

ACTAAP

Arkansas Comprehensive Testing, Assessment, and Accountability Program

Teacher Handbook

Arkansas Augmented Benchmark Examination

**APRIL 2010
ADMINISTRATION**

GRADE

5

Arkansas Department of Education

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Teacher Handbook—2010 Augmented Benchmark Grade 5

Table of Contents

INTRODUCTION 3

SCORING STUDENT RESPONSES TO MATHEMATICS, READING, AND SCIENCE OPEN-RESPONSE ITEMS

Reader Training	4
Scoring Procedures	5

MATHEMATICS RESPONSES

Mathematics Item A	7
Mathematics Item A Scoring Rubric	7
Mathematics Item A Solution and Scoring	8
Mathematics Item A Sample Responses and Annotations	9
Mathematics Item B	14
Mathematics Item B Scoring Rubric	14
Mathematics Item B Solution and Scoring	15
Mathematics Item B Sample Responses and Annotations	16

READING RESPONSES

Reading Passage A	22
Reading Item A	24
Reading Item A Scoring Rubric	24
Reading Item A Sample Responses and Annotations	25
Reading Passage B	28
Reading Item B	31
Reading Item B Scoring Rubric	31
Reading Item B Sample Responses and Annotations	32

WRITING RESPONSES

Scoring Student Responses to Writing Prompts	37
Domain Scoring	37
Scoring Scale	37
Non-scoreable and Blank Papers	37
Writing Domains and Definitions	38
Writing Prompt	39
Writer’s Checklist	40
Writing Sample Response 1	41
Writing Annotation for Sample Response 1	43

Teacher Handbook—2010 Augmented Benchmark Grade 5

Table of Contents

WRITING RESPONSES (CONTINUED)

Writing Sample Response 2	44
Writing Annotation for Sample Response 2	46
Writing Sample Response 3	47
Writing Annotation for Sample Response 3	48

SCIENCE RESPONSES

Science Item A	50
Science Item A Scoring Rubric	51
Science Item A Solution and Scoring	51
Science Item A Sample Responses and Annotations	52
Science Item B	57
Science Item B Scoring Rubric	58
Science Item B Solution and Scoring	58
Science Item B Sample Responses and Annotations	59

Introduction—2010 Augmented Benchmark Grade 5

The **Arkansas Comprehensive Testing, Assessment, and Accountability Program (ACTAAP)** Augmented Benchmark Examinations are comprehensive examinations currently administered in Grades 3 through 8. They consist of multiple-choice items in Mathematics, Reading, Writing, and Science, as well as open-response questions in Mathematics, Reading, and Science and a Writing component that directly assess student writing. The *Arkansas Mathematics Curriculum Framework*, *English Language Arts Curriculum Framework*, and *Science Curriculum Framework* are the basis for the development of the Augmented Benchmark Examinations.

This handbook provides information about the scoring of the Grade 5 student responses to the open-response items in Mathematics, Reading, and Science and to the direct Writing prompt. It describes the scoring procedures and the scoring criteria (rubrics) used to assess student responses. Copies of actual student responses are provided, along with scores given to those responses, to illustrate how the scoring criteria were applied in each content area.

Additional information about the Augmented Benchmark Examinations is available through the Arkansas Department of Education. Questions can be addressed to Dr. Gayle Potter at 501-682-4558.

Scoring Student Responses to Mathematics, Reading, and Science Open-Response Items—2010 Augmented Benchmark Grade 5

The multiple-choice and open-response test items for the Mathematics, Reading, and Science components of the Benchmark Examinations are developed with the assistance and approval of the Content Advisory Committees. All passages and items on the Benchmark Examinations are based on the Arkansas Curriculum Frameworks and are developed with the assistance and approval of Content Advisory Committees and Bias Review Committees. These committees are composed of active Arkansas educators.

While multiple-choice items are scored by machine to determine if the student chose the correct answer from four options, responses to open-response items must be scored by trained “readers” using a pre-established set of scoring criteria.

Reader Training

Readers are trained to score only one content area, but the training procedures are virtually identical for Mathematics, Reading, and Science readers. Qualified readers for the Arkansas scoring will be those with a four-year college degree in English, language arts, education, mathematics, science, or related fields.

Before readers are allowed to begin assigning scores to any student responses, they go through intensive training. The first step in that training is for the readers to read the Mathematics open-response item, Reading passage and its item, or the Science open-response item as it appeared in the test booklet and to respond—just as the student test takers are required to do. This step gives the readers some insight into how the students might have responded. The next step is the readers’ introduction to the scoring rubric. All of the specific requirements of the rubric are explained by the Scoring Director who has been specifically trained to lead the scoring group. Then responses (anchor papers) that illustrate the score points of the rubric are presented to the readers and discussed. The goal of this discussion is for the readers to understand why a particular response (or type of response) receives a particular score. After discussion of the rubric and anchor papers, readers practice scoring sets of responses that have been pre-scored and selected for use as training papers. Detailed discussion of the responses and the scores they receive follows.

After three or four of these practice sets, readers are given “qualifying rounds.” These are additional sets of pre-scored papers, and, in order to qualify, each reader must score in exact agreement on at least 80% of the responses and have no more than 5% non-adjacent agreement on the responses. Readers who do not score within the required rate of agreement are not allowed to score the Benchmark Examinations responses.

Once scoring of the actual student responses begins, readers are monitored constantly throughout the project to ensure that they are scoring according to the criteria. Daily and cumulative statistics are posted and analyzed, and Scoring Directors or Team Leaders reread selected responses scored by the readers. These procedures promote reliable and consistent scoring. Any reader who does not maintain an acceptable level of agreement is dismissed from the project.

Scoring Student Responses to Mathematics, Reading, and Science Open-Response Items—2010 Augmented Benchmark Grade 5

Scoring Procedures

All student responses to the Benchmark Examinations open-response test items are scored independently by two readers. Those two scores are compared, and responses that receive scores that are non-adjacent (a “1” and a “3,” for example) are scored a third time by a Team Leader or the Scoring Director for resolution.

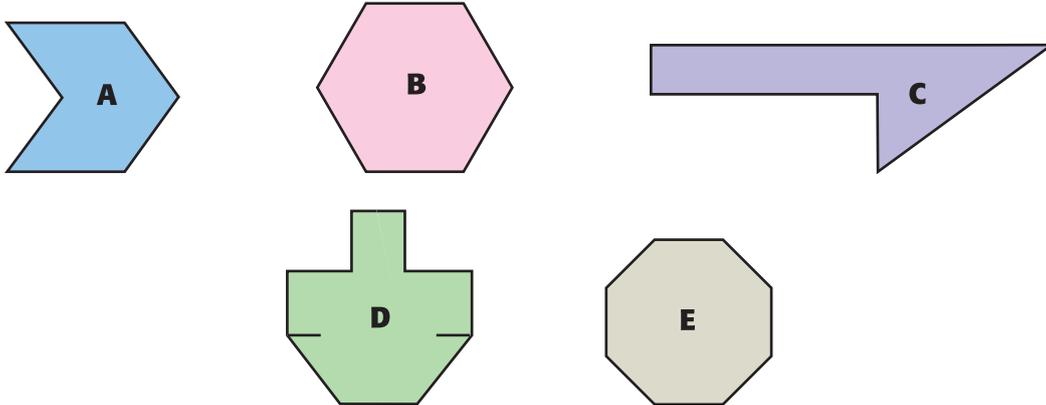
This Teacher Handbook includes the Mathematics open-response items, the Reading passages with their open-response items, and the Science open-response items as they appeared in this year’s test. The specific scoring rubric for each item and annotated response for each score point of the rubric follow. The goal is for classroom teachers and their students to understand how responses are scored. It is hoped that this understanding will help students see what kind of performance is expected of them on the Benchmark Examinations.

MATHEMATICS RESPONSES

Mathematics Item A–2010 Augmented Benchmark Grade 5

A

The picture below shows some regular and irregular polygons.



1. Identify the geometric name of each of the shapes, A, B, C, D, and E.
2. Identify which of the shapes, A, B, C, D, or E, are regular polygons. Explain your answer.
3. Identify which of the shapes, A, B, C, D, or E, are irregular polygons. Explain your answer.

BE SURE TO LABEL YOUR RESPONSES 1, 2, AND 3.

MATHEMATICS ITEM A SCORING RUBRIC–2010 AUGMENTED BENCHMARK GRADE 5

SCORE	DESCRIPTION
4	The student earns 4 points. The response contains no incorrect work.
3	The student earns $3-3\frac{1}{2}$ points.
2	The student earns $2-2\frac{1}{2}$ points.
1	The student earns $\frac{1}{2}-1\frac{1}{2}$ points, or some minimal understanding shown.
0	The student earns 0 points. No understanding is shown.
B	Blank–No Response. A score of "B" will be reported as "NA." (No attempt to answer the item.) Score of "0" assigned for the item.

