 13 years |
| Sex | Mixed |
| Specific objectives | By the end of the lesson, the students should be able to:  1.Explain skill and skill acquisition.  2.State reasons for skill acquisition.  3.List types of skills.  4.State the importance of skill acquisition. |
| Rationale | To enable students understand the meaning and types of skills and skill acquisition as well as the importance of acquiring skills. |
| Previous knowledge | Students are familiar with skills like carpentry, fashion designing, stylists etc. |
| Instructional resources | Wool, Crochet and pictures from reference text book. |
| Reference material | Fundamentals of Basic Science for JSS 3 by Adebesin. O. Michael |

LESSON DEVELOPMENT

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| Steps | Teacher’s Activities | Students’ Activities | Learning |
| Introduction | Teacher raises the wool and crochet and asks students what they are used for | Students respond to teacher’s question | To arouse students' interest |
| Step I | Teacher explains the meaning of skill and skill acquisition to students | Students listen to teacher | To keep students focus on the lesson |
| Step II | Teacher guides students to state the reasons for skill acquisition | Students participate in class discussion | To encourage active participation of students in the lesson |
| Step III | Teacher guides students to mention the types of skills they know | Students mention the types of skills | To encourage critical thinking |
| Step IV | Teacher states and explains the importance of skill acquisition | Students listen and ask questions where necessary | To keep students focus on the lesson |
| Board summary | Skill and Skill Acquisition  Skill is a talent or special ability that comes from training or practice to do something well.  It can also be defined as capacity acquired through deliberate, systematic and sustained effort to smoothly and adaptively carry out complex activities or job functions involving ideas.  Skill acquisition is the act of learning specific firms of skill. There are many areas where one can acquire skill such as farming, fishery, carpentry, photography etc.  Reasons for Skill Acquisition  The two major reasons why one skill is:  1.to better ones life through the practice of skills acquired.  2.to be self employed and also create jobs for other people.  Types of Skill  1.Catering  2.Carpentry  3.Computer literacy  4.Hair dressing  5.Plumbing  6.Shoe making  7.Fashion design  8.Welding  9.Painting  10.Fish farming etc  Importance of Skill Acquisition  The importance of skill acquisition include:  1.Self employment  2.Improved quality of life  3.Crime reduction  4.Employment generation  5.Diverse job opportunities  Self employment: A skill acquired man is a self employed man, he thinks of how to be on his own to be more creative in order to improve in the line he has chosen.  Improves quality of life: Skill Acquisition helps one to find new ways of thinking and solving problems.  Crime reduction: People think of many dirty activities they will do to make money when they are jobless. But with acquired skill, they can make money for themselves and live a good life.  Employment generation: All what a skilled man needs is loan or grants to take some reasonable risk in establishing his workshop where he can work, train and even create jobs.  Diverse job opportunities: Those who have many skills stand the chance to gain job from many establishment. | Students copy note | To serve as reference point to students |
| Evaluation | Teacher asks students the following questions:  1.Explain skill and skill acquisition  2.State the two major reasons for acquiring skills.  3.Mention five(5) types of skills you know.  4.State three (3) importance of skill acquisition | Students respond to teacher’s questions. | To ascertain students’ understanding of the lesson. |
| Conclusion | Teacher assesses students and make corrections where necessary | Students take correction | To ensure a better understanding |
| Assignment | Using a card board paper, draw any skill of your choice. | Students write down the assignment | To engage students at home. |

Lesson plan/note for week 8 ending, 3rd march, 2023

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| Term | 2nd term |
| Week | Week 7 and 8 |
| Date | 23rd/26th January, 2023 |
| Class | JSS 3 |
| Subject | Basic Science |
| Topic | Ethical Issues on Science and Development |
| Sub- topic | Right and wrong application of Science |
| Period | 8th/9th |
| Time | 1:20-200pm/2:00-2:30pm |
| Duration | 40 minutes/ 30 minutes |
| Number in class | Thirteen |
| Average age | 13 years |
| Sex | Mixed |
| Specific objectives | By the end of the lesson, the students should be able to:  1.Explain right and wrong application of science  2.Identify right and wrong applications of science  3.Discuss the implications of the application of science to the development of the society.  4. State the implications of bad scientific practice |
| Rationale | To enable students understand the meaning and types of skills and skill acquisition as well as the importance of acquiring skills. |
| Previous knowledge | Students are familiar with the products of science and technology like: phones, vehicles etc |
| Instructional resources | Mobile phone |
| Reference material | Fundamentals of Basic Science for JSS 3 by Adebesin. O. Michael |

LESSON DEVELOPMENT

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| Steps | Teacher’s Activities | Students’ Activities | Learning |
| Introduction | Teacher raises a phone and asks students what product is it | Students respond to teacher’s question | To arouse students' interest |
| Step I | Teacher explains the right and wrong applications of science | Students listen to teacher | To keep students focus on the lesson |
| Step II | Teacher guides students to identify right and wrong applications of science | Students participate in class discussion | To encourage active participation of students in the lesson |
| Step III | Teacher discusses the implications of the right applications of science to the development of society | Students listen to teacher | To keep students focus on the lesson |
| Step IV | Teacher guides students to state the implications of bad scientific practices | Students take part in class discussion | To encourage critical thinking |
| Board summary | Ethical Issues in Science and Development  Science means a systematic way of acquiring knowledge through observation and experimentation while Technology is the practical application of science.  Ethical issues in science refer to the right and wrong application of science which affect humanity either positively or negatively.  Right application of science is when the application is used in the development of the society.  Wrong application of science include any use that will lead to dehumanizing individuals or groups.   |  |  | | --- | --- | | Right Application | Wrong Application | | 1.Communication (phone) | Internet fraud | | 2.Fertilization(food production) | Pollution | | 3.Electricity | Electrocution | | 4.Drugs (medication) | Drug abuse | | Students copy note | To serve as reference point to students |
|  | Implications of the right application of science  1.Healthy living: With vaccines, diseases like polio which had ravaged humanity have become rare while others like small pox have been driven to extinction  2.Weather forecast: Humans can envision the weather of the next 15 days which helps a country conserve its citizens from any natural calamity. It can also help farmers to know how to make decision on planting of crops.  3.Easy movement: Science has made movement easy through the invention of motor vehicles, aero planes etc.  4. Easy communication: Cell phones and more recently, WiFi devices are used for easy communication  Implications of Bad Scientific Practice  1.Use of weapons of mass destruction e.g chemical and nuclear weapons.  2.Uncontrolled use of drugs leads to drug abuse.  3.Learning negative things from the internet. |  |  |
| Evaluation | Teacher asks students the following questions:  1.Explain right and wrong application of science  2.Identify right and wrong applications of science  3.Discuss the implications of right application of science to the development of the society  4.State the implications of bad scientific practice. | Students respond to teacher’s questions | To ascertain students’ understanding of the lesson |
| Conclusion | Teacher assesses students and make corrections where necessary | Students take correction | To ensure a better understanding. |
| Assignment | 1.List three examples each of right and wrong scientific practices.  2.Give reasons for each of the above. | Students write down the assignment | To engage scholars at home. |

Lesson plan for week 2 ending, 20th January, 2023

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| Term | 2nd term |
| Week | Week 3 |
| Date | 16th/19th January, 2023 |
| Class | JSS 3 |
| Subject | Basic Science |
| Topic | Resources from non-living things |
| Period | 8th/9th |
| Time | 1:20-2:00pm/2:00-2:30 pm |
| Duration | 40 minutes/40 minutes |
| Number in class | Thirteen |
| Average age | 13 years |
| Sex | Mixed |
| Specific Objectives | By the end of the lesson, the students should be able to:  1.List solid minerals found in Nigeria  2.State the locations and use of the minerals mentioned  3.State the importance of mineral resources to the economy of Nigeria. |
| Rationale | To enable students know the various solid minerals in Nigeria, their locations and uses. |
| Previous Knowledge | Students have knowledge of mineral resources. |
| Instructional Resource | Picture from textbook |
| Reference Materials | i.Comprehensive Basic Science for JSS 3 by O.J Ehindero et al  ii.Fundamentals of Basic Science for JSS 3 by Adebesin. O. Michael |

