



Arkansas Comprehensive Testing, Assessment, and Accountability Program

# TEACHER HANDBOOK

## AUGMENTED BENCHMARK EXAMINATION GRADE 5

### APRIL 2014 ADMINISTRATION

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**Arkansas Department of Education**

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The Arkansas Comprehensive Testing, Assessment, and Accountability Program (ACTAAP) includes an Augmented Benchmark Examination for fifth-grade students. It consists of multiple-choice and open-response items that directly assess student knowledge relative to science, math, reading, and writing. The Arkansas Curriculum Frameworks are the basis for development of the Augmented Benchmark Examinations.

In April 2014, fifth-grade students participated in the *Grade 5 Augmented Benchmark Examination*. Results of this examination will be provided to all students, schools, and districts to be used as the basis for instructional change.

This handbook provides information about the scoring of student responses to two open-response items in science, three open-response items in math, two open-response items in reading, and to one 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 *Grade 5 Augmented Benchmark Examination* is available through the Arkansas Department of Education. Questions can be addressed to the Office of Student Assessment at 501-682-4558.

The multiple-choice and open-response test items for the Reading, Writing, Math, and Science components of the *Grade 5 Augmented Benchmark Examination* are developed with the assistance and approval of Content Advisory Committees. All passages and items on the *Grade 5 Augmented Benchmark Examination* are based on the Arkansas Curriculum Frameworks and developed with the assistance and approval of Content Advisory Committees and Bias Review Committees. These committees comprise active Arkansas educators with expertise in science, math, English, and/or language arts education.

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. Qualified readers for Arkansas scoring will be those with a four-year college degree in science, math, English, language arts, education, 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 writing prompt, the science open-response item, the math open-response item, or the reading passage and its 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 scoring responses must score in exact agreement on at least 80% of the responses, and each reader scoring writing responses must score in exact agreement with 70% of the responses in each domain. Readers who do not score within the required rate of agreement are not allowed to score the *Grade 5 Augmented Benchmark Examination* 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 the Scoring Director 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 Procedures**

All student responses to the *Grade 5 Augmented Benchmark Examination* 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 science open-response items, the math open-response items, reading passages with their open-response items, and a writing prompt 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 follows. 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 *Grade 5 Augmented Benchmark Examination*.

# **READING RESPONSES**

## Do-It-Yourself Recipe

### ICE CREAM

by Joey Green

#### WHAT YOU NEED

*From the supermarket:*

- 1 quart cream
- $\frac{3}{4}$  cup sugar
- $\frac{1}{8}$  teaspoon salt
- $\frac{1}{2}$  teaspoon vanilla extract
- 1 small, clean, empty coffee can (net weight 13-ounce) with lid
- 1 large, clean, empty coffee can (net weight 39-ounce) with lid
- Rock salt

*From the hardware store or drugstore:*

- Electrical tape

*From the kitchen:*

- Mixing bowl
- Measuring cup
- Whisk
- Ice

#### WHAT TO DO

Heat one cup cream (without boiling) and add sugar and salt, stirring until dissolved. Add the vanilla extract. Chill. Then add three cups cream and mix well with a whisk.

Pour the mixture into the small, clean coffee can. Secure the plastic lid



in place and use the electrical tape to make the lid watertight.

Place the small coffee can into the large coffee can. Fill the rest of the large can with ice up to the top of the small can. Fill the rest of the space with rock salt. Secure the plastic lid in place and use the electrical tape to make the lid watertight.

Take the can outside and roll it across the lawn or patio for fifteen minutes. Bring the can back inside, peel the tape from the lid of the large can, pour out the melted ice and salt, and refill with fresh ice and fresh salt. Secure the lid in place again, and roll the can outside for another fifteen minutes.

Bring the can back inside, peel off the tape from the larger can, pour out the melted ice and salt, and wash off the smaller can with tap water from the sink. Dry the can.

Store in the freezer for twelve hours. Peel off the tape from the smaller can, remove the lid, and scoop the contents into bowls.

### STRANGE FACTS

- Mixing ice with salt in the compartment around the small can creates freezing temperatures, causing the mixture inside the small can to freeze. Rolling the large can causes the smaller can to roll around in the ice. As the smaller can rolls, air bubbles are whipped into the ice cream, increasing the volume of the mix.
- No one knows when ice cream was first invented or who invented it. In the late 1500s, Europeans used ice and snow to freeze mixtures of cream, fruit, and spices.
- Almost all ice cream was made at home until 1851, when Baltimore milk dealer Jacob Fussell established the first ice-cream factory.
- The edible ice-cream cone, invented by Italo Marchiony of Hoboken, New Jersey, was first served at the 1904 World's Fair in St. Louis, Missouri.
- The most popular flavor of ice cream in the United States is vanilla, accounting for approximately one-third of all the ice cream sold in the country. The second most popular flavor is chocolate, followed by strawberry.
- The United States produces more than one billion gallons of ice cream, ice milk, sherbet, and water ice every year.
- Approximately ten percent of all the milk produced in the United States is used to make ice cream and other frozen desserts.
- Americans eat more ice cream than do the people of any other nation in the world.
- The average American eats roughly 14.5 quarts of ice cream in a year.
- On July 24, 1988, Palm Dairies Ltd. of Alberta, Canada, created the world's largest ice-cream sundae—made from 44,689 pounds, 8 ounces of ice cream, 9,688 pounds, 2 ounces of syrup, and 537 pounds, 3 ounces of topping.

**A** Ice cream is very popular in the United States. Identify at least four facts from the passage that support this conclusion.

<b>Reading Item A Scoring Rubric—2014 Grade 5</b>
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Score	Description
4	The response identifies at least four facts from the passage that support the idea that ice cream is very popular in the United States.
3	The response identifies three facts from the passage that support the idea that ice cream is very popular in the United States.
2	The response identifies two facts from the passage that support the idea that ice cream is very popular in the United States.
1	<p>The response identifies one fact from the passage that supports the idea that ice cream is very popular in the United States.</p> <p style="text-align: center;"><b>OR</b></p> <p>The response demonstrates minimal understanding of the question.</p>
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>B</b>	Blank—No response. A score of “B” will be reported as “NA.” (No attempt to answer the item. Score of “0” is assigned for the item.)

## SCORE POINT: 4

The response identifies more than four facts that support the conclusion that ice cream is very popular in the United States (“The United States produces more than one billion gallons of ice cream, ice milk, sherbert, and water ice every year,” “Americans eat more ice cream than any other nations,” “The average American roughly eats 14.5 quarts of ice cream each year,” “Approximately ten percent of milk produced goes to ice cream and other frozen desserts,” “In the United States favriot flavor is vanilla. One third of ice cream sold is vanilla. The second most popular is chocolate. The third favriot is strawberry,” “The first ice cream cone was first served in 1904 at the Worlds Fair in St. Louis, Missouri,” and “Jacob Fussel established the first ice-cream factory in 1851”). The response demonstrates a thorough understanding of the task.

1. The United States produces more than one billion gallons of ice cream, ice milk, sherbert, and water ice every year. 2. Americans eat more ice cream than any other nations. 3. The average American roughly eats 14.5 quarts of ice cream each year. 4. Approximately ten percent of milk produced goes to ice cream and other frozen desserts. 5. In the United States favriot flavor is vanilla. 6. One third of ice cream sold is vanilla. 7. The second most popular is chocolate. 8. The third favriot is strawberry. 9. The first ice cream cone was first server in 1904 at the Worlds Fair in St. Louis, Missouri. 10. No one knows who invented ice-cream. 11. Jacob Fussel established the first ice-cream factory in 1851.

**SCORE POINT: 3**

The response identifies three facts that support the conclusion that ice cream is very popular in the United States (“the U.S. produces more than one billion gallons of ice cream, ice milk, sherbet, and water ice every year,” “approximately ten percent of all the milk produced in the U.S. is used to make ice cream and other desserts,” “americans eat roughly 14.5 quarts of ice cream a year”). The response shows evidence of a general, but not a comprehensive, understanding of the task.

Icecream is very popular in the U.S. And here are some facts about it.

One fact is that the U.S. produces more than one billion gallons of icecream, ice milk, sherbet, and water ice every year.

Another is that approximately ten percent of all the milk produced in the U.S. is used to make ice cream and other desserts.

Lastly, americans eat roughly 14.5 quarts of ice cream a year.

Those were some facts about icecream.