Mathematics Item A Solution and Scoring—2010 Augmented Benchmark Grade 5

Solution and Scoring

Part	Points
1	2 Points Possible 2 points: Correctly labels all 5 shapes: A. hexagon, B. hexagon, C. pentagon, D. decagon and E. octagon OR 1 point: Correctly labels 3 of the 5 shapes
2	1 Point Possible 1/2 point: Correctly identifies the regular polygons B and E AND 1/2 point: Correct and complete explanation of how answer was determined Give credit to the following or equivalent: <i>Both shapes have all interior angles congruent and all of the sides are the same length.</i>
3	1 Point Possible 1/2 point: Correctly identifies the irregular polygons A, C, and D AND 1/2 point: Correct and complete explanation of how answer was determined Give credit to the following or equivalent: <i>All three shapes have interior angles that are not congruent and/or all of the sides for each shape are not congruent</i>

**Mathematics Item A Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

1.
 A=hexagon-irregular
 B=hexagon-regular
 C=pentagon-irregular
 D=decagon-irregular
 E=octagon-regular

2.
 B and E are regular polygons because they have all equal sides and angles.

3. A, C, and D are irregular polygons because not all sides and angles are the same.

SCORE: 4	Points
Part 1, 2 pts:	
5 Correct Labels	All five shapes labeled correctly. 2
Part 2, 1 pt:	
Correct Answer	<i>B and E</i> $\frac{1}{2}$
Correct and Complete Explanation	<i>B and E are regular polygons because they have all equal sides and angles.</i> $\frac{1}{2}$
Part 3, 1 pt:	
Correct Answer	<i>A, C, and D</i> $\frac{1}{2}$
Correct and Complete Explanation	<i>A, C, and D are irregular polygons because not all sides and angles are the same.</i> $\frac{1}{2}$
TOTAL POINTS	4

**Mathematics Item A Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

①
 A=hexagon
 B=hexagon
 C=pentagon
 D=decagon
 E=octagon

② You see these shapes the most. They are not shaped weird.

③ You don't see these shapes very often. These are just random shapes. They are shaped weird.

SCORE: 3

Points

Part 1, 2 pts:

5 Correct Labels	All five shapes labeled correctly.	2
------------------	------------------------------------	---

Part 2, 1 pt:

Correct Answer	B and E (labeled drawing of shapes)	$\frac{1}{2}$
----------------	-------------------------------------	---------------

Incorrect Explanation	<i>You see these shapes the most. They are not shaped weird.</i>	0
-----------------------	--	---

Part 3, 1 pt:

Correct Answer	A, C, and D (labeled drawing of shapes)	$\frac{1}{2}$
----------------	---	---------------

Incorrect Explanation	<i>You don't see these shapes very often. These are just random shapes. They are shaped weird.</i>	0
-----------------------	--	---

TOTAL POINTS

3

**Mathematics Item A Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

① The names are hexagon A, hexagon B, pentagon C, Decagon D, Octagon E.

② B, A, and E because they have 3 or more sides and the sides are all equal

③ D and C are irregular because not all sides are equal

SCORE: 2

Points

Part 1, 2 pts:

5 Correct Labels	All five shapes labeled correctly.	2
------------------	------------------------------------	---

Part 2, 1 pt:

Incorrect Answer	B, A, and E	0
------------------	-------------	---

Incomplete and	B, A, and E because they have 3 or	0
----------------	------------------------------------	---

Incorrect Explanation	more sides and the sides are all equal	
-----------------------	--	--

Part 3, 1 pt:

Incomplete Answer	D and C	0
-------------------	---------	---

Correct and Complete Explanation	D and C are Irregular because not all sides are equal	$\frac{1}{2}$
----------------------------------	---	---------------

Note: An irregular polygon need only have sides that are incongruent; the angles may be either congruent or incongruent.

TOTAL POINTS

$2\frac{1}{2}$

**Mathematics Item A Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

①
A-hexagon(6)
B-hexagon(6)
C-pentagon(5)
D-septagon(10)
E-octagon(8)

②
A-regular
B-regular
E-regular
Because on all of these figure the sides are equal and on D and C they aren't.

③
D-irregular
C-irregular
Because on these figures the sides aren't equal length.

SCORE: 1

Points

Part 1, 2 pts:

4 Correct Labels	A, B, C, and E are labeled correctly.	1
------------------	---------------------------------------	---

Part 2, 1 pt:

Incorrect Answer	A - regular B - regular E - regular	0
------------------	-------------------------------------	---

Incomplete Explanation	Because on all of these figures the sides are equal . . .	0
------------------------	---	---

Part 3, 1 pt:

Incomplete Answer	D - irregular C - irregular	0
-------------------	-----------------------------	---

Correct and Complete Explanation	Because on these figures the sides aren't equal length.	$\frac{1}{2}$
----------------------------------	---	---------------

Note: An irregular polygon need only have sides that are incongruent; the angles may be either congruent or incongruent.

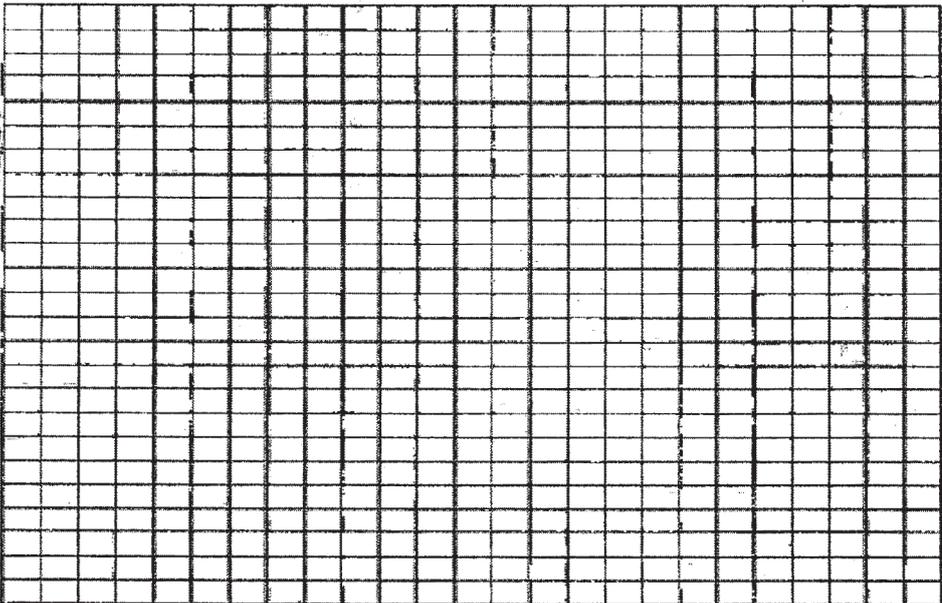
TOTAL POINTS

$1\frac{1}{2}$

**Mathematics Item A Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

4

A = Decagon
 B = parallelogram
 C = quadrilateral
 D = Dodecagon
 E = octagon



3)

~~A~~
~~B~~
~~C~~
 E

A, B, E are not odd shapes

3)

~~A~~ ~~B~~ ~~C~~ ~~D~~
 E, D are odd shapes

SCORE: 0

Points

Part 1, 2 pts:

1 Correct Label Only E is labeled correctly. 0

Part 2, 1 pt:

Incorrect Answer A, B, E 0

Missing Explanation 0

Part 3, 1 pt:

Incomplete Answer C, D 0

Missing Explanation 0

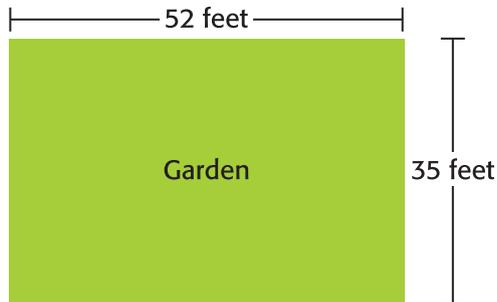
TOTAL POINTS

0

Mathematics Item B—2010 Augmented Benchmark Grade 5

B

Emily designed a garden in her backyard and drew the scale drawing shown.



1. According to the drawing, what is the perimeter of the garden? Use words, numbers, and/or pictures to explain how you determined your answer.
2. Emily plans to cover the garden with compost. According to the drawing, what is the area of the garden? Use words, numbers, and/or pictures to explain how you determined your answer.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

MATHEMATICS ITEM B SCORING RUBRIC—2010 AUGMENTED BENCHMARK GRADE 5

SCORE	DESCRIPTION
4	The student earns 4 points. The response contains no incorrect work. Correct units required for Part 1 and Part 2.
3	The student earns 3 points.
2	The student earns 2 points.
1	The student earns 1 point, or some minimal understanding shown.
0	The student earns 0 points. No understanding is shown.
B	Blank—No Response. A score of "B" will be reported as "NA." (No attempt to answer the item.) Score of "0" assigned for the item.

Mathematics Item B Solution and Scoring—2010 Augmented Benchmark Grade 5

Solution and Scoring

Part	Points
1	2 Points Possible 2 points: Correct perimeter of 174 with a complete explanation of how to determine the perimeter. 1 point: Correct perimeter of 174 with an incomplete or missing explanation. OR Incorrect perimeter due to a calculation or transcription error with a complete explanation of how to determine the perimeter. Note: Correct units of feet required at the 4 level.
2	2 Points Possible 2 points: Correct area of 1820 with a complete explanation of how to determine the area. 1 point: Correct area of 1820 with an incomplete or missing explanation. OR Incorrect area due to a calculation or transcription error with a complete explanation of how to determine the area. Note: Correct units of square feet required at the 4 level.

**Mathematics Item B Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

① $P = (l \times 2) + (w \times 2)$
 $P = (52 \times 2) + (35 \times 2)$
 $P = 104 + 70$
 $P = 174 \text{ ft}$

② $A = l \times w$
 $A = 52 \times 35$
 $A = 1820 \text{ sq. ft.}$

SCORE: 4

Points

Part 1, 2 pts:

Correct Perimeter	$P = 174 \text{ ft}$	1
Complete Explanation	$P = (l \times 2) + (w \times 2)$ $P = (52 \times 2) + (35 \times 2)$	1

Part 2, 2 pts:

Correct Area	$A = 1820 \text{ sq. ft.}$	1
Complete Explanation	$A = l \times w$ $A = 52 \times 35$	1

TOTAL POINTS

4

**Mathematics Item B Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

①

$$52 \times 2 = 102 \text{ ft}$$

$$35 \times 2 = 64 \text{ ft}$$

$$\begin{array}{r} 102 \text{ ft} \\ + 64 \text{ ft} \\ \hline 166 \text{ ft} \end{array}$$

② $52 \times 35 = 1820 \text{ sq. ft.}$

SCORE: 3

Points

Part 1, 2 pts:

Incorrect Perimeter	166 ft	0
Complete Explanation	$52 \times 2 = 102 \text{ ft}$ $35 \times 2 = 64 \text{ ft}$ 102 ft $+ 64 \text{ ft}$ $\hline 166 \text{ ft}$	1

Part 2, 2 pts:

Correct Area	1820 sq. ft.	1
Complete Explanation	$52 \times 35 =$ 1820 sq. ft.	1

TOTAL POINTS

3

**Mathematics Item B Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

① The perimeter is 174 feet

$$\begin{array}{r} 52 \\ 52 \\ 35 \\ 35 \\ \hline 174 \text{ feet} \end{array}$$

I added All the Sides together and got

② The area is 70 feet I got this because I added just the 35 + 35 and got 70 feet

$$\begin{array}{r} 35 \\ + 35 \\ \hline 70 \text{ feet} \end{array}$$

SCORE: 2

Points

Part 1, 2 pts:

Correct Perimeter	<i>174 feet</i>	1
Complete Explanation	<i>52 52 35 35 174 feet I added All the Sides together and got 174 feet</i>	1

Part 2, 2 pts:

Incorrect Area	<i>70 feet</i>	0
Incorrect Explanation	<i>I added Just the 35 + 35 and got 70 feet</i>	0

TOTAL POINTS

2

**Mathematics Item B Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

①

$$\begin{array}{r} 52\text{ft} \\ \times 35\text{ft} \\ \hline 260 \\ +1560 \\ \hline 1,820\text{ft} \end{array}$$

② ^{R2} perimeter

$$\begin{array}{r} 21,802 \\ -18 \\ \hline 002 \end{array}$$

③

$$\begin{array}{r} 52\text{ft} \\ \times 35\text{ft} \\ \hline 1,802 \end{array}$$

1,802 is the area.

length
x with
area

SCORE: 1

Points

Part 1, 2 pts:

Incorrect Perimeter *91R2* 0

Incorrect Explanation $\begin{array}{r} 91R2 \\ 2 \overline{)1,802} \\ -18 \\ \hline 002 \end{array}$ 0

Part 2, 2 pts:

Incorrect Area *1,802 is the area.* 0

Complete Explanation $\begin{array}{r} 52\text{ft} \\ \times 35\text{ft} \\ \hline 1,802 \end{array}$ 1

TOTAL POINTS

1

**Mathematics Item B Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

<p>1. $\begin{array}{r} 52 \\ +35 \\ \hline 87 \text{ ft} \end{array}$</p> <p>The perimeter of the garden is 87 ft.</p> <hr/> <p>$\begin{array}{r} 2. 35 \\ \times 35 \\ \hline 175 \\ +105 \\ \hline 1,225 \end{array}$</p> <p>The area of the garden is 1,225</p>	
---	--

SCORE: 0

Points

Part 1, 2 pts:

Incorrect Perimeter	87 ft	0
Incorrect Explanation	$\begin{array}{r} 52 \\ +35 \\ \hline 87 \text{ ft} \end{array}$	0

Part 2, 2 pts:

Incorrect Area	the area of the garden is 1,225	0
Incorrect Explanation	$\begin{array}{r} 35 \\ \times 35 \\ \hline 175 \\ +105 \\ \hline 1,225 \end{array}$	0

TOTAL POINTS

0

READING RESPONSES

Read this passage about a parrot. Then answer multiple-choice questions 1 through 8 and open-response question A.

Excerpt From *How Come?*

by Kathy Wollard

How can parrots imitate words? Do they really know what they are saying?

It's thrilling when a pet parrot says its first word—especially if it's your name. Some parrots have even learned prayers or entire poems. But when a parrot talks, you wonder, does it have any idea what it is saying? Is a parrot just a mindless mimic? Or are parrots smarter than we think?

According to researcher Irene Pepperberg, parrots may be capable of much more than mimicry. Unlike many animals, parrots (and related birds, such as parakeets) have vocal tracts that make human speech easy to imitate. Also, Pepperberg said, parrots learn to communicate with others in their flock by imitating adult birds. That helps to explain the behavior of pet parrots, who get rewards for likewise imitating their owners.

But talking is different than understanding. So Pepperberg set up an experiment at Northwestern University to find out how much parrots can really learn. In 1977, she bought Alex, an African gray parrot at a pet shop. (African grays are the best talkers.) Alex seemed like a rather ordinary, friendly parrot at first. But soon, he showed he was one smart bird.

Parrots in the wild learn to communicate with others in the flock by mimicking adult birds.

Alex sits on his perch, and Pepperberg shows him a key on a tray. "Key!" Alex says—and Pepperberg hands it to him. Unlike a pet bird, which may get rewarded with a cracker for saying almost anything, Alex only gets what he correctly names.

In the beginning, Pepperberg said, no one believed a parrot could label

Reading Passage A—2010 Augmented Benchmark Grade 5

objects. But now, Alex can identify more than 100 things, from paper to corn to corks.

Once he was taught the individual names for things, the next step was combining two ideas—not just “key,” but “blue key.” Alex quickly learned the names for colors. When shown a red key and a green key, he is asked, “What’s the same or different?” “Color!” he shouts.

Alex can also answer “shape” or “material” when asked what is different. He has a little trouble with the word “material,” Pepperberg said; he pronounces it “matter.”

After years of learning, Alex has gotten a little bored. He’ll identify a key, take it in his beak, and throw it on the floor. After a session of naming the same old stuff, Alex sometimes asks for something different. After too many keys, Alex may say “I want cork!” He gets it.

- 10 The curious bird may also demand, “You tell me what’s that!” when shown a tray of brand-new objects. If asked about the new objects’ colors, Alex tends to outdo his usual performance—an attempt, Pepperberg thinks, to acquire the exciting new stuff. In fact, to keep Alex happily naming, she and her coworkers made

an expedition to a toy store, where they picked up a whole assortment of little figures and animals.

Still, Alex has his difficult days, sometimes shouting “No!” like a frustrated 2-year-old. And when he really wants to show who’s boss, he’ll announce, “I’m gonna go away,” walking off from the poor student trying to test him.

Alex the parrot can identify more than 100 things.

Some say Pepperberg’s experiment doesn’t prove that a parrot can use language. After all, they say, Alex doesn’t go around talking about what he’s just seen unless he gets a reward.

Pepperberg responds that although Alex doesn’t use language in general, he does use words to express ideas. That must mean, she said, that there is some pretty complex thinking going on in the parrot’s brain.

And there is this story: Alex knew the words for banana, cherry, and grape. One day, he saw an apple. “I want banary!” he said. By combining “banana” and “cherry,” Alex may have coined a new word for the strange fruit.

“How Come?—How Can Parrots Imitate Words” by Kathy Wollard. Copyright © 1993 by Kathy Wollard. Reprinted by permission of Kathy Wollard c/o Jane Rotrosen Agency, LLC, New York. All rights reserved.

Reading Item A—2010 Augmented Benchmark Grade 5

A

How does Alex show that he is
“one smart bird”?

Use at least **four** details from the
passage to support your answer.

READING ITEM A SCORING RUBRIC—2010 AUGMENTED BENCHMARK GRADE 5

SCORE	DESCRIPTION
4	The response explains how Alex is “one smart bird,” by providing at least four details from the passage.
3	The response explains how Alex is “one smart bird,” by providing three details from the passage.
2	The response explains how Alex is “one smart bird,” by providing two details from the passage.
1	The response explains how Alex is “one smart bird,” by providing one detail from the passage. OR The response demonstrates minimal understanding of the question.
0	The response is totally incorrect and shows no evidence that the student understands the task. The response may be off topic or completely irrelevant.
B	Blank—No response. A score of “B” will be reported as “NA.” (No attempt to answer the item.) Score of “0” assigned for the item.

