Human Community Power Grid Activity

Purpose:

To help students connect the small electrical circuits they built last lesson to the larger "big circuits" in their community — showing how electricity flows from the power source to where they use it.

Materials Needed

- A soft ball or beanbag (represents electricity/ current)
- Role cards or signs for:
  - Power Station/Generator
  - Transmission Wires
  - Transformer
  - Power Poles/Wires
  - Fuse Box/Meter Box
  - Buildings (homes, school, clinic)
- Optional: Rope, cones, or chalk to mark the circuit path
- Large open space (indoors or outdoors)

Student Roles:

1. Power Station/Generator – Starts the flow of electricity (could be diesel, solar, hydro, or wind depending on your community)
2. Transmission Wires – Carry electricity over long distances
3. Transformer – Adjusts voltage to make it safe for homes
4. Power Poles/Wires – Carry electricity locally
5. Fuse Box/Meter Box – Measures and controls electricity entering a building
6. Buildings – Receive electricity and use it for lights, fridges, air conditioners, computers, etc.

Step-by-Step Instructions:

1. Set up the space so roles are in a logical order (source → homes).
2. Assign roles to students (use signs/lanyards).
3. Explain the scenario: "We're going to model how electricity moves from where it's made to where we use it in our community."
4. Start at the Power Station – the student passes the ball to the Transmission Wires.
5. Transmission Wires pass to the Transformer – they do a fun gesture to show they are changing the electricity.
6. Continue through Power Poles/Wires to the Fuse Box/Meter Box.
7. Fuse Box passes to the Building – the student acts out what their building does with the electricity (turning on lights, making toast, cooling a fridge).
8. Repeat the flow several times so students see it's continuous.
9. Break the circuit – remove a wire, turn off the transformer – and discuss what happens.
10. Reflect together – "Which part of this circuit exists in our community?" "Have you seen them?" "What powers our community?"

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