

# ACTAAP

Arkansas Comprehensive Testing, Assessment, and Accountability Program

## Teacher Handbook

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### Arkansas Augmented Benchmark Examination

**APRIL 2009  
ADMINISTRATION**

**GRADE**

**5**

**Arkansas Department of Education**

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# Teacher Handbook—2009 Augmented Benchmark Grade 5

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## Introduction—2009 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—2009 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—2009 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—2009 Augmented Benchmark Grade 5

**A**

Javier needs to solve the two equations below as part of his homework.

$$17 + f = 64$$

$$52 = b - 9$$

1. What value of  $f$  makes the first equation true? Show all your work and/or explain your answer.
2. What value of  $b$  makes the second equation true? Show all your work and/or explain your answer.
3. How does the value of  $b$  compare to the value of  $f$ ? Show all your work and/or explain your answer.

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

### MATHEMATICS ITEM A SCORING RUBRIC—2009 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—2009 Augmented Benchmark Grade 5**

**Solution and Scoring**

Part	Points
<p><b>1</b></p>	<p><b>1 Point Possible</b></p> <p>1/2 point: Correct Answer: 47</p> <p><b>AND</b></p> <p>1/2 point: Correct and complete procedure shown and/or explained Work may contain a calculation or copy error Give credit for the following or equivalent</p> <ul style="list-style-type: none"> <li>• <math>f = 64 - 17 = 47</math></li> </ul>
<p><b>2</b></p>	<p><b>1 Point Possible</b></p> <p>1/2 point: Correct Answer: 61</p> <p><b>AND</b></p> <p>1/2 point: Correct and complete procedure shown and/or explained Work may contain a calculation or copy error Give credit for the following or equivalent</p> <ul style="list-style-type: none"> <li>• <math>b = 52 + 9 = 61</math></li> </ul>
<p><b>3</b></p>	<p><b>2 Points Possible</b></p> <p>1 point: Correct answer:</p> <ul style="list-style-type: none"> <li>• <math>b</math> is greater than <math>f</math></li> </ul> <p>Or</p> <ul style="list-style-type: none"> <li>• <math>47 &lt; 61</math></li> </ul> <p>Or</p> <ul style="list-style-type: none"> <li>• A correct relationship of <math>b</math> and <math>f</math> based on incorrect answers in Parts 1 and/or 2</li> </ul> <p><b>AND</b></p> <p>1 point: Correct and complete explanation of how answer was determined Give credit for the following or equivalent:</p> <ul style="list-style-type: none"> <li>• the values of <math>b</math> and <math>f</math> must be shown to receive credit</li> </ul> <p>Or</p> <ul style="list-style-type: none"> <li>• the difference between the two must be expressed</li> </ul>

**Mathematics Item A Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

<p>1.</p> $\begin{array}{r} \cancel{64} \\ - 17 \\ \hline 47 \end{array}$ <p><math>f = 47</math></p>	<p>2.</p> $\begin{array}{r} 52 \\ + 9 \\ \hline 61 \end{array}$ <p><math>b = 61</math></p>	<p>3.</p> <p><math>b &gt; f</math> <math>61 &gt; 47</math></p>
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<b>SCORE: 4</b>	<b>Points</b>
<b>Part 1, 1 pt:</b>	
Correct Answer	$f = 47$
Correct Explanation	$\begin{array}{r} 64 \\ - 17 \\ \hline 47 \end{array}$
<b>Part 2, 1 pt:</b>	
Correct Answer	$b = 61$
Correct Explanation	$\begin{array}{r} 52 \\ + 9 \\ \hline 61 \end{array}$
<b>Part 3, 2 pts:</b>	
Correct Answer	$b > f$
Correct Explanation	$61 > 47$
<b>TOTAL POINTS</b>	<b>4</b>

**Mathematics Item A Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

1.  $\begin{array}{r} 64 \\ -17 \\ \hline 47 \end{array}$   $17+47=64$  The  $f$  for 17 to  
(or  $f$ ) equal 64 is 47.  
47 is  $f$

---

2.  $\begin{array}{r} 52 \\ -9 \\ \hline 43 \end{array}$   $43+9=52$  The  $b$  is for 43  
(or  $b$ ) to equal 52 is 43.  
43 is  $b$

---

3.  $f$  is greater than  $b$  because  
 $f$  is 47 and  $b$  is 43 and they  
are used in different ways.

**SCORE: 3**

**Points**

**Part 1, 1 pt:**

Correct Answer	$47$ is $f$	$\frac{1}{2}$
Correct Explanation	$\begin{array}{r} 64 \\ -17 \\ \hline 47 \end{array}$	$\frac{1}{2}$

**Part 2, 1 pt:**

Incorrect Answer	$43$ is $b$	0
Incorrect Explanation	$\begin{array}{r} 52 \\ -9 \\ \hline 43 \end{array}$	0

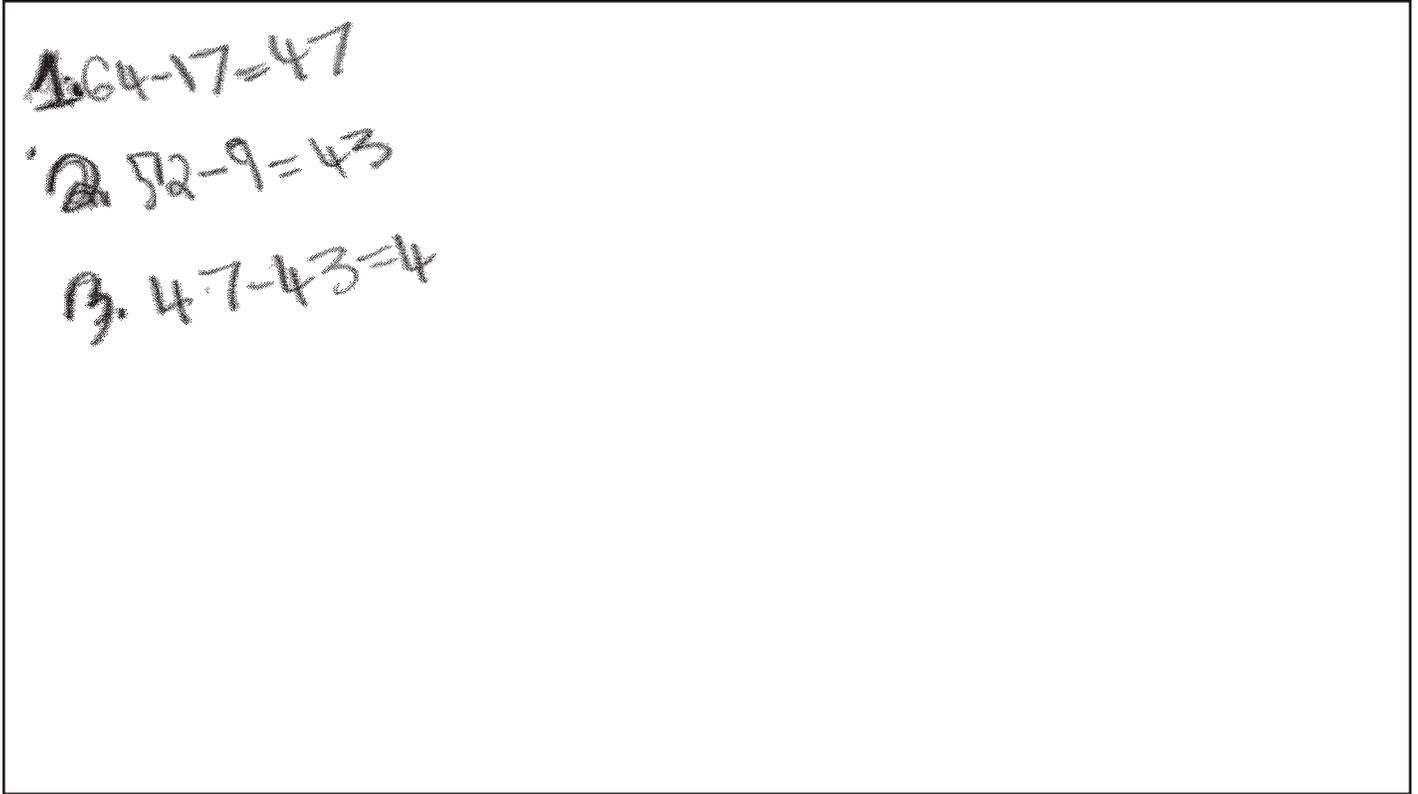
**Part 3, 2 pts:**

Correct Answer	$f$ is greater than $b$ (based on values determined in pts 1 & 2)	1
Correct Explanation	because $f$ is 47 and $b$ is 43	1

