

**ED 101 Educational Technology Lab – Fall 2013
Boston University – School of Education**

LESSON PLAN

Requirement	<i>Explanation/Example</i>
Grade(s) Content Area(s) Topic of Lesson	4 th Grade Science: Electricity and Magnetism
Objective	Students will be able to draw a circuit using schematics, create their own circuits and be able to orally identify magnetic vs. nonmagnetic materials.
Technology standard	MA Technology Standard: <i>G3-5: 2.5 Work collaboratively online with other students under teacher supervision. Standard 2. Demonstrate the responsible use of technology and an understanding of ethics and safety issues in using electronic media at home, in school, and in society.</i>
Curriculum Framework	Curriculum Framework: <ul style="list-style-type: none"> • Massachusetts Science and Engineering Standards • Physical Science, Grades 3-5 6. Recognize that electricity in circuits requires a complete loop through which an electrical current can pass, and that electricity can produce light, heat, and sound.
Materials, Resources, Technology, Personnel	<i>This lesson should take place in a classroom with one laptop and a projector. The classroom will also need internet access. Groups of 3-5 will be formed and every group will need one battery, two pieces of wire and one LED light bulb. Every student will also need one piece of paper and a pencil.</i>
Lesson Introduction (5 minutes)	<i>I will begin this lesson by creating a discussion about electricity and lightning with the whole class, asking students if they know how lightning creates energy. I will then ask students how they think lights in the</i>

	<i>classroom are powered. After a few students answer, I will define energy and tell my students that they will be learning all about how energy works.</i>
Guided Activity (10 – 15 minutes)	<i>I will begin by putting my website on the projector. I will work through the website pages with them, teaching them how electricity and magnetism work. I will teach them what makes an item magnetic, how electricity is channeled into energy, and how those channels (called circuits) work. Students will see examples of magnets and pictures of circuits to help them understand how these concepts work. I will ask for questions intermittently throughout the lesson. When the games come up on the website, I will ask small groups of students to come up to the computer and work together to play the games, teaching them responsible computer sharing and use. Because there is only one game, the students will have to share the laptop, so I will encourage students to work together on the computer.</i>
Independent Student Activity (10-15 minutes)	<i>At this point, the students will be given their paper and pencils and begin drawing pictures of simple circuits. These pictures should include the battery, the wire, and the light bulb, forming a complete circuit. After they are done, I will demonstrate how to create actual circuits, and students will be given circuit materials and create their own light bulb circuits in their small groups, with the teacher helping students throughout the classroom. At the end of class, students will turn in their drawings for feedback.</i>
Wrap-Up of Lesson (Closure) (5 minutes)	At this point, I will open a Q and A session with my students, first asking if students need clarification on any concepts, then I will ask what they learned in this lesson.
How will students be assessed to make sure	Objective: Students will be able to draw a circuit using schematics, create their own circuits and be able to identify magnetic vs. nonmagnetic materials.

**they are
able to
perform the
objective?**

Assessment: I will ask students to go home and identify 3 magnetic and 3 nonmagnetic items within their home, list them on a sheet of paper, and turn it in the next day. Students will be allowed to make one mistake.