Reading Item A Sample Responses and Annotations—2010 Augmented Benchmark Grade 5

Score Point: 4

The response explains how Alex is “one smart bird” by providing **four** details for support. 1. *Can identify more than 100 things / He knew the words for banana, grape, and cheery.* 2. *Can combine two ideas together. He wouldn't just say key, he would say blue key.* 3. *Alex can also answer to “shape” or “material” when he is asked what is the difference.* 4. *Then one day Alex saw an apple. “I wan't a banary!” he said. By combining “banana” and “cherry.”* When a response uses the detail Alex “*can identify more than 100 things,*” it cannot get separate credit for providing the different objects that he identifies. So, even though “*He knew the words for banana, grape, and cheery*” is a detail from the text, it does not get separate credit because these are considered objects. Either could receive credit alone; however, together they are worth only one point. The other details (**blue** key, shape/material, banary) can receive credit as separate ideas because these are different skills (combining ideas, telling the difference, creating new words to identify new objects).

Answer	4 details
① Alex thinks he is a smart bird because he can say different things.	<ul style="list-style-type: none">• For example Alex the parrot can identify more than 100 things.• Alex also can combine two ideas together. He wouldn't just say key, he would say blue key.• Alex can also answer to "Shape" or "material" when he is asked what is the difference.• He knew the words for banana, grape, and cheery. Then one day, Alex saw an apple. "I wan't a banary!" he said. By combining "banana" and "cherry."

Reading Item A Sample Responses and Annotations—2010 Augmented Benchmark Grade 5

Score Point: 3

The response explains how Alex is “one smart bird” by providing **three** details from the passage for support. 1. *After a session of naming the same old stuff Alex sometimes ask for something diffent after too many keys Alex may say “I want cork.* 2. *May also demand “you tell me whats that When thing shown on a tray of brand new objects.* 3. *If you ask about the new objects of colors Alex tends to out do his usaual like proformance and an attempt . . . to acquire the excting new stuff.*

Alex show that he is a smart parrot because what Alex was seemed to be like a father and a very friendly parrot at first. but soon he showed he was a one smart parrot, and after a session of naming the same old stuff Alex sometimes ask for something diffent after too many keys Alex may say "I want cork." and also the curious bird may also demand "you tell me whats that" when thing shown on a tray of brand new objects. And if you ask about the new objects of colors Alex tends to out do his usual like a performance and an attempt to acquire the exciting new stuff and that is how it shows that Alex is a smart parrot.

Reading Item A Sample Responses and Annotations—2010 Augmented Benchmark Grade 5

Score Point: 2

The response explains how Alex is “one smart bird” by providing **two** details from the passage. 1. *Can answer shapes or material when asked what is different.* 2. *Alex can identify more than 100 things, from paper to corn to corks.*

Q Here is how Alex show that he is one smart bird?
• One reason is because... Alex seemed like a rather ordinary, friendly, parrot at first, but soon, he showed he was one smart bird. Alex can also answer shapes or material when asked what is different. He has a little trouble with the word material. But now, Alex can identify more than 100 things, from paper to corn to corks. This is how Alex shows that he is one smart bird?

Score Point: 1

The response explains how Alex is “one smart bird” by providing **one** supporting detail. 1. *He can identify 100 things.*

Alex shows he is one smart bird by the way he can identify 100 things.

Score Point: 0

This response does not explain how Alex is “one smart bird” other than being a parrot. It does not demonstrate that the student understands the task.

Because Alex is a parrot, and parrots can talk, and they can say any thing like hello, hi, Bye Bye, and shut up for.

Read this passage. Then answer multiple-choice questions 9 through 16 and open-response question B.

If These Walls Could Talk! Prehistoric Cave Painting

by Arlette N. Braman

Illustrated by Jo-Ellen Bosson

Thousands of years ago, prehistoric people painted pictures on cave walls and rock surfaces. These pictures showed different seasons, people working together, their handprints, and hunting animals. Some of the most famous paintings are found in the *Chauvet* (pronounced show-VEH) and *Lascaux* (pronounced lass-CO) caves in France. One of the oldest paintings, found in Spain, shows a figure of a person using a bow and arrow. Rock art from the desert in Jordan shows a herd of camels with their babies. These early forms of visual communication help us understand how prehistoric people lived, because their art recorded their life stories.

Prehistoric people painted with their fingers and with brushes made from animal hair and reeds (hollow stems of tall grasses). They spray-painted by blowing paint through a hollow reed.

3 How have these cave paintings lasted for so long? The temperature and climate inside a cave stays about the same all year. There is no rain or snow in the cave to wear down the paintings. This constant condition has helped to protect the paintings.

You don't need a cave to make a cave painting. A paper grocery bag works great! You can copy the record-keeping art of prehistoric people and make your handprints. You can also add some fingerprints and prehistoric symbols.

Prehistoric artists made their own paint from soil. Because of the minerals in the soil, they could make black, brown, red, and yellow paint. You can use their colors for your painting, or choose different ones.

Here's What You Need:

- pencil
- ruler
- brown paper bag (from the grocery store)
- scissors
- craft paintbrush
- acrylic or poster paint (about 4 different colors)
- small bowl of water
- paper towels

Here's What You Do:

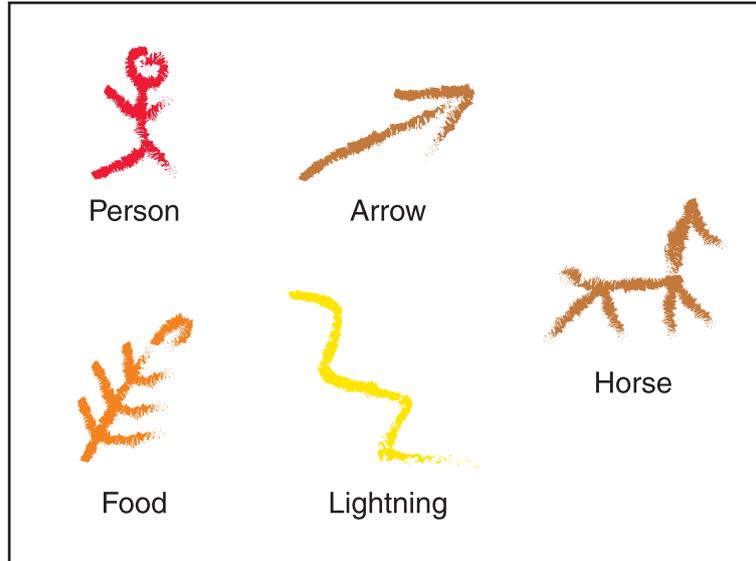
- 1 Draw a 12-by-17 inch rectangle on the bag and cut it out. To give the paper a jagged, cavelike look, carefully tear off small pieces along each edge of the rectangle.
- 2 Crinkle the paper into a loose ball, then open it and lay it flat. Place your left hand on the left side of the paper. Trace your hand lightly with the pencil, starting and ending at your wrist. Do the same for your right hand on the right side of the paper.
- 3 Paint over the outline of your hands with one color of paint.
- 4 Now add some thumb- and fingerprints. Brush a little paint on your thumb or fingertip and press the paint onto the paper. Remember to rinse the brush in the bowl of water and blot it dry on a paper towel before changing colors.
- 5 Add some prehistoric symbols. Paint these with the brush.

TIP: To re-create the look of a prehistoric cave painting, use very little detail in your picture.

Reading Passage B—2010 Augmented Benchmark Grade 5

Art Choice

Here are some symbols prehistoric people may have used. Put these on your painting, or create your own.



“If These Walls Could Talk! Prehistoric Cave Painting” by Arlette N. Braman. Copyright © 1999 by Arlette N. Braman. Reprinted with permission of John Wiley & Sons, Inc.

Reading Item B–2010 Augmented Benchmark Grade 5

B

Based on information in the passage, explain at least **four** details the reader learns about prehistoric people.

READING ITEM B SCORING RUBRIC–2010 AUGMENTED BENCHMARK GRADE 5

SCORE	DESCRIPTION
4	The response explains at least four details the reader learns about prehistoric people based on information in the passage.
3	The response explains three details the reader learns about prehistoric people based on information in the passage.
2	The response explains two details the reader learns about prehistoric people based on information in the passage.
1	The response explains one detail the reader learns about prehistoric people based on information in the passage. OR The response demonstrates minimal understanding of the question.
0	The response is totally incorrect and shows no evidence that the student understands the task. The response may be off topic or completely irrelevant.
B	Blank—No response. A score of “B” will be reported as “NA.” (No attempt to answer the item.) Score of “0” assigned for the item.

Reading Item B Sample Responses and Annotations—2010 Augmented Benchmark Grade 5

Score Point: 4

The response explains **five** details the reader learns about prehistoric people based on information in the passage.

1. Painted pictures on Cave walls and rock surfaces. 2. Painted with their fingers and with brushes made from animal hair and reeds. 3. Spray-painted by blowing paint through a hollow reed. 4. Made their own paint from soil. 5. They could make black, brown, red, and yellow paint.

For details that the reader learns about prehistoric people are.....