**TOTAL POINTS**

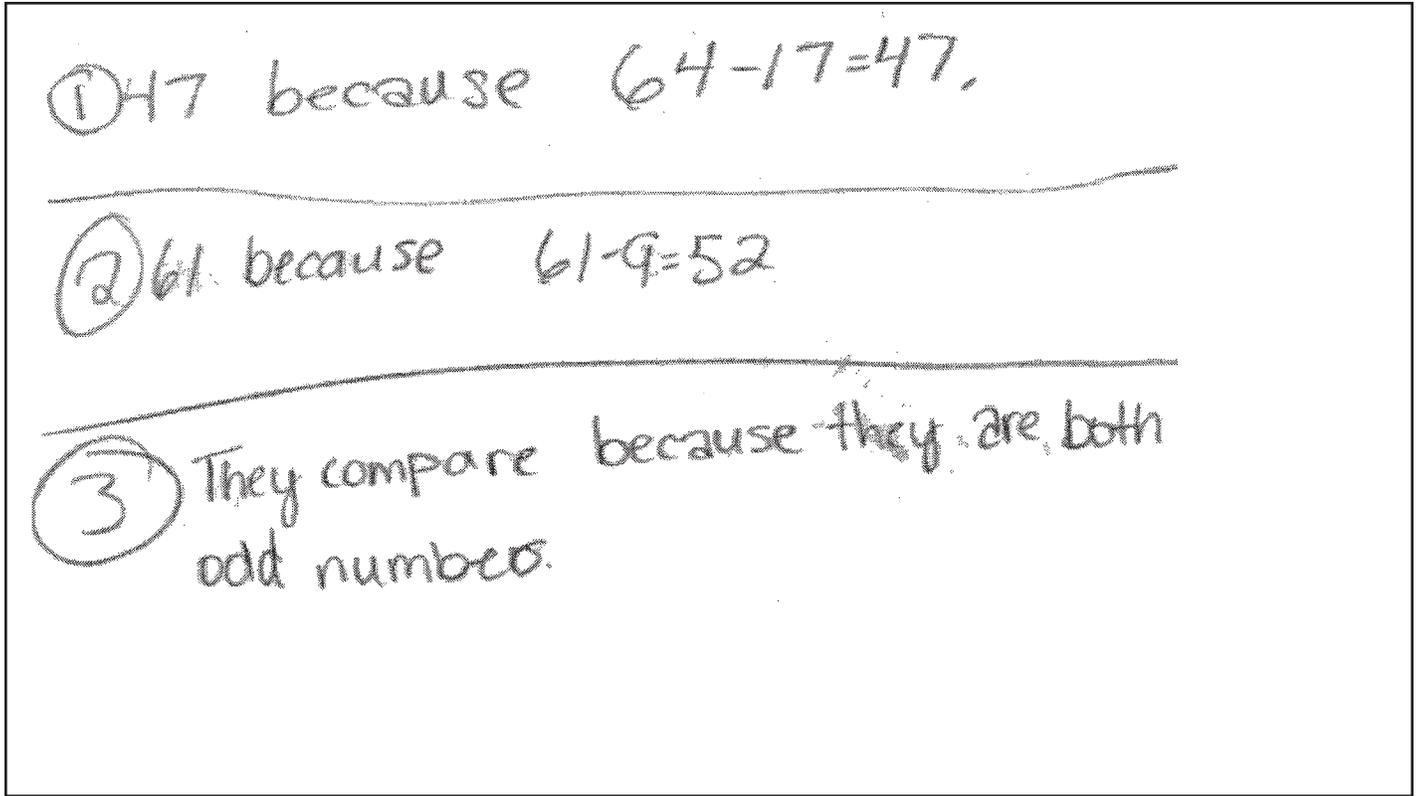
**3**

**Mathematics Item A Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**



<b>SCORE: 2</b>		<b>Points</b>
<b>Part 1, 1 pt:</b>		
Correct Answer	47	$\frac{1}{2}$
Correct Explanation	$64 - 17 = 47$	$\frac{1}{2}$
<b>Part 2, 1 pt:</b>		
Incorrect Answer	43	0
Incorrect Explanation	$52 - 9 = 43$	0
<b>Part 3, 2 pts:</b>		
No Answer		0
Correct Explanation	$47 - 43 = 4$ (based on values determined in pts 1 & 2)	1
<b>TOTAL POINTS</b>		<b>2</b>

**Mathematics Item A Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**



<b>SCORE: 1</b>		<b>Points</b>
<b>Part 1, 1 pt:</b>		
Correct Answer	47	$\frac{1}{2}$
Correct Explanation	$64 - 17 = 47$	$\frac{1}{2}$
<b>Part 2, 1 pt:</b>		
Correct Answer	61	$\frac{1}{2}$
Incorrect Explanation	$61 - 9 = 52$	0
<b>Part 3, 2 pts:</b>		
Incorrect Answer	<i>They compare</i>	0
Incorrect Explanation	<i>because they are both odd numbers</i>	0
<b>TOTAL POINTS</b>		$1\frac{1}{2}$

**Mathematics Item A Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

1. It makes it true because if it wasn't true it would be false. But Javier knows that  $f$  is true it's not false.

2. It makes it true because if it wasn't true Javier would know that it wasn't true and get help on his math problem. But it is true.

3.  $B$  and  $F$  compare to each other because they are both true and they are not false, and so that's how they are compared.

**SCORE: 0**

**Points**

**Part 1, 1 pt:**

Incorrect Answer	<i>It makes it true</i>	0
Incorrect Explanation	<i>Javier knows that <math>f</math> is true it's not false</i>	0

**Part 2, 1 pt:**

Incorrect Answer	<i>It makes it true</i>	0
Incorrect Explanation	<i>Javier would know that it wasn't true and get help on his math</i>	0

**Part 3, 2 pts:**

Incorrect Answer	<i><math>B</math> and <math>F</math> compare to each other</i>	0
Incorrect Explanation	<i>they are both true</i>	0

**TOTAL POINTS**

**0**

## Mathematics Item B—2009 Augmented Benchmark Grade 5

**B**

Josh purchased 4 shirts, 3 pairs of pants, and 2 ties that can be combined to create several new outfits.

1. If an outfit consists of 1 shirt, 1 pair of pants, and 1 tie, how many **different** outfit combinations can Josh choose? Show all your work and/or explain your answer.
2. On the grid provided in your answer document, draw a tree diagram or make a list showing all of the **different** outfit combinations for Part 1.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

### MATHEMATICS ITEM B SCORING RUBRIC—2009 AUGMENTED BENCHMARK GRADE 5

SCORE	DESCRIPTION
4	The student earns 4 points. The response contains no incorrect work.
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—2009 Augmented Benchmark Grade 5

### Solution and Scoring

Part	Points
<b>1</b>	<b>2 Points Possible</b>  2 points: Correct and complete procedure showing and/or explaining how to determine the answer of 24 different outfit combinations <b>OR</b> 1 point: Correct answer with partial or vague work/explanation <b>OR</b> 1 point: Correct procedure with incorrect answer
<b>2</b>	<b>2 Points Possible</b>  2 points: Correct and complete tree diagram or list showing all possible combinations <b>OR</b> 1 point: Partially complete tree diagram or list showing nearly all possible combinations <b>OR</b> 1 point: Complete/partial diagram showing possible combinations

**Mathematics Item B Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

1) You can make 24 combinations.

$(4 \times 3) \times 2 =$   
 $12 \times 2 = 24$  combinations

I multiply 4 shirts x 3 pants x 2 ties to see how many combinations there is

---

2) I did a tree diagram showing all of the different outfit combinations for part 1.

**SCORE: 4**

**Points**

**Part 1, 2 pts:**

Correct Answer	<i>You can make 24 combinations</i>	1
Correct Procedure	$(4 \times 3) \times 2 =$ $12 \times 2 = 24$ combinations	1

**Part 2, 2 pts:**

Correct Tree Diagram/List	Correct and complete tree diagram showing all possible combinations	2
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**TOTAL POINTS**

**4**

**Mathematics Item B Sample Responses and Annotations--  
2009 Augmented Benchmark Grade 5**

shirt shirt

he can make 24 different chosis

**SCORE: 3**

**Points**

**Part 1, 2 pts:**

Correct Answer	<i>he can make 24 different chosis</i>	1
Missing Procedure	No procedure is provided	0

**Part 2, 2 pts:**

Correct Tree Diagram/List	Correct and complete tree diagram showing all possible combinations (individual elements do not need to be distinguished)	2
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**TOTAL POINTS**

**3**

**Mathematics Item B Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

1 There are 24 different outfits combinations Josh can choose from.  
 $4 \times 3 \times 2 = 24$

2

A tree diagram is drawn on the grid. It starts with a central point and branches out to the left and right. The left side has 4 levels of branching, representing 4 choices for shirts. The right side has 3 levels of branching, representing 3 choices for pants. From each of these, 2 branches extend to the right, representing 2 choices for shoes. The final branches end in small circles, representing the total number of combinations.

**SCORE: 2**

**Points**

**Part 1, 2 pts:**

Correct Answer

*There are 24 different outfits combinations Josh can choose from.*

1

Correct Procedure

$4 \times 3 \times 2 = 24$

1

**Part 2, 2 pts:**

Missing Tree Diagram/List

No tree diagram or list provided

0

**TOTAL POINTS**

**2**

**Mathematics Item B Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

1. There are 18 possible combians.

2.

**SCORE: 1**

**Points**

**Part 1, 2 pts:**

Incorrect Answer	<i>There are 18 possible combians!</i>	0
Missing Procedure	No procedure or explanation provided	0

**Part 2, 2 pts:**

Partial Tree Diagram/List	Partial tree diagram with 18 or 24 combinations shown (individual elements do not need to be distinguished)	1
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**TOTAL POINTS**

**1**

**Mathematics Item B Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

1. |  
 shirts = 3 pants  
 shirts = 3 pants 2 ties  
 shirts = 3 pants 2 ties  
 shirts = 3 pants 2 ties  
 21 combinations

2. |

2

2 ties 1

shirts → pants → ties  
 shirts → pants → ties  
 shirts → pants → ties  
 shirts → pants → ties

shirts → pants → ties  
 shirts → pants → ties  
 shirts → pants → ties

shirts → pants → ties  
 shirts → pants → ties  
 shirts → pants → ties

**SCORE: 0**

**Points**

**Part 1, 2 pts:**

Incorrect Answer	21 combinations	0
Missing Procedure	No procedure is provided	0

**Part 2, 2 pts:**

Incorrect Tree Diagram/List	An incorrect tree diagram is drawn that shows pairs of two elements per branch and not combinations of 3 elements (ties should be branching off of pants or vice versa and not off of shirts directly)	0
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**TOTAL POINTS**

**0**

# **READING RESPONSES**

Read this passage about a girl who meets her new neighbor. Then answer multiple-choice questions 1 through 8 and open-response question A.

## Garden of Discovery

by Russell Roberts

“Didn’t anybody have a garden where you used to live?”

Mike shook his head. “We lived in a city in an apartment building. It’s tough to grow things in concrete.”

“I bet you’d enjoy gardening if you tried it,” I said.

“Yeah, right. Just like I’d enjoy being stuck in the desert without any water.”

I smiled. “Why don’t you try it? Work with me in my garden for a week. If you still don’t like it by then, I’ll never bring it up again.”

To my surprise he nodded. “That’s a good idea. That way we can talk about more important things for the rest of the time that we’re neighbors.”

Rather confidently, Mike strolled through the fence gate and stood watching. I knelt down in the soft earth and looked up.

“Well?” I said.

“What? Now? Get dirty?” He looked as if I had just told him to jump into a barrel of snakes.

“Yes, now. I don’t have much time.”

He sighed and knelt down beside me. “Yuck. This week can’t go fast enough for me.”

The time did indeed go fast. But by week’s end I was certain that he had changed his mind.



## Reading Passage A—2009 Augmented Benchmark Grade 5

Oh, there were some rough spots, like when he was planting peas. Instead of putting each seed in its own small hole, he made one giant hole for all the seeds.

Or the time an earthworm poked out of the ground right where Mike was digging. “Yeow! What’s that?” he cried.

“That’s an earthworm, silly,” I said, picking it up and letting it crawl over my hand. I offered to let Mike touch it, but he said, “No thanks.”

“I thought boys liked worms,” I teased.

“Don’t believe everything you hear,” he replied, suspiciously eyeing the worm.

But despite all that, I was sure that Mike had changed his mind about gardening. He no longer complained about getting dirty; in fact, he seemed to like it! Each time he planted a seed, he would say, “I hope you grow big and strong and make Jeanie and me proud of you.” Several times he was waiting impatiently by the garden when I came outside after school, saying “What took you so long?”

Before I knew it, the week was up. On the last day, Mike and I worked until the sun had set and the stars were twinkling in the sky.

“That’s it,” I said, standing up and patting the dirt off my jeans.

“Everything’s planted.”

Silently Mike rose, too. Together we looked at the neat rows of tomato, eggplant, and pepper plants that were poking out of the ground like tiny green flags, and at the orderly rows of bean and spinach seeds just waiting to burst through the earth.

