
Current Electricity - AC/DC

An Educator's Reference Desk Lesson Plan

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Grade Level: 5, 6

Subject(s):

- Science/Physics

Duration: 45 minutes

Description: This lesson can be used as part of a unit on electricity. In this constructivist activity, students will find one new fact about electricity and write a paragraph describing what they found.

Goals: Nebraska Science Standards :

- 8.3.3 (*Physical Science*) By the end of eighth grade students will develop an understanding of the forms of energy and how energy is transferred.

Objectives:

1. Students will use their previous knowledge of electricity to discover something they did not know (constructivism).
2. Students will write a paragraph about what materials they used and what they discovered using those materials.

Materials:

- wires with alligator clips
- batteries (6v, 9v, D-Cell)
- flashlight bulb and holders
- D-Cell battery holders
- switches
- transformers
- screwdriver set
- pencils
- computer with Internet access

- [Current Electricity Worksheet](#)
- [Rubric](#)

Worksheet and Rubric in .pdf format; requires free Adobe Acrobat Reader.



Click the icon to obtain the free Reader.

Procedure:

Focus Phase:

Explain all of the materials that will be used in the lab. Divide the students into three groups. They will partner up within their groups to use the materials at a table (divide up the supplies that you have available between three tables or more, depending on class size).

Challenge Phase:

Explain the activity to be completed. Students will take a couple of objects from the table and work with them to find something that they did not know about electricity. "Remember to use all of your senses, but please do not taste anything." [**Authors' Note:** Students might discover: how switches work by using a battery, light bulb, and wires -- it will open and close the circuit; that you have to make a closed circuit by having all wires touching something; you must have the batteries hooked up positive to negative to positive if you are using multiple batteries.]

Concept Application:

"Find one fact about electricity. Then write a paragraph on the sheet provided about the one fact you have found. Remember to write down the objects you used to come to this conclusion."

Concept Introduction:

Explain to the students about Direct Current and Alternating Current. Direct Current is when the current from the energy source goes in one direction to the object that will be using the energy (example: the energy from a battery to a radio). Alternating Current is when the current from the energy source goes in both directions from the energy source to the object (example: the energy from an outlet goes to the lamp and then back to the outlet). When alternating current is put in slow motion, it shows the different direction by pulsing (example: if you

put alternating current in slow motion, your lamp would blink). Use this web site to help explain current: <http://pbs.org/wgbh/amex/edison/sfeature/acdc.html>

Assessment: Teacher observation and see the Rubric listed in **Materials** .

Useful Internet Resources:

* [AC/DC: What's the Difference?](http://pbs.org/wgbh/amex/edison/sfeature/acdc.html)

<http://pbs.org/wgbh/amex/edison/sfeature/acdc.html>

* [Brain Pop - Current Electricity](http://www.brainpop.com/science/electricity/currentelectricity/index.weml)

<http://www.brainpop.com/science/electricity/currentelectricity/index.weml>

* [Nebraska Science Standards](http://www.nde.state.ne.us/ndestandards/sciencedrft.htm)

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Special Comments: This lesson can be adapted to any electrical materials you have at your school.