

MAGNETIC EXPLORATION (MODIFIED FOR ADEED)



Science Concept:

Some objects are attracted to magnets and some are not.

Objectives:

The student will:

- make a prediction about the ability of a magnet to attract various objects; and
- sort objects that are and are not magnetic.

GLEs Addressed:

Science

- [3] SA1.1 The student demonstrates an understanding of the processes of science by asking questions, predicting, observing, describing, measuring, classifying, making generalizations, inferring, and communicating.
- [3] SB4.2 The student demonstrates an understanding of motions, forces, their characteristics, relationships, and effects by recognizing that objects can be moved without being touched (e.g., using magnets, falling objects, static electricity).

Writing

- [K] W1.1.1 The student writes about a topic by writing to express personal ideas using drawings, symbols, letters, or words.

Vocabulary:

attract - to pull to or toward oneself or itself

magnet - something that attracts

Materials:

- Steel balls
- Pencil
- Cotton balls
- Variety of magnets, such as bar magnets, horseshoe magnets, disc magnets, ball magnets, wand magnets, etc. (one of each type for each group)
- Objects that the magnets will and will not attract, such as nuts, bolts, small toys, small pieces of non-magnetic metals (e.g. copper, aluminum), etc.
- Tub
- STUDENT WORKSHEET: "Yes/No"

Activity Procedure:

Gear Up

Process Skill: communicating

1. Ask students to describe a magnet; discuss as a class.
2. Ask students what kinds of magnets they have in their homes. Provide examples of magnets that may be in one's home: magnets on cabinet doors, refrigerator magnets, a magnetic screwdriver, etc.
3. Ask students if they see any magnets in the classroom (e.g., magnetic letters, magnetic paper clip holder, magnetic chalk board, etc.).

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Explore

Process Skills: observing, communicating, and classifying

4. One at a time, hold up each kind of magnet (bar magnet, horseshoe magnet, etc.), and tell students the name of each particular magnet.
5. Divide students into small groups, and provide each group with one of each type of magnet. Ask students to use the magnets in the classroom and discuss discoveries in their groups. Once students have had adequate time to explore, ask them to share their discoveries with the class.
6. Ask students what "attract" means; help them to define the word, if necessary.
7. Explain you are going to add objects to a tub. The class will see if the objects attract or not. Distribute the STUDENT WORKSHEET: "Yes/No," and add objects to a tub. Instruct students to separate the objects into the "yes" and "no" columns of their worksheets as they explore with the magnets.

Generalize

Process Skills: communicating and classifying

8. As a class, go through each item and sort into "yes" and "no" columns on the board, based on whether they were attracted or not attracted to the magnet.
9. Ask students to describe what is similar about the objects in the "yes" column.
10. Ask students to describe what is similar about the objects in the "no" column.
11. If students wonder about why some "no" objects are made of metal and do not attract to the magnet, explain magnets will not pick up all metal objects but only those made of iron or steel.

Apply/Assess

Process Skills: communicating, classifying and predicting

12. Ask each student to walk around the room and gather five small items and bring them back to his or her table.
13. Ask students to predict which objects will be attracted to the magnet and which will not by sorting them into the correct columns on their worksheets.
14. Pass out a magnet for students to test their predictions.

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RUBRIC

Objective	GLE	Emergent	Developing	Proficient	Advanced
The student makes a prediction about the ability of a magnet to attract various objects.	[3] SA1.1	The student does not make a prediction.	The student makes a prediction, but the prediction does not relate the ability of a magnet to attract various objects.	The student makes a prediction about the ability of a magnet to attract various objects.	The student makes a prediction about the ability of a magnet to attract various objects and explains his or her reasoning.
The student sorts objects that are and are not magnetic.	[3] SB4.2	The student does not sort any objects.	The student sorts some objects, but not all of them, or sorts objects incorrectly.	The student sorts all objects but does not sort them all correctly.	The student sorts all objects correctly.
The students will write about or draw one thing observed and verbally explain entry.	[K] W1.1.1	The student does not write a description.	The student writes a description but does not explain it.	The student writes a description and verbally explains it.	The student writes in detail and verbally explains his or her description.

NAME: _____
YES/NO

STUDENT WORKSHEET

Yes	No