

Name _____

Magnetism and Electricity

Part 1: Keep It Up! Maglev train article

Questions on back of article

1. _____
2. _____
3. _____
4. _____
5. _____

Part 2: Magnetism video (on DE)

For the words in bold, use the video to come up with a definition

Magnetic field _____

Magnetic objects _____

Contain these elements _____

Non-magnetic objects _____

What happens when you put like poles against each other?

Repel _____

What happens when you put opposite poles against each other?

Attract _____

What happens when you split a magnet in half?

Why does the earth behave like magnet?

Part 3: Getting to Know: Electricity and Magnetism Relationship reading

Use the reading to answer the following questions/definitions

Electromagnet _____

Name _____

Electric current _____

In your own words, summarize Misconception 1: The larger the magnet, the stronger it is.

How can we change the strength of an electromagnet? (2 things)

Generator _____

In your own words, summarize Misconception 2: An object can become positively charged if its electrons are destroyed.

In your own words, summarize Misconception 3: magnetism can't really create an electric field

Part 4: Skill Builder – Magnetism (on DE)

Follow the directions below to answer the questions. There are animations and readings to go with each section, so pay attention to both!

How did ancient Greeks use magnetite?

Name 3 objects that magnets are used in today

Click properties of magnets on the right

What are the 2 poles of a magnet?

Draw magnets attracting and repelling below. Label the poles

Click what is a magnetic field on the right

How do magnetic field lines look around magnets?

Name _____

What happens when iron filings are around a magnet?

Click unlike poles attract on the right

Draw the magnetic field lines around opposite poles

Click like poles repel on the right

Draw the magnetic field lines around like poles

Click electricity to magnetism on the left

What did Oersted conclude in his experiments?

Click electromagnets on the right

How do electromagnets work?

3 ways to make an electromagnet stronger

How are electromagnets useful?

Click quiz on the right

What happens if you cut a magnet in half?

Which statement is true for magnetic lines of force within a magnetic field?

Like poles repel and opposite poles attract (TRUE / FALSE)

What happens if more turns are added to the coil of an electromagnet?

Name _____

Name _____

Part 5: Quick "Quiz"

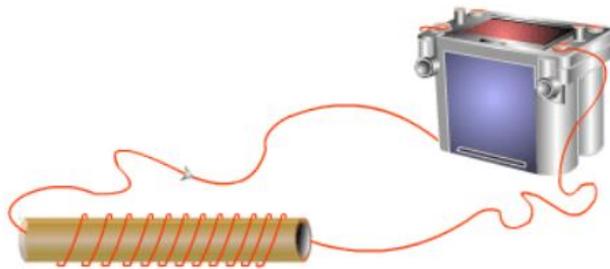
Circle True or False for the following statements

1. The north and south poles of two magnets will repel each other (TRUE / FALSE)
2. A magnet is an object that attract certain materials such as iron (TRUE / FALSE)

Circle the letter that best answers the question

3. Which of the following is true about the relationship between electricity and magnetism?
 - a. Electricity can be used to create a magnet
 - b. Magnetism and electricity cannot be converted into one another
 - c. Magnetism is based on how gravity attracts electrical energy
 - d. Electrical energy and magnetism cancel each other out

4. Which of the following is a device in which magnetism is produced by an electric current running through a wire wrapped around an iron or steel core?



- a. Electromagnet
- b. Battery
- c. Generator
- d. Motor

Name _____

5. Which of the following reasons explains why magnets usually stick to refrigerator doors?

- a. The door has electric wires in it
- b. The door is smooth
- c. The door is a good conductor
- d. The door contains iron

6. To which of the following purposes would a magnet best be used for?

- a. sorting a mixture of iron shavings and black pepper
- b. conducting electrical charge
- c. heating the water in a pot
- d. powering an electronic device

7. When a magnet spins within a coil of wires, what is produced?

- a. Blue sparks
- b. Glowing light
- c. Nuclear energy
- d. An electric current

8. What does a generator produce?

- a. Chemical energy
- b. Mechanical energy
- c. Magnetic energy
- d. Electrical energy