

TRB 5:4 - Activity 4: Wiring a Circuit

Summary

Students will create a circuit and then predict the effect adding or of changing one or more of the components.

Main Core Tie

Science - 5th Grade

[Standard 4 Objective 2](#)

Materials

assortment of batteries,wires,and bulbs or motors.

Additional Resources:

Software:

Kidpix, especially Science stamps

Science Court by Tom Snyder, Electric Current, Grades 4-6 Package includes CD-ROM, teacher's guide, student reproducibles, and poster.

Tom Snyder Productions

80 Coolidge Hill Road

Watertown, A 02472

(800) 342-0236 Fax (800) 304-1254

<http://www.tomsnyder.com>

Background for Teachers

A series circuit is a circuit that consists of more than one power source or more than one load. These pieces of the circuit are wired in series, one part following another.

Intended Learning Outcomes

1-Use science process and thinking skills.

Instructional Procedures

Invitation to Learn

Review previous lessons.

Instructional Procedures:

Instruct each group to assemble a basic circuit consisting of one battery, two wires, and a bulb.

Before continuing, each student should make a written prediction of what will happen when another battery is included in the circuit.

After recording predictions, each group will put an extra battery in the circuit, series style, and then record the result.

Continue making predictions and adding batteries. Use caution since too many batteries will burn out the bulbs.

Begin again with only one battery. Make predictions about what will happen with more than one bulb or motor.

Conclude by making generalizations about the effect of greater loads and the effect of greater power supply.

Complete the "Circuit Predictions" data sheet.

Extensions

Try using fans or motors for the load. Try using a solar panel for the power source. Use Kidpix or PowerPoint to make a slideshow of what happens when extra batteries, or bulbs, are added to a circuit. Students create a “city” using milk cartons. Add a power source, loads, and electrical pathways. Nine-volt batteries and small lights with alligator clips work well, but many things would also work. Students should be encouraged to decorate the city as creatively as possible.

Assessment Plan

Students create a chart to record predictions and observations. Write a step-by-step description of the path the electricity follows through the circuit.

Bibliography

This lesson is part of the Fifth Grade Science Teacher Resource Book (TRB3) <http://www.usoe.org/curr/science/core/5th/TRB5/>. The TRB3 is designed to be your textbook in teaching science curriculum to your students. This book covers all the objectives of each standard and benchmark. If taught efficiently, a student should do well on the End-of-Level (CRT) tests. The TRB3 is designed for teachers who know very little about science, as well as for teachers who have a broad understanding of science.

Authors

[Utah LessonPlans](#)