ACTAAP

Arkansas Comprehensive Testing, Assessment, and Accountability Program

Released Item Booklet

Arkansas Augmented Benchmark Examination

APRIL 2008 ADMINISTRATION

GRADE 7

Arkansas Department of Education

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PART I Overview–2008 Augmented Benchmark Grade 7

The criterion-referenced tests implemented as part of the **Arkansas Comprehensive Testing, Assessment, and Accountability Program** (ACTAAP) are being developed in response to Arkansas Legislative Act 35, which requires the State Board of Education to develop a comprehensive testing program that includes assessment of the challenging academic content standards defined by the Arkansas Curriculum Frameworks.

As part of this program, all Grade 7 students in Arkansas public schools participated in the *Grade 7 Augmented Benchmark Examination* in April 2008.

This *Released Item Booklet for the Grade 7 Augmented Benchmark Examination* contains test questions or items that were asked of students during the April 2008 operational administration. The test items included in Part II of this booklet are those items that contributed to the student performance results for that administration. **Please make note that only 50% of the 2008 criterion-referenced test items are released in this booklet.**

Students were given approximately two and a half hours each day to complete assigned test sessions during the five days of testing in April 2008. Students were permitted to use a calculator for the Mathematics items (both multiple-choice and open-response), with the exception of questions 1–3 in this *Released Item Booklet*. Students were also supplied with a reference sheet to be used during the Mathematics sessions so that all students would have equal access to this information during testing. (See the reference sheet on page 26 of this booklet.) All of the Reading, Writing, Mathematics, and Science multiple-choice items within this booklet have the correct response marked with an answer hand. The open-response questions for Reading, Mathematics, Science, and the prompt for Writing are listed with scoring guides (rubrics) immediately following. These rubrics provide information on the scoring model used for each subject, with the scoring model for Writing defining the overall curricular and instructional link for that subject with the Arkansas *English Language Arts Curriculum Framework*. The domain scoring model, implemented within Arkansas for a number of years, illustrates the appropriate instructional approaches for Writing within the state.

The development of the *Grade 7 Augmented Benchmark Examination* was based on the Arkansas Curriculum Frameworks. These frameworks have common, distinct levels: *Strands*, which are broad concepts, *Content Standards* within each Strand, and *Student Learning Expectations* within each Content Standard. Abridged versions of the Arkansas *English Language Arts Curriculum Framework—Reading Strand*, Arkansas *English Language Arts Curriculum Framework—Writing Strand*, Arkansas *Mathematics Curriculum Framework,* and Arkansas *Science Curriculum Framework* can be found in Part III of this booklet. It is important to note that these abridged versions list only the predominant Strand, Content Standard, and Student Learning Expectation associated with each item. However, since many key concepts within the Arkansas Curriculum Frameworks are interrelated, in many cases there are other item correlations or associations across Strands, Content Standards, and Student Learning Expectations.

Part III of the *Released Item Booklet* also contains a tabular listing of both released and non-released items, aligned to the Strand, Content Standard, and Student Learning Expectation that each question was designed to assess. The multiple-choice and open-response items found on the *Grade 7 Augmented Benchmark Examination* were developed in close association with the Arkansas educational community. Arkansas teachers participated as members of Content Advisory Committees for each subject area, providing routine feedback and recommendations for all items. Part III of the *Released Item Booklet* provides Arkansas educators with specific information on how the *Grade 7 Augmented Benchmark Examination* items align or correlate with the Arkansas Curriculum Frameworks to provide models for classroom instruction.

100000044045

Read the following passage about a young Navajo girl's love of running. Then answer multiple-choice questions 1 through 8 and open-response question 1.

Dreams on a Mesa

by Terry Anderson

The trailer door closed softly. Annalisa glanced through the window and saw her brother, Harrison, slipping out for his early morning run.

Annalisa pulled the soft covers up under her chin and thought about Harrison running on this chilly October morning. He had been a strong runner since he was a little boy, and now he was one of the top high-school runners in New Mexico. Harrison's coach was looking into scholarships for him. Annalisa knew that Harrison secretly dreamed of going on to college.

Annalisa had dreams of her own. Even though she was only ten, she believed that she, too, had the potential to be an excellent runner. Someday she dreamed of having the strength to train alongside Harrison.

Annalisa liked to run along the dirt trails near their trailer at Mariano Lake. She ran for the sheer pleasure of it—to feel her heart pound as she raced up the steep, rocky goat trails. Sometimes she'd spy a long-eared jackrabbit effortlessly darting across the ground, and she would race it. Taking long strides, she would leap over the prickly-pear cactus, dodge the ankle-twisting rocks, and dart over dried-out sandy washes—only to be left in the jackrabbit's dust.

Although Annalisa never won the race, she felt that the rabbits were challenging her to run faster, to realize her dream of running with her brother.

Annalisa kept her running a secret from her brother. She was afraid that she couldn't match his stride and that she would only be a nuisance to him. The last thing she wished to do was to interfere with Harrison's training. So Annalisa continued to sprint up and down the trails near her family's trailer, but never in Harrison's sight.

The weekend was approaching, and Annalisa looked forward to her family's trip to Shiprock, New Mexico, to visit Great-Grandmother. Father's grandmother lived in a traditional Navajo hogan with an earthen floor, even though Father and Uncle had built a small two-room house for her nearby. Great-Grandmother had tried living in the new house, but she said she felt more comfortable in her old hogan.

Annalisa always stayed in the hogan

when they visited, while Harrison and her parents slept in the new house. Annalisa liked the smell of the piñon[1] fire in the center of the hogan and the feel of the scratchy wool blankets when she curled up on the cot.

She and Great-Grandmother liked to sit up late discussing the new lambs in the corral, a rug that was on the loom, or a movie Annalisa had seen on TV. This weekend Annalisa hoped she could talk to Great-Grandmother about her dream of running as swiftly as the jackrabbits.

When Friday evening came, Annalisa and her family squeezed into their green pickup and headed out on the back roads toward Shiprock. The sun was already setting in the west, and the red rocks of the mesa glowed in the vibrant streaks of orange, red, pink, and purple stretching across the sky. It was dark by the time they arrived at Great-Grandmother's hogan.

Annalisa spent the following morning doing chores with Great-Grandmother. In the afternoon she and Harrison watched a football game on TV in the new house, but Annalisa much preferred the quiet of Great-Grandmother's hogan.

Later Great-Grandmother fixed some Navajo herb tea and mutton stew for dinner while Annalisa mixed the dough for her favorite treat—fry bread.