- thousands of years ago prehistoric people painted pictures on cave walls and rock surfaces.
- prehistoric people painted with their fingers and with brushes made from animal hair and reeds. reeds hollow seeds of tall grasses.
- They spray painted by blowing paint through a hollow reed.
- Prehistoric people made their own paint from soil. Because of the minerals in the soil, they could make black, brown, red, and yellow paint.

Reading Item B Sample Responses and Annotations—2010 Augmented Benchmark Grade 5

Score Point: 3

The response explains **three** details the reader learns about prehistoric people based on information in the passage.

1. Painted on cave walls thousands of years ago.
2. Painted with their paint brush made up of animal hair and reeds.
3. Made their own paint from soil. The third bullet point the student provided (*We know alot about Prehistoric people from just their paintings*) is too general to receive credit.

We you read, If These Walls Could Talk? Prehistoric Cave Paintings By Arlette N. Braman, you might learn a few things like:

- Prehistoric People painted on cave walls thousands of years ago.
- Prehistoric People painted with their paint brush made up of animal hair and reeds.
- We know alot about Prehistoric people from just their paintings.
- And Prehistoric people made their own paint from soil!

And those are 4 facts about Prehistoric People when you read, Arlette N. Braman's If These Walls Could Talk? Prehistoric Cave Paintings.

Reading Item B Sample Responses and Annotations—2010 Augmented Benchmark Grade 5

Score Point: 2

The response explains **two** details the reader learns about prehistoric people based on information in the passage.

1. *Made pictures on cave walls and rock surfaces.* 2. *Made their colors with soil.* The other details presented are not about prehistoric people. While the student writes about the oldest painting, famous paintings and the temperature and weather in caves, the student does not relate these statements to prehistoric people.

Four details that the reader learned about prehistoric people are that that the people made pictures on cave walls and rock surfaces. One of the oldest painting are found in Spain. Some of the famous paintings are found in the Chauvet and Lascaux cave. The temperature in the cave stays the same all year. There is no rain or snow in the cave to wear down the paintings. Prehistoric people made their colors with soil.

Score Point: 1

The response explains **one** detail the reader learns about prehistoric people based on information in the passage. 1. *Used very little detail in their cave paintings.*

Four things that you need to know about prehistoric people is 1. The people used very little detail in their cave paintings. 2. The most famous paintings are in France in the Chauvet and Lascaux caves. 3. The paintings stay because the temperature and climate inside stay the same mostly all year. 4. The oldest painting is in Spain it's of a figure throwing an arrow. And that is 4 important things that you should know about prehistoric people.

Reading Item B Sample Responses and Annotations—2010 Augmented Benchmark Grade 5

Score Point: 0

This response is irrelevant because it discusses how the reader learned to make a cave painting, not what the reader learns about prehistoric people. This shows no evidence that the student understood the task.

people learned that, you
can draw a 12-by-17 inch rectangle on
the bag and cut it out, and they
learned that you can trace your hand
lightly with the pencil, starting and
ending at your wrist, and they also
learned to paint over the outline of
your hands with one color of paint.
and one more thing, they people
learned about prehistoric cave painting
was that remember to rinse
the brush in the bowl of water
and blot it dry on a paper towel
before changing colors.

WRITING RESPONSES

Scoring Student Responses to Writing Prompts—2010 Augmented Benchmark Grade 5

Domain Scoring

In domain scoring, which was developed in conjunction with Arkansas educators, the observation of writing is divided into several domains (categories), each composed of various features. The domains scored for Arkansas compositions are Content, Style, Sentence Formation, Usage, and Mechanics. (These domains are defined on the following page.) Each domain is evaluated holistically; the domain score indicates the extent to which the features in that domain appear to be under the control of the writer. The score reflects the student's performance for the entire domain, with all features within the domain being of equal importance.

All responses are read independently by at least two readers. The two scores are averaged by domain. In cases where the two readers' scores are non-adjacent (a "1" and a "3," for example) in any domain, the response is read a third time by a Team Leader or the Scoring Director for resolution.

The domain scores, along with an awareness of the features comprising each domain, can be used to plan developmental or remedial instruction for the student.

Scoring Scale

Each domain is scored independently using the following scale:

- 4 = The writer demonstrates **consistent**, though not necessarily perfect, control* of almost all of the domain's features.
- 3 = The writer demonstrates **reasonable**, but not consistent, control* of most of the domain's features, indicating some weakness in the domain.
- 2 = The writer demonstrates **inconsistent** control* of several of the domain's features, indicating significant weakness in the domain.
- 1 = The writer demonstrates **little** or **no** control* of most of the domain's features.

*Control: The ability to use a given feature of written language effectively at the appropriate grade level. A response receives a higher score to the extent that it demonstrates control of the features in each domain.

The application of the scale, using actual student writing, was done with the assistance of a committee of Arkansas teachers and representatives of the Arkansas Department of Education.

Non-scoreable and Blank Papers

Compositions are scored, unless they are off-topic, illegible, incoherent, refusals to respond, written in a language other than English, or too brief to assess. A score of "NA" indicates that the student's writing entry was non-scoreable and that entry will receive a score of "0."

Writing Domains and Definitions—2010 Augmented Benchmark Grade 5

Content (C)

The Content domain includes the focusing, structuring, and elaborating that a writer does to construct an effective message for a reader. It is the creation of a product, the building of a composition intended to be read. The writer crafts his/her message for the reader by focusing on a central idea, providing elaboration of the central idea, and delivering the central idea and its elaboration in an organized text. Features are:

- Central idea
- Unity
- Elaboration
- Organization

Style (S)

The Style domain comprises those features that show the writer is purposefully shaping and controlling language to affect readers. This domain focuses on the vividness, specificity, and rhythm of the piece and the writer's attitude and presence. Features are:

- Selected vocabulary
- Tone
- Selected information
- Voice
- Sentence variety

Sentence Formation (F)

The Sentence Formation domain reflects the writer's ability to form competent, appropriately mature sentences to express his/her thoughts. Features are:

- Completeness
- Embedding through standard subordination and modifiers
- Absence of fused sentences
- Standard word order
- Expansion through standard coordination and modifiers

Usage (U)

The Usage domain comprises the writer's use of word-level features that cause written language to be acceptable and effective for standard discourse. Features are:

- Standard inflections
- Word meaning
- Agreement
- Conventions

Mechanics (M)

The Mechanics domain includes the system of symbols and cueing devices a writer uses to help readers make meaning. Features are:

- Capitalization
- Formatting
- Punctuation
- Spelling

Writing Prompt—2010 Augmented Benchmark Grade 5

C

There is a writing contest in school. This is the story you must finish:

One morning when I woke up, I was only twelve inches tall!

Before you begin to write, think about this new size. What are some of the things you could do now? What are some of the things you couldn't do anymore? What happened when you were small?

Now write a story about when you were only twelve inches tall. Give enough detail so that the person reading your story will understand.

Writer's Checklist

1. Look at the ideas in your response.
 - Have you focused on one main idea?
 - Have you used enough details to explain yourself?
 - Have you put your thoughts in order?
 - Can others understand what you are saying?

2. Think about what you want others to know and feel after reading your paper.
 - Will others understand how you think or feel about an idea?
 - Will others feel angry, sad, happy, surprised, or some other way about your response? (Hint: Make your reader feel like you do about your paper's subject.)
 - Do you have sentences of different lengths? (Hint: Be sure you have variety in sentence lengths.)
 - Are your sentences alike? (Hint: Use different kinds of sentences.)

3. Look at the words you have used.
 - Have you described things, places, and people the way they are? (Hint: Use enough detail.)
 - Are you the same person all the way through your paper? (Hint: Check your verbs and pronouns.)
 - Have you used the right words in the right places?

4. Look at your handwriting.
 - Can others read your handwriting with no trouble?

When Experiments Go Horribly Wrong

One morning I woke up in my lab and realized I was only twelve inches tall! What happened to me? Could this just be a dream or a night mare?

Then it hit me. Last night while I was working on a project, my equipment exploded! I was sure that the exploding of my equipment caused it. Then I realized something else, I raised rats that were one foot and five inches tall, and that one of the rats was loose! All of the sudden the same rat came out of the shadows and leaped at me. I dodged him and ran for it. I squeezed in to a small opening in one of my crates. It was too small for the rat to get me. It was a good thing shrinking to this size enabled me to get into this small area.

I managed to climb onto the counter. I thought to myself, "I can't lift the the telephone. If I could, I could call the Science Technical Support. Wait a minute! There is no such thing called a Science Technical Support! Looks like I'm

on my own.

I thought of my potion that makes things grow taller. The potion worked on plants and rats, but would it work on me? That thought went through my mind as I climbed up one of the legs of a table that held on top of it the potion. When I got to the top of the table, I tried to tip the vial of a growth potion into a very small sampling cup. While I was doing that, the other giant rats got loose and knocked down the vial of growth potion. The potion spilled over me. "Will it work?" I thought.

The potion worked, and I grew back to my original height. I was extremely happy to be back to normal size. I said to myself, "I could squeeze through small spaces. That was a good thing, but being so small means I could be squished by a mutated rat, or become its lunch. I also couldn't lift a telephone or a vial of potion." Now I just want to enjoy being a normal person again.

