

Date: \_\_\_\_\_

Your Name: \_\_\_\_\_

Partner's Name(s): \_\_\_\_\_



**NEW ENGLAND  
COMMON ASSESSMENT PROGRAM**

**Practice Test  
Task Booklet  
2008**

**Grade 4**

**Science Inquiry Task  
Playground Trash**

**GRADE 4  
PRACTICE TEST SCIENCE INQUIRY TASK  
TASK BOOKLET**

**Directions:**

This Inquiry Task will measure your ability to think scientifically. You will conduct a science investigation called **Playground Trash**. First you will work with your partner(s) and then you will work alone.

You will make a prediction on your own. You will set up and conduct the investigation, and you will collect and record your data with your partner(s).

Follow the directions in this Student Task Booklet. Please remember that in addition to working with the science materials, you must record your data on pages 6 and 7 in this Student Task Booklet.

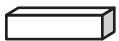
Read the story below.

**Playground Trash**

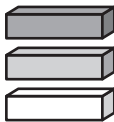
Some students at Lincoln School watched a construction company build a new playground. As they worked, the construction workers dropped many small pieces of trash on the ground. The trash included pieces of a cardboard box, plastic cups and spoons, coins, aluminum and iron nails, and soda cans. The students saw a construction worker hold a magnetic tool close to the ground to clean up some of the trash. They predicted that the magnet would not pick up the plastic cups and spoons. They were not sure if the magnet would pick up all of the metal objects.

Later, during their science class, the students thought about what would happen if several magnets were joined together. They wondered if joining magnets together would make a difference in how far away from the ground the tool would have to be to pick up the objects. You can help the students at Lincoln School by investigating the following question:

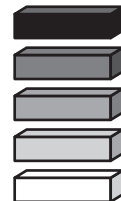
**Will putting magnets together make a difference in the distance needed to attract objects?**



**Single Magnet**



**Three Magnets Joined Together**



**Five Magnets Joined Together**

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PRACTICE TEST SCIENCE INQUIRY TASK  
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**Making Your Prediction—What Do You Think?**

**Will putting magnets together make a difference in the distance needed to attract objects?**

Make a prediction on your own about the question.

- Use the information from the story about Lincoln School’s playground and what you know about magnets to make a prediction.
- Explain your thinking.

Write your prediction and explanation in the box below.

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## **Materials for the Investigation**

On the placemat at your desk or table, you have been given these materials:

- 5 magnets
- 1 penny
- 1 paper clip
- 1 cardboard square
- 1 piece of aluminum foil
- 1 plastic square

Look at the materials on your placemat. Raise your hand and tell your teacher if you are missing anything.

## **Setting Up and Conducting Your Investigation**

### **Directions:**

In this part, you will work with your partner(s) to set up and conduct the investigation and to collect your data. Follow the directions in this Student Task Booklet. Please remember that in addition to working with the science materials you must record your data in this Student Task Booklet.

You will

- share one set of materials with your partner(s),
- take turns so that all students in your group may use the materials,
- record your observations and data on pages 6 and 7 in this Student Task Booklet, and
- copy your data from this Student Task Booklet to page 2 in your Student Answer Booklet.

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**Procedure for the Investigation**

Use the materials on your placemat to investigate which objects the magnet attracts.

- Use one magnet to test each object.
- Mark an X under YES or NO in the table below to show if that object was attracted to the magnet.

**Objects Attracted by the Magnet**

<b>Objects</b>	<b>YES</b>	<b>NO</b>
<b>Penny</b>		
<b>Paper clip</b>		
<b>Cardboard square</b>		
<b>Aluminum foil</b>		
<b>Plastic square</b>		

One object that was attracted by the magnet was the \_\_\_\_\_.

You will use this object for the next part of your investigation.

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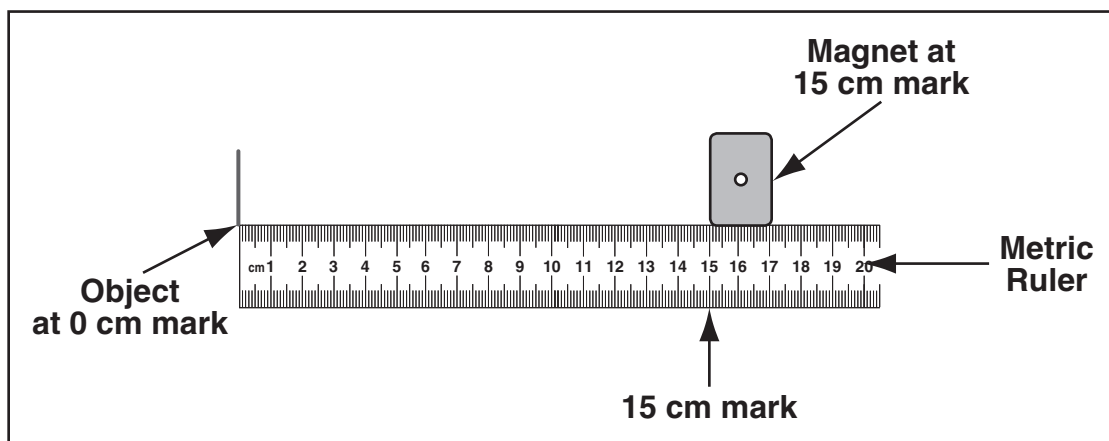
**Directions:**

Use the object that was attracted to the magnet to investigate this question:

**Will putting magnets together make a difference in the distance needed to attract objects?**


Follow the steps below using one (1) magnet.

1. Locate the metric ruler on your placemat.
2. Put the object you have selected to test to the left of the line at the 0 cm mark on the metric ruler.
3. Take one magnet and hold the magnet at the 15 cm mark on the ruler, as shown below.



4. Slowly move the magnet toward the object.
5. Stop the magnet when the object begins to move toward the magnet.
6. In the table on the next page, record the measurement on the ruler where you stopped the magnet(s).
7. Repeat these steps 2 more times.

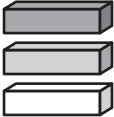
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<b>One Magnet</b>		
<b>Trial</b>	<b>Number on Ruler</b>	
First	cm	
Second	cm	
Third	cm	

**A.** What number best describes the measurement on the ruler where you stopped the **one** magnet?

_____ cm
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Now repeat the steps using three (3) magnets. To make sure that your investigation is a fair test, hold the three magnets the same way you held the single magnet.

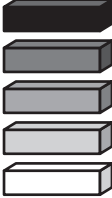
<b>Three Magnets Stacked Together</b>		
<b>Trial</b>	<b>Number on Ruler</b>	
First	cm	
Second	cm	
Third	cm	

**B.** What number best describes the measurement on the ruler where you stopped the **three** magnets?

_____ cm
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Now repeat the steps using five (5) magnets. To make sure that your investigation is a fair test, hold the five magnets the same way you held the single magnet.

<b>Five Magnets Stacked Together</b>		
Trial	Number on Ruler	
First	cm	
Second	cm	
Third	cm	

**C.** What number best describes the measurement on the ruler where you stopped the **five** magnets?

_____ cm
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Your teacher will give you more information about answering questions about this investigation.

- Remember to copy the data from questions A, B, and C to page 2 in your Student Answer Booklet.
- Remember to clean up your materials.

