New England Common Assessment Program

Practice Test Science Inquiry Task
Scoring Guide
2008

Grade 4
Playground Trash

The prediction item completed while students are in cooperative work groups is not scored. In your classroom, you may use the rubric below if you would like to score the prediction component. The prediction can be found on page 2 in the **Student Task Booklet**.

Use the rubric below if you wish to score the prediction. Rubrics for items in the Student Answer Booklet begin on the next page.

Prediction	Point Range: 0–2	Inquiry Construct: 1	DOK: 2

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

Scoring Guide:

Score	Description
2	Response includes a prediction that is reasonable in terms of available evidence. **AND** Response includes an explanation that supports the prediction.
1	Response includes a prediction that is reasonable in terms of available evidence but lacks a supporting explanation. **OR** Response has an explanation but does not include a prediction.
0	Response includes a prediction that is not reasonable in terms of available evidence. **AND** Response lacks any supporting explanation. **AND** Response is not relevant to the question being asked.

Item Number: 1	Point Range: 0–3	Inquiry Construct: 8	DOK: 2

1. Use the data you recorded in the boxes on page 2 to make a bar graph below. Make sure your graph includes a title.

Scoring Guide:

Score	Description
3	Response is a bar graph that accurately represents the data. (The numbers of magnets and the ruler measurements plotted on the graph correspond to the recorded data.) **AND** Response (graph) includes a scale appropriate to the range of the data collected. **AND** Response (graph) includes a relevant title.
2	Response is a bar graph that accurately represents the data. (The numbers of magnets and the ruler measurements plotted on the graph correspond to the recorded data.) **AND** Response (graph) includes a scale appropriate to the range of the data collected. **OR** Response (graph) includes a relevant title.
1	Response is a bar graph or another representation that displays data but omits required components. **OR** Response (graph) includes a scale appropriate to the range of the data collected. **OR** Response (graph) includes a relevant title. **OR** Response indicates a limited understanding of representing data in a graph.
0	Response does not accurately represent data, uses an incorrect scale, and lacks a relevant title.

Item Number: 2	Point Range: 0–3	Inquiry Construct: 12	DOK: 3

2. Look at your data. What did you discover about the relationship between the number of magnets and the distance needed to attract objects? Use **your data** to support your answer.

Scoring Guide:

Score	Description
3	Response provides a reasonable explanation that accurately reflects the correct relationship between the numbers of magnets and the ruler measurements. **AND** Response includes data to support the explanation.
2	Response provides a reasonable explanation that accurately reflects the correct relationship between the numbers of magnets and the ruler measurements. **AND** Response does not include data to support the explanation.
1	Response includes a more general explanation of the relationship between the numbers of magnets and the ruler measurements. **AND** Response does not include data to support the explanation.
0	Response includes an incorrect explanation of the relationship between the numbers of magnets and the ruler measurements. **AND** Response does not include data to support the explanation.

Item Number: 3	Point Range: 0–2	Inquiry Construct: 12	DOK: 2

3a. Look back at your prediction on page 2 in your Student Task Booklet. Look at your data. Did your data support your prediction?

☐ Yes

☐ No

3b. Use your data to explain your thinking.

Scoring Guide:

Score	Description
2	Response correctly indicates whether the data supports the prediction. **AND** Response includes data to correctly explain the relationship between the prediction and the findings.
1	Response correctly indicates whether the data supports the prediction. **OR** Response explains the relationship between the prediction and the findings but omits supporting data.
0	Response incorrectly indicates whether the data supports the prediction. **AND** Response does not include an explanation or includes an explanation that is incorrect or irrelevant. **AND** Response omits supporting data.

Item Number: 4	Point Range: 0–2	Inquiry Construct: 5	DOK: 1

4a. In your investigation, why was it important to hold the magnets the same way for each trial?

4b. What might have happened if the magnets were held differently in one of the trials?

Scoring Guide:

Score	Description
2	Response indicates the importance of changing only one variable at a time; **AND** Response explains that results would not be reliable if magnet were held at a greater distance or in a different position.
1	Response indicates the importance of changing one variable at a time.
0	Response does not correctly indicate the importance of changing only one variable at a time. **OR** Response is not relevant to question being asked.

Item Number: 5	Point Range: 0–2	Inquiry Construct: 1	DOK: 2

5. Predict how many magnets you would need to pick up a large hammer and explain your thinking.

Scoring Guide:

Score	Description
2	Response includes a prediction that is reasonable in terms of available evidence. **AND** Response includes an explanation that supports the prediction.
1	Response includes a prediction that is reasonable in terms of available evidence, but lacks a supporting explanation. **OR** Response includes an explanation but does not include a prediction.
0	Response includes a prediction that is not reasonable in terms of available evidence. **AND** Response lacks a supporting explanation. **OR** Response is not relevant to the question being asked.

Item Number: 6	Point Range: 0–2	Inquiry Construct: 13	DOK: 2

6. Think of an experimental question (cause and effect) about magnets that the students at Lincoln School might investigate. Write your new question below.

Scoring Guide:

Score	Description
2	Response is a question that includes a cause-and-effect relationship.
1	Response is a question that does not include a cause-and-effect relationship.
0	Response is not a question.

Item Number: 7	Point Range: 0–2	Inquiry Construct: 4	DOK: 2

7. What information would need to be collected to answer your new question?

Scoring Guide:

Score	Description
2	Response clearly identifies key pieces of evidence that would need to be collected to answer the question.
1	Response identifies general evidence that would need to be collected to answer the question.
0	Response does not include evidence related to the question. **OR** Response describes evidence that would answer a different question.

Item Number: 8	Point Range: 0–2	Inquiry Construct: 13	DOK: 2

8. The students are confused when they see the construction worker use the magnet to both pick up a small closed cardboard box off the ground and drag a large closed cardboard box along the ground. What is a possible explanation for what the students saw?

Scoring Guide:

Score	Description
2	Response explains that a magnetic object must be in both closed cardboard boxes for the attraction to occur, **AND** Response explains that the weight of the large box is too large for the magnet to pick it up off the ground; **OR** the weight of the small box is low enough for the magnet to pick it up off the ground.
1	Response explains that a magnetic object must be in the box.
0	Response does not include a connection between the magnet and a magnetic object inside the box. **OR** Response is not relevant.

Summary of Inquiry Constructs and Broad Areas of Inquiry

Broad Areas of Inquiry Constructs	Inquiry Constructs (Item Number)	DOK	Maximum Points
Formulating Questions and Hypothesizing 1, 2, 3	1 (Prediction)*	2	(2)*
	1 (Item 5)	2	2
Planning and Critiquing of Investigations 4, 5, 6	5 (Item 4)	2	2
	4 (Item 7)	2	2
Conducting Investigations 7, 8, 9, 10	8 (Item1)	2	3
Developing and Evaluating Explanations 11, 12, 13	12 (Item 2)	2	3
	12 (Item 3)	3	2
	13 (Item 6)	2	2
	13 (Item 8)	2	2
	Total Points for Task		18
	***Optional Points for Prediction**		**2**