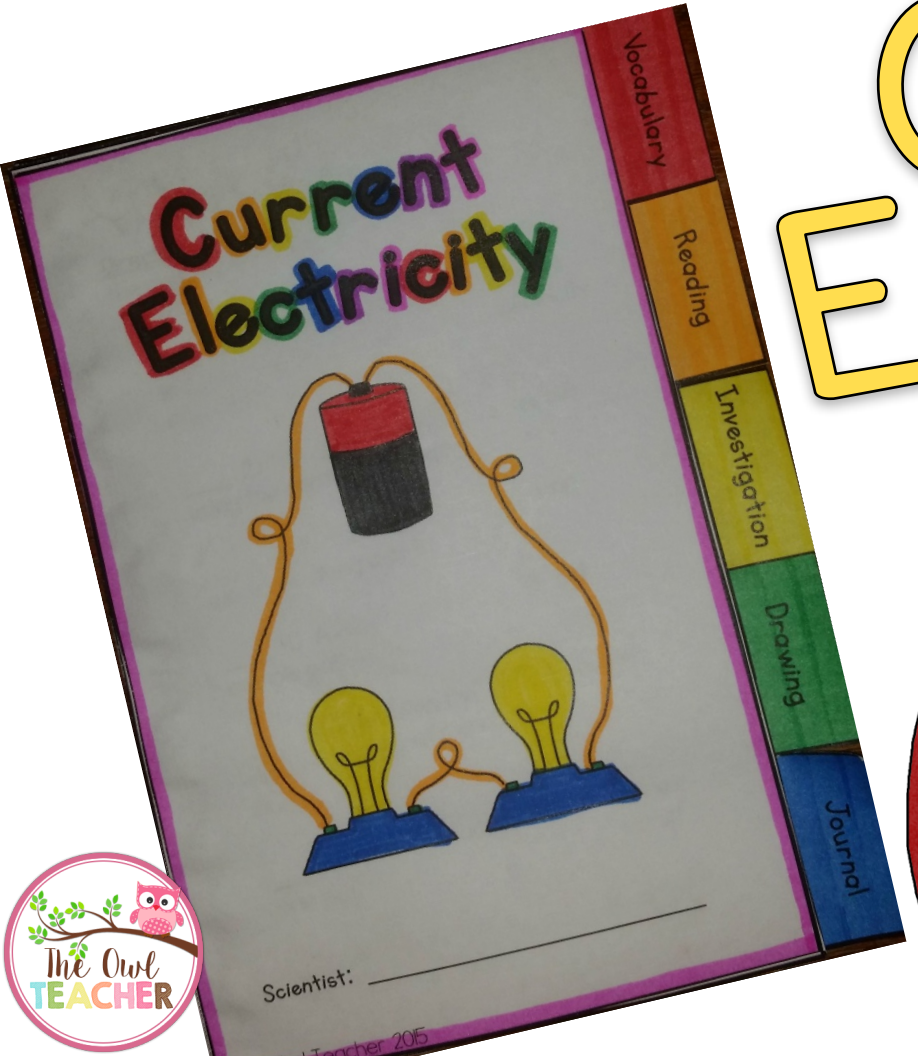
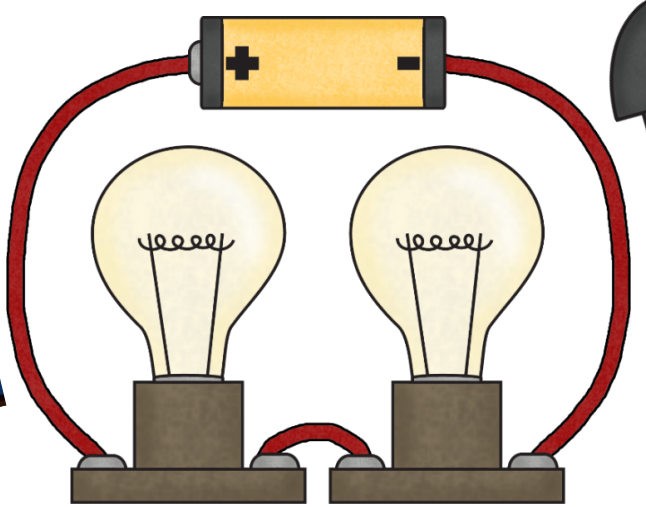
Science Booklets

Differentiated & Student Centered

Current Electricity





The Owl TEACHER

Teacher's Page

Unfortunately, with the large demands on reading and math from Common Core, science is often pushed to the side. If your district is like mine, you often have very little time to dedicate to science, yet are still expected to fully cover the entire curriculum. This packet was created to help save time and to cover the all important science concepts - all while still meeting the nonfiction criteria of Common Core.

In this packet you will find a mini-book for students to assemble and explore the critical science concepts. It can be used to teach, reinforce, and/or challenge students, all while meeting their needs and learning styles. The reading page has been differentiated for your students with one being a higher level (HL) and the other being a lower level (LL).

