RECORD SHEET

Activity 2: The Magnetic Interaction

Name Date Class

Key Question

Explore Your Ideas

Experiment 1: If a magnet is brought near another magnet, what happens to the other magnet?

1. What happens to the second magnet?

2. What happens to the second magnet? How does this compare with the previous step?

3. Complete the following statement:

When two magnets interact, they _____ _____ (*always attract each other, always repel each other, can either attract or repel each other*).

My evidence is _____

Experiment 2: If a magnet is brought near a metal, what happens to the metal?

Table: Observations of How Metals Interact with a Magnet

Material	**Step 1** What happens when the magnet is brought closer and closer to the piece of material?	**Step 2** What happens when the magnet is turned over and brought closer and closer to the piece of material? How does this differ, if at all, from the previous step?
Steel		
Copper		
Aluminum		
Nickel		

4. Did the magnet interact with all the metals, with none of the metals, or with only some of the metals?

_____

_____

5. Complete the following statement:

When a magnet and magnetic material interact, they _____ _____ (*always attract each other*, *always repel each other*, *can either attract or repel each other*).

My evidence is _____

_____

_____

Experiment 3: Is a compass needle a magnet?

6. Which student do you think is right, Isabel or Otis? Or do you have a different answer?

_____

_____

7. What happens to the end of the compass needle that was originally pointing north? Does it move *toward the magnet*, *away from the magnet*, or *does it remain motionless?*

8. What happens to the end of the compass needle that was originally pointing north? Does it move *toward the magnet*, *away from the magnet*, or *does it remain motionless*?

9. Is this the same observation you made in Step 2 or is the observation different?

10. Complete the following statement:

A compass needle _____ (is, is not) a magnet.

My evidence is _____

Make Sense of Your Ideas

1. Do magnets interact with each other?

2. Suppose you had two objects and you knew that one of them was a magnet. What test(s) do you need to do to convince yourself that the other object was also a magnet?

3. What test(s) do you need to do to convince yourself that the other object was a magnetic material but not a magnet?

4. Look back over the discussion between Isabel and Otis. Which of them do you agree with now?

Our Consensus Ideas

The key question for this activity is:

What are the defining characteristics of a magnetic interaction?

1. Write the team answer to the question, along with the supporting reasons (*evidence*).

2. Indicate the experiments or experiments in this activity that provide the evidence to support the scientists' ideas. Record this on the *Scientists' Consensus Ideas: The Magnetic Interaction* form.