Lesson Development

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| Steps | Teacher’s Activities | Students’ Activities | Learning Point |
| Introduction | Teacher asks students to mention the two resources from living things | Students respond to teacher’s questions | To arouse students' interest |
| Step I | Teacher guides students to list some solid minerals found in Nigeria | Students list some solid minerals in Nigeria | To encourage critical thinking |
| Step II | Teacher states the locations and use of solid minerals | Students listen to teacher’s explanation | To keep students focus on the lesson |
| Step III | Teacher guides students to state the importance of mineral resources to the economy of Nigeria | Students participate in classroom discussion | To encourage active participation of the students |
| Board Summary | Resources from non- living things  The two non- living resources in Nigeria are: Oil and Solid minerals.  Some solid minerals found in Nigeria include: Limestone, Coal, Gold, Tin, Salt, Iron ore, Zinc, Copper etc.  Some solid minerals, location and their uses   |  |  |  | | --- | --- | --- | | Minerals | Location | Uses | | 1.Iron ore | Itakpe in Kogi state | For making iron sheets, rod and poles used for building and construction | | 2.Limestone | i.Ewekoro in Ogun state.  ii.Nkalagu in Enugu state.  iii.Okpella in Edo state  iv.Ado in Benue state. | For making cement | | 3.Tin | Plateau | For making roofing material and in coating other netals | | 4.Gold | Kebbi, Osun, Oyo, Kaduna, Sokoto, Zamfara, Niger, Abuja, Abia | For making jewelleries and valuable materials. | | 5.Zinc | Ebonyi state, Plateau, Benue, Cross rivet, Enugu. | For making roofing sheets, battery. In alloy making with other metals like copper. | | 6.Copper | Kano | In making wires and cabled. It is the principal alloying metal in coins and jewellery. | | 7.Lead | Plateau, Benue, Cross river, Enugu. | In car batteries, also in making pipes. | | 8.Coal | Udi hills in Enugu state. | As fuel for lightening, cooking, power steam engine e.t.c | | 9.Kaolin | Kogi, Ogun, Ondo, Plateau, Sokoto, Adamawa. | In making plates, mugs, water closet (WC) e.t.c | | 10.Salt | Awe in Plateau state, Uburu in Ebonyi state. | For food, in chemical processing. | | Students copy the note on the board | To serve as a reference point to students. |
|  | Importance of Mineral Resources to the Economy of Nigeria  1.Mineral resources serve as source of income and foreign exchange for the country.  2.They provide employment through mining and their processing.  3.Resources like Gold and Diamond are forms of wealth for individual.  4.They help in the development of towns and cities.  5.They make life comfortable through the use of their end products. |  |  |
| Evaluation | Teacher asks students the following questions:  1.List five solid minerals found in Nigeria.  2.State the location and use of the minerals mentioned.  3.State three importance of mineral resources to the economy of Nigeria. | Students respond to teacher’s questions. | To ascertain students’ understanding of the lesson. |
| Conclusion | Teacher assesses students and make corrections where necessary | Students take corrections. | To ensure a better understanding. |
| Assignment | Outline five solid minerals in Nigeria and state their uses | Students write down the assignment | To engage students at home. |