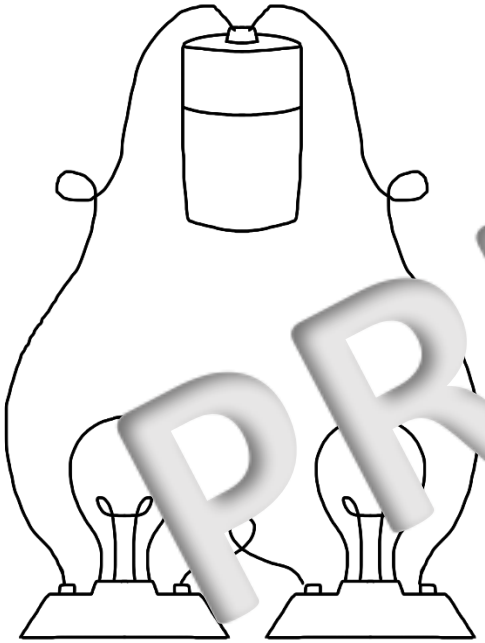
The tabs in this booklet can be used as science stations. The first tab contains an important vocabulary activity related to the science concept of current electricity and corresponds with the reading piece provided. The second tab asks comprehension questions related to the reading piece and requires students to support their answers with textual evidence. The third tab focuses on an investigation to deepen the understanding of current electricity and how it works. The fourth tab asks students to draw while the fifth tab prompts students to respond to a thought-provoking journal question.

I personally use all of my products in my classroom and can testify to the effectiveness of them.

Easy Use:

*Print pages 3-5 single sided (two sided copying will not work). Also print page 9 and/or 10 for students to use as their reading piece and page 11 for station use.
*After making class copies, provide each student with scissors and a glue stick. You can also staple or tape if you prefer.
*Have students color before cutting - including the tabs. This makes the piece look attractive.
*Have students cut out all flipbook pages. The cover page goes first. Then the students should line up the tabs for each page, in view, similar to steps.
*Have students run a line of glue along the left edge of each sheet. When finished the final product should resemble a small tabbed notebook.
*Have students complete each page individually, in pairs, in groups, or as a whole class. This can also be used in small groups with your direction.

Current Electricity



Scientist: _____

Vocabulary

Vocabulary

Directions: Match each definition to the term on the right. Write the letter on the l

____ 1.) The energy source in current electricity such as a battery.

____ 2.) The object that is using the electrical energy.

____ 3.) The flow of electrons along a path.

____ 4.) A circuit with multiple pathways.

____ 5.) This turns the flow of energy off and on.

____ 6.) A circuit with only one path.

____ 7.) A form of electricity that flows.

A. current electricity

B. circuit

C. load

D. cell

E. switch

F. series circuit

G. parallel circuit

Reading

Directions: Read the sheet titled "Being Current with Current Electricity" and then answer the following questions with complete sentences. Be sure to support your answers.

1.) What is the difference between current electricity and static electricity?

_____

_____

_____

2.) What are all the parts of current electricity?

_____

_____

_____

3.) What is the difference between a series circuit and a parallel circuit?

_____

_____

_____

Reading

Investigation

Directions: Follow the directions on the Investigation sheet and then write your response below.

1.) What happened when you placed a piece of cardboard over the end of the battery and tried to light the flashlight?

_____

_____

2.) Why do you think this happened?

_____

_____

3.) How is this current electricity?

_____

_____

Investigation

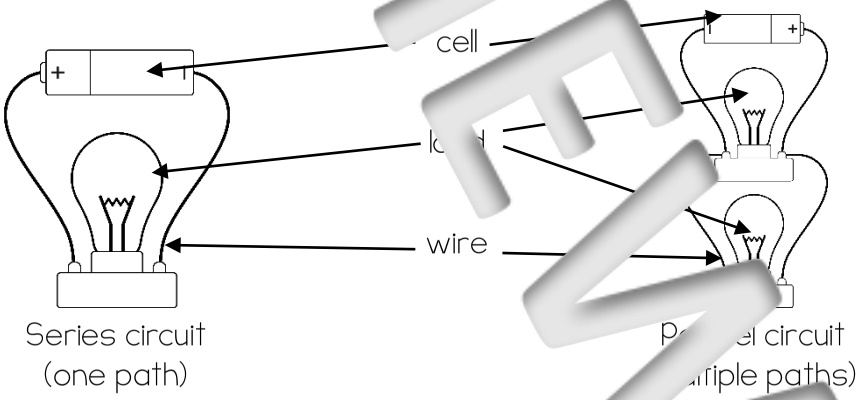
Being Current on Current Electricity

Video games, your television set, your computer, your refrigerator, and your bedroom lights are all examples of electricity - it's everywhere. In fact, it's hard to imagine life without electricity. So if we are completely surrounded by electricity and it's important to the way we live now, what is it exactly?

Electricity is a form of energy that builds up in one place or flows from one place to another. Static electricity is electricity that builds up in one place and discharges when an object containing the opposite charge is near. When you feel a zap from rubbing your feet on the floor and then touching a doorknob, that is static electricity. **Current electricity** is the flow of electrons along a path called a **circuit**. Electronics such as your video game, and television all run on current electricity.

All circuits need to have an energy source, such as a battery or electrical outlet, to push electrons along its path. This is called a **cell**. Typically a wire connects the cell to the **load**, or the device that is using the electrical energy. The energy flow is controlled by a **switch** that opens the flow (or turns the device on) and closes the flow (or turns the device off).

To understand current electricity, look at the illustration below:



There are two types of current electricity, a series circuit and a parallel circuit. A **series circuit** only provides one path for the electrons to flow, while a **parallel circuit** provides multiple pathways.

Currently Using A Flashlight!

Your teacher has provided you with needed materials to complete your investigation page. These materials should be treated with care and left in the station.

Step 1 - Place the batteries in the flashlight as directed. Then place the lid on and verify that it lights the flashlight.

Step 2 - Take off the lid of the flashlight and insert the piece of cardboard between the battery and the light bulb piece. Place the lid back on the flashlight and try to turn it on.

Step 3 - Write down on the investigation page what happened.

Step 4 - Open the flashlight and remove the cardboard. Then place the lid back on and turn the flashlight on again.

Step 5 - Take the batteries out of the flashlight and sit all the materials in the station for the next student.