

# Pennsylvania

System of School Assessment

2005

Grade 3 Mathematics and Reading Item Sampler



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# Item Sampler

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## Introduction

This past year, the Department of Education provided districts and schools with several tools to assist you in delivering a more focused instructional program aligned to a more focused state assessment system. These tools included the Assessment Anchors and Eligible Content, the specifics of the assessment including the test blueprints, and the beginning of an item bank. This sampler is another tool to assist you with your instructional program and the PSSA assessments. We trust that you will find the Item Sampler for 2005 that follows useful in your work with students.

## Purpose and Uses

This item sampler is designed to provide samples of mathematics and reading items (as well as reading passages) written to focus on the assessment anchors.

The items in the sampler may be used as samples for writing your own items, and they may also be copied and used as part of an instructional program. Having your students respond to the open-ended items and then scoring them with colleagues could be a beneficial activity for you in your classroom as well as across classrooms in the school.

## What's Included

The items in this sampler will not appear on any operational form of the PSSA. This sampler gives you an idea of the types of items that will appear on the 2005 PSSA. All items are of high quality and strongly aligned to the Assessment Anchors and State Standards.

## