4

Science 4

Microlearning Module

QUARTER 3 – Module 8

Properties of Magnet

Microlearning Module

REGION XII - DIVISION OF SULTAN KUDARAT

Science 4
Microlearning Module (MLM)
Quarter 3 – Module 8: Properties of Magnet
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MICROLEARNING MODULE

Name: _____ Grade & Sec: _____ Score: _____
Subject: Science 4 Quarter: 3 MLM No. 8
Teacher: _____
Learning Competency: **The learners carry out guided investigations to identify the properties of magnets including how they affect other magnets and objects made of different materials.**

Properties of Magnet

A. Look Back!

From a previous lesson, you have learned that forces have different effects on an object.

Directions: Determine whether the object will stop, change direction, or change in speed. Write stop, change direction, or change in speed on a separate sheet of paper.

1. A baseball batter hits a pitcher's ball.
2. A girl squeezed a toothpaste tube.
3. A ball rolled down a hill.
4. A boy kicked a soccer ball.
5. A falling apple hits the ground.

B. What's New?

Do you have any knowledge about magnets? Have you had the opportunity to experiment with them? Did you find it to be an engaging experience? Whether you are watching your favorite television program, listening to a favorite musical piece on the radio, or having a conversation with a friend over the phone, it is worth noting that magnets play a crucial role in these activities.

In this lesson, you will explore the different properties of magnets and how they affect other magnets and objects. Let's do the following activities. Enjoy!

Activity B.1: Locate Me!

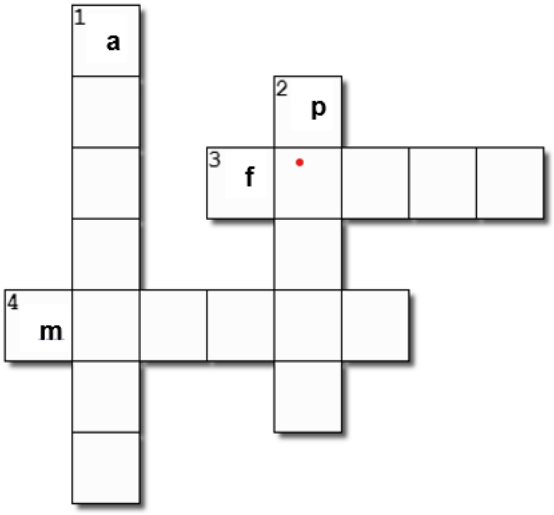
Directions: Using the clues provided, complete the puzzle.

Across:

3. Refers to magnetic and magnetic field
4. A material that can be magnetized.

Down:

1. Ability of magnets to pull certain materials towards them.
2. Opposite ends of magnet.



Activity B.2: Where Do I Belong?

Directions: Classify the following objects if it is attracted by a magnet or not attracted by a magnet inside the box. Write your answer on a separate sheet of paper.

pin	plastic toy	pencil	nails
paper clip	wood	rubber	
plastic spoon	staple wire	iron	

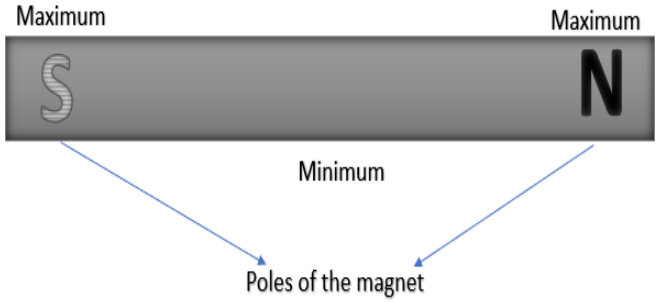
Objects attracted by a magnet	Objects not attracted by a magnet

C. What Is It?

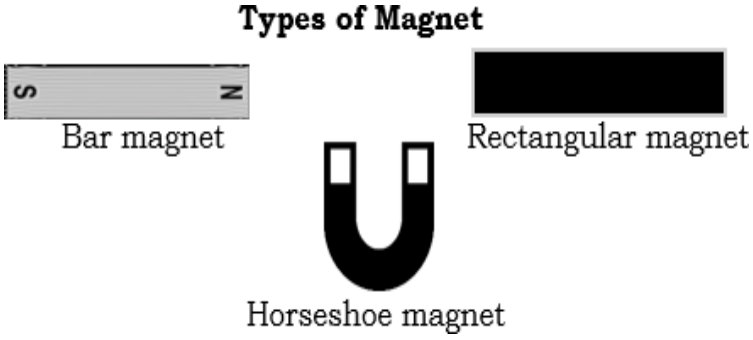
A magnet is a piece of metal that can attract other objects made of metal. Any force that pulls or pushes is called a force. The force that attracts the iron filings is known as magnetic force. Since iron filings are attracted to the magnet, the area around a magnet exhibits magnetism.