“The week’s up,” I said. I smiled at Mike, confident that he was going to tell me that gardening wasn’t so bad after all.

For a moment he didn’t say anything. Suddenly he said, “Yeah, well, I’m glad that’s over. Don’t forget our deal—no more garden talk. See you.” Then he dashed into his own yard and disappeared into the house.

I stared after him in disbelief. How could I have been so wrong? I felt hurt and disappointed.

<sup>26</sup> I went to bed, but I wasn’t asleep long. Around midnight a loud crack of thunder woke me up. Outside a terrible storm was *raging*, with booming thunder, bright flashes of lightning, and rain drumming on the roof. I worried about my poor plants until the rain finally ended and I fell back asleep.

## Reading Passage A—2009 Augmented Benchmark Grade 5

The next morning I jumped out of bed and dressed quickly, eager to see how my garden had weathered the storm. I pictured broken plants, flooded rows of seeds, and a giant mud puddle where the garden had been.

“It’s about time you got here,” said a voice as I pushed open the back door.

I gasped. There was Mike, kneeling in the muddy garden, his hands black with dirt. All around him were plants carefully tied to tiny stakes, standing bruised but defiant in the early morning sunshine.

He pointed to several newly planted rows. “A lot of the seeds got flooded out and were lying on top of the ground. I replanted most of them before the birds had them for breakfast.”

“I can’t believe this,” I said. “After what you said last night . . .”

“Like I said, don’t believe everything you hear,” he said. “After all, friends help friends.”

Happily, I knelt down beside him. And although we would go on to have a great garden together for many summers, that first garden was always my favorite.

“Garden of Discovery”: From Children’s Digest, copyright © 1992 by Children’s Better Health Institute, Benjamin Franklin Literary & Medical Society, Inc., Indianapolis, Indiana. Used by Permission.

**Reading Item A—2009 Augmented Benchmark Grade 5**

**A**

Describe how Mike’s attitude about gardening changes from the beginning of the passage to the end.

Provide information from the passage to support your description.

**READING ITEM A SCORING RUBRIC—2009 AUGMENTED BENCHMARK GRADE 5**

SCORE	DESCRIPTION
4	<p>The response describes Mike’s attitude about gardening in the beginning of the passage <b>and</b> at the end and provides at least <b>one</b> accurate and relevant detail from the passage to support <b>each</b>.</p> <p style="text-align: center;"><b>OR</b></p> <p>The response explains how Mike’s attitude about gardening changes overall <b>and</b> provides <b>three</b> details from the passage to support this change.</p>
3	<p>The response describes Mike’s attitude about gardening in the beginning of the passage <b>and</b> at the end and provides <b>one</b> or more accurate and relevant detail(s) from the passage to support <b>one</b>.</p> <p style="text-align: center;"><b>OR</b></p> <p>The response explains how Mike’s attitude about gardening changes overall <b>and</b> provides <b>two</b> details from the passage to support this change.</p>
2	<p>The response describes Mike’s attitude about gardening in the beginning of the passage <b>and</b> at the <b>end</b>.</p> <p style="text-align: center;"><b>OR</b></p> <p>The response describes Mike’s attitude about gardening in the beginning of the passage <b>or</b> at the end and provides an accurate and relevant detail from the passage for support.</p> <p style="text-align: center;"><b>OR</b></p> <p>The response explains how Mike’s attitude about gardening changes overall and provides <b>one</b> detail from the passage to support this change.</p>
1	<p>The response describes Mike’s attitude about gardening in the beginning of the passage.</p> <p style="text-align: center;"><b>OR</b></p> <p>The response describes Mike’s attitude about gardening at the end of the passage.</p> <p style="text-align: center;"><b>OR</b></p> <p>The response explains how Mike’s attitude about gardening changes overall.</p> <p style="text-align: center;"><b>OR</b></p> <p>The response demonstrates minimal understanding of the question.</p>
0	The response is 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—2009 Augmented Benchmark Grade 5

### Score Point: 4

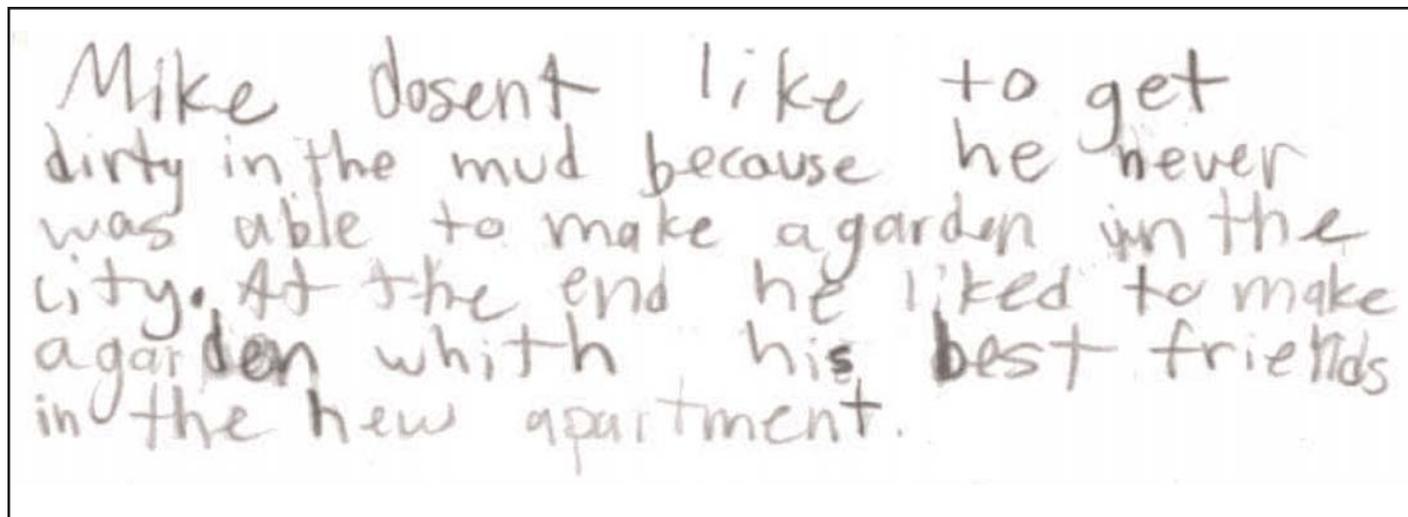
This response describes Mike's attitude about gardening in the beginning of the passage (*Mike didn't like the idea of gardening at the beginning of the passage*) and supports it with three details from the passage. 1. *He didn't know how to plant seeds* 2. *He was scared of worms* 3. *He didn't like to get all dirty*. It also describes his attitude about gardening at the end of the passage (*On the last day he admitted that he liked gardening*) and supports it with four details from the passage. 1. *He waited impatiently after school for her to get home* 2. *He didn't mind getting dirty* 3. *Started talking to the plants* 4. *The girl was worried about the plants but Mike had already replanted them*.

Mike didn't like the idea of gardening at the beginning of the passage. On the first day he didn't know how to plant seeds, he was scared of worms, and he didn't like to get all dirty. In the next couple of days he waited impatiently after school for her to get home. Then he didn't mind getting dirty and he started talking to the plants. Then one day a thunderstorm roared by and the girl was worried about the plants but Mike had already replanted them. On the last day he admitted that he liked gardening. In conclusion, that is how Mike's attitude about gardening changed from the beginning of the passage to the end.

## Reading Item A Sample Responses and Annotations—2009 Augmented Benchmark Grade 5

### Score Point: 3

This response describes Mike's attitude about gardening in the beginning of the passage (*Mike doesn't like to get dirty in the mud*) and provides a detail from the passage as support. 1. *He never was able to make a garden in the city.* It also describes his attitude at the end of the passage (*he liked to make a garden*), but does not support it with details from the passage.

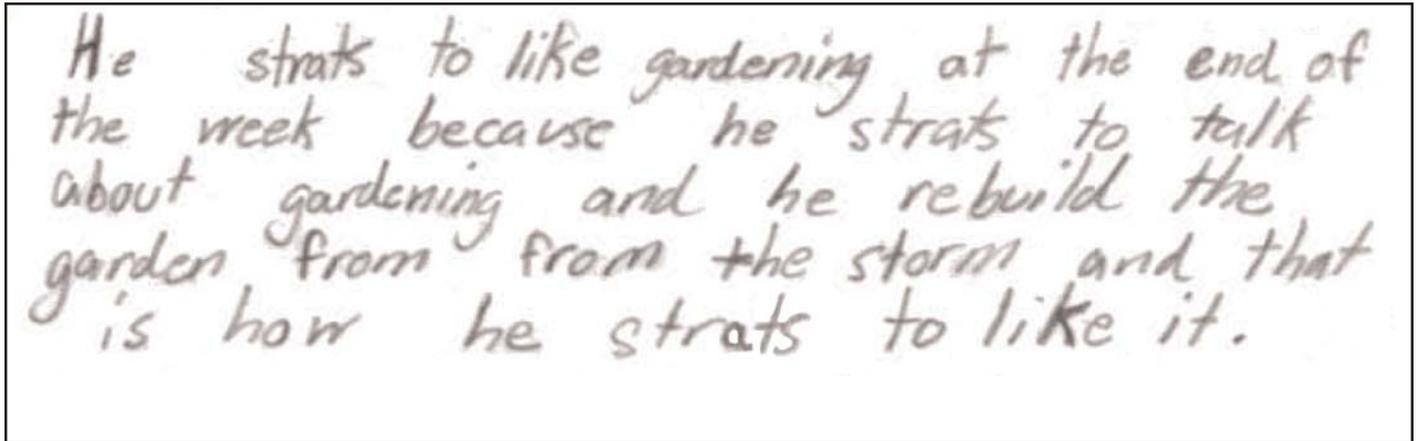


Mike doesn't like to get dirty in the mud because he never was able to make a garden in the city. At the end he liked to make a garden with his best friends in the new apartment.

## Reading Item A Sample Responses and Annotations—2009 Augmented Benchmark Grade 5

### Score Point: 2

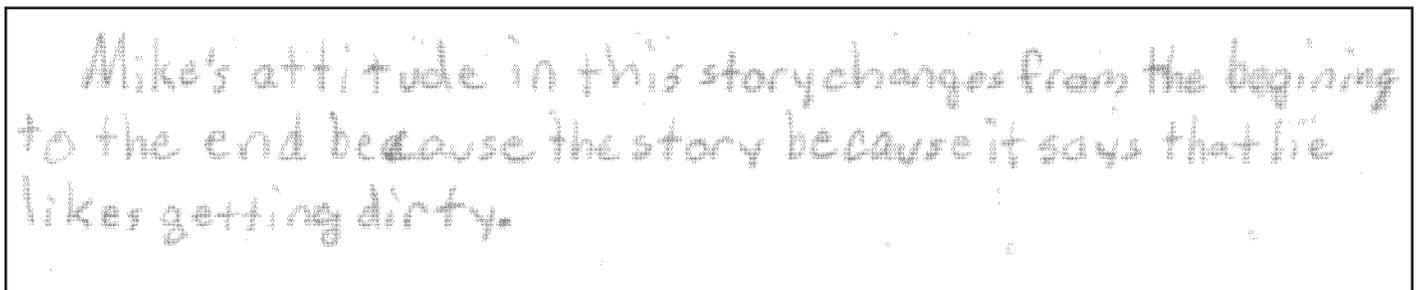
This response describes a change in Mike's attitude about gardening at the end of the passage (*He starts to like gardening at the end of the week . . . he starts to like it*) and provides a supporting detail. 1. *He rebuild the garden from the storm.* "He starts to talk about gardening" is not a supportive detail because Mike took on the week of gardening so that he and Jeanie would not talk about gardening. The text states that he starts to talk to the plants, but not that he talks about gardening.



