Dec 15, 2014. Remember to pay your 6 period teacher $2.00.
1. What force causes magnets to attract or repel?
2. Why are some materials magnetic and not others?
3. What happens when you bring the north pole of two magnets together?
4. What is a magnetic field?
5. In general, what metals could be separated from other metals because they are attracted to magnets?
6. Which diagram represents a magnet?

A

B
BBC Magnetism
http://www.bbc.co.uk/schools/scienceclips/ages/7_8/magnets_springs_fs.shtml

Steps:
Pull back the spring to the yellow, green or red light. How far does the magnet travel in each case?

Drag different objects on to the table. Which are attracted to the magnet and which are not? Items: key, duck, ruler, gold ring, paper clip, eraser, screw driver, drink can, magnet, cork

ATTRACTION NOT ATTRACTION

**Click on small to change to a smaller, lower strength magnet.** Use it to pick up the key. What do you notice?

**Click rotate to turn the magnet on the rail upside down.** Can it still pick up the magnet on the table?

Take the quiz

1. Which object would be attracted to a magnet?

2. Magnet A can hold three steel paperclips; Magnet B can hold five. Which is strongest?

3. Why will a magnet not attract pieces of paper?

4. Are all metals magnetic?

5. Which two metals will be attracted by a magnet?

6. When two magnets repel each other, they

7. When two magnets attract each other they

8. Magnetism is a type of

9. When you squash a spring down with your hand, you feel

10. The more you squash or compress a spring down with your hand
1. Which object would be attracted to a magnet? 
Leather purse, steel key, wooden ruler

2. Magnet A can hold three steel paperclips; Magnet B can hold five. Which is strongest? 
Magnet A, Magnet B They are both equally strong

3. Why will a magnet not attract pieces of paper? 
Because paper is not magnetic 
Because paper is not sticky 
Because paper is not strong

4. Are all metals magnetic? 
Yes, no, no metals are magnetic 
No, only a few such as iron and steel

5. Which two metals will be attracted by a magnet? 
Iron and steel, gold and silver, aluminium and lead

6. When two magnets repel each other, they 
Push away from each other 
Pull towards each other, neither push or pull

7. When two magnets attract each other, they 
Push away from each other 
Pull towards each other, neither push or pull

8. Magnetism is a type of electricity, gravity, force

9. When you squash a spring down with your hand, you feel 
An upward push on your hand 
A downward push on your hand 
No push or pull at all

10. The more you squash or compress a spring down with your hand 
The bigger the downward force on your hand 
The smaller the downward force on your hand 
The bigger the upward force on your hand
What Is Magnetism?

**Guide for reading**
- What are the properties of a magnet?
- How do magnetic poles interact?
- What is the shape of a magnetic field?

A magnet is any material that attracts iron and materials that contain iron. Rocks containing the mineral magnetite attract materials that contain iron and also attract or repel other magnetic rocks. The attraction or repulsion of magnetic materials is called magnetism. Magnetic rocks are known as lodestones. Magnets have the same properties as magnetic rocks. **Magnets attract iron and materials that contain iron. Magnets attract or repel other magnets. In addition, one part of a magnet will always point north when allowed to swing freely.**

Any magnet, no matter what its shape, has two ends, each one is called a **magnetic pole**. The magnetic effect of a magnet is strongest at the poles. The pole of the magnet that points north is labeled the North Pole. The other pole is labeled the South Pole. A magnet always has a pair of poles, a north pole and a south pole. If you bring the north pole of one magnet near the south pole of another, the two unlike poles attract one another. If you bring two north poles together, the like poles push away from each other. The same is true if two south poles are brought together. **Magnetic poles that are unlike attract each other, and magnetic poles that are alike repel each other.** The attraction or repulsion between magnetic poles is magnetic force. A force is a push or pull that causes an object to move any material that exerts magnetic force is considered a magnet.

Magnetic forces are exerted all around a magnet. The area of magnetic force around a magnet is known as its magnetic field. Because of magnetic fields, magnets can interact without touching. Magnetic field lines are lines that map out the magnetic field around a magnet. Magnetic field lines spread out from one pole, curve around the magnet, and return to the other pole. Arrows are used to indicate the direction of the magnetic field lines—always leaving the North Pole and entering the South Pole. The closer the lines are, the stronger the magnetic field. A magnet’s magnetic fields lines are closest together at the poles. When the magnetic fields of two are more magnets overlap, the results is a combined field. Depending on which poles are near each other, the magnetic field lines are different. The fields from like poles repel each other. But the fields from unlike poles attract each other. They combine to form a strong field between the two poles.

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*Guide for reading: Write your answers in your Science notebook.*
1. What is a magnet?

2. The attraction or repulsion of magnetic materials is called ________________

3. What are three properties that magnets have?
   a. 
   b. 
   c. 

4. Any magnet no matter what shape has two ends called ____________

5. Where is the magnetic effect of a magnet strongest?

6. How are magnetic poles labeled?

7. Copy and complete the chart

<table>
<thead>
<tr>
<th>Magnetic Attraction</th>
<th>Repel or attract</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two south poles are brought together.</td>
<td></td>
</tr>
<tr>
<td>A north pole brought to a south pole.</td>
<td></td>
</tr>
<tr>
<td>Two north poles are brought together.</td>
<td></td>
</tr>
<tr>
<td>A south pole is brought to a north pole.</td>
<td></td>
</tr>
</tbody>
</table>

8. What is magnetic force?

9. Is any material that exerts a magnetic force considered a magnet?

10. The region of magnetic force around a magnet is known as its ____________

11. What are the lines called that map out the magnetic field around a magnet?

12. Draw a magnet in your notebook and include the magnetic field.

13. 

14. When the magnetic fields of two or more magnets overlap, what is the result?
15. Are these magnets attracting or repelling each other? How can you tell?

16. What would happen if the magnet on the left were turned around, so that its north pole faced the north pole of the other magnet?