Writing Annotation for Sample Response 1–2010 Augmented Benchmark Grade 5

Content: 4

This response has a clear central idea, supported with details and elaboration (*I squeezed in to a small opening in one of my crates. It was too small for the rat to get me. It was a good thing shrinking to this size enabled me to get into this small area*). An organizational plan is evident in the progression of ideas. There is presence of closure. The response demonstrates consistent control of the Content domain.

Style: 4

The writer engages the reader with precise, vivid vocabulary (*equipment exploded, leaped at me, dodged him, enabled me, managed to climb, Science Technical Support, potion, original height*). Sentences are varied and a strong voice is heard throughout. This response demonstrates consistent control of the Content domain.

Sentence Formation: 4

The response displays mature sentence structures that are mostly correct. Complex sentence structures are used throughout and demonstrate the writer's consistent control of the Sentence Formation domain.

Usage: 4

Control of inflections, tenses, agreement and word meaning are demonstrated. This response displays consistent control of the Usage domain.

Mechanics: 4

This response demonstrates skill in formatting, spelling, capitalization, and punctuation. Consistent control of the Mechanics domain is demonstrated.

"Huh, Huh, where am I? Am I in a giant world or am I just short? Oh, no I'm in my room so... I'm just short!"

It all started when I woke up one morning and I was twelve inches tall. I tried to calm myself down by thinking of all the new things I could do. I couldn't think of anything until I saw my little sisters doll house. I could sleep in there, I could watch television in there, and I could cook in there. It will be so much fun! I could also play in the mouse hole, if I get my mouse out. We could play hide and seek! Wow!

Right now I feel like jump roping though. When I finally found my jump rope, I tried to drag it to the middle of my floor, but in return, it fell on me. That was out for me. So, I decided I wanted to roller blade, but that became a drag when I tried to put them on and I fell into it. So I then decided to play soccer, my favorite sport. I found my ball and when it came rolling out of the corner it smushed me.

Then I turned to my last resort. Getting out my mouse. When I opened his cage he came charging out, and stomped all over me.

I turned tired, so I layed down in the Barbie bed and the next thing I know I'm asleep. When I woke up I was five three again. The Barbie bed and house I had been laying in had been crushed. (Oops!) All I could figure would have happened to me was those lima beans my mom had made me eat the night before I had shrunk. (Ugh!)

Writing Annotation for Sample Response 2—2010 Augmented Benchmark Grade 5

Content: 3

This response has a central idea and some elaboration of events (*I feel like jump roping though. When I finally found my jump rope, I tried to drag it to the middle of my floor; But in return, it fell on me. That was out for me*), while in other areas the support is list-like (*I could sleep in there, I could watch television in there, and I could cook in there*). The response is organized, and there is a progression of ideas. This displays reasonable control of the Content domain.

Style: 3

There is spotty use of vivid vocabulary in this response and some purposeful selection of information. The writer's voice is heard near the end [*The Barbie bed and house I had been laying in had been crushed. (Oops!) . . . those lima beans my mom had made me eat the night before I had shrunk. (Ugh!)*] but is not sustained throughout. Reasonable control of the Style domain is demonstrated.

Sentence Formation: 4

Most sentences (simple, compound and complex) are correct in this response. The writer displays consistent control of the Sentence Formation domain.

Usage: 3

The response shows some weakness in grammar skills. The writer shifts tense, uses an incorrect pronoun, and has tense errors (*turned tired, layed down, All I could figure would have happened*). This demonstrates reasonable control of the Usage domain.

Mechanics: 4

Capitalization, punctuation, spelling, and formatting are mostly correct in this response. The Mechanics domain is consistently controlled.

Writing Sample Response 3—2010 Augmented Benchmark Grade 5

One morning I woke up, I was twelve inches tall! First, I can eat lunch. Go to P.E. are run for 1 mint. Go dress for school. Secand, I cannot open my locker. And go rode my bike. I can't go to my class room beaus I'm to smass to go to Highschool. Thire, I cannot play with game like rodeing bikes and skiaking.

Writing Annotation for Sample Response 3—2010 Augmented Benchmark Grade 5

Content: 1

This brief response attempts to address the prompt, but provides no elaboration of ideas. There is little organization and some repetition (*And go rode my bike. . . . I cannot play with game like rodeing bikes*). There is little or no control of the Content domain.

Style: 1

This response is composed of mostly choppy sentences (*Frist, I can eat luck. Go to P.E. are run for 1 mint. Go dress for school*). Voice is flat due to the lack of precise or vivid vocabulary. There is little or no control of the Style domain.

Sentence Formation: 2

There is a pattern of errors in this response. While some sentences are correct, there are several fragments displayed. This demonstrates inconsistent control of the Sentence Formation domain.

Usage: 2

This response contains usage errors in several features. There are three wrong words (*luck* for lunch, *are* for and, *mint* for minute) and verb tense and inflection errors. There is inconsistent control of the Usage domain.

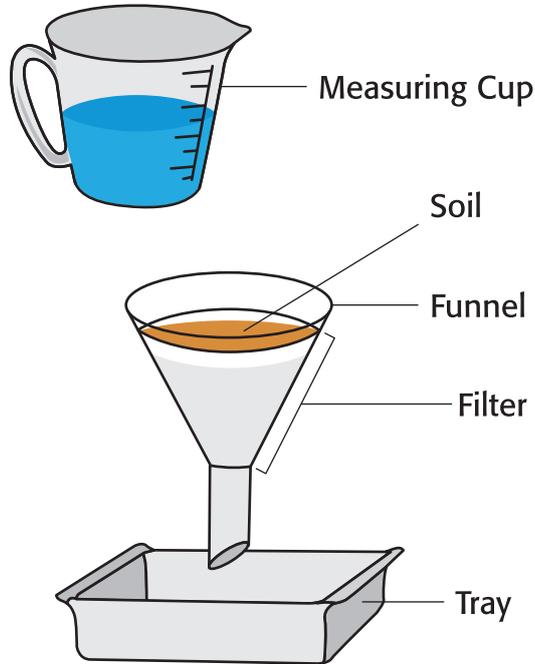
Mechanics: 2

There are several spelling errors in this response (*Frist, Secand, beaus, smass, Thire, skiaking*) and a missing end mark. This demonstrates inconsistent control of the Mechanics domain.

SCIENCE RESPONSES

A

Students were investigating water and soil. They poured all of the water from a measuring cup through a funnel filled with soil.



The students gathered the following data.

Object Measured	Mass Before Pouring	Mass After Pouring
Measuring Cup	300 grams	100 grams
Funnel and Soil	600 grams	700 grams
Tray	100 grams	200 grams

1. Describe where all of the water could be found at the end of this investigation.
2. Use data from the data table to explain how you got your answer to part 1.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

Science Item A Solution and Scoring—2010 Augmented Benchmark Grade 5

SCIENCE ITEM A SCORING RUBRIC—2010 AUGMENTED BENCHMARK GRADE 5

SCORE	DESCRIPTION
4	Response shows a <i>complete understanding</i> of the problem's essential scientific concepts. The student presents all procedures correctly and responds to all parts of the task.
3	Response shows a <i>nearly complete understanding</i> of the problem's essential scientific concepts. The student presents nearly all procedures correctly and responds to all parts of the task. The response may contain minor errors.
2	Response shows a <i>limited understanding</i> of the problem's essential scientific concepts. The student presents some procedures correctly and responds correctly to most parts of the task. The response may contain a major error.
1	Response shows a <i>minimum understanding</i> of the problem's essential scientific concepts. The student presents some correct work that contributes to a correct solution. The response contains incomplete procedures and major errors.
0	Response shows <i>insufficient understanding</i> of the problem's essential scientific concepts. The procedures, if any, contain major errors. There may be no explanation of the solution, or the reader may not be able to understand the explanation. The reader may not be able to understand how and why decisions were made.

Solution and Scoring

Part	Points
1	<p>2 Points Possible</p> <p>1 point: Some of the water ended up in the tray.</p> <p>1 point: Some of the water remained in (was absorbed by) the soil, funnel or filter.</p>
2	<p>2 Points Possible</p> <p>1 point: Identifies correctly the increase/decrease in mass as evidence.</p> <p>1 point: Indicates that both the funnel and tray have changed in mass.</p>

**Science Item A Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

1) Some water could be found in the tray and some maybe in the funnel with soil.

2) The measuring cup lost 200 grams when they poured it 100 worth to the tray and 100 stayed in the funnel

Object measured	Mass Before Pouring	Mass After Pouring
Measuring cup	300 grams	100 grams
Funnel and soil	600 grams	700 grams
Tray	100 grams	200 grams

SCORE: 4

Points

Part 1, 2 pts:

Describes that some of the water ended up in the tray.

1

Some water could be found in the tray . . .

Describes that some of the water remained in (was absorbed by) the soil, funnel or filter.

1

. . . and some maybe in the funnel with soil.

Part 2, 2 pts:

Identifies correctly the increase/decrease in mass as evidence.