As the stew simmered, Great-Grandmother carefully placed large circles of dough in a pan of bubbling oil. Annalisa studied the old woman's face. To Annalisa, Great-Grandmother was beautiful. She was warm and worn and comfortable. They were at ease in their conversation and in their silence.

Slowly and quietly, Annalisa started to tell Great-Grandmother about her running. She explained how she felt with her hair flying in the wind and her strong legs pumping until her heart felt it would burst. The words rushed out, and Annalisa's face shone with excitement.

Great-Grandmother sat very still, listening. When Annalisa finally finished, there was a twinkle in Great-Grandmother's eye. Annalisa wasn't the only one with a secret to share, Great-Grandmother said. When she was a small girl, she had also found joy in dashing up and down the mesas. She had been proud to be the fastest of all the girls in the family. "Keep trying to run faster and farther," she told Annalisa. "It's a good dream."

Great-Grandmother drew a map with her finger on the dirt floor to show Annalisa an old goat trail that led to an enormous red rock on the side of the mesa. Years ago, Great-Grandmother had run to this very spot with all her cousins. Annalisa studied the map. She vowed to wake up with the sun and make the journey to this special place.

The sound of the old rooster crowing outside the door woke Annalisa. It was already daylight. Annalisa felt for her shoes and her sweat suit and sleepily left the hogan.

Her annoyance with herself for oversleeping dissolved as she discovered the worn goat trail that Great-Grandmother had described. The first leg of the trail was fairly flat, allowing Annalisa to run easily. She imagined her great-grandmother moving along the same trail years ago.

Then the trail steepened into a rocky uphill climb. Weeds choked the trail, grabbing at her sweat pants. Annalisa didn't slow her pace. She kept her eyes on the huge sandstone rock directly above her on

[1]piñon: any of various low-growing pines of western North America with edible seeds

the edge of the mesa top, shining in the morning sun. It had to be the one that Great-Grandmother had described.

Somehow, knowing that it was Great-Grandmother's own special place made this run different from any other. Annalisa pushed her straight black hair away from her face and pressed on toward the rock.

A few ravens flew off noisily as Annalisa scrambled up the side of the rock and finally rested at the top. The view was magnificent.

22 Annalisa could clearly see Great-Grandmother's hogan, with dozens of sheep grazing near it, and off in the distance, the rock formation known as Shiprock. She felt her blood racing as she took in the timeless beauty around her.

Suddenly she heard a rustling sound below her on the rugged trail. Annalisa held her breath as a black-haired young man deftly climbed the remaining steps to the special rock.

It was Harrison! She hadn't even heard him behind her. Only slightly winded, he eased himself onto a smooth section of the sandy red rock. He took a moment to survey the beauty of the scene below him, then grinned knowingly at Annalisa.

"You've been keeping a secret, little sister," he teased. "You're as surefooted as a mountain goat on that rocky trail. How did you ever find this great place?"

Harrison smiled as she told him Great-Grandmother's secret. Then he said, "Why don't we run back together?"

Annalisa sighed happily as she and Harrison started down, quickly picking their way among the slippery rock footholds. Together they leaped over the prickly bushes, pushing harder to maintain their speed in the soft, sandy spots. They ran in a rhythmic stride, each one enjoying the company of the other. Joyfully, Annalisa led the way to the hogan, feeling as free-spirited and swift as her old friend the jackrabbit.

1 100000044046

What does the jackrabbit represent to Annalisa?

A the traditions of her family
B her brother's dreams of college
☞ **C** a challenge to make her run faster
D her fears of being a nuisance to her brother

2 100000044054

Which type of writing **best** describes the passage?

A a myth
B a legend
C a folk tale
☞ **D** a short story

3 100000044047

What is the **most** likely reason Great-Grandmother prefers living in her hogan?

☞ **A** She feels closer to her heritage.
B She has more room for weaving.
C She dislikes modern technology.
D She has fewer chores to perform.

4 100000044048

What is the overall mood of the passage?

A gloomy
☞ **B** hopeful
C humorous
D suspenseful

5 100000044049

How does Annalisa know where to find Great-Grandmother's secret place?

A She follows Harrison along the trail.
B She runs directly east, into the morning sun.
C She carries a map her great-grandmother gave her.
☞ **D** She remembers the map her great-grandmother drew on the dirt floor.

6 100000044050

What motivates Annalisa to run to the red rock?

A She wants to outrun the jackrabbit.
B She wants to run faster than Harrison.
☞ **C** She wants to run on Great-Grandmother's trail.
D She wakes up early in the morning and is restless.

7 100000044053

In paragraph 22, Annalisa feels her "blood racing." This image describes Annalisa as being

☞ **A** thrilled.
B enraged.
C confident.
D impatient.

8 100000044051

Which **best** expresses a theme in the passage?

A Athletic programs develop talents.
B Exercise is important to healthy living.
☞ **C** Goals are achieved by improving skills.
D Sports provide opportunities for scholarships.

100000047611

Read the following passage, which describes the job of being an ice-cream taster. Then answer multiple-choice questions 9 through 16 and open-response question 2.

One Cool Job

by Danielle S. Hammelef

What do you want to be when you grow up? A teacher? A doctor? An astronaut? How about an ice-cream taster?

Yes, there really is a job where you can get paid to taste ice cream. Just ask John Harrison, an "Official Taste Tester" at Dreyer's/Edy's Ice Cream for the past 21 years. Testing helps manufacturers to be sure of a product's quality. During his career Harrison has been responsible for approving over 200 million gallons of the sweet creamy dessert—as well as for developing over 75 flavors.

Harrison hadn't always wanted to be in the ice cream business. As a kid, he'd wanted to be a fire fighter or a police officer, among other careers.

4 But ice cream runs in his family. "It was like I fell into a batch of ice cream," he says, chuckling. Four generations of Harrisons have been "in" ice cream, including his great-grandfather, who owned two ice-cream parlors in New York City in the 1880s, his father, who owned a dairy-ingredients factory in Georgia, and his uncle, who owned an ice cream factory in Tennessee. At his uncle's factory, he "tasted and ate" his way through high school and college as he learned how to make ice cream. He likes to joke that ice cream is so much a part of his life that his blood "runs sixteen percent butterfat."

A Day in Dessert

Some people think that it would be easy to do this job; after all, you just have to like ice cream, right? Nope—there's more to the job than that, says Harrison, who has a degree in chemistry. He points out that a dairy or food-science degree would be useful to someone wanting a career in this "cool" field.

In a typical morning on the job, Harrison tastes and evaluates 60 ice-cream samples—3 each from the 20 flavor batches produced the previous day. Starting with vanilla and working up to stronger flavors like mint chocolate-chip, he slices open each container.

