UNIT: CIRCUITRY GAME

MAKE IT SHINE!

Your Mission:

You’re an electric game designer! Your job is to build a simple circuit that lights up an LED, then turn it into a fun, creative game board. Use your knowledge of circuits and energy flow to make it shine—and spark some imagination!

GOAL: Build a working electric circuit to light up an LED, then use it to design a simple interactive game that shows how energy flows.

Materials:

* 2 AA batteries + holder
* Alligator clip wires
* LED light
* Paper and tape
* Battery switch (optional)

STUDENT DIRECTIONS:

**STEP 1: Build Your Circuit:**

* Attach the battery holder wires to your alligator clips.
* Clip one wire from the positive (+) end of the battery holder to one leg of the LED.
* Clip another wire from the negative (–) end of the battery holder to the other leg of the LED.

**STEP 2: Test It Out!**

* Does your LED light up?
  + Yes: Great job!
  + No: Flip the LED around — it only works in one direction!

**STEP 3: Tape It Down:**

* Once it lights up, tape the LED to a sheet of paper to start your game board design.

**STEP 4: Decorate the Flow:**

* Use arrows to show the path of the electricity:  
  Battery ➝ Wire ➝ LED ➝ Wire ➝ Back to Battery

**STEP 5: Design Your Game:**

* Add fun decorations!  
  Example: "Touch the button to light the treasure!" or “Complete the circuit to unlock the safe!”

**Draw & Label Your Circuit Below:**

* Include: battery, wires, LED, and direction of current (arrows!)

Standards Alignment

NGSS: 4-PS3-2 STEL**: STEL 1A**, STEL 2A, STEL 7A, STEL 8A, STEL 9A CCSS: CCSS.MATH.CONTENT.3.MD.B., CCSS.MATH.CONTENT.4.MD.A.1, CCSS.MATH.CONTENT.4.G.A.1, CCSS.MATH.PRACTICE.MP5