



Rio Grande Educational Collaborative Before and After School Program Lesson Plan



Guidelines:

Lessons should be at least (60) minutes, and **MUST** pertain to literacy.

Lesson Title:	Exploring Magnetic Fields
School:	Pajarito Mesa Portable
Date:	2018-01-23
Instructor Name:	Kevin Saavedra
Class Size:	15

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<p>NM Common Core/State Standards: (SCIENCE)</p> <p>CCSS.ELA-LITERACY.W.3.2: Write informative/explanatory texts to examine a topic and convey ideas and information clearly.</p> <p>CCSS.ELA-LITERACY.SL.2.1.B: Build on others' talk in conversations by linking their comments to the remarks of others.</p> <p>CCSS.ELA-LITERACY.SL.5.1.B: Follow agreed-upon rules for discussions and carry out assigned roles.</p>	<p><i>For more information on NM Common Core/State Standards visit:</i> http://newmexicocommoncore.org/ http://www.mystandards.org/</p>
<p>Learning Objectives: Students will explore how magnets influence various materials and object and indirectly observe the presence of magnetic fields.</p>	<p><i>[Instructional context:]</i> i.e. After listening to "If You Decide to Go to the Moon" by Faith McNulty and identifying relevant words during the readaloud <i>[what students will do:]</i> i.e. Students will write a list of words <i>[Standard was met as demonstrated by:]</i> i.e. Students can identify, spell and define sight words as demonstrated by post activity trivia</p>



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Lesson Materials & Equipment: Magnets, compasses, sequin pins, sewing thread, iron filings, paper clips, pencils, paper, ziploc bags	Please include all items and the quantity.
Special Requests for RGEC Equipment: None	

Instructional Sequence:

Please Note: This section should be written so that another Instructor could pick it up and teach the lesson successfully. Include estimates of wait time, questions you may ask, and as many specific details as possible.

Body of the Lesson

1. (What you will say/do to assess, connect to, or build, necessary background knowledge.
2. Describe step-by-step what the students will be doing during the lesson.
3. Opportunities to participate in small groups.
4. Activity to process daily participation

Instructional Sequence:

-Before the lesson, prepare stations with different exploratory materials (there's a set of magnets at each station).

Stations:

1. A sequin pin tied with sewing thread.
2. Mini compasses
3. Paper clips with 1 straightened paper clip tied with sewing thread.
4. Loose sequin pins in a cup

-Break students into four groups of about three to four members. Tell them that they will rotate clockwise from station to station every five to seven minutes. Do not let them touch the materials yet.



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-Have them experiment with just the magnets themselves for the first five minutes or so as you orient them. Give each station a set of magnets and tape, and have them place tape on the side of the magnets that attract each other, this way they can easily differentiate which side attracts and which side repels.

-Explain that, at each station, students will spend their time exploring the materials and how they interact with the magnets. Assign a leader to write down observations for a class discussion at the end of the period.

-Move from group to group as they work, guiding conversation towards observing the magnetic fields.

Prompts for each station:

1. Which direction does the pin point? Move it around the magnets. What happens when you move it around one magnet vs. two vs. three?
2. Identify which way is north and show them how to use a compass. What happens when you put the magnet on the compass? How can you fix a compass? Why do compasses point north?
3. Describe what happens when you put the clip over the magnets. Does it spin? If so, why?
4. Drop the pins onto the magnets. Throw them onto them all at once. What are you noticing about the way they tend to land?

-After groups have gone to each station, check the time. If more than 10 minutes remain, have groups gather around you as you prepare the iron filings to reveal the magnetic field of the magnets. Put the magnets in a ziploc bag, place a sheet of paper on top, and spread the filings onto the paper.



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-Now that everyone has gathered, have groups discuss what they're observing now as well as what they observed at each station (discuss each station independently).

Lesson Credits:

Where did you get your ideas for your lesson? (i.e. website, etc.)
Explore It! STEM Kits, from the Magnets manual