**SCORE POINT: 2**

The response identifies two facts that support the conclusion that ice cream is very popular in the United States (“The United States produce more than one billion gallons of ice cream ice milk, sherbet, and water ice every year” and “Almost all ice cream was made at home until 1851, when Baltimore milk dealer Jacob fussel established the first ice-cream factory”). The response also contains two incorrect facts (“New Jersey was first served at the 1904 world’s fair in St. Louis, missouri” and “on July 24, 1988, palm Dairies Ltd. Of Alberta, Canada, created the world’s largest ice-cream sundae”). The response shows evidence of only a basic understanding of the task.

New Jersey was first served at the 1904 world's fair in St. Louis, Missouri. On July 24, 1988, Palm Dairies Ltd. of Alberta, Canada, created the world's largest ice-cream sundae. The United States produce more than one billion gallons of ice cream ice milk, sherbet, and water ice every year. Almost all ice cream was made at home until 1851, when Baltimore milk dealer Jacob fussel established the first ice-cream factory.

**SCORE POINT: 1**

The response identifies one fact that supports the conclusion that ice cream is very popular in the United States (“the average american eats roughly 14.5 quarts of Ice cream each year”). The response provides evidence of minimal understanding.

the average american eats roughly 14.5 quarts  
of Ice cream each year  
American eats

**SCORE POINT: 0**

There is no evidence that the student understands the task. The response is irrelevant.

Four facts are putting salt and ice in the  
big can, rolling can on padia, freezing ice cream,  
and put electrical tape on it to keep it water  
tight.

## Helen Keller's Teacher

by William J. Bennett

*Some of the luckiest boys and girls are the ones who have teachers as heroes.*

Helen Keller was not like most little girls. She could not see the flowers blooming in her yard, or the butterflies floating from blossom to blossom, or the white clouds drifting in the high, blue sky. She could not hear the birds singing in the treetops outside her window, or the laughing and singing of other children at play. Little Helen was blind and deaf.

2 And because she could not hear people talking, Helen had never learned to speak. She could clutch her mother's dress and follow her around the house, but she did not know how to say to her, "I love you." She could climb into her father's lap, but she could not ask him, "Will you read me a story?" She lived in a dark, quiet world, where she felt all alone.

One afternoon when she was almost seven years old, Helen stood on her porch. She could feel a warm glow on her face, but she did not know it came from the sun. She smelled the sweetness of the honeysuckle vine growing beside her house, but she did not know what it was.

Suddenly Helen felt two arms wrap around her and hold her close. She knew at once it was not her mother or her father. At first she kicked and scratched and hit, trying to drive this stranger away. But then she began to wonder who it might be. She reached out and felt the stranger's face, then her dress, and then the big suitcase she carried with her.

How was Helen to understand that this young woman was Annie Sullivan, who had come to live with Helen and be her teacher?

Annie had brought a present. She gave Helen a doll. Then she put her fingers against Helen's hand, and made signs that Helen could feel. Annie slowly spelled D-O-L-L with her fingers. Helen felt Annie's fingers moving, but she did not know what this woman was trying to tell her. She did not understand that each of these finger signs was a letter, and that the letters spelled the word *doll*. She pushed Annie away.

The new teacher did not give up. She gave Helen a piece of cake, and spelled the word C-A-K-E against her hand. Helen made the signs with her own fingers, but still she did not understand what they meant.

Over the next days and weeks, Annie put many different things into Helen’s hands, and spelled out the words. She tried to teach her words like *pin*, and *hat*, and *cup*. To Helen it all seemed very odd. She grew tired of this strange woman always taking her hand. Sometimes she grew angry with Annie, and began striking out at the darkness around her. She kicked and scratched. She screamed and growled. She broke plates and lamps.

Sometimes Annie wondered if she would ever be able to help little Helen break out of her lonely world of darkness and silence. But she promised herself she would not give up.

Then one morning Helen and Annie were walking outside when they passed an old well. Annie took Helen’s hand and held it under the spout while she pumped. As the cold water rushed forth, Annie spelled W-A-T-E-R.

Helen stood still. In one hand she felt the cool, gushing water. In the other hand she felt Annie’s fingers, making the signs over and over again. Suddenly a thrill of hope and joy filled her little heart. She understood that W-A-T-E-R meant the wonderful, cool something that was flowing over her hand. She understood at last what Annie had been trying to show her for days and weeks. She saw now that everything had a name, and that she could use her fingers to spell out each name!



Helen ran laughing and crying back to the house, pulling Annie along with her. She touched everything she could lay her hands on, asking for their names—*chair*, *table*, *door*, *mother*, *father*, *baby*, and many more. There were so many wonderful words to learn! But none was more wonderful than the word Helen learned when she touched Annie to ask her name, and Annie spelled T-E-A-C-H-E-R.

13 Helen Keller never stopped learning. She learned to read with her fingers, and how to write, and even how to speak. She went to school and to college, and Annie went with her to help her learn. Helen and Annie became friends for life.

14 Helen Keller grew up to be a great woman. She devoted her life to helping people who could not see or hear. She worked hard, and wrote books, and traveled across the seas. Everywhere she went, she brought people courage and hope. Presidents and kings greeted her, and the whole world grew to love her. A childhood that had begun in darkness and loneliness turned into a life full of much light and joy.

15 “And the most important day in my life,” Helen said, “was the day my teacher came to me.”

- B** Describe Annie’s goal for Helen. Use at least three examples from the passage that show actions Annie took to accomplish this goal.

**Reading Item B Scoring Rubric—2014 Grade 5**

Score	Description
4	The response describes Annie’s goal and provides at least three examples of actions she took to accomplish it.
3	The response describes Annie’s goal and provides two examples of actions she took to accomplish it.
2	<p>The response describes Annie’s goal and provides one example of an action she took to accomplish it.</p> <p style="text-align: center;"><b>OR</b></p> <p>The response provides at least two examples of actions Annie took to accomplish her goal for Helen.</p>
1	<p>The response describes Annie’s goal but does not include any examples of actions she took to accomplish it.</p> <p style="text-align: center;"><b>OR</b></p> <p>The response provides one example of an action Annie took to accomplish her goal for Helen.</p> <p style="text-align: center;"><b>OR</b></p> <p>The response demonstrates minimal understanding of the question.</p>
0	The response is totally incorrect and shows no evidence that the student understands the task. The response may be off topic or irrelevant.
<b>B</b>	Blank—No response. A score of “B” will be reported as “NA.” (No attempt to answer the item. Score of “0” is assigned for the item.)

## SCORE POINT: 4

The response describes Annie's goal for Helen ("she wanted to help her learn how to understand things by spelling out words with her hand") and provides three examples of actions she took to accomplish it ("she handed Helen a doll and slowly spelled out doll with her fingers," "she handed Helen a cake and spelled out cake with her fingers," and "Annie and Helen passed by a old well and Annie put Helen's hands under the water...and spelled out water with her hands...Annie kept on spelling water and then Helen finally understood"). The response demonstrates a thorough understanding of the task.

Annie's goal for Helen was that she wanted to help her learn how to understand things by spelling out words with her hands. Here are three actions Annie took to accomplish this goal and the first is she handed Helen a doll and slowly spelled out doll with her fingers. Another action Annie took was that she handed Helen a cake and spelled out cake with her fingers and it still didn't work. The last action she took to help was Annie and Helen passed by a old well and Annie put Helen's hands under the water that was in the well and spelled out water with her hands and then Helen put her hand back in the water and Annie kept on spelling water and then Helen finally understood that she can tell what things are by spelling them with your fingers.

**SCORE POINT: 3**

The response describes Annie’s goal for Helen (“to teach her how to spell things with her fingers and teach her how to talk”) and provides two examples of actions she took to accomplish it (“Annie Slowly Spelled D-O-L-L with her fingers” and “She gave Helen a pice of cake, and spelled the word C-A-K-E against Her hand”). The response shows evidence of a general, but not a comprehensive, understanding of the task.

Annie's goal for Helen was to teach her how to spell things with her fingers and teach her how to talk.

She tried helping her by saying "Annie Slowly Spelled D-O-L-L with her fingers. And: She gave Helen a pice of cake, and spelled the word C-A-K-E against Her hand."

## SCORE POINT: 2

The response provides more than two examples of actions Annie took to accomplish her goal for Helen (“Annie slowly spelled D-O-L-L with her fingers,” “Annie spelled the word water in Helen’s hands,” and “the word Annie spelled. That word was T-E-A-C-H-E-R”) but fails to describe the goal. The response shows evidence of only a basic understanding of the task.

Annie had a goal for Helen. There are three examples that show actions Annie took to accomplish this goal. One example is in paragraph six it says, “Annie slowly spelled D-O-L-L with her fingers.” It said that Helen didn’t know what she was talking about. The second example is in paragraph eleven. It says that Annie spelled the word water in Helen’s hands. It said that Helen understood that water meant the wonderful, cool something that was flowing over her hands. The last example is in paragraph twelve. It said that Helen ran laughing and crying back to the house pulling Annie along with her. She touched everything she could lay her hands on, asking their names—chair, table, door, mother, father, baby, and many more. In that paragraph it said that none of the words were more wonderful than the word Annie spelled. That word was T-E-A-C-H-E-R. These are three examples that show actions of Annie to accomplish for Helen.

**SCORE POINT: 1**

The response provides one example of an action Annie took to accomplish her goal for Helen (“Annie told Helen how to spell the word doll”) but fails to describe the goal. The response provides evidence of minimal understanding.

1. Helen was always asking her father to read a story to read.

2. Helen can be a great child sometimes.

3. Helen made a friend her name is Annie.

4. Annie told Helen how to spell the word doll.

**SCORE POINT: 0**

There is no evidence that the student understands the task. The response is irrelevant.

1. She knew at one it was not her mother. Helen was washing and crying. 2. Striking out to Darkness.

1. The President found out what Annie's parents were trying to do! And she found out her parents were dead!

# **WRITING RESPONSES**

## SCORING STUDENT RESPONSES TO WRITING PROMPTS

### 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 by a third reader 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.

### Nonscoreable and Blank Papers

Nonscoreable papers include student responses that are off-topic, illegible, incoherent, written in a language other than English, or too brief to assess. Nonscoreable papers will receive a score of "0." Blank papers indicate no response was written and will be reported as NA (no attempt), which translates into a score of "0."

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**WRITING DOMAINS AND DEFINITIONS—  
2014 GRADE 5 AUGMENTED BENCHMARK EXAMINATION****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
- Selected information
- Sentence variety
- Tone
- Voice

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

**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

This is one of the two writing prompts administered to all grade 5 students in April 2014.

**Prompt**

Your teacher has asked you to write an essay about **one** thing you do very well.

Before you begin to write, think about something you do well. It could be school work or sports. It could be a special talent that you have or a hobby you enjoy. It can be anything you do well. What is **one** thing that you do very well?

Now write an essay about **one** thing you do very well. Give enough detail so that your teacher will understand.

**WRITER'S CHECKLIST**

1. Look at the ideas in your response.

- Have you focused on one main idea?
- Have you used enough detail 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 a variety of 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?

## WRITING SAMPLE RESPONSE 1

### **Content: 4**

This response is focused on a clear central idea (gymnastics). The response is clearly organized into sections that remain focused on the central idea, and the writer elaborates each section with specific details that give the reader a clear idea of this student’s experiences with gymnastics (“My favorites are the roundoff-backhandspring and the backhandspring. Even though you get a little dizzy, they are very fun and fast! A backhandspring is were you squat down and then jump backwards”). The response has a clear sense of closure. All Content features are consistently controlled.

### **Style: 4**

The writer purposely selects information and uses precise vocabulary to affect the reader’s understanding and to create imagery (“The one I’m best at right now is back hip circles. This trick is where you get up on the bar, supporting yourself with your arms. Then, you swing your legs back a little once, and then the second time you swing your legs way back, making yourself in a 90° angle.”) The writer uses varied sentence structure, specific information, and vocabulary to engage the reader and create an appropriate tone. Consistent control of Style features is demonstrated.

### **Sentence Formation: 4**

The student accurately constructs a wide variety of sentences, including both complex and compound constructions. Consistent control of Sentence Formation is displayed.

### **Usage: 4**

This response contains a repeated word choice error (“were” instead of “where”). However, verb tense, agreement, inflections, and conventions are well controlled by this student. This response demonstrates consistent control of the Usage domain.

### **Mechanics: 4**

Although this response contains a misspelled word (“wonderfly”) and a missing comma, this response displays very few errors relative to the amount written. This writer maintains consistent control of all features of the Mechanics domain.

What I think I do well is gymnastics. Something about tumbling around on the floor and flipping on bars has sounded fun to me for a long time!

I go to gymnastics every Monday at \_\_\_\_\_ My teacher's name is Mr. \_\_\_\_\_. He has mastered all five skills in gymnastics, floor, beam, vault, rope, and bars! He is a wonderful gymnastics teacher!

We do so many wonderfully fun things in gymnastics! My favorites are bars, floor, and beam. I love being up, upside down, or being upside down way up high! On bars, we do a variety of tricks and flips. The one I'm best at right now is back hip circles. This trick is where you get up on the bar, supporting yourself with your arms. Then, you swing your legs back a little once, and then the second time you swing your legs way back, making yourself in a 90° angle. As your legs swing back you go under the bar and over, landing in the exact same position you began in. There are also front flips, underchutes, and so much more!

Next, I will tell you about floor. There are many things we do on the floor. Cartwheels, roundoffs, back handsprings, backbend kickovers, and roundoff-backhandsprings. Mr. helps each of us, or if we want, he will let us do the trick independently. My favorites are the roundoff-backhandspring and the backhandspring. Even though you get a little dizzy, they are very fun and fast! A backhandspring is were you squat down, and then jump backwards. A roundoff-backhandspring is were you run, skip, do a roundoff, twist, and use the energy from the roundoff to do a backhandspring. Weeee!

And last, vault. Vault is were there is space to sprint, a spring, and a big, wide, thick mat to catch you. So you run, jump on the spring, and do a handstand on the mat and land flat. This process happens very fast!

So, those are my three favorite gymnastics categories, but all five of them are fun, fast, and fantastic!

## WRITING SAMPLE RESPONSE 2

### **Content: 3**

This response is clearly focused on the student’s belief that reading books is something “I am good at.” Some elaboration is provided detailing different aspects of the student’s reading experiences (“six chapters a night,” “on my wooden swing,” “librian,” “The Wreck of Zephyr”). However, more elaboration is needed to fully describe the student’s reading talent. Some information is repeated which suggests a slight weakness in organization. There is a sense of closure. Overall, reasonable control of the Content domain is demonstrated.

### **Style: 3**

Some precise vocabulary and purposeful information is presented to illustrate the student’s enjoyment of reading (“I read at my house on my wooden swing,” “I know this isn’t good but, when I have headaches I read,” “I read the story over and over again”). There are also instances of general information (“long or short drive,” “when you check out a book you read it,” “read my class books”). General information causes the student’s voice to fade. There is some variety in sentence structure. However, the repetitiveness of the sentences in the second half of the response detracts from a rhythmic reading (“because I read...,” “because I can read”). The tone is appropriate. This response demonstrates reasonable control of Style features.

### **Sentence Formation: 4**

Despite a couple of sentence fragments, the student accurately constructs a wide variety of sentences, including both compound and complex constructions. Overall, the response demonstrates consistent control of Sentence Formation features.

### **Usage: 4**

Consistent control of all features of Usage, including inflections, agreement, word choice, and conventions, is demonstrated in this response.

### **Mechanics: 4**

This response demonstrates consistent control of capitalization, formatting, punctuation, and spelling. The few errors in the use of commas do not detract from the student’s overall command of the Mechanics domain.

The one thing I am good at is reading books. I read about six chapters a night. Sometimes, while my parents are in the grocery store I stay in the car, and read. Everytime I have a chance at school I read. Most of the time I read at my house on my wooden swing. Sometimes, when we have to take a long or short drive I carry my book, and read. Most times I do. At school when you check out a book you read it and test on it. Most of the time I make hundreds. We know this isn't good but, when I have headaches I read. My mom says that when I grow up I should be a librian. Because, I read so much. I think I should be a teacher because, I can read my class books once in a while. I also think reading makes you smarter because, sometimes I make hundreds on my reading test. Because, I read the story over and over again. Like one time we were reading "The Wreck of Zephyr", and I made an A on that test. Reading is the best thing I can do. Thank you for reading my story.

Sincerely,

### WRITING SAMPLE RESPONSE 3

**Content: 2**

In this response, the student initially focuses on riding a bike but then loses focus before briefly returning to the central idea in the final two sentences. Although some elaboration is present (“I like riding my bike because it is fun and you can see the wildlife as you ride”), the writer often does not stop to provide details. Additionally, ideas are organized in a list-like manner. This student demonstrates inconsistent control of the features of Content.

**Style: 2**

This response utilizes predominantly general vocabulary (“very fun,” “kindof sad,” “really likes it”) that contributes to a generally flat tone and a dim voice. Although there is some sentence variety, the lack of introductory clauses creates a choppy reading. Overall, this writer demonstrates inconsistent control of Style features.

