

84. The Circuit Quiz Game

Classroom Activity - Build and play The Circuit Quiz Game

Grade: 6

Strand(s): Understanding Matter and Energy

This task addresses the following overall expectations:

- investigate the characteristics of static and current electricity, and construct simple circuits;
- demonstrate an understanding of the principles of electrical energy and its transformation into and from other forms of energy.

and the following specific expectations:

- follow established safety procedures for working with electricity;
- design and build series and parallel circuits, draw labelled diagrams identifying the components used in each, and describe the role of each component in the circuit;
- use technological problem-solving skills to design, build, and test a device that transforms electrical energy into another form of energy in order to perform a function;
- use appropriate science and technology vocabulary, including current, battery, circuit, transform, static, electrostatic, and energy, in oral and written communication;
- use a variety of forms (e.g., oral, written, graphic, multimedia) to communicate with different audiences and for a variety of purposes;
- explain the functions of the components of a simple electrical circuit;
- describe series circuits (components connected in a daisy chain) and parallel circuits (components connected side by side like the rungs of a ladder), and identify where each is used.

Assessment Categories

- Knowledge and Understanding
- Thinking and Investigation
- Communication

Type of Activity

- Classroom/Science lab
- Independent study (individual/group)

Preparation

- Basic understanding of simple circuits.
- Ability to hook a light bulb up to a battery
- Completing a circuit

Approximate time to complete: 4 sessions, 2 hours each session

Materials:

- Board/Cardboard/other background materials
- Electrical components
- LED's/resistors (green, red)
- contact points (thumbtacks/other)
- wires (alligator clips, wire wrap, tinfoil)
- tape

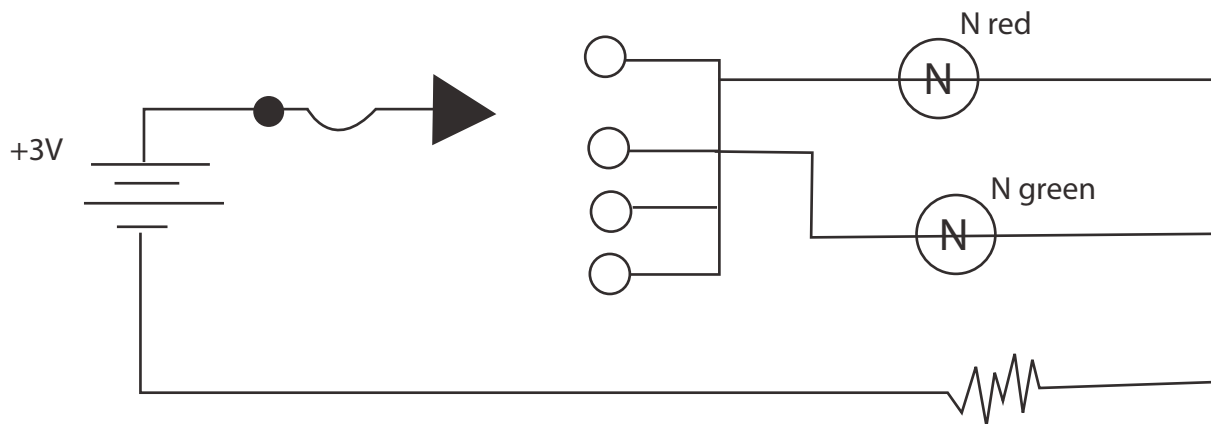
Design materials

- coloured paper
- graphics
- computer and printer

Activity Description

Design a quiz game on any topic. The questions can be true/false, multiple choice or matching. When a student chooses a correct response, a green light goes on. When an incorrect choice is made, a red light goes on. An example of a game would be to guess the real painter of Mona Lisa from the choices: Leonardo da Vinci, Miro, Vincent Van Gogh. The user would touch an answer and the correct light would come on.

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Tips for Teachers/EIRs

- Build an example
- Explain the concepts in advance
- Re-iterate the concepts often
- Work individually with each student or group
- Have the students prepare questions outside of class

Grade Extensions

Design questions for another grade's curriculum.

Follow up Activities

Have students in other classes try the quizzes.