Then he lets the ice cream warm up to about 12 degrees Fahrenheit. The temperature in the storage freezer is –20 degrees. Most people eat ice cream at between 0 and 5 degrees. But cold ice

cream can numb taste buds, Harrison explains, so "You get more flavor from warmer ice cream, which is why some kids like to stir it, creating ice cream soup."

Tasting with Your Eyes

While the ice cream warms up, Harrison looks over the samples and grades each one on its appearance. "Tasting begins with the eyes," he explains. He checks to see if the ice cream is attractive and asks himself, "Does the product have the color expected from that flavor?" If there are added goodies in the ice cream, such as fruit, chocolate chips, nuts, or fudge ribbons, he makes sure that they are evenly spread throughout and that the sample doesn't have too much or too little of the added ingredients.

Next it's time to taste! With his gold-plated spoon, which he uses to avoid the aftertaste plastic or wood can give, Harrison skims the top of the sample, where it's warmest. Then he turns the spoon upside down and plops the spoonful onto his tongue.

Swirl, Smack, and . . .

"I've developed a way of tasting called the Three *S*'s," he says. "First, I *swirl* the ice cream very quickly around in my mouth, completely coating my taste buds. Then I *smack* my mouth several times very fast to warm up the ice cream even more and to add air, to release maximum flavor." While swirling and smacking, he tastes for balance between the cream, the natural flavors, and the sweetening ingredients, and he checks to be sure that the ice cream texture is smooth and creamy, not icy or gummy.

You might expect swallow to be the third *S* in his tasting method, but it's not. "We eat for nutrition," Harrison says. "Swallowing isn't necessary to taste ice cream." After about three to five seconds of swirling and smacking, he demonstrates the third *S*—he *spits* out the sample into a bucket. "That's the worst part of my job," he sighs, "spitting out the ice cream."

The Taste of Success

But that doesn't mean he never eats ice cream. Harrison swallows one bite of each new flavor, to test the aftertaste.

At home and "off-duty" he eats whatever flavors he chooses—and more than just one bite! Vanilla is his favorite. He enjoys making his own ice cream and swirling goodies into it. "We're all kids when it comes to ice cream," he says.

Both at work and in leisure time, Harrison is always on the lookout for new flavor ideas that might succeed commercially. The most popular flavor he has developed so far is cookies and cream.

Continuing to think up new ideas, try out new flavors, and test samples from so many batches of ice cream each day keeps Harrison busy but happy—working at one cool job.

Judging by sales, the most popular ice-cream flavor in the U.S. is vanilla, and the second is chocolate.

Taste-test a food while holding your nose. How well can you taste a food if you can't smell it? John Harrison's nose helps him do his job!

Strange but true: among the many ice-cream flavors that have been made are tuna fish, mustard, garlic, sauerkraut, mashed potatoes and bacon, jalapeño pepper, and chili con carne.

9 100000047612

How might young people benefit from reading "One Cool Job"?

☞ **A** It exposes them to an unusual line of work.
B It teaches them the history of the Harrison family.
C It gives them tips for improving their sense of taste.
D It helps them understand how the dairy business works.

10 100000047613

Why does John Harrison say that spitting is the worst part of his job?

A He knows that spitting is impolite.
B He only spits out the samples that fail his test.
C He would rather swallow because it is less messy.
☞ **D** He wishes he could swallow every sample he tastes.

11 100000047614

Part of John Harrison's job as an ice-cream tester involves looking at the ice cream. What is he looking to see?

A if it is smooth and creamy
☞ **B** if the color suits the flavor
C if it is easy to stir and swirl
D if any ingredients are missing

12 100000047615

Ice cream can have an aftertaste. The passage states that aftertaste

A is present only when the ice cream is of poor quality.
B is present even when you do not swallow the ice cream.
☞ **C** is affected by the kind of spoon used to eat the ice cream.
D is often different from the original flavor of the ice cream.

13 100000047616

What is the **most** likely reason the author wrote this passage?

☞ **A** to inform the reader
B to frighten the reader
C to provoke the reader
D to persuade the reader

14 100000047620

Describing John Harrison in paragraph 4, the passage states that "ice cream runs in his family." What does this statement mean?

A Everyone in his family eats a lot of ice cream.
B People in his family prefer their ice cream to be soft and runny.
C His family has always had a very strong fondness for ice cream.
☞ **D** Several members of the family have worked in the ice-cream business.

15 100000047617

Which is evident from John Harrison's work?

A Many jobs are available for people who want to test ice cream.
☞ **B** Ice-cream testing involves more than simply tasting the product.
C People who test ice cream have an unusually good sense of taste.
D Ice-cream testers use their sense of smell more than their sense of taste.

16 100000047618

Which statement from the passage is an opinion?

☞ **A** "We're all kids when it comes to ice cream."
B "The temperature in the storage freezer is –20 degrees."
C "Judging by sales, the most popular ice-cream flavor in the U.S. is vanilla."
D "With his gold-plated spoon . . . Harrison skims the top of the sample, where it's warmest."

READING OPEN RESPONSE ITEM 1, FOR PASSAGE "DREAMS ON A MESA"

1

100000044052

Annalisa's environment influences her development. Identify two ways the environment helps Annalisa develop athletic skills. Explain how Annalisa uses her environment to achieve her dream. Use specific details from the passage to support your answer.

RUBRIC FOR READING OPEN RESPONSE ITEM 1, FOR PASSAGE "DREAMS ON A MESA"

SCORE	DESCRIPTION
4	Response identifies two ways the environment helps Annalisa develop athletic skills and provides an explanation of how Annalisa uses each way to achieve her dream.
3	Response identifies two ways the environment helps Annalisa develop athletic skills and provides one explanation of how Annalisa uses her environment to achieve her dream, OR response identifies one way the environment helps Annalisa develop athletic skills and provides a complete explanation of how Annalisa uses her environment to achieve her dream.
2	Response identifies two ways the environment helps Annalisa develop athletic skills OR response identifies one way the environment helps Annalisa develop athletic skills and provides one explanation of how Annalisa uses her environment to achieve her dream.
1	Response identifies one way the environment helps Annalisa develop athletic skills, OR provides an explanation of how Annalisa uses her environment to achieve her dream OR demonstrates minimal understanding.
0	Response is incorrect or irrelevant.

READING OPEN RESPONSE ITEM 2, FOR PASSAGE "ONE COOL JOB"

2

100000047619

One section of the passage is titled "Tasting with Your Eyes." Provide two examples from the passage where John Harrison uses his sense of sight, and describe their importance to the tasting process.

