

Station #1: Describing the Properties

- **Look** at the following objects that are provided at this station.
- **Describe the objects** using a few words or even a sketch of the object. **Record your descriptions** on your student sheet.
- **Group or classify** the objects into two different groups. **Explain** what you used to group the objects.
- **Think** about magnetic and non-magnetic. What would you put in each group?
- **Describe your thinking** about why you grouped the objects.
- **Test** each object.

Use the following cards to help students group their objects. If you laminate them, they will be able to write on them with overhead pens.

Group #1: The describing characteristic we used is....

Group #2: The describing characteristic we used is....

Magnetic



Non-magnetic



Station #2: Types of Magnets

- Stick one of the button magnets to the metal cookie tray.
- Turn the magnet over and repeat the process. What did you notice? Record your observations on your sheet.
- Look at one of the bar magnets. Try and pick up a paperclip with this magnet. What do you notice? Where does the paperclip "stick" to the magnet? Sketch out your findings.
- Place a button magnet flat on the table. Try and place a second one directly on top of it. What do you notice? Flip the top magnet over and make more observations.
- Repeat this process with the bar magnet but try and place them end to end. What do you notice?

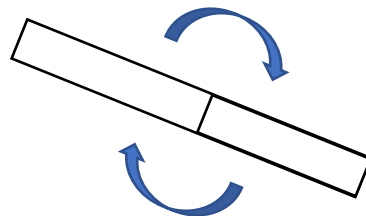
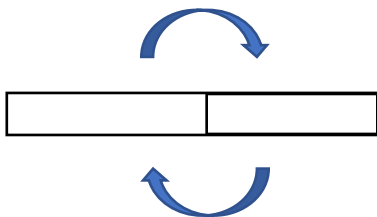
Button Magnet



Bar Magnet



How to flip the bar magnet around.



Station #3: What's my strength?

- Pick up a bar magnet and hold it vertically (up and down).
- Move the magnet close to a paperclip on the table. What did you notice?
- Now carefully touch the magnet with the paperclip to another paperclip. What happened?
- How many paperclips are you able to pick up in a chain using the magnet?
- Try this activity with a different magnet. Was there a difference in the number of paperclips you could pick up?

Paperclips



Magnets



Am I Attracted?



Look at the objects at the station. Think about how you would describe each.



Write a few words or sketch the object!

What property could you use to group these objects into two different groups?

Think about the cookie sheets and magnets from the first part of the lesson. If you were asked to put the objects into two groups – objects that the magnet sticks to or is attracted to and objects that are non-magnetic (or not attracted to the magnet), what objects would you put in each group?

Magnetic (Magnet sticks to these objects) 	Non-magnetic (Magnet does not stick to these objects) 

Types of Magnets

What happened when you flipped the button magnet over on the cookie sheet? Was it still attracted to the cookie sheet?

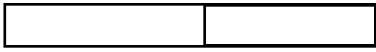
When you used the bar magnet, what happened? Sketch out what you observed with the bar magnet and paperclip?



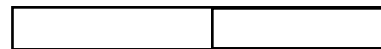
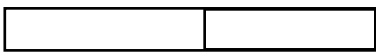
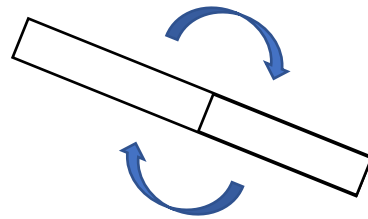
When you tried to put one button magnet on top of the other one, what did you notice?

What happened when you flipped the top button magnet over?

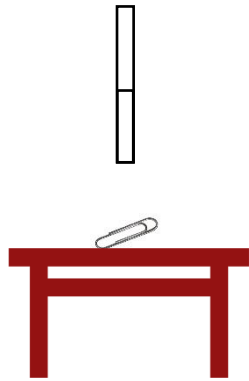
What did you observe when you tried to put the bar magnets end to end?



Now turn one of the magnets around and explain what you observed.



What's My Strength?



What happened as the magnet moved closer to the paperclip?

Sketch what happened when the paperclip attracted to the magnet came in contact with another paperclip.

How many paperclips were in the chain?

Now use the button magnet or another magnet you have available to repeat the activity with the paperclips.

Describe or sketch what happened.



Some objects are magnetic and attracted to magnets. Some objects are not magnetic. Describe the properties of objects that are magnetic.

Activity Challenge Sheet

Problem: A friend dropped their house key in a sidewalk grate. You can see the keys but can't reach them. You also see lots of other objects that have been dropped in there and some of the objects have landed on top of the keys. You look around and see that you have different magnets, string, and tape (but the tape doesn't reach all the way to the keys).

Challenge:

- How could you get the keys back using the information from the story and your investigations?

Sketch out how you might solve the problem with the materials provided.

As you look into the box, you make predictions as to what you might also pick up with the magnet and why. What objects might be picked up with the magnet? Why do you think that?

Now test your solution and thinking by trying to retrieve the car keys. If something else is picked up with the magnet, that is fine just pull it up and place it in a pile.

Which objects were picked up with the magnet?	Which objects weren't picked up with the magnet?
These objects are:	These objects are: