



# Magnets Lesson Plan

## *Content*

Key Vocabulary: attract, repel, north and south poles, predict, force field, visible, invisible

## *Goals and Aim*

1. Using the bar magnets, experiment putting north and south poles together, see where they attract and where they repel
2. Predict and test which part of the magnet is the strongest : north, middle or south
3. Study three different magnets, predict and test which is the strongest.
4. Students will learn about Invisible/Visible force fields
5. Students will participate in discussion
6. Students will cooperate and work together in a group setting

## *Objectives*

1. Students will demonstrate an understanding of north and south poles by predicting and testing magnets
2. Students will demonstrate an understanding of prediction
3. Students will co-operate and work together
4. Students will demonstrate their understanding of force fields by filling in their work sheets, and completing the activity
5. Students will participate by answering questions, and making observations
6. Students will demonstrate working cooperatively in groups by sharing materials

## *Materials*

- bar magnets
- paper clips

## Procedures



## A. Introduction

Draw upon and reflect on previous knowledge of magnets from previous lessons and from previous centers they have just visited. Introduce opposites and like sides and how they relate to magnets.

This will focus on looking at the invisible force field that magnets have around them. You can feel the force when you hold a steel object close to a magnet and try to pull it away. The force becomes weaker when you hold the object further away.

## B. Development

Have the students divide into two groups, one group will work on attraction and repelling activity, the other group will work on the magnet strength activity. Have the groups switch once they are each complete.

In the small group, demonstrate how magnets pull together. Have the students pass around magnets so they can feel and understand the pull for themselves.

## C. Practice

Have the students make predictions as a group before they start the activity.

Demonstrate how each activity is done before they begin.

As a group, there will be a demonstration of putting two magnets a little bit apart underneath a white piece of paper. Then add iron filings on top so the students can observe how the magnets will pull together, and the iron filings will show the force field. This experiment makes the invisible force field become visible to the students.

## D. Independent Practice

Students will complete each activity and fill in the sections of their worksheet that correspond to the activity

Students will also write and reflect something new they learned in their magnet journals

Students will be able to try putting the iron filings on the paper to observe the force field for themselves.



They will then fill out the corresponding worksheet, and write what they have learned in their magnet journals.

### **F. Checking for understanding**

Have a group discussion based on their results and predictions of each activity. Check the students work sheets to see that they have filled out all the information. Check to see each student has written in their magnet journals

### **G. Closure**

Discuss as a group what new things they learned about magnets before they move on to the next center.

Discuss as a group what new things they have learned about magnets, both at this magnet center and from previous lessons

### **Evaluation**

Check each students worksheets for accuracy, and check the students journals to see their progress and to check to see that they have a grasp on the concepts.

Check each students work sheets to see that they are completed and are accurate and check their journals to see that they are reflecting on what they have learned, and that they understand the concepts.

### **Reflection**

As a teacher I needed to control the noise level and disturbances from students better. Some of the magnets broke from a result of students not using the magnets appropriately, next time I should monitor the students and make sure they know how to use the magnets appropriately so this does not happen. Also when I first ran this station I did not explain the activities before separating them into groups which caused confusion, I fixed this for the next group. Overall the station ran smoothly and the students seemed to enjoy both activities.

This was more group focused, and all the students were together cooperatively and participated in discussion.

Overall, the students seemed to enjoy this magnet center, and seemed to take away the main concepts.