RUBRIC FOR READING OPEN RESPONSE ITEM 2, FOR PASSAGE "ONE COOL JOB"

SCORE	DESCRIPTION
4	Response provides two examples from the passage where John Harrison uses his sense of sight and describes their importance to the tasting process.
3	Response provides two examples from the passage where John Harrison uses his sense of sight and describes the importance of one example.
2	Response provides one example from the passage where John Harrison uses his sense of sight and describes the importance of one example, OR response provides two examples from the passage where John Harrison uses his sense of sight.
1	Response provides one example from the passage where John Harrison uses his sense of sight OR describes the importance of sight to the tasting process OR demonstrates minimal understanding.
0	Response is incorrect or irrelevant.

1 100000041727

I found an interesting article in the Sunday edition of the *new york times*.

Which is the **best** way to edit the capitalization in the sentence above?

A I found an interesting article in the Sunday Edition of the *new york times*.
B I found an interesting article in the sunday edition of the *New York times*.
☞ **C** I found an interesting article in the Sunday edition of the *New York Times*.
D I found an interesting Article in the Sunday Edition of the *New york Times*.

2 100000041728

Mr. Jacobs is the man to _____ I gave my ticket.

Which **best** completes the sentence above?

A who
☞ **B** whom
C which
D whomever

PART II Released Writing Prompt–2008 Augmented Benchmark Grade 7

Writing Prompt

W04PR704 100000043513

Your teacher has asked you to write an essay on the following topic:

What is a goal you would like to achieve? What are you doing to achieve that goal?

Before you begin to write, think about a goal you would like to achieve. It may be to do well in school, or it may be to get a particular job when you get older. It can be any goal that you would like to reach. What steps are you taking to accomplish that goal?

Now write an essay for your teacher about a goal you would like to achieve. Be sure to name the goal and explain what you are doing to reach that goal. 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 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?

Domain Scoring Rubric

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 • Elaboration • Unity • Organization

Style (S)
The Style domain comprises those features that show the writer 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 • Standard word order • Absence of fused sentences
• Expansion through standard coordination and modifiers • Embedding through standard subordination 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 • Agreement • Word meaning • 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 • Punctuation • Formatting • Spelling

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, is done with the assistance of a committee of Arkansas teachers, language arts supervisors, and representatives of the Arkansas Department of Education.

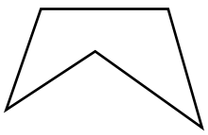
Non-scoreable and Blank Papers
Compositions are scored, unless they are off-topic, illegible, incoherent, refusals to respond, written in a language other than English, or too brief to assess. A score of "NA" indicates that the student's writing entry was non-scoreable and that entry will receive a score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

CALCULATOR NOT PERMITTED–ITEMS 1–3

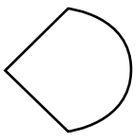
1 100000044761

Which figure is a concave polygon?

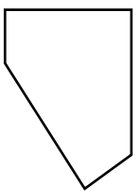
☞ **A**



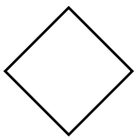
C



B



D



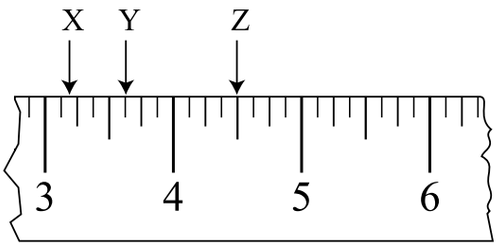
2 100000044736

This season, a baseball team increases ticket prices by 15% over the previous season's prices. How much will a ticket cost this season that had a price of $24 the previous season?

A $24.36
B $26.40
☞ **C** $27.60
D $36.00

3 100000044707

The figure below shows part of a ruler, and the letters X, Y, and Z represent specific measurements. What is the **correct** measurement for letter X's location?



☞ **A** $3\frac{3}{16}$ inches

B $3\frac{2}{8}$ inches

C $3\frac{1}{2}$ inches

D $3\frac{5}{8}$ inches

CALCULATOR PERMITTED–ITEMS 4–10 and 1–2

4 100000044733

What is the rule for finding the output in the table below?

Input (x)	Output (y)
5	14
6	17
7	20
8	23
9	26
10	29

A add 3 to x
B multiply x by 2, then add 4
☞ **C** multiply x by 3, then subtract 1
D multiply x by 4, then subtract 11

5 100000044726

Which function table represents $y = 3x + 2$?

A

x	y
-2	-4
0	5
3	11

B

x	y
-2	-8
0	2
3	11

☞ **C**

x	y
-2	-4
0	2
3	11

D

x	y
-2	0
0	$-\frac{2}{3}$
3	$\frac{1}{3}$

6 100000044679

Jack's math test scores are listed below.

82 62 91 83 75 83

If Jack scores a 97 on his next math test, which statement would be true?

☞ **A** The mean and median would increase while the mode would remain the same.
B The median would increase while the mean and mode would remain the same.
C The mode would increase while the mean and median would stay the same.
D The mode, median, and mean would all increase.

7 100000044722

A woodworking class spends $5 for materials to make yo-yos. The class sells the yo-yos for $2 each. The table below represents how much profit is made when x yo-yos are sold.

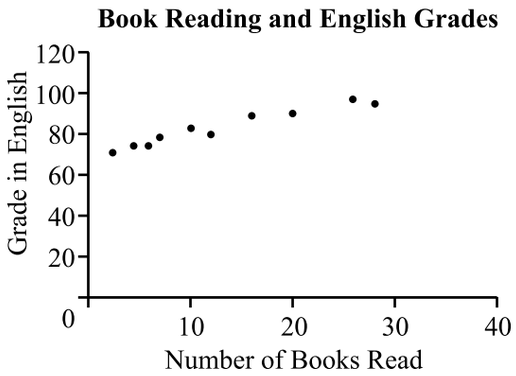
Number of Yo-Yos Sold (x)	Profit in Dollars ($2x - 5$)
1	-3
2	-1
4	3
8	y
16	27

What is the value of y in the function table?

A 5
B 6
☞ **C** 11
D 21

8 100000044684

The scatterplot below shows the number of books read by students in Mrs. Hall's English class and their final grades. Which statement represents the **best** conjecture about the line of best fit?



A The more books students read, the lower their English grade.

☞ **B** The more books students read, the higher their English grade.

C The fewer books students read, the higher their English grade.

D No relationship exists between the number of books students read and their English grades.

9 100000044701

A rectangle and a square have equal perimeters. The area of the square is 64 square inches and the length of the rectangle is 10 inches.

What is the width of the rectangle?

A 32 in.