Magnets also do not attract other materials called **non-magnetic substances** (paper, plastic, wood, glass, copper, rubber, etc.). Substances that are attracted by magnets are called **magnetic substances** (iron, cobalt, steel, nickel, tin).

The Poles of the magnet are located near the ends. The attracting power of the magnet is maximum at the two ends and minimum at the middle. One pole is called the **North Pole**; the other is the **South Pole**. A magnet always has both the North Pole and the South Pole.



If the poles are different, then they will pull together or attract each other. (One pole is a south pole and one is a north pole.) If the poles are the same, then they will push apart, or repel each other. (They are either both south poles and both north poles.)



D. Let's try!

Activity D1: Exploring Magnetic Attraction

Materials Needed:

- Bar Magnet
- Various small objects (e.g. Paperclip, coin, plastic spoon, pencil, aluminum, foil, iron, nail, wooden, block)
- Small Containers or cups to hold the objects
- Paper or notebook for recording observations

Procedures:

1. Collect all the materials needed for the experiment.
2. Place the bar magnet on a flat surface. Arrange the small objects in separate containers or cups nearby.
3. Before testing each object, have the pupils make predictions about whether they think each object will be attracted to the magnet or not. Encourage them to explain their reasoning.
4. Take one object a time and bring it close to the bar magnet without touching it. Observe what happens:
    - If the object is attracted to the magnet and moves toward it, record this observation.
    - If the object is not attracted and shows no movement, record this observation as well.
    - Name each object and whether it was attracted to magnet or not.
5. After testing all the objects, discuss their observations. Guide Questions:
    1. What objects were attracted to the magnet and which are not?
    2. Why certain materials are magnetic while others are not?
    3. What makes them magnetic?
    4. Can you describe how the magnet attracts or repels certain objects?

E. Let's Evaluate

Directions: Read each question carefully and choose the best answer. Write your answer on a separate sheet of paper.

1. Which of the following methods would not be effective for investigating the properties of magnets?

A. using iron filings to visualize magnetic field lines
B. placing a magnetic near a compass to observe the deflection
C. using a Gauss meter to measure magnetic field strength
D. applying a strong electric current to a non-magnetic material

2. Gina is experimenting with magnets in her Science class. She observes that when she brings the North Pole of one magnet close to the North Pole of another magnet, they:

A. attract each other
B. become warmer
C. create a loud sound
D. repel each other

3. Which of the following materials is most likely to be attracted to a magnet?

A. glass marble
B. paper clip
C. plastic rubber
D. wooden pencil

4. Which of the following is not a property of magnets?

A. repulsion of like poles
B. creation of magnetic fields.
C. attraction to certain metals
D. ability to conduct electricity

5. What happens when you break a bar magnet into two pieces?

A. the pieces repel each other
B. both pieces become non- magnetic
C. one piece becomes a magnetic and the other loses its magnetism
D. each piece become a smaller magnetic with its own north and south poles

6. Which of the following is a property of magnets?

A. They can change color.
B. They can float on water.
C. They can produce light.
D. They can pull objects made of iron or steel.

7. Kevin is testing different objects with a magnet. He observes that the magnet attracts some objects but not others. Which of the following objects is most likely to be attracted to the magnet?

A. metal spoon
B. plastic Toy
C. rubber ball
D. wooden block

8. What happens when two magnets are brought close together with opposite poles facing each other?

A. They repel each other.
B. They attract each other.
C. They create a magnetic field.
D. Nothing happens

9. Pia rubs a magnet against a paperclip. What will happen?

A. The paperclip becomes a magnet.
B. The paperclip loses its magnetism.
C. The paperclip is repelled by the magnet.
D. The paperclip is attracted to the magnet.

10. Which of the following statements best explains why some materials are attracted to magnets while others are not.

A. Magnetic materials have a different color compared to non-magnetic materials.
B. Magnetic materials are lighter in weight than non-magnetic materials.
C. Magnetic materials contain tiny particles called domains that align with a magnetic field, allowing them to be attracted to magnets.
D. Magnetic materials have smoother texture than non-magnetic materials.

F. References

Abutay et al. 2015. Science Teacher's Guide. Pasig City: Lexicon Press, Inc.

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Answer Key

Science Grade 4

Quarter: 3 Module: 8

A. LOOK BACK!

1. Change in direction
2. Change in Speed
3. Change in Speed
4. Change in direction
5. Stop

B. WHAT'S NEW

Activity B1

1. Attract
2. Poles
3. Force
4. Magnet

Activity B2:
Answers may vary.

D. LET'S TRY

Activity D1: Exploring Magnetic Attraction

Answers may vary.

E. Let's Evaluate

1. D
2. D
3. B
4. D
5. D
6. D
7. A
8. B
9. D
10. C

DISCLAIMER

This Microlearning Module has been developed by DepEd - Division of Sultan Kudarat for educational purposes only. It is designed to supplement classroom instruction and should not be used as the sole source of information. Teachers are encouraged to exercise their professional discretion and tailor the content to suit their students' individual needs.

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