

Name: _____

Period: _____

Date: _____

OPPOSITES ATTRACT

Part I: Magnets

1. Complete the following steps and record your observations on the chart.
 - A. Touch the two north ends of the magnets together.
 1. Are the magnets attracted to each other, or do they repel each other?

 2. Is this because the charges are the same, or is it because the charges are different? _____
 - B. Touch the two south poles to each other.
 1. Are the magnets attracted to each other, or do they repel each other?

 2. Is this because the charges are the same, or is it because the charges are different? _____
 - C. Touch the north pole to the south pole of the other magnet.
 1. Are the magnets attracted to each other, or do they repel each other?

 2. Is this because the charges are the same, or is it because the charges are different? _____

Reaction of Magnets			
	Attract	Repel	No reaction
A. North/North			
B. South/South			
C. South/North			

- D. Do opposite charges attract or repel? _____
- E. When you touched the north pole of one magnet to the south pole of the other magnet, you created one large magnet. What would happen if you broke this magnet in half? _____

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Part II: Static Electricity

1. Blow up the balloons.
2. Tear the paper into small pieces, pieces approximately 1cm square.
3. Rub the balloon on your hair or a wool sweater. If you have styling agents in your hair this will not work.
4. Bring the balloon near the pieces of paper and observe what happens.
5. Use your observations to answer the following questions:
 - A. Does the balloon attract pieces of paper before you rub it on your hair? _____
What is the charge of the balloon? (Circle one) Positive Negative Neutral
 - B. Did the balloon attract paper after you rubbed it on your hair? _____
Why did this happen? _____
 - C. List three other materials that could be used to charge the balloon.
 1. _____
 2. _____
 3. _____
 - D. List five objects in the room to which the 'charged' balloon is attracted.
 1. _____
 2. _____
 3. _____
 4. _____
 5. _____

Part III: Conclusions/Applications

Complete the following paragraph frames.

1. Today in Science Class I learned about the behavior of charged objects. I learned that an object could have one of three charges, _____, _____, or _____. I also learned that I could change the charge of a balloon by _____.
Tiny pieces of paper were attracted to the balloon because_____
_____. The most interesting thing I learned today was
_____.

2. Atoms are tiny objects that we cannot see with or without magnification. The three basic parts of an atom are neutrons, protons, and electrons. Each part of the atom has a charge. The neutron has a _____ charge, the proton has a _____ charge, and the electron has a _____. Sometimes an atom can gain, lose or share electrons. When this happens, its charge changes and the atoms are referred to as ions. If two ions have opposite charges, they will _____.

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OPPOSITES ATTRACT
Answer Guide

Part I: Magnets

2. Complete the following steps and record your observations on the chart.

- A. Touch the two north ends of the magnets together.
1. Are the magnets attracted to each other, or do they repel each other?
they repel
 2. Is this because the charges are the same, or is it because the charges are different? because the charges are the same
- D. Touch the two south poles to each other.
1. Are the magnets attracted to each other, or do they repel each other?
they repel
 2. Is this because the charges are the same, or is it because the charges are different? because the charges are the same
- E. Touch the north pole to the south pole of the other magnet.
1. Are the magnets attracted to each other, or do they repel each other?
they are attracted to each other
 2. Is this because the charges are the same, or is it because the charges are different? Because the charges are different

Reaction of Magnets			
	Attract	Repel	No reaction
A. North/North		X	
B. South/South		X	
C. South/North	X		

- D. Do opposite charges attract or repel? Attract
- When you touched the north pole of one magnet to the south pole of the other magnet, you created one large magnet. What would happen if you broke this magnet in half? You would have two magnets each with a north and a south pole.

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Part II: Static Electricity

1. Blow up the balloons.
2. Tear the paper into small pieces, pieces approximately 1cm square.
3. Rub the balloon on your hair, or a wool sweater. If you have styling agents in your hair this will not work.
4. Bring the balloon near the pieces of paper and observe what happens.
5. Use your observations to answer the following questions:
 - A. Does the balloon attract pieces of paper before you rub it on your hair? No
What is the charge of the balloon? (Circle one) Positive Negative Neutral
 - B. Did the balloon attract paper after you rubbed it on your hair? yes
Why did this happen? The balloon developed a charge because of static electricity.
 - C. List three other materials that could be used to charge the balloon.
 1. Answers
 2. will
 3. vary.
 - D. List five objects in the room to which the 'charged' balloon is attracted.
 1. _____
 2. Answers
 3. will

Name: _____

Period: _____

Date: _____

4. vary.

5. _____

Part III: Conclusions/Applications

Complete the following paragraph frames.

1. Today in Science Class I learned about the behavior of charged objects. I learned that an object could have one of three charges, positive, negative, or neutral. I also learned that I could change the charge of a balloon by rubbing it on my hair or sweater. Tiny pieces of paper were attracted to the balloon because the balloon was charged and the pieces of paper were attracted to the charge. The most interesting thing I learned today was Answers will vary.

2. Atoms are tiny objects that we cannot see with or without magnification. The three basic parts of an atom are neutrons, protons, and electrons. Each part of the atom has a charge. The neutron has a neutral charge, the proton has a positive charge, and the electron has a negative charge. Sometimes an atom can gain, lose or share electrons. When this happens, its charge changes and the atoms are referred to as ions. If two ions have opposite charges, they will repel.