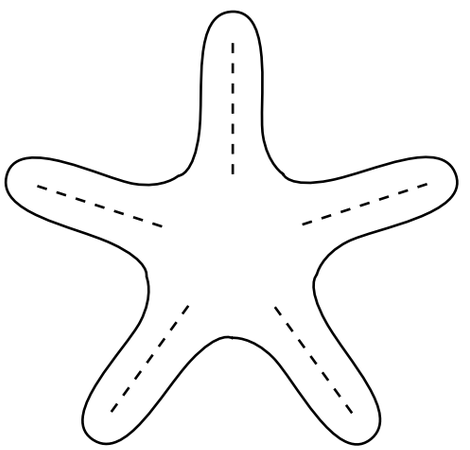
B 12 in.

C 8 in.

☞ **D** 6 in.

10 100000044766

What is the minimal rotational symmetry of the starfish shown below?



☞ **A** 72°

B 90°

C 144°

D 360°

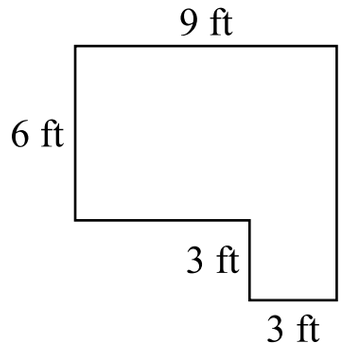
MATHEMATICS OPEN RESPONSE ITEM 1

1

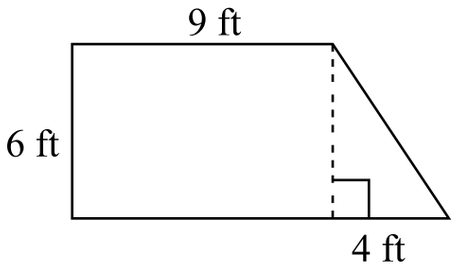
100000044752

Melanie wants to plant a vegetable garden in two different garden plots, as shown in the figures below.

A.



B.



1. Melanie needs 65 sq ft to plant corn in her garden. Which garden plot should Melanie choose to plant corn? Show all your work and/or explain your answer.

2. Melanie plans to fertilize both garden plots 2 times during the season. One bag of fertilizer will fertilize 135 sq ft. How many bags of fertilizer will Melanie need to buy? Show all your work and/or explain your answer.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

RUBRIC FOR MATHEMATICS OPEN RESPONSE ITEM 1

SCORE	DESCRIPTION
4	Response contains no incorrect work.
3	The student earns 3 points.
2	The student earns 2 points.
1	1 or some minimal understanding shown.
0	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.)

Solution and Scoring

<table>
<tr><th>Part</th><th>Points</th></tr>
<tr><td>1</td><td>2 points possible

2 points: Correct answer (B) with correct and complete work shown finding
areas of Plots A and B
Give credit for the following or equivalent:
• Melanie should plant corn in plot B because it has 66 sq ft.
Area of plot A = area of rectangle plus the area of a square
$6 \times 9 = 54$
$3 \times 3 = 9$
$54 + 9 = 63 \text{ sq ft}$
Area of plot B = area of rectangle plus the area of a triangle
$6 \times 9 = 54$
$\frac{1}{2} \times 4 \times 6 = 12$
$54 + 12 = 66 \text{ sq ft}$

or

• (6 x 6) + (9 x 3) = 63
(13 x 6) – (6x4)/2 = 66
B
Or
1 point: Response is incomplete and/or contains a calculation error
Give credit for the following or equivalent:
• 2 correct areas are given
Work is correct and complete
Answer is incorrect or missing or
• 2 correct areas are given
Work is incomplete or missing
With or without correct answer or
• 1 area is correct with work shown
2nd area incorrect due to calculation error
With or without correct answer</td></tr>
<tr><td>2</td><td>2 points possible

1 point: Correct answer: 2
or correct answer based on incorrect area(s) given in Part 1
And
1 point: Correct and complete procedure shown and/or explained
May contain a calculation or copy error
Give credit for the following or equivalent:</td></tr>
</table>

	• $63 + 66 = 129, \quad 129 \times 2 = 258$ $258 \div 135 = 1.91$ bags of fertilizer

MATHEMATICS OPEN RESPONSE ITEM 2

2

100000044712

The table below shows how many minutes were spent studying for a test and the scores received on the test by 6 students.

Minutes Spent Studying (*x*)	Score Received on Test (*y*)
45	99
25	94
22	82
18	75
15	71
10	65

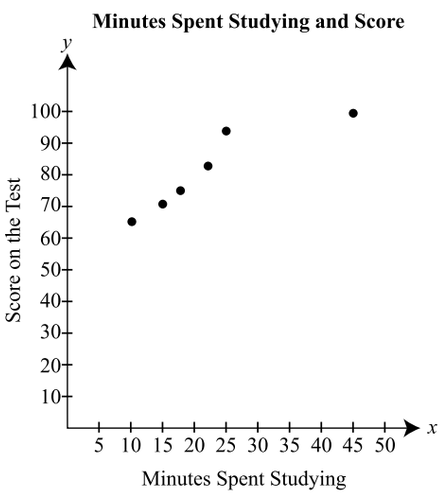
1. What is the mean test score in the table above? Show all your work and/or explain your answer.
2. On the grid in your answer document, draw a scatterplot to display the data in the table above. Use all the correct graphing techniques.
3. Based on the scatterplot, write a sentence describing the relationship between the minutes spent studying and the scores received on the test.

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

RUBRIC FOR MATHEMATICS OPEN RESPONSE ITEM 2

SCORE	DESCRIPTION
4	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	$\frac{1}{2}$-1 $\frac{1}{2}$ or some minimal understanding shown.
0	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.)

Solution and Scoring

Part	Points
1	**1 point possible** ½ point: Correct answer: **81** **And** ½ point: Correct and complete procedure shown and/or explained May contain a calculation or copy error Give credit for the following or equivalent: • 99 + 94 + 82 + 75 + 71 + 65 = 486 486 ÷ 6 = # or • "I added up all the scores and got 486. Then I divided 486 by 6 to get the mean."
2	**2 points possible** 2 points: Correct and complete scatter plot (as shown below) that contains the following: • Intervals are consistent • x-axis is labeled with "Minutes…".,and y-axis is labeled with "Score…" • All points are plotted correctly • Title is required only at the "4" level  **Or** 1 point: Scatter plot contains 1-2 minor error(s) or omission(s) but is otherwise correct. Ex: Labels on x and/or y-axis are missing, points are correctly plotted Ex: Labels and intervals are correct, 1-2 points are off or missing, but the remaining points are correctly plotted **NOTE:** An attempt of a line of best fit or trend line (correct or not) cannot receive a score of "4". **NOTE:** Representations of the data other than a scatter plot

	(line graph, bar graph, etc.) receive no points for Part 2.
3	**1 point possible** 1 point: Correct description of relationship between time and scores. Give credit for the following or equivalent: • "Test scores increase in relationship to number of minutes spent studying. After studying 25 minutes, test scores increase only slightly." or • "The more minutes spent studying the better the grade on the test."