**Sentence Formation: 3**

Although this response contains a few contact run-ons and an over-coordinated sentence, the student constructs some compound and complex sentences, and the majority of the sentence constructions are correct. Overall, the student demonstrates reasonable control of the Sentence Formation domain.

**Usage: 4**

The student has consistently controlled all features of Usage, including inflections, agreement, word choice, and conventions, for a score of “4.”

**Mechanics: 4**

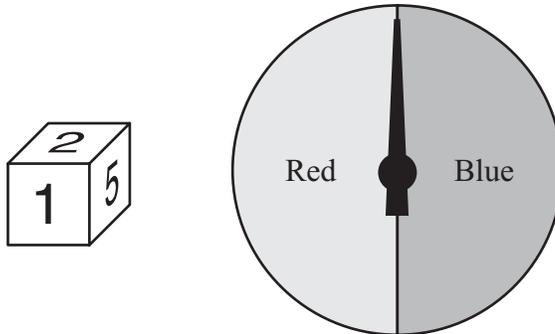
Although this response contains a misspelled word (“swimming”) and missing commas, this response displays very few errors relative to the amount written. This writer maintains consistent control of all features of Mechanics.

Something I do well is  
 ride my bike. I ride my bike a lot it  
 is very fun. Soon I will be moving and then  
 I get to ride my bike at my new  
 house. But, I won't get to go to  
 school anymore so I am kind of sad. But anyway I  
 have been putting my 3 year old  
 sister on my bike and pushing her. She  
 really likes it. I like riding my  
 bike because it is fun and you can see  
 the wildlife as you ride. I really enjoy  
 riding my bike in because  
 you can see lots of animals. And I also  
 enjoy swimming it helps me stay cool in  
 the summer. But that is only when my legs are  
 tired from biking and if my legs are tired I stand  
 in the pool and I swim if my bike is broke. Well  
 anyway I really like to ride my bike  
 more than swimming. That is something  
 I do well.



# **MATH RESPONSES**

**A** Carson rolled the 6-sided number cube numbered 1 to 6 and spun the spinner shown below.



1. Make a list of all the possible combinations Carson could get when he rolls the cube and spins the spinner.
2. How many more outcomes would there be if the spinner had 3 equal sections; red, blue, and green? Show your work or explain your answer.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

**Math Item A Scoring Rubric—2014 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 is 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” is assigned for the item.)

**SOLUTION AND SCORING**

Part	Points
1	<p><b>2 points possible:</b></p> <p>2 points: Correct answer: Carson lists all possible combinations Give credit for the following or equivalent: Ex. Red-1, Red-2, Red-3, Red-4, Red-5, Red-6 Blue-1, Blue-2, Blue-3, Blue-4, Blue-5, Blue-6</p> <p><b>OR</b></p> <p>1 point: Partial correct answer: Carson 8 – 11 possible combinations</p>
2	<p><b>2 points possible:</b></p> <p>1 point: Correct answer: 6 <i>Or correct answer based on previous parts</i></p> <p><b>AND</b></p> <p>1 point: Correct and complete explanation or work shown <i>Work may contain an arithmetic or copy error</i> Give credit for the following or equivalent: Ex. Green-1, Green-2, Green-3, Green-4, Green-5, Green-6 6 more pairings</p>

SCORE: 4

Part 1		Points
Correct list of all possible outcomes:	red,1 red,2 red,3 red,4 red,5 red,6 blue,1 blue,2 blue,3 blue,4 blue,5 blue,6	2

Part 2		Points
Correct answer:	"There would be <u>6</u> more outcomes."	1
Correct procedure:	Student lists 18 possible outcomes 18 outcomes - 12 outcomes = 6	1
<b>Total Points</b>		<b>4</b>

①

outcomes

red,1  
red,2  
red,3  
red,4  
red,5  
red,6  
blue,1  
blue,2  
blue,3  
blue,4  
blue,5  
blue,6

12 outcomes total

② There would be 6 more outcomes.

18 outcomes  
- 12 outcomes  
= 6

outcomes

red,1 blue,1  
red,2 blue,2  
red,3 blue,3  
red,4 blue,4  
red,5 blue,5  
red,6 blue,6  
green,1 green,4  
green,2 green,5  
green,3 green,6  
18 total outcomes

SCORE: 3

<u>Part 1</u>		Points
Correct list of all possible outcomes:	1 Red 1 Blue 2 Red 2 Blue 3 Red 3 Blue 4 Red 4 Blue 5 Red 5 Blue 6 Red 6 Blue	2
<u>Part 2</u>		Points
Missing answer:		-
Correct procedure:	1 Green 2 Green 3 Green 4 Green 5 Green 6 Green	1
<b>Total Points</b>		<b>3</b>

1. 1 Red 1 Blue  
2 Red 2 Blue  
3 Red 3 Blue  
4 Red 4 Blue  
5 Red 5 Blue  
6 Red 6 Blue

Combinations

2. 1 Red 1 Blue 1 Green 5 Red 5 Blue 5 Green  
 2 Red 2 Blue 2 Green 6 Red 6 Blue 6 Green  
 3 Red 3 Blue 3 Green  
 4 Red 4 Blue 4 Green

SCORE: 2

<b>Part 1</b>		<b>Points</b>
Correct list of 10 possible outcomes:	1,red 2,red 3,red 4,red 5,red 1,blue 2,blue 3,blue 4,blue 5,blue	1

<b>Part 2</b>		<b>Points</b>
Missing answer:		-
Correct procedure:	1,green 2,green 3,green 4,green 5,green 6,green	1
<b>Total Points</b>		<b>2</b>

①

1,red 2,red 3,red 4,red 5,red

1,blue 2,blue 3,blue 4,blue 5,blue

1,red 2,red 3,red 4,red 5,red

1,blue 2,blue 3,blue 4,blue 5,blue

1,green 2,green 3,green 4,green 5,green 6,green

SCORE: 1

<u>Part 1</u>		Points
Correct list of 11 possible outcomes:	Red,1 Red,2 Red,3 Red,4 Red,5 Red,6 Blue,1 Blue,2 Blue,3 Blue,4 Blue,5	1
<u>Part 2</u>		Points
Incorrect answer:	"There would be 8 possible"	-
Missing procedure:		-
<b>Total Points</b>		<b>1</b>

10) Red,1  
Red,2  
Red,3  
Red,4  
Red,5  
Red,6  
Blue,1  
Blue,2  
Blue,3  
Blue,4  
Blue,5

2) There would be 8 possible

SCORE: 0

<b>Part 1</b>		<b>Points</b>
Incorrect list:	Student lists only 5 outcomes	-
<b>Part 2</b>		<b>Points</b>
Incorrect answer:	"There would be 3 out come..."	-
Incorrect explanation:	"...there were only one space left all the others were taken."	-
<b>Total Points</b>		<b>0</b>

1. 2, red  
1, blue  
3, blue  
5, red  
4, red

---

2.

There would be 3 out come because if you want equal and there were only one space left all the others were taken.

**B** Trevor drew the following net that **cannot** be folded to form a cube.



1. On the grid in your answer document, draw two **different** nets that could be folded into a cube.
2. Explain why Trevor’s net **cannot** be folded to form a cube. Be as specific as possible.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

<b>Math Item B Scoring Rubric—2014 Grade 5</b>
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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 is shown.
0	The student earns 0 points. No understanding is shown.
<b>B</b>	Blank—No Response. A score of “B” will be reported as “NA.” (No attempt to answer the item. Score of “0” is assigned for the item.)

SOLUTION AND SCORING

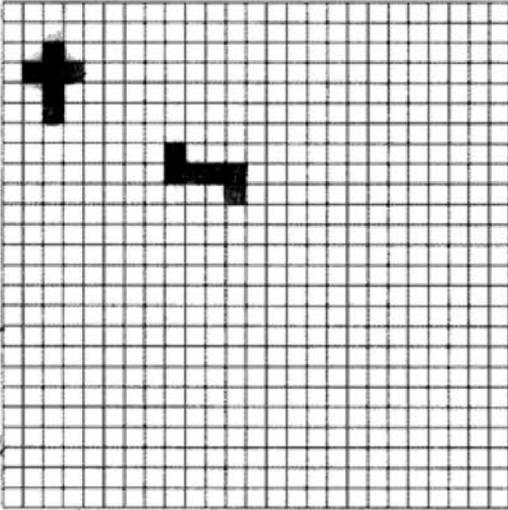
Part	Points
<p><b>1</b></p>	<p><b>2 points possible:</b></p> <p>2 points: Correctly draws or describes 2 different nets that form a cube Give credit for the following or equivalent:</p> <p>Ex. </p> <p><b>Note: Student cannot receive 2 points if they have an incorrect net.</b></p> <p><b>OR</b></p> <p>1 point: Correctly draws or describes 1 net that forms a cube</p>
<p><b>2</b></p>	<p><b>2 points possible:</b></p> <p>2 points: Student gives a correct and complete explanation. Give credit for the following or equivalent: Ex. It will not be a cube because two sides will overlap and one side would not be there.</p> <p><b>OR</b></p> <p>1 point: Student gives a correct, but incomplete explanation. Give credit for the following or equivalent: Ex. Two sides will overlap.</p>

SCORE: 4

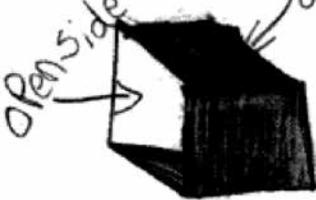
<u>Part 1</u>		Points
2 correct nets:		2

<u>Part 2</u>		Points
Correct and complete explanation:	“Because you will over lap one side and leave one side open...”	2
<b>Total Points</b>		<b>4</b>

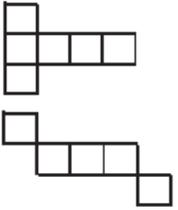
1.



2. Because you will over lap one side and leave one side open then it will not be a cube.

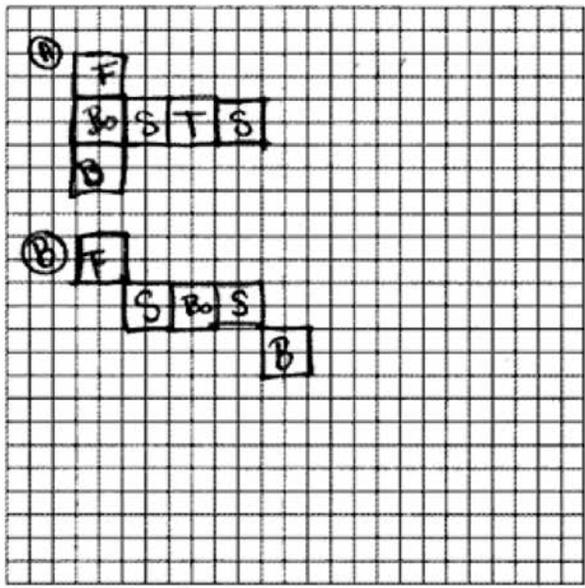


SCORE: 3

Part 1		Points
1 correct net and 1 incorrect net:		1

Part 2		Points
Correct and complete explanation:	“With Trevor’s shape the right side will get overlaped by the extra flap and you will not have a front flap.”	2
<b>Total Points</b>		<b>3</b>

①  
 F=Front  
 B=Back  
 Bo=Bottom  
 S=Side  
 T=Top  
 ↑  
 Key



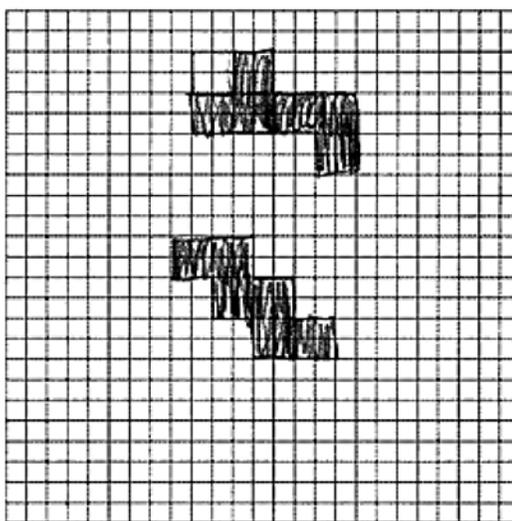
② With Trevor’s shape the right side will get overlaped by the extra flap and you will not have a front flap.

SCORE: 2

<u>Part 1</u>		Points
2 correct nets:		2

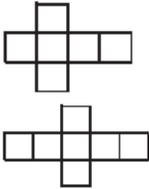
<u>Part 2</u>		Points
Incorrect explanation:	“You can’t turn the net like you need to in order to make the cube.”	-
<b>Total Points</b>		<b>2</b>

1.



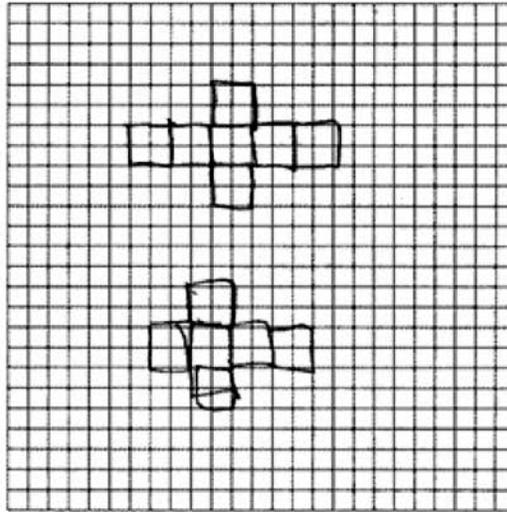
2. You can't turn the net like you need to in order to make the cube.

SCORE: 1

<b>Part 1</b>		<b>Points</b>
1 correct net and 1 incorrect net:		1

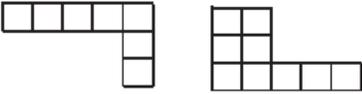
<b>Part 2</b>		<b>Points</b>
Incorrect explanation:	“Trevor net cannot be formed into a square because, it has too many faces”	-
<b>Total Points</b>		<b>1</b>

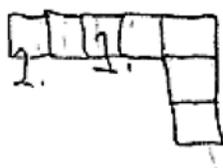
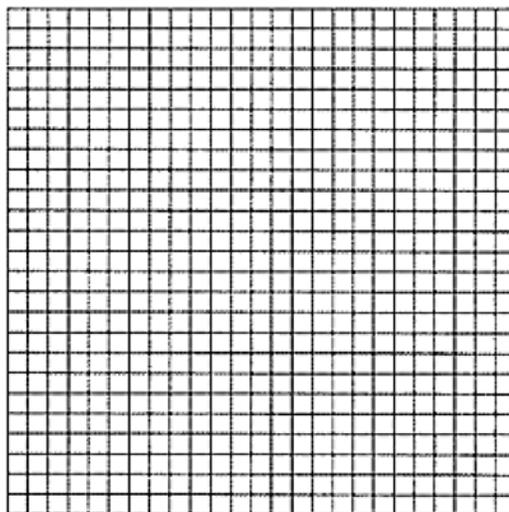
1.



2. Trevor net cannot be formed into a square because, it has too many faces

SCORE: 0

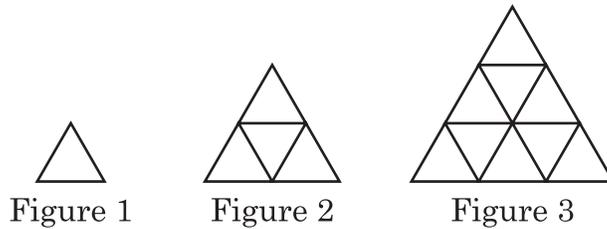
<b>Part 1</b>		<b>Points</b>
2 incorrect nets:		-
<b>Part 2</b>		<b>Points</b>
Incorrect explanation:	“It is not that many square units to be folded.”	-
<b>Total Points</b>		<b>0</b>




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2. It is not that many square units to be folded.

- C** Ariana is drawing a picture using small triangles. The drawing will include the growing pattern shown here.



1. Ariana is going to add more figures to her drawing. Copy and complete the table in your answer document with the number of small triangles for the next two figures.

Figure Number	Total Number of Small Triangles
1	1
2	4
3	9
4	
5	

2. What is the rule for the relationship shown in the table?
3. If Ariana continues the pattern, how many small triangles will be included in the seventh figure she draws? Show your work and/or explain your answer.

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

**Math Item C Scoring Rubric—2014 Grade 5**

Score	Description
4	The student earns 4 points. The response contains no incorrect work.
3	The student earns 3 – 3½ points.
2	The student earns 2 – 2½ points.
1	The student earns ½ – 1½ point(s), or some minimal understanding is 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” is assigned for the item.)