He starts to like gardening at the end of the week because he starts to talk about gardening and he rebuild the garden from from the storm and that is how he starts to like it.

### Score Point: 1

The response describes Mike's attitude about gardening at the end of the passage (*it says that he likes getting dirty*), but fails to provide supporting details from the passage.



Mike's attitude in this story changes from the beginning to the end because the story because it says that he likes getting dirty.

**Reading Item A Sample Responses and Annotations—2009 Augmented Benchmark Grade 5**

**Score Point: 0**

This response provides an opinion about the passage, but does not clearly answer the question.

The stories about Mr. Milse and Jeanie make a  
very very good story about plants in a garden.  
I think the passage of this story is great  
about all about milse and Jeanie.

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

## Taking Care of Little Nipper

by Lisa Hart

Your eyes meet through the glass of the pet shop window, a small, furry creature with gleaming black eyes, no tail, and puffed-out cheeks. Imported into the United States for use as a lab animal, the hamster has quickly become one of the most popular, small-animal pets.

### **Home Sweet Home**

Your local pet shop will offer you cages in many different sizes and designs. A fish tank can also make a suitable home while providing a clear view of your new pet. Smooth sides make it impossible for a hamster to climb out, but a mesh lid should be used to keep anything from accidentally falling in.

Once you decide on a cage, it is time to buy some basic supplies. Choose wood chips to cover the cage floor, a water bottle, food dish, and food. Your pet will need an exercise wheel, nesting box, and bedding.

### **Choosing a Hamster**

Hamsters are nocturnal animals; they sleep during the day and are active at night. By visiting your pet shop as it is opening or just before it closes, you may find the hamsters up and about. Ask the staff when the hamsters are fed and visit at that time for the best chance of finding them awake.

Hamsters come in different sizes and colors; some have long hair. Take your time and choose the hamster you like best.

### **Taming Your Pet**

6 Taming your hamster will take time. Can you imagine how big and scary your hand must look to him? Watch your hamster for his first few days. You will know he is used to his new home when he starts sleeping in his nesting box and running in his wheel. Discover what foods are his favorites, and use these foods to gently gain your hamster's trust.

Hamsters have teeth, and they are not afraid to use them. Just like a dog growls or a cat scratches, a hamster bites, either because he is afraid or he has had enough.

If you are one of the many people who find gleaming black eyes hard to resist, remember any pet means work. Read about hamsters, and make a chart for feeding and cleaning. Visit a pet shop with a list of what you need, and find out how much things cost. A hamster can be a fun and loving pet. How happy he is depends on your care.

### **Raiding Your Kitchen Cupboards**

9 Look closely at the hamster food you bought at the pet store. Does anything look familiar? It should. Hamsters enjoy many of the same grains, nuts, fruits, and vegetables that you do. The next time you are looking for a hamster treat, look no further than your kitchen. Offer him a couple of branflakes or cornflakes. How about a piece of your apple or grape? You may not want to eat your carrots, but your hamster may consider them a *gourmet* treat. Remember to avoid foods that are salty or sticky. Remove any leftovers from the cage before they spoil.

## Munchy Crunchies

by Holly J. Miller

Just like people, hamsters enjoy eating a variety of food. Day after day of eating only rodent rations can be very boring for a busy hamster.

Mix up this easy recipe and watch your hamster's eyes light up with delight when you share it with him.

### Ingredients:

- 2 cups of unsweetened o-shaped cereal
- $\frac{1}{4}$  cup raisins
- $\frac{1}{2}$  cup dry-roasted peanuts
- $\frac{1}{4}$  cup banana chips
- $\frac{1}{4}$  cup shelled sunflower seeds

### Instructions:

Pour all the ingredients into a large bowl. Mix them together using clean hands or a large spoon. Store extras in a tightly closed zipper-lock bag or plastic container.

"Taking Care of Little Nipper" by Lisa Hart as published in Hopscotch magazine, February/March 2002, Volume 13, Issue 5. Copyright © 2002. Used by permission of Bluffton News Publishing.

"Munchy Crunchies" by Holly J. Miller used with permission of Hopscotch Magazine, February/March 2002, Vo. 13, Issue 5. All rights reserved.

## Reading Item B—2009 Augmented Benchmark Grade 5

**B**

Explain how a person can gain the trust of a hamster.

Use multiple details from the passage to support your answer.

### READING ITEM B SCORING RUBRIC—2009 AUGMENTED BENCHMARK GRADE 5

SCORE	DESCRIPTION
4	The response explains how a person can gain the trust of a hamster by providing <b>four</b> accurate and relevant details from the passage. <b>OR</b> The response provides one way to gain the trust of a hamster and three supporting details.
3	The response explains how a person can gain the trust of a hamster by providing <b>three</b> accurate and relevant details from the passage. <b>OR</b> The response provides one way to gain the trust of a hamster and two supporting details.
2	The response explains how a person can gain the trust of a hamster by providing <b>two</b> accurate and relevant details from the passage. <b>OR</b> The response provides one way to gain the trust of a hamster and one supporting detail.
1	The response explains how a person can gain the trust of a hamster by providing <b>one</b> accurate and relevant detail from the passage. <b>OR</b> The response demonstrates minimal understanding of the question.
0	The response is 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—2009 Augmented Benchmark Grade 5

### Score Point: 4

This response explains how a person can gain the trust of a hamster by providing five accurate and relevant details from the passage. 1. *The first few day watch your hamster so it can get used to its surroundings.* 2. *Figure out what food the hamster likes.* 3. *Then get that food and others.* 4. *Get them a running wheel.* 5. *Give your hamster fresh bedding everyday.* **Note:** Since the question asks how a person can gain a hamster's trust, credit can not be given for "it can get used to its surroundings" or "food veriaty" if the student does not indicate that a person has completed the action, e.g., "letting," "giving," or "getting."

A person can gain a hamster's trust by the first few day watch your hamster so it can get used to its surroundings. You need to pick a hamster by its and your personality to build trust you should take the hamster to the vet when its sick and love it when its lonely. In addition to that figure out what food the hamster likes then get that food and others Hamsters love food veriaty they love to exercise so get them a running wheel. People think hamsters are easy to take care of but they arent but if you take care of them just right they will give you trust and love. You need to give your hamster fresh bedding everyday to your trust and better health. There are so many ways to love your pet.

## Reading Item B Sample Responses and Annotations—2009 Augmented Benchmark Grade 5

### Score Point: 3

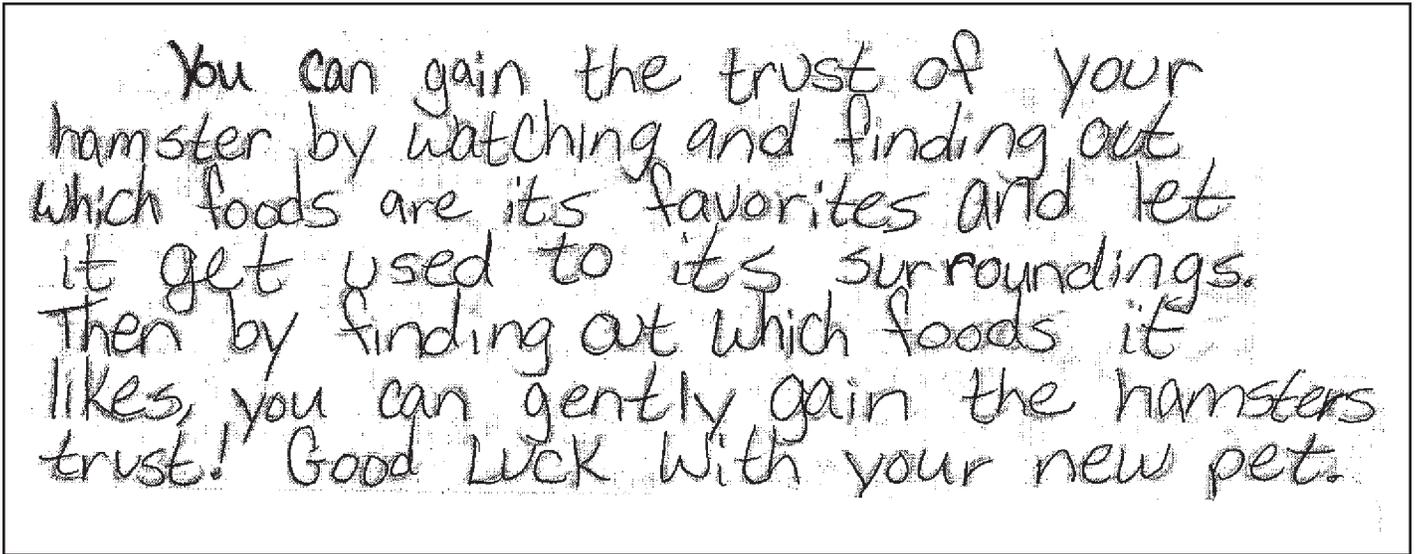
This response explains how a person can gain the trust of a hamster by providing **three** accurate and relevant details from the passage. 1. Giving the hamster its favorite food. 2. Letting it settle in before you start to play with him or her. 3. Give your hamster an exercise wheel.

A person can gain the trust of a hamster by giving the hamster its favorite food and by letting it settle in before you start to play with him or her. Also you can give your hamster an exercise wheel to let it play and get used to you and trust you.