1

*The measuring cup lost 200 grams **OR** 100 went to the tray and 100 stayed in the funnel*

Indicates that both the funnel and tray have changed in mass.

1

100 went to the tray and 100 stayed in the funnel

TOTAL POINTS

4

**Science Item A Sample Responses and Annotations--
2010 Augmented Benchmark Grade 5**

① At the end of the investigation, the water could probably be found in the filter and maybe some water in the tray.

② I got the answer in number one by looking at the mass of the soil before water was poured in there and then I looked at it after it was poured and there's a one hundred gram difference which means some water could be in the filter with dirt, and some could be in the tray if it dripped out a little.

SCORE: 3	Points
Part 1, 2 pts: Describes that some of the water ended up in the tray. ... and maybe some water <u>in the tray</u>	1
Describes that some of the water remained in (was absorbed by) the soil, funnel or filter. ... water could probably be found <u>in the filter</u> ...	1
Part 2, 2 pts: Identifies correctly the increase/decrease in mass as evidence. ... and there's a one hundred gram difference ...	1
Does not mention that the <u>mass</u> of the tray increased, only the mass of the soil (funnel) increased.	0
TOTAL POINTS	3

**Science Item A Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

<p>1) The water would be in the soil the soil was dry so it sock up the water for nutricle.</p>	<p>2) I got it measuring cup of water 300g theres 100g funnel and soil 600g to 700grams the tray 100grams to 200grams</p>
---	---

SCORE: 2	Points
Part 1, 2 pts:	
Does not describe that some of the water ended up in the tray. <i>The water would be in the soil . . .</i>	0
Does not describe that some of the water remained in (was absorbed by) the soil, funnel or filter. <i>The water would be in the soil the soil was dry so it sock up the water . . .</i>	0
When a student describes or implies that <u>all</u> of the water ends up in only one location, the response for this part is incorrect.	
Part 2, 2 pts:	
Identifies correctly the increase/decrease in mass as evidence. <i>. . . funnel and soil 600g to 700 grams OR the tray 100 grams to 200 grams</i>	1
Indicates that both the funnel and tray have changed in mass. <i>. . . funnel and soil 600g to 700 grams the tray 100 grams to 200 grams</i>	1
TOTAL POINTS	2

**Science Item A Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

ⓐ All the water can be found in the soil and funnel at the end of the investigation.

ⓐ I looked at the Mass After pouring title on the chart and the soil and funnel had 700 grams and before it 600 grams. I guess that the soil caught the water.

SCORE: 1	Points
<hr/>	
Part 1, 2 pts: Does not describe that some of the water ended up in the tray. Does not mention the tray at all.	0
Does not describe that some of the water remained in (was absorbed by) the soil, funnel or filter. <i>All the water can be found in the soil and funnel . . .</i>	0
Incorrectly states that all the water could be found in the soil, funnel, or filter not just <u>some</u> of the water. When a student describes that <u>all</u> of the water ends up in only one location, this part of the response is incorrect.	
<hr/>	
Part 2, 2 pts: Identifies correctly the increase/decrease in mass as evidence. <i>I looked at the mass after pouring . . . the soil and funnel had 700 grams and before it 600 grams.</i>	1
Does not indicate that <u>both</u> the funnel and tray have changed in mass.	0
The response mentions change in only soil and funnel, but not the tray.	
<hr/>	
TOTAL POINTS	1

**Science Item A Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

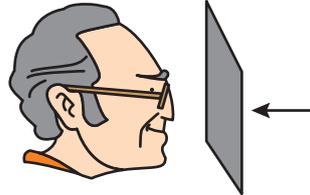
1) All of the water would be poured into the funnel and will come out of the funnel and go into the tray and the water will be all dirty.

2) Because the funnel was filled with dirt. And the water will sink into the dirt make mud and there will be most of the water you put in the funnel.

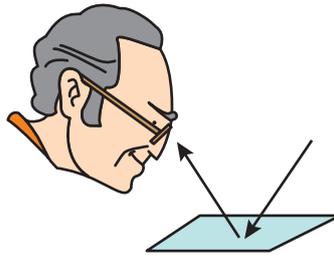
SCORE: 0	Points
Part 1, 2 pts:	
Does not describe that some of the water ended up in the tray.	0
<i>All of the water would be poured into the funnel and will come out of the funnel and go into the tray and the water will be all dirty.</i>	
When a student describes or implies that <u>all</u> the water ends up in only one location, the response for this part is incorrect.	
Does not describe that some of the water remained in (was absorbed by) the soil, funnel or filter.	0
<i>All of the water would be poured into the funnel and will come out of the funnel and go into the tray and the water will be all dirty.</i>	
When a student describes or implies that <u>all</u> the water ends up in only one location, the response for this part is incorrect.	
Part 2, 2 pts:	
Does not identify correctly the increase/decrease in mass as evidence.	0
<i>Because the funnel was filled with dirt. And the water will sink into the dirt make mud and there will be most of the water you put in the funnel.</i>	
Nowhere in the response is there any recognition of the change in mass.	
Does not indicate that both the funnel and tray have changed in mass.	0
<i>Because the funnel was filled with dirt. And the water will sink into the dirt make mud and there will be most of the water you put in the funnel.</i>	
Nowhere in the response is there any recognition of the change in mass.	
TOTAL POINTS	0

B

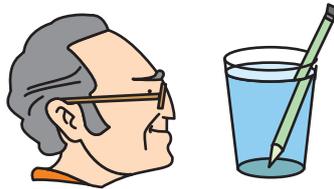
The diagram below shows three ways that light can interact with matter.



1



2



3

1. Name one interaction and describe what happens to the light for the interaction.
2. Name one of the other interactions and describe what happens to the light for the interaction.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

Science Item B Solution and Scoring—2010 Augmented Benchmark Grade 5

SCIENCE ITEM B SCORING RUBRIC—2010 AUGMENTED BENCHMARK GRADE 5

SCORE	DESCRIPTION
4	Response shows a <i>complete understanding</i> of the problem's essential scientific concepts. The student presents all procedures correctly and responds to all parts of the task.
3	Response shows a <i>nearly complete understanding</i> of the problem's essential scientific concepts. The student presents nearly all procedures correctly and responds to all parts of the task. The response may contain minor errors.
2	Response shows a <i>limited understanding</i> of the problem's essential scientific concepts. The student presents some procedures correctly and responds correctly to most parts of the task. The response may contain a major error.
1	Response shows a <i>minimum understanding</i> of the problem's essential scientific concepts. The student presents some correct work that contributes to a correct solution. The response contains incomplete procedures and major errors.
0	Response shows <i>insufficient understanding</i> of the problem's essential scientific concepts. The procedures, if any, contain major errors. There may be no explanation of the solution, or the reader may not be able to understand the explanation. The reader may not be able to understand how and why decisions were made.

Solution and Scoring

Part	Points
1	<p>2 Points Possible</p> <p>1 point for an accurately identified interaction.</p> <p>1 point for the description of what happens to the light in that interaction.</p>
2	<p>2 Points Possible</p> <p>1 point for a second, accurately identified interaction.</p> <p>1 point for the description of what happens to the light in that interaction.</p>

**Science Item B Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

<p>1.) One interaction is reflection, it bounces off of a mirror and you can see yourself. It is called reflection. you can see your reflection in the mirror. The light bounces off the mirror, on you, and back to the mirror. That is number 2.</p>	<p>2.) Another interaction is refraction. The bending of light. You look at a pencil in the water and it looks broken. The light bends. This process is called refraction. That is number 3.</p>
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SCORE: 4	Points
Part 1, 2 pts:	
Accurately identifies the reflection light-matter interaction. <i>One interaction is <u>reflection</u> . . .</i>	1
Correctly describes what happens to the light when light is reflected. <i>The light bounces off the mirror . . .</i>	1
Part 2, 2 pts:	
Accurately identifies the refraction light-matter interaction. <i>Another interaction is <u>refraction</u>.</i>	1
Correctly describes what happens to the light when light is refracted. <i>The bending of light.</i>	1
TOTAL POINTS	4

**Science Item B Sample Responses and Annotations—
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1. on number one the light is being absorbed in the black paper, therefore he can't see the light on the opposite side of the black paper.

2. On number two the light is reflected off the mirror, therefore he doesn't have to look directly at the light in order to see it.

SCORE: 3

Points

Part 1, 2 pts:

Accurately identifies the absorption light-matter interaction.

1

... light is being absorbed in the black paper ...

Correctly describes what happens to the light when light is absorbed.

1

... he can't see the light on the opposite side of the black paper.

Part 2, 2 pts:

Does not correctly identify the reflection light-matter interaction.

0

The interaction described is not named.

Correctly describes what happens to the light when light is reflected.

1

... is reflected off the mirror ...