Lesson plan for week 2 ending, 20th January, 2023

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| Term | 2nd term |
| Week | Week 3 |
| Date | 16th/19th January, 2023 |
| Class | JSS 3 |
| Subject | Basic Science |
| Topic | Resources from non-living things |
| Period | 8th/9th |
| Time | 1:20-2:00pm/2:00-2:30 pm |
| Duration | 40 minutes/40 minutes |
| Number in class | Thirteen |
| Average age | 13 years |
| Sex | Mixed |
| Specific Objectives | By the end of the lesson, the students should be able to:  1.List solid minerals found in Nigeria  2.State the locations and use of the minerals mentioned  3.State the importance of mineral resources to the economy of Nigeria. |
| Rationale | To enable students know the various solid minerals in Nigeria, their locations and uses. |
| Previous Knowledge | Students have knowledge of mineral resources. |
| Instructional Resource | Picture from textbook |
| Reference Materials | i.Comprehensive Basic Science for JSS 3 by O.J Ehindero et al  ii.Fundamentals of Basic Science for JSS 3 by Adebesin. O. Michael |

Lesson Development

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| Steps | Teacher’s Activities | Students’ Activities | Learning Point |
| Introduction | Teacher asks students to mention the two resources from living things | Students respond to teacher’s questions | To arouse students' interest |
| Step I | Teacher guides students to list some solid minerals found in Nigeria | Students list some solid minerals in Nigeria | To encourage critical thinking |
| Step II | Teacher states the locations and use of solid minerals | Students listen to teacher’s explanation | To keep students focus on the lesson |
| Step III | Teacher guides students to state the importance of mineral resources to the economy of Nigeria | Students participate in classroom discussion | To encourage active participation of the students |
| Board Summary | Resources from non- living things  The two non- living resources in Nigeria are: Oil and Solid minerals.  Some solid minerals found in Nigeria include: Limestone, Coal, Gold, Tin, Salt, Iron ore, Zinc, Copper etc.  Some solid minerals, location and their uses   |  |  |  | | --- | --- | --- | | Minerals | Location | Uses | | 1.Iron ore | Itakpe in Kogi state | For making iron sheets, rod and poles used for building and construction | | 2.Limestone | i.Ewekoro in Ogun state.  ii.Nkalagu in Enugu state.  iii.Okpella in Edo state  iv.Ado in Benue state. | For making cement | | 3.Tin | Plateau | For making roofing material and in coating other netals | | 4.Gold | Kebbi, Osun, Oyo, Kaduna, Sokoto, Zamfara, Niger, Abuja, Abia | For making jewelleries and valuable materials. | | 5.Zinc | Ebonyi state, Plateau, Benue, Cross rivet, Enugu. | For making roofing sheets, battery. In alloy making with other metals like copper. | | 6.Copper | Kano | In making wires and cabled. It is the principal alloying metal in coins and jewellery. | | 7.Lead | Plateau, Benue, Cross river, Enugu. | In car batteries, also in making pipes. | | 8.Coal | Udi hills in Enugu state. | As fuel for lightening, cooking, power steam engine e.t.c | | 9.Kaolin | Kogi, Ogun, Ondo, Plateau, Sokoto, Adamawa. | In making plates, mugs, water closet (WC) e.t.c | | 10.Salt | Awe in Plateau state, Uburu in Ebonyi state. | For food, in chemical processing. | | Students copy the note on the board | To serve as a reference point to students. |
|  | Importance of Mineral Resources to the Economy of Nigeria  1.Mineral resources serve as source of income and foreign exchange for the country.  2.They provide employment through mining and their processing.  3.Resources like Gold and Diamond are forms of wealth for individual.  4.They help in the development of towns and cities.  5.They make life comfortable through the use of their end products. |  |  |
| Evaluation | Teacher asks students the following questions:  1.List five solid minerals found in Nigeria.  2.State the location and use of the minerals mentioned.  3.State three importance of mineral resources to the economy of Nigeria. | Students respond to teacher’s questions. | To ascertain students’ understanding of the lesson. |
| Conclusion | Teacher assesses students and make corrections where necessary | Students take corrections. | To ensure a better understanding. |
| Assignment | Outline five solid minerals in Nigeria and state their uses | Students write down the assignment | To engage students at home. |