Mathematics Reference Sheet
Grade 7

Use the information below, as needed, to answer questions on the Mathematics test.

Square Area = s^2 Perimeter = $4s$	**Rectangle** Area = lw Perimeter = $2(l + w)$	**Triangle** Area = $\frac{1}{2}bh$ Perimeter = $a + b + c$
Circle Area = πr^2 Circumference = $2\pi r$	**Parallelogram** Area = bh Perimeter = $2a + 2b$	**Equilateral Triangle** Perimeter = $3s$
Cube Volume = s^3	**Cone** Volume = $\frac{1}{3}\pi r^2 h$	**Rectangular Prism** Volume = lwh
Pyramid Volume = $\frac{1}{3}$ (area of base)h	**Sphere** Volume = $\frac{4}{3}\pi r^3$	**Cylinder** Volume = $\pi r^2 h$
		Trapezoid Area = $\frac{1}{2}h(b_1 + b_2)$

Miscellaneous Formulas and Conversions

$\pi \approx 3.14$

distance = rate × time

1 foot = 12 inches
1 yard = 3 feet
1 mile = 5,280 feet

1 cup = 8 ounces (oz)
1 pint = 2 cups
1 quart = 2 pints
1 gallon = 4 quarts

1 kilogram = 1000 grams
1 meter = 100 centimeters
1 decimeter = 10 centimeters
1 centimeter = 10 millimeters
1 kilometer = 1000 meters
1 liter = 1000 milliliters

1 100000052098

Which is a reason for Arkansas having multiple seasons?

☞ **A** the tilt of Earth's axis
B the speed of Earth's orbit
C Earth's distance from the Sun
D Earth's gravitational pull toward the Moon

2 100000052067

How many chromosomes are in a human sperm cell?

A 12
☞ **B** 23
C 46
D 58

3 100000052056

Which question can **most** likely be determined through a scientific investigation?

A Who will be the winner of the next lottery?
B What football team will win the next game?
☞ **C** What is the amount of light needed to grow tomatoes?
D Which four types of bird feathers have the prettiest colors?

4 100000052093

A student is investigating Newton's second law of motion by changing the force acting on an object and observing its resulting acceleration. If the force on the object were increased four times, by how much would the acceleration increase?

A 2 times
☞ **B** 4 times
C 8 times
D 16 times

5 100000052070

Which is a characteristic of a sperm cell but **not** of an egg cell?

A round shape
☞ **B** presence of a tail
C contains genetic information
D involved in sexual reproduction

6 100000052101

The table below gives four fossils that have been found by an archeologist.

Fossil	Description
1	banana tree leaf
2	cactus burr
3	sand crab shell
4	woolly mammoth tusk

Which fossil is **most** likely to have come from a location that once had a cold, snowy climate?

A Fossil 1
B Fossil 2
C Fossil 3
☞ **D** Fossil 4

7 100000052053

Which illustrates the **correct** order of relationships in organisms?

A tissue→organ system→organ→cell
B organ→cell→organ system→tissue
☞ **C** cell→tissue→organ→organ system
D organ system→organ→cell→tissue

8 100000052100

Why would explorers use a compass when traveling to unknown lands?

☞ **A** to locate a direction of travel
B to measure the quality of drinking water
C to protect themselves from wild animals
D to determine levels of humidity in tropical areas

9 100000052080

The table below shows four unknown geographic locations.

Climate Features of Four Locations

Location	Climate Features
1	cold temperatures year round, constant and heavy precipitation
2	cold temperatures six months out of the year, light to moderate precipitation
3	warm temperatures year round, moderate precipitation
4	hot temperatures during daylight, very cold during night, and little to no precipitation

Which is **most** likely located near the equator?

A Location 1
B Location 2
☞ **C** Location 3
D Location 4

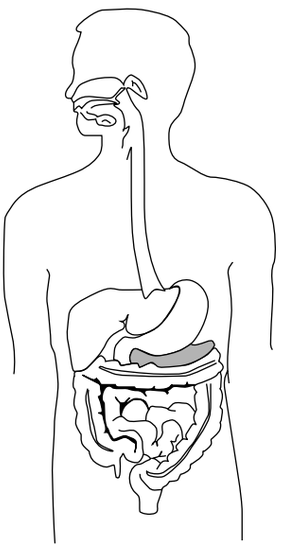
10 100000052084

What would **most** likely be measured during an investigation of the water cycle?

A wind speed
B ozone layer
C natural gas emissions
☞ **D** precipitation amounts

11 100000052055

Which body system is depicted in the diagram below?



☞ **A** digestive
B circulatory
C respiratory
D reproductive

12 100000052047

What is the **smallest** structural and functional unit of the nervous system?

A brain
B organ
☞ **C** neuron
D spinal cord

13 100000052094

According to Newton's first law of motion, what counteracts gravity to keep a satellite in orbit?

☞ **A** inertia
B energy
C friction
D magnetism

14 100000052087

An Italian scientist named Alessandro Volta invented the Voltaic pile in 1800. It was able to produce a steady electrical current. Based on this description, what is the modern equivalent of the Voltaic pile?

A a wire
☞ **B** a battery
C a resistor
D a lightbulb

15 100000052097

Which would a scientist use in trying to model the cause of planetary years?

A planetary mass
B planetary color
C a planet's core temperature
☞ **D** a planet's distance from the Sun

16 100000052086

Which energy source might involve burning wood or producing gasohol?

☞ **A** biomass
B wind turbine
C nuclear fission
D hydroelectric power

17 100000052088

Which energy source could involve a dam?

A biomass
B solar power
C geothermal energy
☞ **D** hydroelectric power

SCIENCE OPEN RESPONSE ITEM 1

1

100000052105

Answer the following.

1. Explain two ways in which sexual reproduction and asexual reproduction are **alike**.

2. Explain two ways in which sexual reproduction and asexual reproduction are **different**.

BE SURE TO LABEL YOUR RESPONSES 1 AND 2.

