**House wiring using parallel connections**

Good morning/good afternoon to Parents and Teachers.

**Aim:**

To understand and demonstrate parallel house wiring connections using basic components such as LEDs, switches, buzzers, fans (DC motor), and batteries.

**Materials Required:**

1. Component Holder: Holds the components like LEDs, buzzers, and fan (DC motor) in place.

2. Battery Holder: Holds the batteries and supplies power to the circuit.

3. Batteries: Source of electricity to power the circuit.

4. Connection Pole: Acts as a central point for connecting different wires.

5. Wires (as required): Used to connect the components.

6. Switch: Controls the flow of electricity.

7. LED: A small light that turns on when electricity flows through it.

8. Buzzer: Produces sound when electricity flows through it.

9. Fan (DC Motor): Spins when powered, simulating the fan in a house.

**What is Parallel Wiring?**

Parallel wiring is when electrical components are connected so that each component has its independent path to the power source. If one component stops working, the others will still function.

**Steps to Create the Parallel Wiring**

1. Step 1: Set up the Battery Holder

- Place the batteries in the battery holder. The batteries will provide the power needed to run the circuit.

2. Step 2: Connect the Battery Holder to the Connection Pole

- Use the wires to connect the positive and negative ends of the battery holder to the connection pole. This will allow power to flow through the circuit.

3. Step 3: Attach the Switch

- Connect a switch to one of the wires leading from the connection pole. The switch will control whether electricity flows through the circuit.

4. Step 4: Connect the LED, Buzzer, and Fan in Parallel

- Using wires, connect each component (LED, buzzer, and fan) separately to the connection pole.

- Ensure each component is connected in parallel, meaning each one has its own path to the battery holder.

- Example: The LED should have two wires—one going to the positive pole and the other to the negative pole. Repeat this for the buzzer and the fan.

5. Step 5: Test the Circuit

- Once everything is connected, flip the switch to turn on the power.

- The LED should light up, the buzzer should make a sound, and the fan should spin. If one component is disconnected or removed, the others will still work because they are connected in parallel.

**Conclusion:**

Through this activity, students will learn how parallel wiring works and understand how electricity can power multiple devices independently. This basic concept is used in household wiring, ensuring that lights, fans, and other devices continue to work even if one fails.

**Parallel circuit**

**Introduction:** Good morning/ Good afternoon. My name is (Student’s name) and I am studying in grade (Student’s grade).

**Aim:** Aim of the project is to demonstrate a parallel circuit.

**Components required:**

1. Component holder

2. Battery holder

3. Batteries

4. Connection pole

5. Wires(as required)

6. Switch

7. LED

8. Buzzer

**Building:**

• Take the component holder and place the battery holder and pressed on it and now places the batteries into the battery holder.

• Place the connection poles on either side of the battery holder at a distance.

• Connect the battery holder terminals to the connection poles from either side using wires.

• Now place the LED and Buzzer at a distance on the component holder, connect the positive terminal of the battery holder to the positive terminal of the both LED and buzzer from the connecting pole and also similarly connect the negative terminals of the buzzer and led to other side of the connection pole.

• Connect that push button to the connection poles.

**Working/Demonstration:**

When we push the push button the circuit closes and power flows activating the LED and Buzzer. Thank you.

**Tic-Tac-Toe game**

**Introduction**: Good morning/ Good afternoon. My name is (Student’s name) and I am studying in grade (Student’s grade).

**Game description:**

Tic-tac-toe is a game for two players that's played on a 3x3 grid. Players take turns marking the squares with X or O, and the first player to get three of their marks in a row wins.

A row can be horizontal, vertical, or diagonal. If all nine squares are filled and no player has three in a row, the game ends in a tie.

Thank you.

**Flappy bird**

**Introduction**: Good morning/ Good afternoon. My name is (Student’s name) and I am studying in grade (Student’s grade).

**Game description:**

In this project, we will create a simple Flappy Bird game where the player controls a bird by pressing the on mouse click to make it "flap" and avoid obstacles.

The game will include gravity, where the bird falls automatically, and the player must keep it flying by timing their mouse presses.

We will use Scratch sprites and coding blocks to control the bird's movement, generate obstacles that scroll across the screen, and detect collisions.

Players will score points based on how far they can go without crashing into the obstacles.

Thank you.

**Gobo game**

**Introduction**: Good morning/ Good afternoon. My name is (Student’s name) and I am studying in grade (Student’s grade).

My project is a GOBO memory game, developed using Scratch, the player needs to remember the sequence in which the sprites appear.

With each new level, an additional sprite is introduced, making the sequence more complex.

The challenge is to recall the exact order, starting from the first sprite up to the last (10 sprites).

The game increases in difficulty as the number of sprites grows, testing memory and focus.

Scratch’s visual interface allows for easy sprite manipulation, with scripts controlling the random order, appearance, and sequencing of sprites to enhance gameplay.

Thank you.