

ED 101 Educational Technology Lab – Fall 2011
Boston University – School of Education

LESSON PLAN

Grade(s)	Kindergarten
Content Area(s)	Science
Topic of Lesson	Magnets- what they look like; the definition of force, what materials are attracted to magnets and the different kinds of magnets
Three Objectives	<p>When given a piece of paper with pictures of objects that can and can't stick to magnets, students will be able to accurately identify, by pointing to them, which object will and will not be attracted to the magnet.</p> <p>Students will be able to explain that the word force means a "push or a pull"</p> <p>Students will be able to accurately identify each type (horseshoe, bar, disk, and rob magnets) of magnet when given pictures of the five different kinds.</p>
Technology standard	<p>Standard 1. Demonstrate proficiency in the use of computers and applications, as well as an understanding of the concepts underlying hardware, software, and connectivity.</p> <p><u>Basic Operations:</u> K-2: 1.1 Demonstrate beginning steps in using available hardware and applications (e.g., turn on a computer, launch a program, use a pointing device such as a mouse).</p>
Curriculum Framework	<ul style="list-style-type: none"> • Massachusetts Science and Engineering Standards • Physical Sciences (Chemistry and Physics, Grades Pre-K-2 • Position and Motion of Objects <p>4. Demonstrate that the way to change the motion of an object is to apply a force (give it a push or a pull). The greater the force, the greater the change in the motion of the object.</p>
Materials needed	<p>I will be teaching the beginning of the lesson on the computer by walking the students through the website on an LCD projector. I will use the two computers in the back of the classroom for the students to explore the website during station time. I will have two separate handouts and they will need markers or crayons to color in pictures on one of the handouts. For another handout they will need scissors and glue sticks to show their knowledge of different types of magnets.</p>
Lesson Procedure, Web Site Use, and	<p>I will begin the lesson by asking students what the internet is and ask, "how do I open the internet on a computer?"</p> <p>Once they give me the correct answer, I will open it and type in the website</p>

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name and the lesson will start with the home page. I will read to them out loud what the home page says: "Hi there! I'm Mrs. Mcgee, and I am so excited to teach you all about my favorite thing: **magnets!** On this science website, you will learn about different kinds of magnets, how they work, and what materials they attract. I will be here throughout the whole site to help you, but, make sure you pay attention because there will be a quiz at the end! Are you ready to learn about magnets? Just click on me to get started!" (The voice over button is to be used when they are using the website by themselves).

Next, I will mention the technology portion of the lesson and ask, "Who can tell me what part of the computer I am using to click on Mrs. Mcgee?"

Once they answer, I will click on her, which takes goes to the first content page. This is where students will learn about the word "Force," and what it means. My first question will be, "Does anyone know what the word "Force" means? Depending on their answers, I will explain that, "**magnets have force, which means push and pull. Magnets are able to push objects away from them and pull objects towards them.**"

This page of the website will go into detail about force with pictures and other visuals explaining what pull and push mean.

To enforce this concept, I will ask the students to raise their hand if they can think of an object that uses force- something that pushes or pulls. This can be a broad question to get them thinking of what push and pull mean; this part does not have to connect with magnets yet.

I will then click on the link bringing me to the next page of the website. This will show a visual of a magnet on a refrigerator and other visuals enforcing the image of what a magnet could look like.

I will ask the class if anyone has seen a magnet before and if so, what did it look like and where was it? Was it using force against something?

I will then say that it was stuck to something because of its "**force**" and **how the magnet is pulling the object towards it and the object is pushing towards the magnet.**

Then I will show them visuals of objects magnets attract such as paper clips, nails, scissors, and pennies. I will say, "these objects are all different kinds of **metal**. Notice that Magnet and Metal both start with the mmmmm sound, which can help you remember what magnets attract."

I will have them repeat this a few times.

Then, I will click on the final content page that explains the five different types of magnets: U-shaped magnet, block magnet, rod magnet, disk magnet and bar magnet. I will explain that all these different types of magnets all have force and pull and push against the same kinds of objects (metal), they are just shaped differently. I will ask the students to recite the types of magnets out loud together, as a class.

Before they go to their seats for the final portion of the lesson, I will ask

	<p>them, “How do I close the internet on a computer, when I am finished?”</p> <p>Finally, the students will go to their tables where there will be three stations:</p> <ol style="list-style-type: none"> 1. A handout will have about six pictures. Some of the pictures will be of nails, paper clips, scissors and pennies (what magnets attract) and some of the pictures will be random objects that are not made of metal. They will have to color in the objects that are metal. At the bottom of the handout there will be the word “Force” in large block letters. When they have completed coloring, they will trace the word with crayons or markers and then pass their paper in to a teacher and tell them what force means. 2. Some students will go on the computers in the class and take the quiz on my website to see if they have understood the material they were taught. 3. Students will have a hand out- at the top of the page will be a picture of each type of magnet with the word written out underneath it. At the bottom of the page there will be pictures of two of each kind for them to cut out with scissors. They will then have to glue the correct picture under the picture with the word and say out loud what kind of magnet it is.
<p>How will students be assessed?</p> <p>How will you know if students have met the objectives stated above?</p>	<p><u>Objective 1:</u> Students will be able to accurately identify which objects can and cannot be attracted to the magnet.</p> <p><u>Assesment 1:</u> A handout will be given to the students with pictures of nails, paper clips, scissors and pennies (what magnets attract) and pictures of random objects that are not made of metal. They will have to color in which objects are metal.</p> <p><u>Objective 2:</u> Students will be able to accurately identify each type of magnet</p> <p><u>Assessment 2:</u> A handout will be given to the students with a picture of each type of magnet with the word written out underneath it. At the bottom of the page there will be pictures of two of each kind for them to cut out with scissors. They will then have to place the correct picture under the picture with the word and say out loud what kind of magnet it is.</p> <p><u>Objective 3:</u> Students will be able to explain that the word force means a push or a pull</p> <p><u>Assessment 3:</u> At the bottom of the first hand out there will be the word “Force” in large block letters. When they have completed coloring, they will trace the word with crayons or markers and then pass their paper in to a teacher and tell them what force means.</p>