KUTZTOWN UNIVERSITY

ELEMENTARY EDUCATION DEPARTMENT

LESSON PLAN FORMAT

Teacher Candidate: Colleen Bagonyi & Taylor Della-Croce Date: 10/1/14

Cooperating Teacher: N/A Coop. Initials N/A

Group Size: 25 Allotted Time 1 hour Grade Level Third Grade

Subject or Topic: Magnetism Section N/A

**STANDARD:** 3.2.3.B1. Explain how movement can be described in many ways.

1. Performance Objectives (Learning Outcomes):
   1. The third grade students will be able to gain an understanding that certain materials are attracted to magnets and some are not by discovering and categorizing the forces on a chart.
2. Instructional Materials
3. Data sheet
4. Magnet
5. Clothespin
6. 1-inch masking tape
7. Scissors
8. Video
9. Subject Matter/Content (prerequisite skills, key vocabulary, big idea, outline of additional content)
   1. Prerequisite skills
      1. Fine motor skills
      2. Sorting through the use of a chart
   2. Key Vocabulary
      1. Magnet - is an object made of iron that is attracted to other iron objects, has two opposite poles, and exhibits magnetism.
      2. Magnetic Force - attraction for iron, The force of a magnet's magnetism (attraction or repulsion)
      3. Attract -opposite poles attract.  That means they come together.
      4. Repel - To drive away. Like poles repel
   3. Big Idea
10. How Strong is Your Magnet? Students will discover how barriers and increased distance can vary the strength of a magnet.
    1. Additional content
11. Implementation
    1. Introduction
       1. To introduce the topic, the teacher will show them a video. https://www.youtube.com/watch?v=ak8Bh9Zka50
       2. The teachers will have a prediction board up on the front of the room. The students will put their prediction on whether or not a magnet will exert a force on a paper clip and why on a posted note and get up and put it on the board.
       3. The student’s copy their predictions write down in their science journals.
       4. The teacher will have a discussion with the students as an opportunity to review what students know about magnets.
    2. Development
12. The teacher will show the students that the strength of the magnetic field decreases the farther you move away from the magnet by a simple demonstration.
13. The teacher will tie one end of the thread to a paper clip and tape the other end to the surface of a table.
14. The teacher will hold a magnet above the paper clip.
15. The teacher will hold the clip up in the air while keeping the string taut as long as the magnet is fairly close to the paper clip.
16. The teacher will show the students if you move the magnet too far away from the clip, the strength of the magnetic field decreases, and the paper clip falls.
17. The teacher will hand out the data sheets for the students to make their predictions
18. The students will estimate how far away they can move with the magnet before the paper clip falls.
19. Divide the class into partners.
20. Distribute the student sheet “How Strong is Your Magnet”
21. The teacher will review the procedure with the students prior to the activity.
22. The students will start the inquiry.
23. The students will clamp their magnet to the clothespin. Tape the clothespin to the bottom of the cup as shown in the sketch.
24. The students will pull out one end of the paperclip to form a hook. Touch the hook to the magnet. It should stick to one pole of your magnet.
25. The students will take turns with your partner and carefully add paper clips to the hook, one by one. They will count the total number of paper clips that they can hang onto the hook before the weight becomes too much for the magnet to hold and the paper clips fall.
26. The students will write this number of paper clips on your data sheet on the line for zero pieces of tape.
27. The students will stick three pieces of masking tape (labeled #1, #2, and #3) on the bottom of your magnet.
28. The students will repeat their experiment and see how many paper clips you can hang on the hook. Make sure the hook touches the tape, not the magnet itself.
29. The students will write their findings on the data sheet.
30. The students will add three more pieces of tape and repeat the experiment.
31. The students will record on their data sheet.
32. Keep adding pieces of tape, three at a time, repeat the experiment, and write down what you find.
33. The teacher will ask the students to record this in their science journal
34. When they add more and more layers of tape, what do you notice about the number of paperclips on the hook? Is the magnet able to hold more, the same, or fewer clips? Do you think that the tape is causing this? Why?
35. After they finish writing in their science journals they will discuss with what they wrote with the class.
    1. Closure
36. The teacher will read “What Makes a Magnet” by Franklyn Mansfield Branley.
37. The teacher will then ask what did the students learn today about magnets that they didn’t know before.
38. The teacher will then explain that tomorrow’s lesson will be focus on gravity.
    1. Accommodations/Differentiation
       1. For J.D. I would have him sit near the door if he would need a break from the class to accommodate his emotional behavior.
    2. Assessment/Evaluation Plan

1. Formative

* The teacher will listen to the pre-assessment discussion and use a checklist to determine misconceptions.
* The teacher will collect the charts the students made to see if the understand the concept of magnetism.

2. Summative

* There is no summative assessment.

1. Reflective Response
2. Report of Student Performance in Terms of Stated Objectives (Reflection on student performance written after lesson is taught, includes remediation for students who fail to meet acceptable level of achievement)

Remediation Plan

1. Personal Reflection (Questions written before lesson is taught. Reflective answers to question recorded after lesson is taught)
   * 1. Where the students engaged during the experiment?
     2. Was the chart an accurate way to assess knowledge? Was it too easy? Was it too hard?
     3. Were the students able to make their own observations while doing this experiment?
2. Resources (in APA format)

Video : Magnets & Magnetism. (n.d.). Retrieved November 21, 2014, from <https://www.youtube.com/watch?v=ak8Bh9Zka50>

Book: Branley, F., & Kelley, T. (1996). *What makes a magnet?* New York, NY: HarperCollins.