TOTAL POINTS

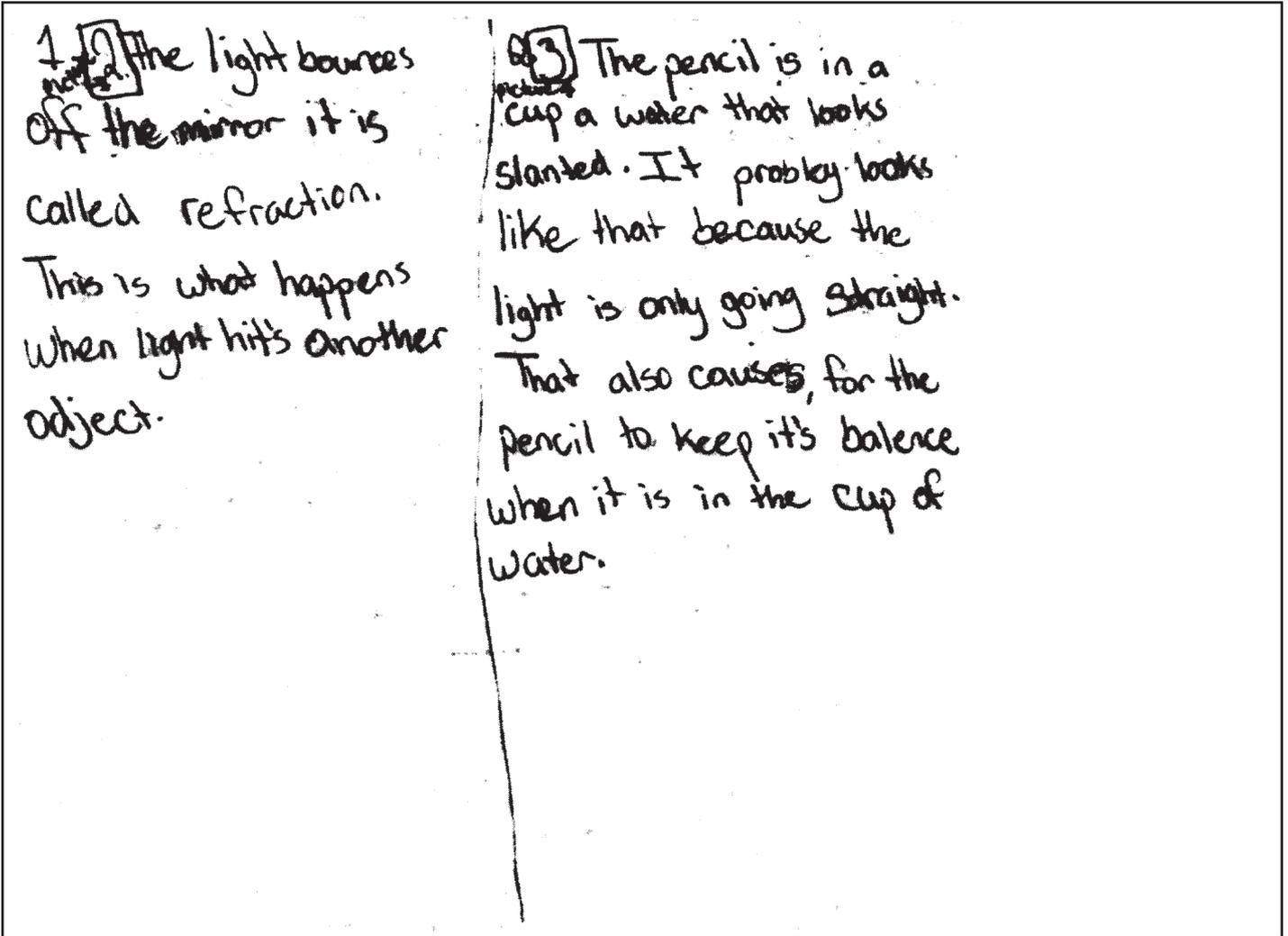
3

**Science Item B Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**

<p>1) One interaction is in figure three the light rays are bending in water and the pencil looks sideways in the water.</p>	<p>2) In figure two the guy looks in a mirror and the light rays bounce off the mirror and back to his eyes.</p>
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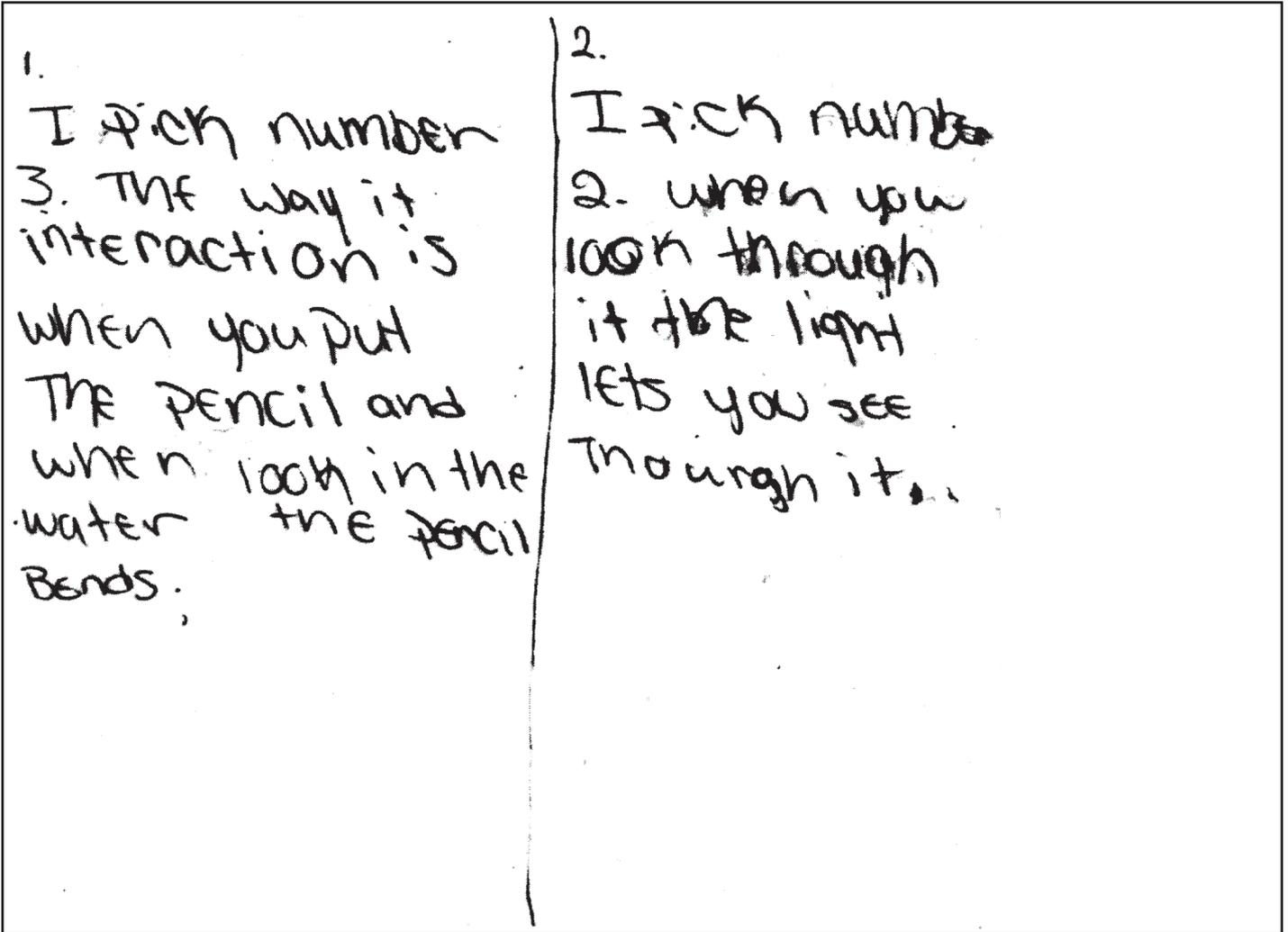
SCORE: 2	Points
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Part 1, 2 pts:	
Does not correctly identify the refraction light-matter interaction. The interaction described is not named.	0
Correctly describes what happens to the light when light is refracted. <i>... the light rays are bending ...</i>	1
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Part 2, 2 pts:	
Does not correctly identify the reflection light-matter interaction. The interaction described is not named.	0
Correctly describes what happens to the light when light is reflected. <i>... the light rays bounce off the mirror ...</i>	1
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TOTAL POINTS	2

**Science Item B Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5**



SCORE: 1	Points
Part 1, 2 pts: Incorrectly identifies <u>refraction</u> as the light-matter interaction of reflection.	0
Correctly describes what happens to the light when light is <u>reflected</u> . <i>The light bounces off the mirror . . .</i>	1
Part 2, 2 pts: Does not correctly identify the refraction light-matter interaction. The interaction described is not named.	0
Does not correctly describe what happens to the light when light is refracted. <i>. . . because the light is only going straight.</i>	0
TOTAL POINTS	1

Science Item B Sample Responses and Annotations—
2010 Augmented Benchmark Grade 5



SCORE: 0

Points

Part 1, 2 pts:

Does not correctly identify the refraction light-matter interaction.

0

Incorrectly describes what happens to the light when light is refracted.

0

... when look in the water the pencil bends.

Light bends in the refraction interaction, not the pencil.

Part 2, 2 pts:

Does not correctly identify the reflection light-matter interaction.

0

Incorrectly describes what happens to the light when light is reflected.

0

When you look through it the light lets you see through it.

TOTAL POINTS

0

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