

# Electricity

Subject: Mathematics

Class: JSS 3

Date: 2025-04-25

Time: 10:00 - 11:00

School: School B

Trainee: Trainee17 Student17

Supervisor: Supervisor8 Last8

## Objectives

Define key terms related to electricity such as voltage, current, and resistance. Calculate the total resistance in a series circuit using Ohm's Law. Analyze simple electrical circuits and identify components.

## Activities

### Step 1: Understanding Key Terms \- Teacher Activity: The teacher will define voltage, current, and resistance using clear diagrams on the whiteboard. Examples from Nigerian contexts (like household appliances) will be used to illustrate these terms. \- Student Activity: Students will work in pairs to create flashcards for each term with definitions and examples. ### Step 2: Ohm's Law \- Teacher Activity: The teacher will explain Ohm's Law ( $V = I \times R$ ) using a multimedia projector to display a circuit diagram. \- Student Activity: Students will solve practice problems on calculating voltage, current, and resistance based on given values. ### Step 3: Series Circuits \- Teacher Activity: The teacher will demonstrate how to set up a simple series circuit using batteries and light bulbs. \- Student Activity: In small groups, students will create their own series circuits using provided materials and measure total resistance with multimeters. ### Step 4: Analyzing Circuit Components \- Teacher Activity: The teacher will guide students through identifying different components of a circuit (resistors, batteries) on the board. \- Student Activity: Each group will present their circuit setup to the class, explaining how they calculated total resistance. ### Rationale Understanding electricity is crucial in the modern world as it plays a vital role in everyday life and technological advancements. This lesson aligns with the NERDC curriculum by introducing students to the fundamental concepts of electricity, including voltage, current, and resistance. The topic is important not only for academic purposes but also for fostering critical thinking and problem-solving skills that are essential in real-world applications. By engaging students through interactive activities and practical examples, the lesson will cater to different learning styles while reinforcing mathematical concepts related to electricity. The pedagogical approach will emphasize hands-on learning, encouraging students to explore and discover the principles of electricity through experimentation and collaboration. ### Homework Students are assigned to write a one-page report on how electricity is generated in Nigeria or describe an electrical appliance they use at home along with its power rating. ### References NERDC Mathematics Curriculum Guide Textbook on Basic Electricity Online resources about electrical safety standards

## Resources

Whiteboard, markers, electricity circuit diagrams, multimedia projector, worksheets