RUBRIC FOR SCIENCE OPEN RESPONSE ITEM 1

SCORE	DESCRIPTION
4	Response shows a *complete understanding* of the problem's essential scientific concepts and procedures. The student responds to all parts of the task.
3	Response shows a *nearly complete understanding* 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 *limited understanding* 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 *minimum understanding* of the problem's essential scientific concepts and procedures. The response contains incomplete procedures and major errors.
0	Response shows *insufficient understanding* 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.

Solution and Scoring

Parts	Points
1	**2 points possible:** 1 point: One similarity is listed. 1 point: One similarity is listed.
2	**2 points possible:** 1 point: One difference is listed. 1 point: One difference is listed.

SCIENCE OPEN RESPONSE ITEM 2

2

100000052046

Choose two of the following processes: evaporation, filtration, settling, and chromatography. Explain and/or draw how each of the two that you chose could be used to separate a mixture.

RUBRIC FOR SCIENCE OPEN RESPONSE ITEM 2

SCORE	DESCRIPTION
4	Response shows a *complete understanding* 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 *nearly complete understanding* 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 show a *limited understanding* 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 *minimum understanding* 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 *insufficient understanding* of the problem's essential scientific concepts. The procedures, if any, contain major errors. There may be no explanation of the solution, or the reader may not be able to understand the explanation. The reader may not be able to understand how and why decisions were made.

Solution and Scoring

Parts	Points
1	**4 points possible:** 4 points: Complete explanation of two processes 3 points: Complete explanation of one process and a Partially complete explanation of another process 2 points: Complete explanation of one process or Partially complete explanations of two processes 1 point: Partially complete explanation of one process or Minimally correct information in an explanation of one process

PART III Item Correlation with Curriculum Frameworks—2008 Augmented Benchmark Grade 7

The Arkansas *English Language Arts Framework—Reading Strand**

Content Standards	Student Learning Expectations
9. Comprehension: Students shall apply a variety of strategies to read and comprehend printed material.	1. Use previewing, activating prior knowledge, predicting content of text, formulating questions, and establishing purposes for reading 2. Infer the interrelations of text and world issues/events by applying connection strategies 3. Prioritize questions formulated and purposes established for reading 4. Generate and prioritize questions related to universal themes to interpret meaning 6. Connect own background knowledge and personal experience to make inferences and to respond to new information presented in text 7. Infer a character's impact on plot development 8. Infer mood of text 11. Distinguish among stated fact, reasoned judgment, and opinion in text 12. Identify main ideas and supporting evidence in short stories and novels 15. Organize information, including simple outlining 16. Use skimming, scanning, note-taking, outlining, and questioning as study strategies 19. Evaluate personal, social, and political issues as presented in text
10. Variety of texts: Students shall read, examine, and respond to a wide range of texts for a variety of purposes.	7. Read a variety of literature, including short stories, science fiction, legends, and myths
11. Vocabulary, Word Study, and Fluency: Students shall acquire and apply skills in vocabulary development and word analysis to be able to read fluently.	8. Identify and explain idioms and comparisons such as analogies, metaphors and similes to infer the literal and figurative meanings or phrases

* The Content Standards and Student Learning Expectations listed are those that specifically relate to the released test items in this booklet.

PART III Item Correlation with Curriculum Frameworks—2008 Augmented Benchmark Grade 7

Released Items for Reading*

Item	Content Standard	Student Learning Expectation	Passage Type
1	9	6	Literary
2	10	7	Literary
3	9	19	Literary
4	9	8	Literary
5	9	12	Literary
6	9	7	Literary
7	11	8	Literary
8	9	4	Literary
9	9	1	Content
10	9	6	Content
11	9	16	Content
12	9	16	Content
13	9	3	Content
14	11	8	Content
15	9	2	Content
16	9	11	Content
1	9	12	Literary
2	9	15	Content

Non-Released Items for Reading*

Item	Content Standard	Student Learning Expectation	Passage Type
1	9	11	Practical
2	9	6	Practical
3	9	16	Practical
4	10	5	Practical
5	11	5	Practical
6	9	6	Practical
7	9	19	Practical
8	11	10	Practical
9	9	18	Practical

*Only the predominant Strand, Content Standard, and Student Learning Expectation is listed.

PART III Item Correlation with Curriculum Frameworks—2008 Augmented Benchmark Grade 7

The Arkansas *English Language Arts Framework—Writing Strand**

Content Standards	Student Learning Expectations
6. Conventions: Students shall apply knowledge of Standard English conventions in written work.	5. Analyze personal and peer sentence formation for effective use of the parts of speech 8. Apply conventional rules of capitalization in writing

* The Content Standards and Student Learning Expectations listed are those that specifically relate to the released test items in this booklet.

Released Items for Writing*

Item	Content Standard	Student Learning Expectation
1	6	8
2	6	5

Non-Released Items for Writing*

Item	Content Standard	Student Learning Expectation
1	6	5
2	6	12

*Only the predominant Strand, Content Standard, and Student Learning Expectation is listed.

PART III Item Correlation with Curriculum Frameworks– 2008 Augmented Benchmark Grade 7

The Arkansas *Mathematics Curriculum Framework**

Strands	Content Standards	Student Learning Expectations
Number and Operations	3. Numerical Operations and Estimation Students shall compute fluently and make reasonable estimates.	6. Solve, with and without *technology*, real world *percent* problems Ex. I=PRT
Algebra	4. Patterns, Relations and Functions Students shall recognize, describe, and develop patterns, relations and functions	1. Create and complete a *function* table (*input*/*output*) using a given rule with two operations DOK – mostly 3 3. Interpret and write a rule for a two operation *function table* Ex. multiply by 2, add 1
	6. Algebraic Models Students shall develop and apply mathematical models to represent and understand quantitative relationships	3. Create and complete a *function table* (*input*/*output*) using a given rule with two operations in real world situations
Geometry	8. Geometric Properties Students shall analyze characteristics and properties of 2 and 3 dimensional geometric shapes and develop mathematical arguments about geometric relationships	2. Investigate geometric properties and their relationships in one-, *two*-, and *three-dimensional* models, including convex and concave *polygons*
	9. Transformation of Shapes Students shall apply transformations and the use of symmetry to analyze mathematical situations	1. Examine the congruence, similarity, and *line* or *rotational symmetry* of objects using *transformations*
Measurement	12. Physical Attributes Students shall use attributes and tools of measurement to describe and compare mathematical and real-world objects	3. Find different *areas* for a given *perimeter* and find a different *perimeter* for a given *area*
	13. Systems of Measurement Students shall identify and use units, systems and processes of measurement	2. Draw and measure distance to the nearest mm and $\frac{1}{16}$ inch accurately 3. Develop and use *strategies* to solve problems involving *area* of a *trapezoid* and *circumference* and *area* of a circle
Data Analysis and Probability	14. Data Representation Students shall formulate questions that can be addressed with data and collect, organize and display	3. Construct and interpret *circle graphs*, *box-and-whisker plots*, *histograms*, *scatter plots* and *double line graphs* with and without appropriate *technology*
	15. Data Analysis Students shall select and use appropriate statistical methods to analyze data	2. Analyze, with and without appropriate *technology*, a set of data by using and comparing measures of *central tendencies* (*mean*, *median*, *mode*) and *measures of spread* (*range*, *quartile*, *interquartile range*)
	16. Inferences and Predictions Students shall develop and evaluate inferences and predictions that are based on data	1. Make, with and without appropriate *technology*, *conjectures* of possible relationships in a *scatter plot* and approximate the *line of best fit* (*trend line*)

*The Content Standards and Student Learning Expectations listed are those that specifically relate to the released test items in this booklet.