## Reading Item B Sample Responses and Annotations—2009 Augmented Benchmark Grade 5

### Score Point: 2

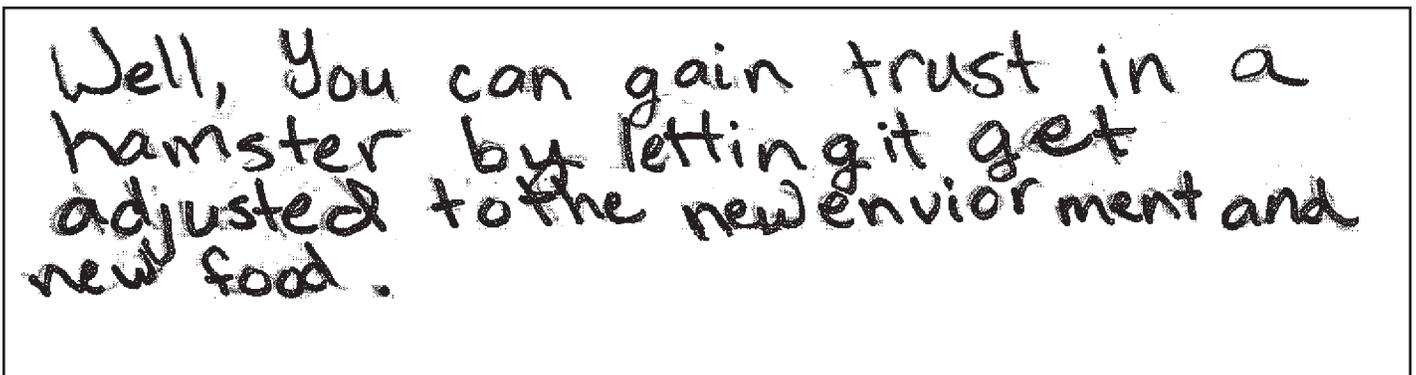
This response explains how a person can gain the trust of a hamster by providing **two** accurate and relevant details from the passage. 1. *Finding out which foods are his favorites.* 2. *Let it get used to its surroundings.* **Note:** “By watching” is too vague to receive individual credit. The response must indicate the purpose for watching is to allow the hamster to become more comfortable with his new surroundings to receive credit. “*Finding out which foods it likes*” presents the same idea as “*which foods are his favorites*”; therefore, credit is only given once.



You can gain the trust of your hamster by watching and finding out which foods are its favorites and let it get used to its surroundings. Then by finding out which foods it likes, you can gently gain the hamsters trust! Good Luck With your new pet.

### Score Point: 1

This response explains how a person can gain the trust of a hamster by providing **one** accurate and relevant detail from the passage. 1. *Letting it get adjusted to the new enviornment.* **Note:** “*And new food*” is too vague to receive individual credit. The phrase does not relate to a human action concerning the discovery of favorite foods, using or feeding these foods, or using healthy, gourmet treats that are not salty or sticky.



Well, You can gain trust in a hamster by letting it get adjusted to the new enviornment and new food.

**Reading Item B Sample Responses and Annotations—2009 Augmented Benchmark Grade 5**

**Score Point: 0**

This response is incorrect and shows no evidence that the student understands the task.

A hamster is a very good pet  
and it keeps us out of trouble and  
entertained all the time. Sometimes  
they get us in trouble.  
Hamsters are very fun to play  
with and they can be trusted  
when you have fun times.

# **WRITING RESPONSES**

## Scoring Student Responses to Writing Prompts—2009 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—2009 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—2009 Augmented Benchmark Grade 5

**C**

Your school is having a writing contest. This is the topic you must write about:

**Everyone has something that is important to him or her. What is one thing that is important to you?**

Before you begin to write, think about one thing that is important to you. It could be something you found, made, or bought or something that was given to you. What is it and **why** is it important to you?

Now write about **one** thing that is important to you. Give reasons why this is important and give enough detail so that your readers 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?

Some of my most favorite things are Star wars toys. Star wars toys and thae are one of the most popylar toys on the markit todde! And that is one of the resans I like Star wars toys and I do I have soom. I have abuote 20 or 40 Star wars but there are more then 1,000 Star wars toy!

## Writing Annotation for Sample Response 1–2009 Augmented Benchmark Grade 5

### **Content: 2**

Although this response provides a central idea, the elaboration is minimal and list like in nature (*thae are one of the most popylar toys; I have abuote 20 or 40*). Organization is somewhat random. There is inconsistent control of the Content domain.

### **Style: 2**

This response tells rather than shows. (*I like Star wars toys . . . I have soom*). There is little variety in sentences producing a dim voice. There is inconsistent control of the Style domain.

### **Sentence Formation: 3**

The response has some correct sentences, but also some awkward sentences (*Star wars toys and thae are . . . on the markit todote.*). There is reasonable control of the Sentence Formation domain.

### **Usage: 3**

The response has one inflection error (*1,000 Star wars toy*) and a wrong word (*there are more **then***). There is reasonable control of the Usage domain.

### **Mechanics: 3**

The response has some spelling errors (*Soom, favorit, thae, markit, resans, abuote*) and one capitalization error (*Star wars*). Overall, there is reasonable control of the Mechanics domain.

One of the most important things that belong to me is my dog Chico. Chico is playful, fun, and loving. I care about him more and more each day. He listens to what I have to say. He feels what I feel and I wish that he and I could always be together.

Chico loves to play football and tag. Whenever he plays it makes the game exciting. In football we get his tennis ball so it will be easier for him to run with. Let me tell you when Chico has the ball you'd better sit down or quit. There is no stopping him. Tag is another story. When we play tag with him he doesn't get tagged after, but when he does instead of running you have to roll because it'll make you seem like a ball, and in tag he doesn't chase after balls.

Chico is a loving and caring dog. That's why he's my best friend and no one can replace him. He cares more about other people more than himself. He may be a dog but he loves and cares about people and in my heart I bet he would never change that. When any of our family members got sick and my family would be there, Chico would find a way to cheer that person up. Example: Once I got this virus and I needed surgery to remove the bacteria that was growing. In the hospital before the surgery I screamed in pain so loud that my mom didn't have to get the doctor he came in. The surgeons wanted to wait for about three more hours but they moved it up. I never found out what the bacteria was, but that isn't

Point. In recovery Chico was sitting right beside me the whole time. He made himself so comfortable with me that if someone besides me would lift him up he'd hang.

Over the past seven months I've began to get closer to Chico. He is the most important dog in my life, and if anything ever happened to him, I'd go into a depression so deep that not even anti-depressants could get me out of it. That's how much I care about him. I love him way more than life itself and if anything happened to him I wouldn't let myself love anything again.

Now as you can see Chico and I are inseperable buddies. I know right now I'm taking this test and Chico is at home right down the street, but I miss him like he's 100,000 miles away.

Do you have a thing that is important to you? I told you mine, and so now it's your turn. I want to know so tell me. If you said sure than I say thanks I can't wait to read it.

## Writing Annotation for Sample Response 2—2009 Augmented Benchmark Grade 5

### **Content: 4**

This response provides a central idea (*One of the most important things that belong to me is my dog Chico*) with full elaboration (*In football we get his tennis ball so it will be easier for him to run with; When any of our family members got sick and my family would be there, Chico would find a way to cheer that person up.*), clear organization, and a presence of closure. There is consistent control of the Content domain.

### **Style: 4**

The writer engages the reader with vivid, precise vocabulary (*Whenever he plays it makes the game exciting. Virus; bacteria; surgeons; comfortable; depression; inseperable buddies*). There are a variety of sentences, smooth transitions, and a strong voice throughout the essay. There is consistent control of the Style domain.

### **Sentence Formation: 4**

Most sentences are correct and include simple, compound, and complex sentences. Some sentences are used for emphasis (*When Chico has the ball you'd better sit down or quit. There is no stopping him. Tag is another story.*). There is consistent control of the Sentence Formation domain.

### **Usage: 4**

Use of inflections, tenses, and agreement all show consistent control. There is consistent control of the Usage domain.

### **Mechanics: 4**

Minor spelling and punctuation errors do not detract. There is consistent control of the Mechanics domain.

I have a lot of things that are important to me but there is just one thing that is really important. That would be my stuffed bunny. I have had it since I was a baby and I am not going to give it away now! It is white and pink with big fluffy ears. When I was a baby I used to carry it around a lot so now it is really soft. And the reason it is really important is because when my mom was still in the hospital room my dad went to the gift shop and bought it for me. Even though I didn't even know what a bunny was then I am still glad he got it for me. And that is the most important thing to me.

## Writing Annotation for Sample Response 3–2009 Augmented Benchmark Grade 5

**Content: 3**

This response provides a central idea and some elaboration (*had it since I was a baby; It is white and pink with big fluffy ears*), but the ideas are not fully developed. There is reasonable control of the Content domain.

**Style: 3**

There is some use of precise vocabulary (*I have had it since I was a baby and I am not going to give it away now!; carry it around alot so now it is really soft; Even though I didn't even know what a bunny was then*), but it is not sustained throughout the response. There is reasonable control of the Style domain.

**Sentence Formation: 4**

Most sentences are correct and the response includes simple, compound, and complex sentences. There is consistent control of the Sentence Formation domain.

**Usage: 4**

Use of inflections, tenses, and agreement all show consistent control of the Usage domain.

**Mechanics: 4**

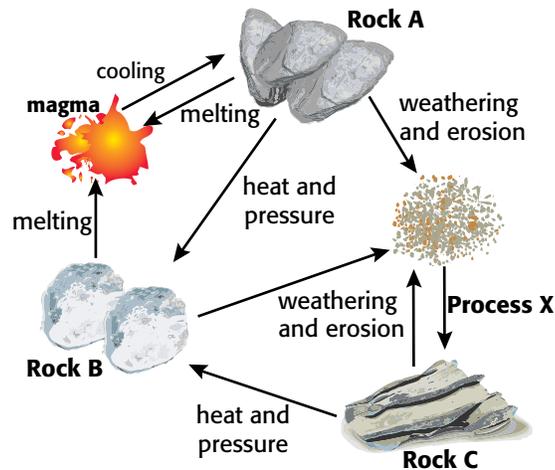
Minor spelling and punctuation errors do not detract. There is consistent control of the Mechanics domain.

# **SCIENCE RESPONSES**

## Science Item A–2009 Augmented Benchmark Grade 5

**A**

The diagram below shows some parts of the rock cycle.



