

Show How “Bright” You Are: An SOL Review

Background Statement:

Electricity travels through paths called circuits. There are two types of circuits: series and parallel. Series circuits have one path, while parallel circuits have more than one. Circuits that are closed are complete so electricity can travel through them. Open circuits are not complete, so the electricity does not have a path it can follow. Circuits contain four main components: the power source, the wire/path, a switch to open and close the circuit, and the load (whatever is using the electricity, such as a light bulb, doorbell, motor, etc.).

Design Challenge:

You are to create a self-checking science SOL review question using your knowledge of circuits.

Criteria:

Part 1: Create a multiple choice question to help review for the science SOL test. You may use your SOL review packet, notes, and handouts to create your question.

- The question should review a science SOL objective from 4th or 5th grade.*
- There should be a total of four answer choices labeled A, B, C, and D.*
- Only ONE answer should be correct.*
- Your question and answers must be checked by your teacher before continuing!!!*
- After your question and answer choices have been approved by your teacher, type your questions and answers using an appropriate font size and style.*

Part 2: Make a circuit board to use with your SOL question and answer.

- Your circuit must fit on your piece of styrofoam.*
- Your question and answers should be easily visible on your circuit board.*
- Your circuit must contain a switch.*
- A light bulb should ONLY light when the correct answer is chosen.*

Materials: You may select from the items below.

- Styrofoam board*
- Aluminum foil*
- D battery*
- Christmas lights (no more than four)*
- Paper clips*
- Brads*
- Tape: 12 inches*
- Paper*
- Other SAFE conductors and insulators (must be teacher approved before using)*

Tools:

- Scissors, rulers, hole punch, stapler, writing tools, drawing tools (crayons, markers), glue*

Targeted Standard of Learning: *Science 4.3*

Supporting Standards of Learning: *All 4th & 5th Grade Science Standards • Technology 5.2 • Language Arts 5.8, 5.9*

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Planning Page

Plan your SOL question and answer choices here.

The correct answer is:

Plan and label your circuit here.

Front

Back

Draw your completed circuit here. Label your power source, load, and switch. Color all conductors red and all insulators blue.

Front

Back

What type of circuit did you make?

What was the correct answer to your SOL question? Explain why this answer is correct.
