

Name \_\_\_\_\_

Date \_\_\_\_\_

## What is Magnetism?

**Magnetism** is a property of materials that respond to an applied magnetic field that cause the material to be either attracted or repelled.

Permanent magnets have persistent magnetic fields caused by ferromagnetism. This is the strongest and most familiar type of magnetism.

However, all materials are influenced differently

by the presence of a magnetic field. Some are attracted to a magnetic field called para-magnetism. Substances that are not affected by magnetic fields are known as **non-magnetic** substances. They include copper, aluminum, gases, and plastic. Pure oxygen exhibits magnetic properties when cooled to a liquid state.



The magnetic state of a material depends on temperature and other variables such as pressure and the applied magnetic field so that a material may exhibit more than one form of magnetism depending on its temperature.

Magnetism is the force that causes a nail or paper clip to be pulled toward a magnet. It takes a moving charge or moving charges to create a magnetic field, and magnetism is the phenomenon associated with the existence of a magnetic field or with the interaction of a magnetic field with other materials or even other magnetic fields.

A magnet is an object that exhibits a strong magnetic field and will attract materials like iron to it. Magnets have two poles, called the north (N) and south (S) poles. Their opposite poles will attract two magnets, and each will repel the like pole of the other magnet. Magnetism has many uses in modern life.



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## Magnetism Multiple Choice Questions

1. Because of magnetism, objects

- a) Attract
- b) Repel
- c) Either attract or repel
- d) None of the above

2. The Strongest type of magnetism is caused by

- a) Ferro magnetism
- b) Para magnetism
- c) Diamagnetism
- d) None of these

3. There are \_\_\_\_\_ poles in a magnet.

- a) Two
- b) Three
- c) Four
- d) Five

4. Magnetic properties of an object do NOT depend on temperature. Is this statement TRUE or FLASE?

- a) True
- b) False



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## What is Magnetism?

### *Answers*

1. c
2. a
3. a
4. b

### *Explanation of Answers*

1. **Magnetism** is a property of materials that respond to an applied magnetic field that cause the material to be either attracted or repelled.
2. Permanent magnets have persistent magnetic fields caused by ferromagnetism. That is the strongest and most familiar type of magnetism.
3. Magnets have two poles, called the north (N) and south (S) poles.
4. The magnetic state (or phase) of a material depends on temperature (and other variables such as pressure and the applied magnetic field) so that a material may exhibit more than one form of magnetism depending on its temperature, etc.



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## What is Magnetism? Writing Activity

1. Define magnetism.

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2. Can you name three objects that are magnetic?

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3. What are the variables on which magnetic properties of a substance depends?

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