1. Name the types of rock represented by Rocks A, B and C.
2. Weathering and erosion produce the starting material for Rock C. Name this material and also Process X, which converts the material to Rock C.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

### SCIENCE ITEM A SCORING RUBRIC–2009 AUGMENTED BENCHMARK GRADE 5

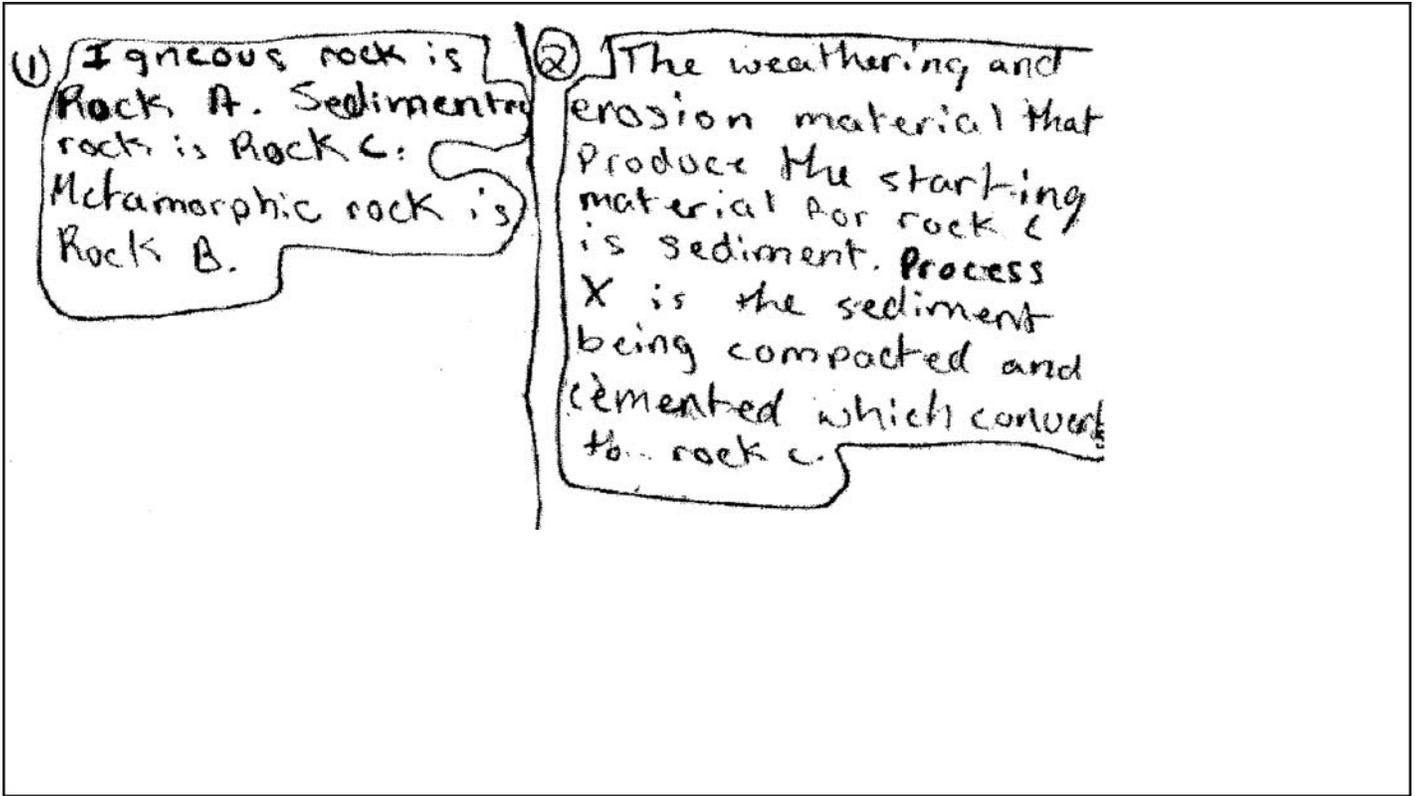
SCORE	DESCRIPTION
4	Response shows a <i>complete understanding</i> of the problem’s essential scientific concepts and procedures. The student responds to all parts of the task.
3	Response shows a <i>nearly complete understanding</i> of the problem’s essential scientific concepts and procedures. The student 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 and procedures. The student 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 and procedures. The response contains incomplete procedures and major errors.
0	Response shows <i>insufficient understanding</i> of the problem’s essential scientific concepts and procedures. 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.

## Science Item A Solution and Scoring—2009 Augmented Benchmark Grade 5

### Solution and Scoring

Part	Points
<b>1</b>	<b>2 Points Possible</b>  2 points: Correctly names all three types of rock and associates the names with the appropriate rocks from the diagram  1 point: Correctly names one or two types of rock and associates the name(s) with the appropriate rock(s) from the diagram
<b>2</b>	<b>2 Points Possible</b>  1 point: Identifies sediment, pieces of weathered rock, sand, gravel, or other synonyms for sediment  1 point: Identifies compaction, cementation, pressed together, or other synonyms for bonding of sediments into rock

**Science Item A Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**



**SCORE: 4**

**Points**

**Part 1, 2 pts:**

Correctly associates all **THREE** rock type names with the appropriate rocks from the diagram

2

*Igneous rock is Rock A. Sedimentary rock is Rock C. Metamorphic rock is Rock B.*

**Part 2, 2 pts:**

Correctly identifies the starting material for Rock C as sediment, pieces of weathered rock, sand, or other synonyms for sediment

1

*... sediment.*

Correctly identifies Process X as compaction, cementation, pressed together, or other synonyms for the bonding of sediments into rock

1

*Process X is the sediment being compacted and cemented which convert to rock C.*

**TOTAL POINTS**

4

**Science Item A Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

1. A - metamorphic  
B - igneous  
C - sedimentary

---

2. starting material - sediments  
process X - pressure

**SCORE: 3**

**Points**

**Part 1, 2 pts:**

**Correctly associates ONE or TWO of the rock type names with the appropriate rocks from the diagram** 1

*A-metamorphic*

*B-igneous*

*C-sedimentary*

This response has only *c-sedimentary* associated with the correct type of rock.

**Part 2, 2 pts:**

**Correctly identifies the starting material for Rock C as sediment, pieces of weathered rock, sand, or other synonyms for sediment** 1

*Starting material - sediments*

**Correctly identifies Process X as compaction, cementation, pressed together, or other synonyms for the bonding of sediments into rock** 1

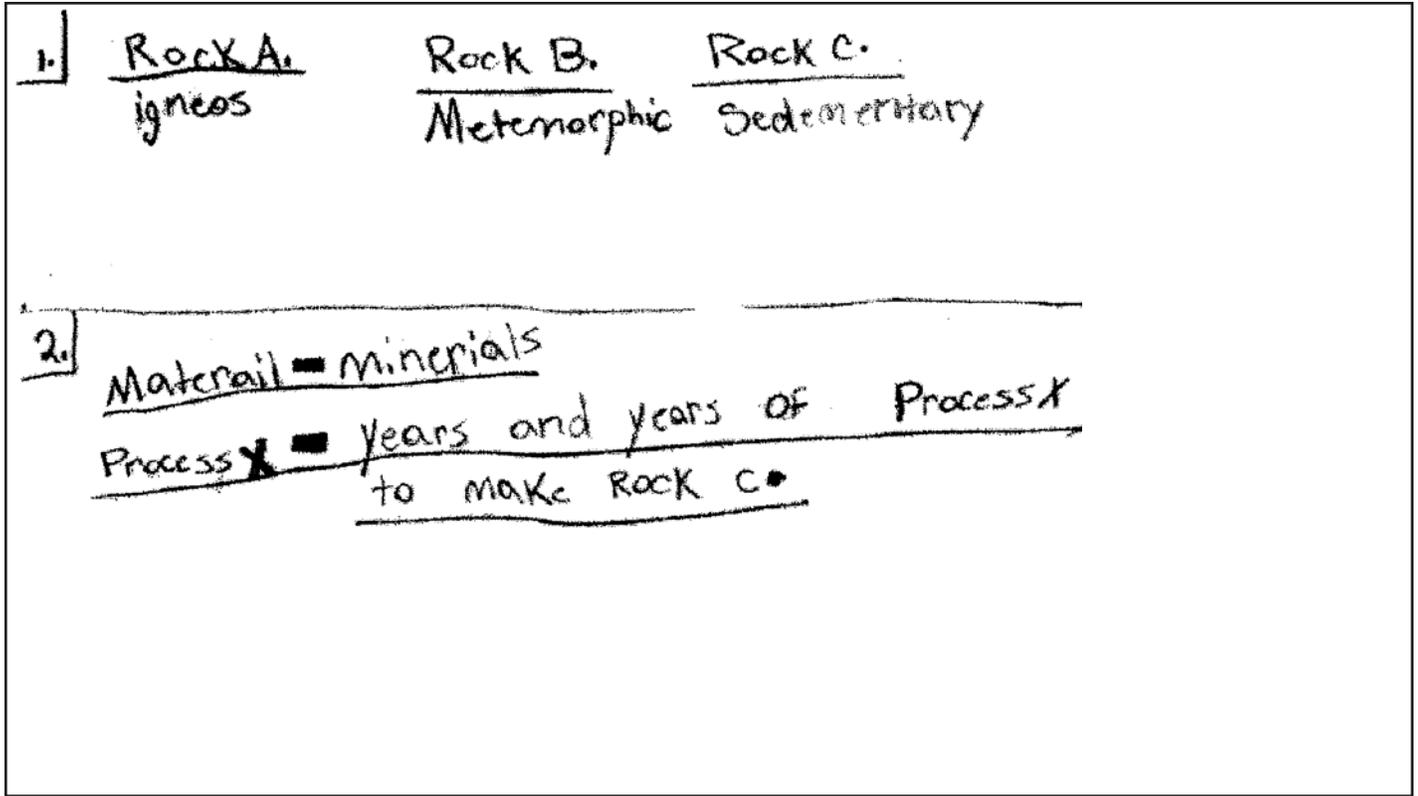
*process X - pressure*

The use of the word *pressure* by itself receives credit for Process X. If the words *heat and pressure* are used together, the response receives no credit for Process X as those two words are associated with metamorphic rock formation as detailed in the diagram in the prompt.

**TOTAL POINTS**

**3**

**Science Item A Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**



**SCORE: 2**

**Points**

**Part 1, 2 pts:**

**Correctly associates all THREE rock type names with the appropriate rocks from the diagram**

2

Rock A.

igneous

Rock B.

Metamorphic

Rock C.

Sedimentary

**Part 2, 2 pts:**

**Does not identify the starting material for Rock C as sediment, pieces of weathered rock, sand, or other synonyms for sediment**

0

Material – minerals

Minerals are naturally occurring, inorganic solids with unique chemical compositions. Rocks are composed of minerals and individual mineral grains will frequently be found in sediments, but the word “minerals” is not a synonym of sediments.