PART III Item Correlation with Curriculum Frameworks—2008 Augmented Benchmark Grade 7

Released Items for Mathematics*

Item	Strand	Content Standard	Student Learning Expectation
1	G	8	2
2	N	3	6
3	M	13	2
4	A	4	3
5	A	4	1
6	D	15	2
7	A	6	3
8	D	16	1
9	M	12	3
10	G	9	1
1	M	13	3
2	D	14	3

*Only the predominant Strand, Content Standard, and Student Learning Expectation is listed.

Non-Released Items for Mathematics*

Item	Strand	Content Standard	Student Learning Expectation
1	G	8	1
2	M	12	1
3	D	14	2
4	G	8	4
5	N	1	2
6	G	11	1
7	A	5	4
8	A	6	3
9	G	9	2
10	G	11	2
11	D	14	3
12	D	15	1
13	M	12	2
14	N	1	5
15	N	1	6
16	A	5	2
17	G	10	2
18	N	3	2

PART III Item Correlation with Curriculum Frameworks—2008 Augmented Benchmark Grade 7

The Arkansas *Science Curriculum Framework**

Strands	Content Standards	Student Learning Expectations
Nature of Science	1. Characteristics and Processes of Science Students shall demonstrate and apply knowledge of the characteristics and processes of science using appropriate safety procedures, equipment, and technology.	7. Distinguish between questions that can and cannot be answered by science
Life Science	2. Living Systems: Characteristics, Structure, and Function Students shall demonstrate and apply knowledge of living systems using appropriate safety procedures, equipment, and technology.	1. Illustrate the hierarchical relationships of *cells*, *tissues*, *organs*, and *organ systems* 6. Identify human body systems: • nervous • digestive • circulatory • respiratory • excretory • integumentary • skeletal/muscular • endocrine • reproductive
	3. Life Cycles, Reproduction, and Heredity Students shall demonstrate and apply knowledge of life cycles, reproduction, and heredity using appropriate safety procedures, equipment, and technology.	2. Distinguish between *sperm cells* and *egg cells* 7. Differentiate between sexual and *asexual reproduction* in • *vertebrates* • plants 9. Identify the number and source of chromosomes in human sex *cells*
Physical Science	5. Matter: Properties and Changes Students shall demonstrate and apply knowledge of matter, including properties and changes, using appropriate safety procedures, equipment, and technology.	5. Demonstrate techniques for forming and separating *mixtures*: • mixing • magnetic attraction • evaporation • filtration • chromatography • settling
	6. Motion and Forces Students shall demonstrate and apply knowledge of motion and forces using appropriate safety procedures, equipment, and technology.	3. Demonstrate Newton's second law of motion 5. Explain how Newton's three laws of motion apply to real world situations (e.g., sports, transportation)
	7. Energy and Transfer of Energy Students shall demonstrate and apply knowledge of energy and transfer of energy using appropriate safety procedures, equipment, and technology.	2. Describe alternatives to the use of *fossil fuels*: • *solar energy* • *geothermal energy* • wind • *hydroelectric* power • *nuclear energy* • *biomass* 5. Investigate careers, scientists, and historical breakthroughs related to *natural resources*, alternative resources, *electricity*, and *magnetism*

*The Content Standards and Student Learning Expectations listed are those that specifically relate to the released test items in this booklet.

PART III Item Correlation with Curriculum Frameworks—2008 Augmented Benchmark Grade 7

The Arkansas *Science Curriculum Framework** (continued)

Strands	Content Standards	Student Learning Expectations
Earth and Space Science	8. Earth Systems Students shall demonstrate and apply knowledge of Earth's structure and properties using appropriate safety procedures, equipment, and technology.	11. Describe and map *climates* of major Earth regions 16. Conduct investigations demonstrating the *water cycle*
	9. Earth's History: Changes in Earth and Sky Students shall demonstrate and apply knowledge of Earth's history using appropriate safety procedures, equipment, and technology.	1. Analyze charts to infer past atmospheric conditions based on the *organisms* found in the *fossil* record 5. Research ways in which people have used compasses
	10. Objects in the Universe Students shall demonstrate and apply knowledge of objects in the universe using appropriate safety procedures, equipment, and technology.	3. Identify and model the cause of *planetary years* 5. Identify and model the causes of seasons

*The Content Standards and Student Learning Expectations listed are those that specifically relate to the released test items in this booklet.

Released Items for Science*

Item	Strand	Content Standard	Student Learning Expectation
1	ES	10	5
2	LS	3	9
3	NS	1	7
4	PS	6	3
5	LS	3	2
6	ES	9	1
7	LS	2	1
8	ES	9	5
9	ES	8	11
10	ES	8	16
11	LS	2	6
12	LS	2	1
13	PS	6	5
14	PS	7	5
15	ES	10	3
16	PS	7	2
17	PS	7	2
1	LS	3	7
2	PS	5	5

*Only the predominant Strand, Content Standard, and Student Learning Expectation is listed.

Non-Released Items for Science*

Item	Strand	Content Standard	Student Learning Expectation
1	PS	6	2
2	LS	2	5
3	PS	7	4
4	NS	1	6
5	LS	2	4
6	PS	5	3
7	LS	2	3
8	ES	8	10
9	PS	7	1
10	LS	3	1
11	LS	3	3
12	PS	5	5
13	PS	6	4
14	ES	10	1
15	ES	8	7
16	LS	2	2
17	ES	8	4
18	PS	7	2
19	ES	8	8
20	NS	1	4

ACTAAP

Arkansas Comprehensive Testing, Assessment, and Accountability Program

1 2 3 4 5 6 7 8 9 10 11 12 A B C D E