**SOLUTION AND SCORING**

Part	Points												
1	<p><b>1 point possible:</b></p> <p>1 point: Fills in table with 2 correct values:</p> <table border="1" data-bbox="621 474 959 785"> <thead> <tr> <th>Figure Number</th> <th>Total Number of Small Triangles</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1</td> </tr> <tr> <td>2</td> <td>4</td> </tr> <tr> <td>3</td> <td>9</td> </tr> <tr> <td>4</td> <td>16</td> </tr> <tr> <td>5</td> <td>25</td> </tr> </tbody> </table> <p><b>OR</b></p> <p>½ point: Fills in table with 1 correct value</p>	Figure Number	Total Number of Small Triangles	1	1	2	4	3	9	4	16	5	25
Figure Number	Total Number of Small Triangles												
1	1												
2	4												
3	9												
4	16												
5	25												
2	<p><b>1 point possible:</b></p> <p>1 point: Student gives the correct rule.                      Ex. The total is the figure number times itself.                      Ex. The number is the sum of the previous number plus the next odd number starting with 3.</p>												
3	<p><b>2 points possible:</b></p> <p>1 point: Correct answer: 49                      Or correct answer based on previous parts</p> <p><b>AND</b></p> <p>1 point: Correct and complete explanation or work shown                      Give credit for the following or equivalent:                      Ex. <math>7 \times 7 = 49</math>                      Ex. <math>25 + 11 + 13 = 49</math></p>												

SCORE: 4

<u>Part 1</u>		Points
2 correct values:	16 & 25	1
<u>Part 2</u>		Points
Correct rule:	"The rule is to multiply the figure number by its self."	1
<u>Part 3</u>		Points
Correct answer:	"She will have 49 small triangles."	1
Correct procedure:	7 x 7	1
<b>Total Points</b>		<b>4</b>

①

Figure Number	Total Number of small triangles
1	1
2	4
3	9
4	16
5	25

Here is the chart complete

② The rule is to multiply the figure number by its self.

Ex:  $1 \times 1 = 1$   $2 \times 2 = 4$   $3 \times 3 = 9$  It works

③ She will have 49 small triangles. You multiply 7 by its self to get 49.

$7 \times 7 = 49$

↑ Multiplies by its self total number of small triangles

SCORE: 3

<u>Part 1</u>		Points
2 correct values:	16 & 25	1
<u>Part 2</u>		Points
Correct rule:	"The figure number times itself."	1
<u>Part 3</u>		Points
Correct answer:	"...it would have 49 small triangles in it."	1
Missing procedure:		-
<b>Total Points</b>		<b>3</b>

2) The figure number times itself.

1)

Figure #	# of small triangles
1	1
2	4
3	9
4	16
5	25

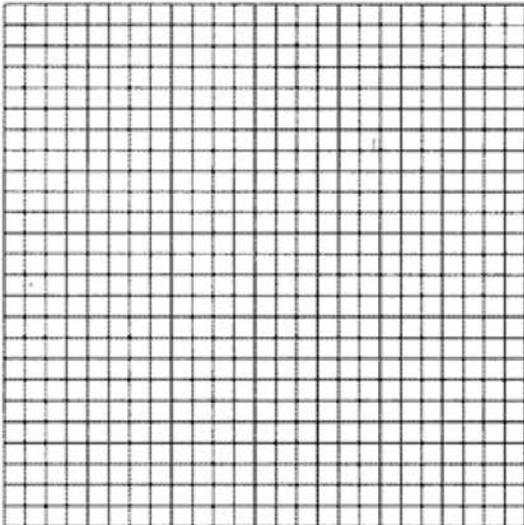
3) If she draws a seventh figure it would have 49 small triangles in it.

SCORE: 2

<u>Part 1</u>		Points
2 correct values:	16 & 25	1
<u>Part 2</u>		Points
Incorrect rule:	"You multiply 1,2,3,4, and 5"	-
<u>Part 3</u>		Points
Correct answer:	"It will be 49 little triangle."	1
Missing procedure:		-
<b>Total Points</b>		<b>2</b>

FA Small triangles

1.	1	1
	2	4
	3	9
	4	16
	5	25



2. You multiply  
1, 2, 3, 4, and 5

3. It will be 49 little triangle.

SCORE: 1

<u>Part 1</u>		Points
No correct values:	8 & 10	-
<u>Part 2</u>		Points
Correct rule:	"figure number x figure number"	1
<u>Part 3</u>		Points
Incorrect answer:	14	-
Missing procedure:		-
<b>Total Points</b>		<b>1</b>

1.)

Figure number	total number of small triangles
1	1
2	4
3	9
4	8
5	10

2.) figure number x figure number

3.)

Figure number	total number of small triangles
6	12
7	14

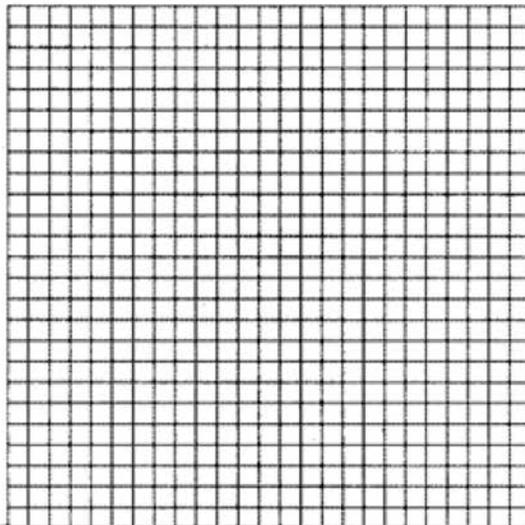
(14)

SCORE: 0

<u>Part 1</u>		Points
No correct values:	11 & 14	-
<u>Part 2</u>		Points
Incorrect rule:	"...is add the triangle's number to the figure number."	-
<u>Part 3</u>		Points
Incorrect answer:	"It'll be 21..."	-
Incorrect procedure:	"...because 1,4,9,11,14,19,21"	-
<b>Total Points</b>		<b>0</b>

①

Figure Number	Total numbers of small triangle
1	1
2	4
3	9
4	16
5	25

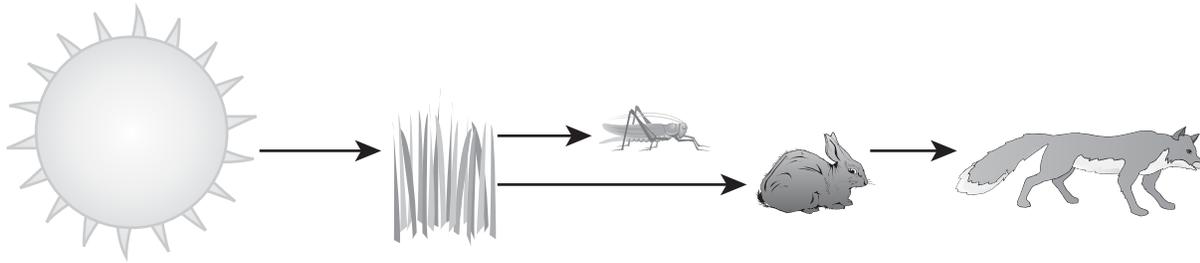


② The rule for the relationship shown in the table is add the triangle's number to the figure number.

③ If the pattern continues the seventh pattern would be 21. It'll be 21 because 1, 4, 9, 16, 25, 36, 49. 21 is the last.

# **SCIENCE RESPONSES**

**A** The diagram below represents a food chain in an ecosystem.



1. What would happen to the fox population if the rabbit population became larger? Explain your answer.
2. What would happen to the grass if the fox population became smaller? Explain your answer.
3. What would happen to the rabbit population if an insect-eating bird were introduced? Explain your answer.
4. What would happen to the insect population if there were a three-month period with no rain? Explain your answer.

BE SURE TO LABEL YOUR RESPONSES 1, 2, 3, AND 4.

**Science Item A Scoring Rubric—2014 Grade 5**

Score	Description
4	Response shows a complete understanding of the role of limiting factors on the carrying capacity of an ecosystem. The student presents correct descriptions to all parts of the task.
3	Response shows a nearly complete understanding of the role of limiting factors on the carrying capacity of an ecosystem. The student presents nearly all descriptions to all parts of the task. The response may contain minor errors.
2	Response shows a limited understanding of the role of limiting factors on the carrying capacity of an ecosystem. The student presents some descriptions correctly to most parts of the task. The response may contain a major error.
1	Response shows a minimal understanding of the role of limiting factors on the carrying capacity of an ecosystem. The student presents some descriptions. The response contains incomplete descriptions and major errors.
0	Response shows insufficient understanding of the role of limiting factors on the carrying capacity of an ecosystem. The descriptions, if any, contain major errors. There may be no descriptions, 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.
<b>B</b>	Blank—No response. A score of “B” will be reported as “NA.” (No attempt to answer the item. Score of “0” is assigned for this item.)