**Does not identify Process X as compaction, cementation, pressed together, or other synonyms for the bonding of sediments into rock**

0

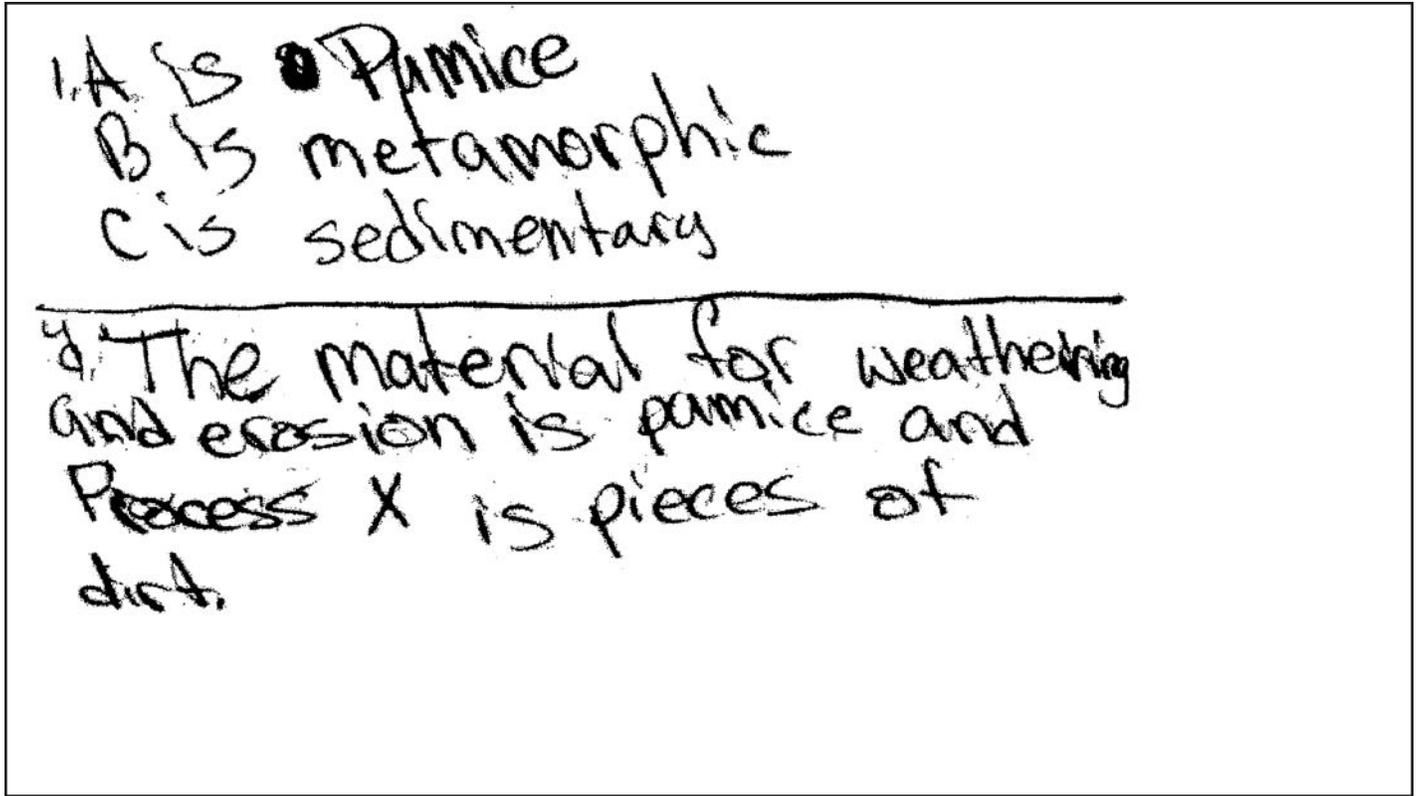
Years and years of Process X to make Rock C.

The response demonstrates no understanding of Process X.

**TOTAL POINTS**

2

Science Item A Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5



SCORE: 1

Points

Part 1, 2 pts:

Correctly associates ONE or TWO of the rock type names with the appropriate rocks from the diagram 1

*A is Pumice*

*B is metamorphic*

*C is sedimentary*

Rock A is mis-identified as *pumice* instead of igneous

Part 2, 2 pts:

Does not identify the starting material for Rock C as sediment, pieces of weathered rock, sand, or other synonyms for sediment 0

*The material for weathering and erosion is pumice*

*pumice . . . is an igneous rock consisting of volcanic ash and not a synonym for sediment.*

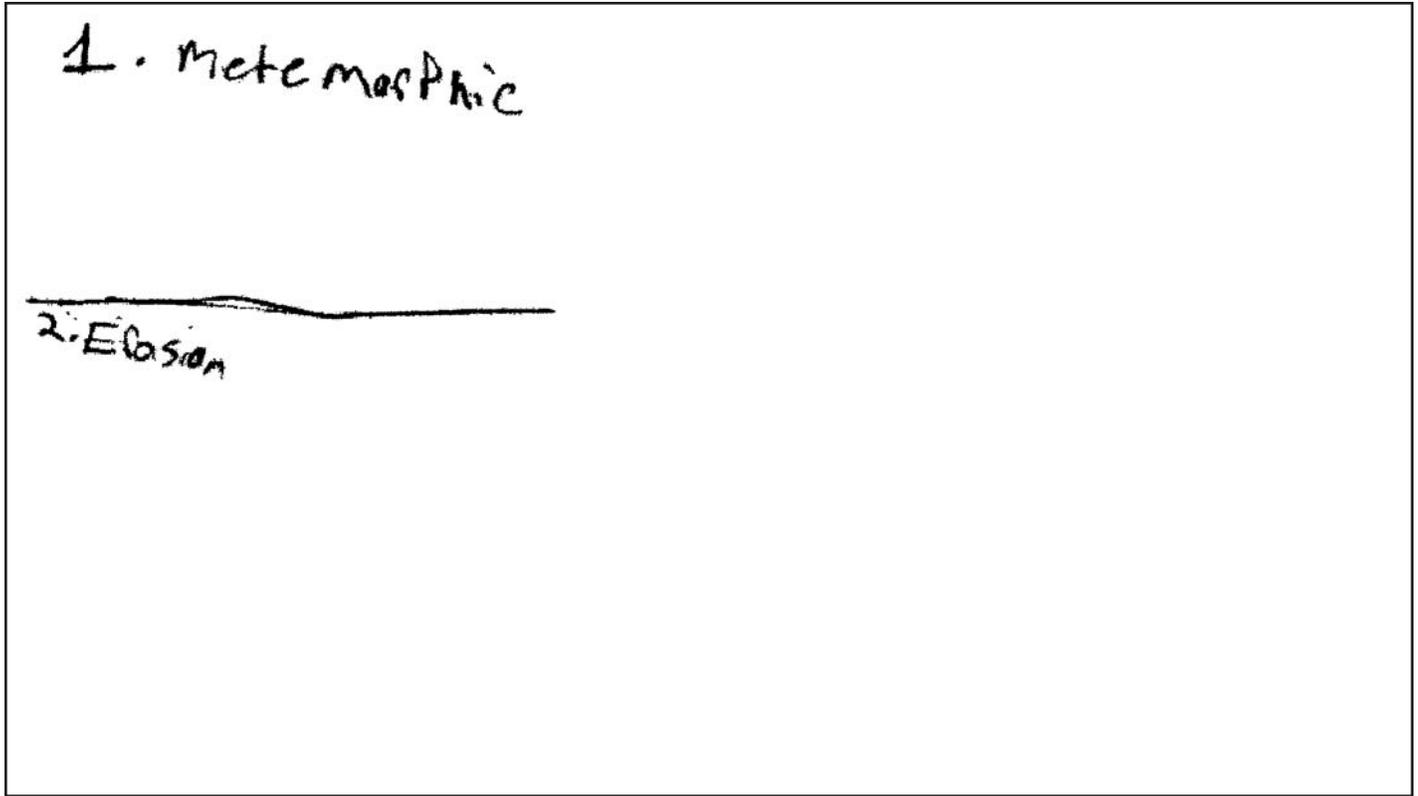
Does not identify Process X as compaction, cementation, pressed together, or other synonyms for the bonding of sediments into rock 0

The response *Process X is pieces of dirt* demonstrates no understanding of Process X.

TOTAL POINTS

1

**Science Item A Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**



**SCORE: 0**

**Points**

**Part 1, 2 pts:**

**Does not correctly associate ANY of the types of rock with the appropriate rocks from the diagram** 0

*Metamorphic*

This response fails to associate any of the named rocks with the appropriate rock on the diagram. Naming only one rock type is not enough to show minimal understanding.

**Part 2, 2 pts:**

**Does not identify the starting material for Rock C as sediment, pieces of weathered rock, sand, or other synonyms for sediment** 0

The response does not identify the starting material. Only the word *erosion* is given as a response for all of part 2.

**Does not identify Process X as compaction, cementation, pressed together, or other synonyms for the bonding of sediments into rock** 0

The response demonstrates no understanding of Process X.

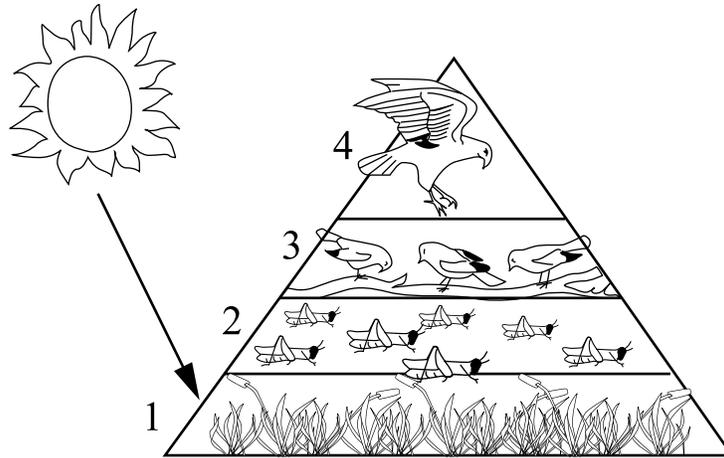
**TOTAL POINTS**

**0**

Science Item B–2009 Augmented Benchmark Grade 5

**B**

The diagram below represents an energy pyramid.



1. Which level of the pyramid contains the **most** energy? Explain your answer.
2. Explain how the Sun’s energy is transferred to carnivores. Use the organisms in the pyramid in your response.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

**SCIENCE ITEM B SCORING RUBRIC–2009 AUGMENTED BENCHMARK GRADE 5**

SCORE	DESCRIPTION
4	Response shows a <i>complete understanding</i> of the problem’s essential scientific concepts and procedures. The student responds to all parts of the task.
3	Response shows a <i>nearly complete understanding</i> of the problem’s essential scientific concepts and procedures. The student 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 and procedures. The student 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 and procedures. The response contains incomplete procedures and major errors.
0	Response shows <i>insufficient understanding</i> of the problem’s essential scientific concepts and procedures. 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.

## Science Item B Solution and Scoring—2009 Augmented Benchmark Grade 5

### Solution and Scoring

Part	Points
<b>1</b>	<b>2 Points Possible</b>  1 point: Names level one as containing the most energy  1 point: Explains why level one has the most energy
<b>2</b>	<b>2 Points Possible</b>  2 points: Complete explanation about how energy is transferred  1 point: Partial explanation about how energy is transferred

**Science Item B Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

1/ The level of pyramid that contains the most energy is probably the grass, because there is more grass, and the grass gets the energy first and it comes straight from the sun. The bottom of a pyramid has the most, and the farther you go up the less there is.

2/ The sun's energy is transferred to carnivores by grass. The sun gives energy to the grass, then the grass gives it to the animals who eat grass, then it goes to to the animals who eats bugs and crickets, and then it's transferred to the carnivores by the sun, grass, then bugs, and then to bug eaters. Carnivores get energy from the other animals that ate their energy. Then when a carnivore finds his prey, that animal had is energy that come from his food.