## SOLUTION AND SCORING

Part	Points
1	<b>1 point possible:</b> ½ point: The student correctly indicates that the fox population would increase. ½ point: The student provides a reasonable explanation for the change in the fox population when the rabbit population increases.
2	<b>1 point possible:</b> ½ point: The student correctly indicates that the amount of grass will decrease. ½ point: The student provides a reasonable explanation for the change in the amount of grass when the fox population decreases.
3	<b>1 point possible:</b> ½ point: The student correctly indicates that the rabbit population would increase. ½ point: The student provides a reasonable explanation for the change in the rabbit population when an insect eating bird is introduced into the ecosystem.
4	<b>1 point possible:</b> ½ point: The student correctly indicates that the insect population would decrease. ½ point: The student provides a reasonable explanation for the change in the insect population if there was no rain for a 3-month period.

SCORE: 4

<u>Part 1</u>		Points
Correct prediction:	"The fox population would increase"	½
Correct explanation:	"if there's more rabbits to eat the fox population can grow"	½

<u>Part 2</u>		Points
Correct prediction:	"The grass population would decrease"	½
Correct explanation:	"foxes eat rabbits and if the foxes couldn't eat as much rabbits, the rabbits would eat more grass."	½

<u>Part 3</u>		Points
Correct prediction:	"The rabbit population would increase"	½
Correct explanation:	"insects eat grass and so do rabbits, so if there wasn't as many insects there would be more food for rabbits."	½

<u>Part 4</u>		Points
Correct prediction:	"The insect population would decrease"	½
Correct explanation:	"insects eat grass and grass can't grow without water."	½

<b>Total Points</b>	<b>4</b>
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① The fox population would increase if the rabbit population increased because if there's more rabbits to eat the fox population can grow without foxes dying.

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② The grass population would decrease if the fox population decreased because foxes eat rabbits and if the foxes couldn't eat as much rabbits, the rabbits would eat more grass.

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③ The rabbit population would increase if an insect-eating bird was added, because insects eat grass and so do rabbits, so if there wasn't as many insects there would be more food for rabbits.

---

④ The insect population would decrease if there was a three-month period without rain, because insects eat grass and grass can't grow without water.

SCORE: 3

<u>Part 1</u>		Points
Correct prediction:	"The fox population would become larger"	1/2
Correct explanation:	"the foxes will have more to eat."	1/2
<u>Part 2</u>		Points
Correct prediction:	"The grass would be eaten more"	1/2
Correct explanation:	"there aren't any foxes to eat the animals that eat the grass."	1/2
<u>Part 3</u>		Points
Incorrect prediction:		-
Correct explanation:	"The rabbit would have more grass to eat because the insect isn't there to eat it to."	1/2
<u>Part 4</u>		Points
Correct prediction:	"The insect population would decrease"	1/2
Correct explanation:	"grass needs water to grow and if the grass doesn't grow then they don't have food."	1/2
<b>Total Points</b>		<b>3 1/2</b>

① The fox population would become larger because the foxes will have more to eat.

② The grass would be eaten more because there aren't any foxes to eat the animals that eat the grass.

③ The rabbit would have more grass to eat because the insect isn't there to eat it to.

④ The insect population would decrease because the grass needs water to grow and if the grass doesn't grow then they don't have food.

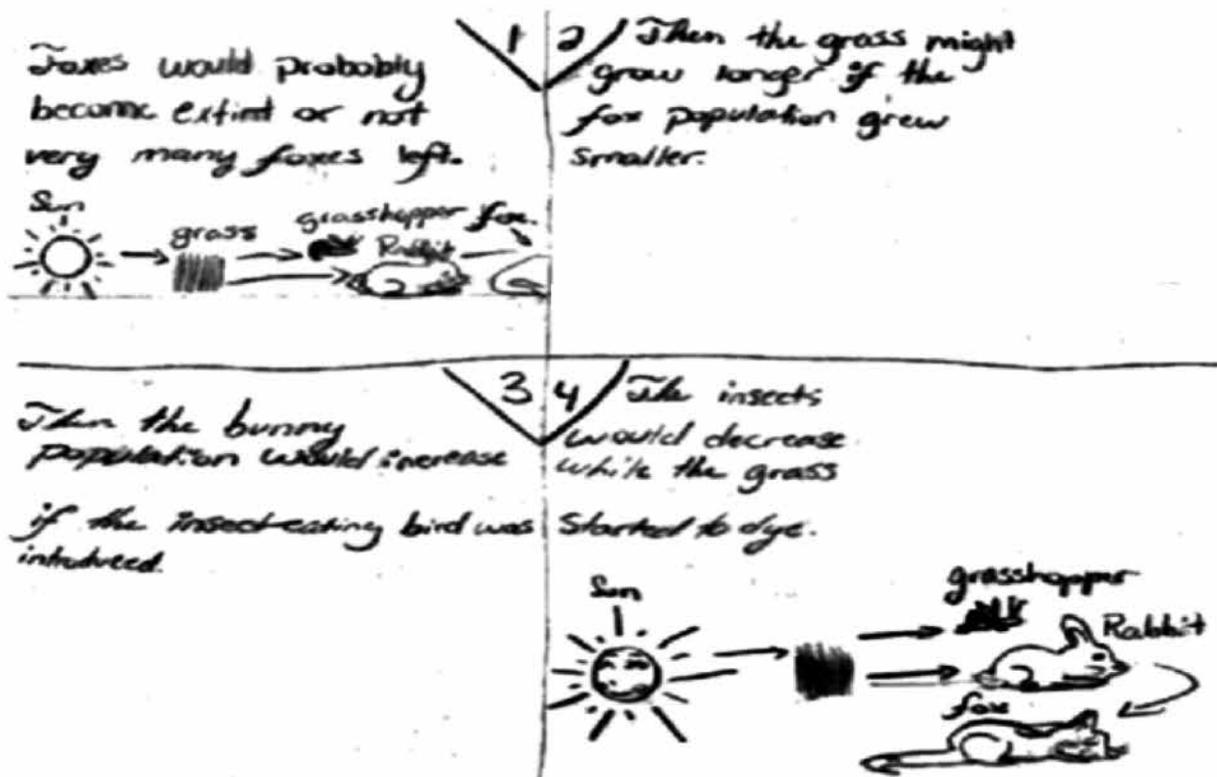
SCORE: 2

<u>Part 1</u>		Points
Incorrect prediction:	"The Fox would get fatter...Then it would starve"	-
Incorrect explanation:	"Rabbits would eat all the producers and they would have no more food."	-
<u>Part 2</u>		Points
Correct prediction:	"The grass would get eaten up"	½
Correct explanation:	"there would be no consumer to eat the Rabbits"	½
<u>Part 3</u>		Points
Incorrect prediction:		-
Correct explanation:	"The Rabbit would eat even more grass because the insects would be gone."	½
<u>Part 4</u>		Points
Correct prediction:	"the insects would die"	½
Correct explanation:	"they wouldn't have any food until the grass gets rain to grow."	½
<b>Total Points</b>		<b>2½</b>

1. The Fox would get fatter because it would eat more. Then it would starve because the Rabbits would eat all the producers and they would have none food.
2. The grass would get eaten up by the Rabbits because there would be no consumer to eat the Rabbits to narrow it down.
3. The Rabbit would eat even more grass because the insects would be gone.
4. The grass would die and the insects would die because they wouldn't have any food until the grass gets rain to grow.

SCORE: 1

<u>Part 1</u>		Points
Incorrect prediction:	"Foxes would probably become extinct or not very many foxes left."	-
Incorrect explanation:		-
<u>Part 2</u>		Points
Incorrect prediction:	"the grass might grow longer"	-
Incorrect explanation:		-
<u>Part 3</u>		Points
Correct prediction:	"the bunny population would increase"	½
Incorrect explanation:		-
<u>Part 4</u>		Points
Correct prediction:	"The insects would decrease"	½
Correct explanation:	"the grass started to dye."	½
<b>Total Points</b>		<b>1½</b>



SCORE: 0

<u>Part 1</u>		Points
Incorrect prediction:	"the fox will eat the rabbits."	-
Incorrect explanation:		-

<u>Part 2</u>		Points
Incorrect prediction:	"the grass will grow taller because there will be no fox."	-
Incorrect explanation:		-

<u>Part 3</u>		Points
Incorrect prediction:	"the rabbits will have to eat grass."	-
Incorrect explanation:		-

<u>Part 4</u>		Points
Incorrect prediction:	"the flower would make more food and the insect will die"	-
Incorrect explanation:		-

<b>Total Points</b>		<b>0</b>
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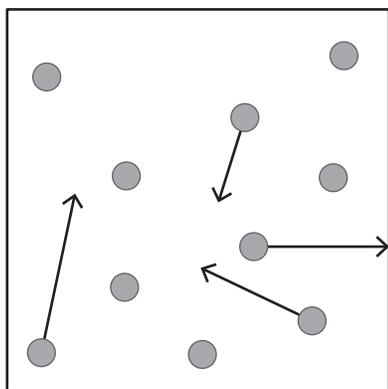
① the fox will eat the rabbits.

② the grass will grow taller because there will be no fox.

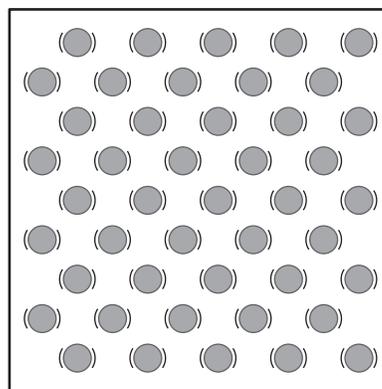
③ that if the birds were eating the insect the rabbits will have to eat grass.

④ the flower would make more food and the insect will die and there will be nothing for the rabbits could eat and the fox.

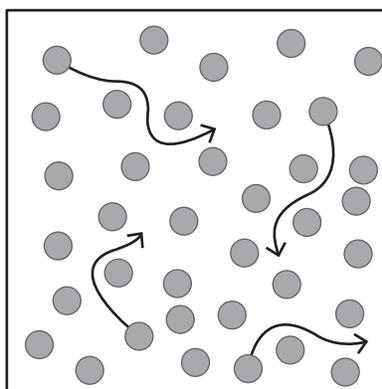
- B** The motion and position of molecules in three states of matter are represented in the models below.



Model A



Model B



Model C

1. Identify the state of matter **most likely** represented by Model A. Describe a characteristic of the molecules that helps identify the state of matter represented by Model A.
2. Identify the state of matter **most likely** represented by Model B. Describe a characteristic of the molecules that helps identify the state of matter represented by Model B.
3. Identify the state of matter **most likely** represented by Model C. Describe a characteristic of the molecules that helps identify the state of matter represented by Model C.
4. Identify the model that **best** represents the state of matter that has the highest average kinetic energy. Explain your answer.

BE SURE TO LABEL YOUR RESPONSES 1, 2, 3, AND 4.

**Science Item B Scoring Rubric—2014 Grade 5**

Score	Description
4	Response shows a complete understanding of modeling the motion and position of molecules in solids, liquids, and gases in terms of kinetic energy. The student presents correct descriptions to all parts of the task.
3	Response shows a nearly complete understanding of modeling the motion and position of molecules in solids, liquids, and gases in terms of kinetic energy. The student presents nearly all descriptions to all parts of the task. The response may contain minor errors.
2	Response shows a limited understanding of modeling the motion and position of molecules in solids, liquids, and gases in terms of kinetic energy. The student presents some descriptions correctly to most parts of the task. The response may contain a major error.
1	Response shows a minimal understanding of modeling the motion and position of molecules in solids, liquids, and gases in terms of kinetic energy. The student presents some descriptions. The response contains incomplete descriptions and major errors.
0	Response shows insufficient understanding of modeling the motion and position of molecules in solids, liquids, and gases in terms of kinetic energy. The descriptions, if any, contain major errors. There may be no descriptions, 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.
B	Blank—No response. A score of “B” will be reported as “NA.” (No attempt to answer the item. Score of “0” is assigned for this item.)

**SOLUTION AND SCORING**

Part	Points
1	<b>1 point possible:</b> ½ point for correct identification. ½ point for description.
2	<b>1 point possible:</b> ½ point for correct identification. ½ point for description.
3	<b>1 point possible:</b> ½ point for correct identification. ½ point for description.
4	<b>1 point possible:</b> ½ point for correct identification. ½ point for explanation.

SCORE: 4

<u>Part 1</u>		Points
Correct identification:	“gas”	½
Correct description:	“they move around quickly and they have plenty of space to move around in.”	½
<u>Part 2</u>		Points
Correct identification:	“solid”	½
Correct description:	“The molecules vibrate in place because there is no place to move around in.”	½
<u>Part 3</u>		Points
Correct identification:	“liquid”	½
Correct description:	“There is not as much room to move around like a gas, but they do move around a little.”	½
<u>Part 4</u>		Points
Correct identification:	“gas”	½
Correct description:	“Molecules in gases move around more and faster because they have more room.”	½
<b>Total Points</b>		<b>4</b>

① The state of matter for Model A is a gas. A characteristic is they move around quickly and they have plenty of space to move around in.

② The state of matter in Model B is a solid. The molecules vibrate in place because there is no place to move around in.

③ Model C is a liquid. There is not as much room to move around like a gas, but they do move around a little. They have more space than a solid.

④ The highest average of kinetic energy would be in a gas. Molecules in gases move around more and faster because they have more room. Kinetic energy is about when an object is in motion.

SCORE: 3

<b>Part 1</b>		<b>Points</b>
Correct identification:	“gas”	½
Correct description:	“gas is spread far apart.”	½
<b>Part 2</b>		<b>Points</b>
Correct identification:	“solid”	½
Correct description:	“a solid is packed tightly together.”	½
<b>Part 3</b>		<b>Points</b>
Correct identification:	“liquid”	½
Incorrect description:	“liquid moves around.”	-
<b>Part 4</b>		<b>Points</b>
Correct identification:	“model a gas”	½
Correct description:	“gas moves faster”	½
<b>Total Points</b>		<b>3½</b>

① Model A is gas. Gas is spread far apart.

② Model B is a solid. A solid is packed tightly together.

③ Model C is a liquid. Liquid moves around.

④ Model A gas, gas moves faster and has more kinetic energy.

SCORE: 2

<u>Part 1</u>		Points
Correct identification:	"gas"	½
Correct description:	"it is all spread out"	½
<u>Part 2</u>		Points
Correct identification:	"solid"	½
Correct description:	"they are together"	½
<u>Part 3</u>		Points
Correct identification:	"liquid"	½
Incorrect description:	"it is water and it is flouting a round."	-
<u>Part 4</u>		Points
Incorrect identification:	"Model B"	-
Incorrect description:	"because it is not moving at all."	-
<b>Total Points</b>		<b>2½</b>

① model A is most likely a gas like the Air because it is all spread out.

② model B is most likely a solid like a ice cube because they are together and still.

③ model C is most likely a liquid because it is water and it is flouting a round.

④ model B best represented a kinetic energy because it is not moving at all.

SCORE: 1

<b>Part 1</b>		<b>Points</b>
Incorrect identification:	“solid”	-
Incorrect description:		-
<b>Part 2</b>		<b>Points</b>
Incorrect identification:	“Gas”	-
Incorrect description:		-
<b>Part 3</b>		<b>Points</b>
Correct identification:	“liquid”	½
Incorrect description:		-
<b>Part 4</b>		<b>Points</b>
Correct identification:	“A”	½
Incorrect description:	“Because it is stronger and has more cells.”	-
<b>Total Points</b>		<b>1</b>

1. It is a solid.

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2. It is a gas.

---

3. It is a liquid.

---

4. A, Because it is stronger and has more cells,

SCORE: 0

<u>Part 1</u>		Points
Incorrect identification:		-
Incorrect description:	"Model A has at least amount of molecules"	-
<u>Part 2</u>		Points
Incorrect identification:		-
Incorrect description:	"Model B is still there's no moving of anything"	-
<u>Part 3</u>		Points
Incorrect identification:		-
Incorrect description:	"Model C is now traveling every were"	-
<u>Part 4</u>		Points
Incorrect identification:	"Model C"	-
Incorrect description:	"because it has a lot of energy"	-
<b>Total Points</b>		<b>0</b>

<p>Model A has at least amount of molecules and they started moving around</p>	<p>Model B is still there's no moving of anything but made more molecules</p>
<p>Model c is now traveling every were it has the most energy</p>	<p>Model c has the most kinetic energy because it has a lot of energy</p>









# ACTAAP

Arkansas Comprehensive Testing, Assessment, and Accountability Program

DEVELOPED FOR THE ARKANSAS DEPARTMENT OF EDUCATION, LITTLE ROCK, AR 72201

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