**SCORE: 4**

**Points**

**Part 1, 2 pts:**

Correctly states that *the grass* contains the most energy and explains why Level 1 (grass) has 2 the most energy *the grass gets the energy first . . . from the Sun.*

**Part 2, 2 pts:**

Gives a complete explanation of how energy is transferred up the pyramid. 2

*The sun gives energy to the grass . . . then it's transferred to the carnivars by the sun, grass, then bugs, and then to bug eaters.*

**Note:** Since the drawing does not name the organisms in the pyramid, it is not necessary for the response to contain made up names. The levels may be referred to by the number in the drawing, by a word description, by a made up name, or any other logical method.

**TOTAL POINTS**

**4**

**Science Item B Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

<p style="text-align: center;">1</p> <p>Level one because the sun and the grass have the most energy.</p>	<p style="text-align: center;">2</p> <p>Because the sun grows the grass with grasshoppers eat. Then small birds eat the grasshoppers and the large birds like the hawk eat the small birds.</p>
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**SCORE: 3**

**Points**

**Part 1, 2 pts:**

Correctly states *level one* has the most energy, but does not give a valid explanation of why Level 1 (grass) has the most energy nor mentions that plants get their energy from the Sun, only that *the Sun and grass have the most energy* without connecting the Sun's energy to the grasses' energy. 1

**Part 2, 2 pts:**

Correctly though briefly describes a complete transfer of energy up the pyramid. 2  
... *grass with grasshoppers eat. Then small birds eat the grasshoppers and the large birds like the hawk eat the small birds.*

**Note:** It is not necessary to reference both levels of carnivores in part 2 as long as the list ends at a carnivore.

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**TOTAL POINTS**

3

**Science Item B Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

① Level 1 is where most energy is contained. It has the most energy because its where energy is produced and starts at.

② First, a producer is eaten by a consumer, then the consumer gets some energy and some is lost. Then a carnivore eats the consumer, the carnivore gets some energy and some is lost. That's how energy is transferred to carnivores.

**SCORE: 2**

**Points**

**Part 1, 2 pts:**

Correctly states *level 1*, but gives an incorrect explanation of why Level 1 (grass) has the most energy. The student implies that plants produce energy. . . *It has the most energy because its where energy is produced and starts at.* 1

**Part 2, 2 pts:**

Gives a partial explanation of how energy is transferred up the energy pyramid . . . *producer is eaten by a consumer. Then carnivore eats the consumer.* The response never mentions the Sun's energy being used by the producer (grass), so part 2 of the response cannot reach the 2 point level. The student leaves out one of the carnivore levels of the pyramid, but this does not detract from the understanding as it is not necessary to reference both levels of carnivores in part 2 as long as the energy transfer ends with a carnivore. Also, it is not necessary to make up names for the organisms shown in the pyramid. 1

**TOTAL POINTS**

**2**

**Science Item B Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

1. The first level has more energy because there is more there than any other, Also, the Sun is giving off energy too.

2. The Sun's energy helps carnivores get more energy because of the heat that's giving off to the carnivores.

**SCORE: 1**

**Points**

**Part 1, 2 pts:**

Correctly states *The first level* but gives an incorrect explanation of why Level 1 (grass) has the most energy . . . *the Sun is giving off energy too* doesn't have the Sun's energy getting to Level 1. 1

**Part 2, 2 pts:**

Gives an incorrect explanation of how the energy is transferred up the pyramid because of the heat that is given off to carnivores. 0

**TOTAL POINTS**

**1**

**Science Item B Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

① The 4 Level of the Pyramid has the most Energy because it eats the 3 level which eats the 2 level which also eats the 1 level and plus it's the biggest animal out of all those levels

② The Sun's energy is transferred to carnivores because a carnivore eats it and it becomes in the carnivore's body. That's how the Sun's energy is transferred to a carnivore.

**SCORE: 0**

**Points**

Part 1, 2 pts:

Incorrectly states *level 4* contains the most energy and doesn't explain why Level 1 (grass) has the most energy 0

Part 2, 2 pts:

Gives an incorrect explanation of how the energy is transferred up the pyramid in which it is implied that the carnivore eats energy. 0

*The Sun's energy is transferred to carnivores because a carnivore eats it . . .*

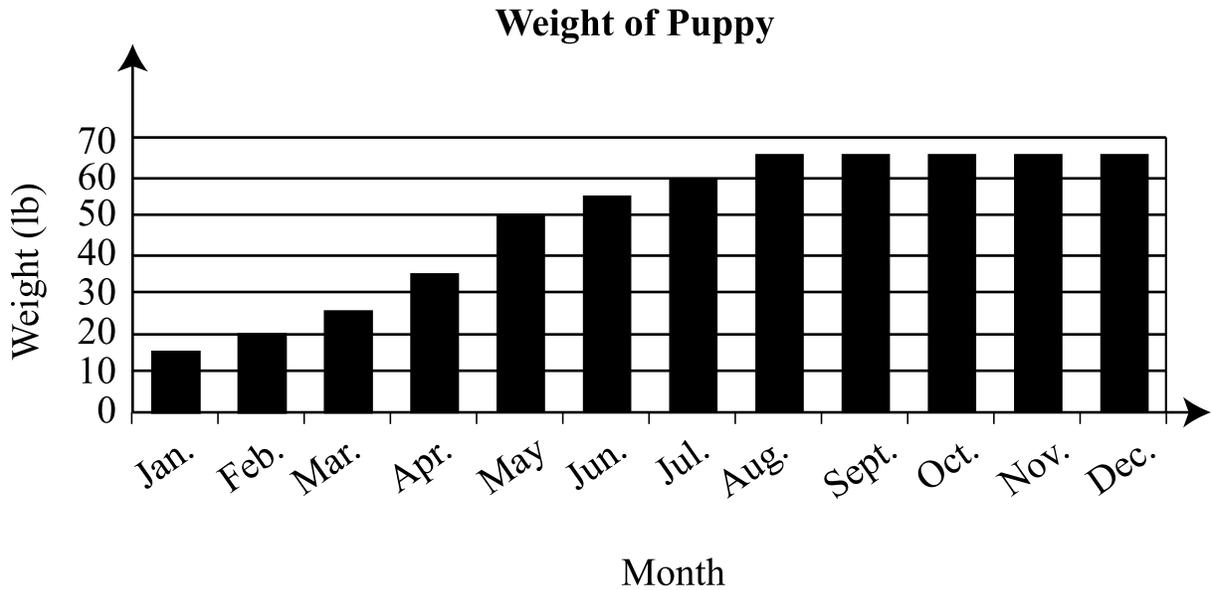
**TOTAL POINTS**

**0**

Science Item C–2009 Augmented Benchmark Grade 5

C

A veterinarian is monitoring the weight of a puppy. The puppy was weighed on the last day of every month, as shown in the bar graph below.



1. During which month did the puppy gain the **most** weight? Explain your answer.
2. Based on the graph, what is the puppy's maximum weight? Explain your answer.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

**SCIENCE ITEM C SCORING RUBRIC–2009 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.

## Science Item C Solution and Scoring—2009 Augmented Benchmark Grade 5

### Solution and Scoring

Part	Points
<b>1</b>	<b>2 Points Possible</b> 1 point: Correct answer of May 1 point: Correct explanation to support answer, plus or minus 2 pounds
<b>2</b>	<b>2 Points Possible</b> 1 point: Correct answer of 65 pounds, plus or minus 2 pounds (63–67) 1 point: Correct explanation to support the answer

**Science Item C Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

1. May. Because the puppy gained 15 pounds in May and in the other months it gained 10 pounds or less.
2. 65 pounds. Because from August-December the weight stayed on 65 pounds.

**SCORE: 4**

**Points**

**Part 1, 2 pts:**

**Correctly selects May and states that the puppy gained 15 pounds then further concludes in** 2  
*the other months it gained 10 pounds or less.*

**Part 2, 2 pts:**

**Correctly states 65 pounds and correctly explains** 2  
*Because from August – December the weight stayed on 65 pounds.*

**TOTAL POINTS**

**4**

**Note: It is not necessary to compare the weight gain of 15 pounds in May to the other months for full credit.**

**Science Item C Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

① During April to May the puppy gained the most weight because it gained 15 lbs, and that is more than any of the other months.

② The puppies maximum weight is 65 lbs because it stayed at 65 lbs during the last 5 months of the year.

**SCORE: 3**

**Points**

**Part 1, 2 pts:**

Does not clearly select May which is the only correct answer, but rather *April to May*. This is incorrect or inexact but might show some understanding. In this case credit is awarded for it gained 15 lbs.

1

**Part 2, 2 pts:**

Correctly states 65 pounds and correctly explains  
*Because it stayed at 65 lbs during the last 5 months of the year.*

2

**TOTAL POINTS**

3

**Note:** While no credit is awarded for selecting a combination of April and May that is not exact, credit is allowed for selecting May if in fact the words actually mean May. An example of a correct April/May response would be *from the end of April to the end of May*.

**Science Item C Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

- ① It gained the most on Aug, Sept, Oct, Nov, Dec, because that is only how much it can grow.
- ② Its maximum is 65 pounds because the black bar is at 65 pounds all through these months Aug-Dec. And it never went up one bit.

**SCORE: 2**

**Points**

**Part 1, 2 pts:**

**Incorrectly states** *It gained the most on Aug. Sept. Oct. Nov. Dec.* **then gives an incorrect explanation for support** *because that is only how much it can grow.* 0

**Part 2, 2 pts:**

**Correctly states** *65 pounds* **and correctly explains** *because the black bar is at 65 pounds all through these month's Aug – Dec.* 2

**TOTAL POINTS**

**2**

Science Item C Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5

1. During April and May. Because the PUPPY gain 15 pounds (lb's)

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2. The puppies Max weight was 70 pounds (lb's)

SCORE: 1

Points

Part 1, 2 pts:

Incorrectly selects *During April and May* then correctly explains because the puppy gain 15 pounds (lb's) 1

Part 2, 2 pts:

Incorrectly states that *The puppies max weight was 70 pounds (lb's)*, rather than 65 pounds (plus or minus 2 pounds). 0

TOTAL POINTS

1

**Science Item C Sample Responses and Annotations—  
2009 Augmented Benchmark Grade 5**

1. The puppy gained the most weight in December because it keep going on the same weight 3 months in a row.

2. Based on the graph the puppy's maximum weight is 70 pounds because that is the biggest weigh the graph had shown.

**SCORE: 0**

**Points**

**Part 1, 2 pts:**

**Incorrectly states the puppy gained the most weight in *December* with an incorrect explanation.**

**0**

**Part 2, 2 pts:**

**Incorrectly states that *the puppy's maximum weight was 70 pounds*, rather than 65 pounds, with an incorrect explanation.**

**0**

**TOTAL POINTS**

**0**





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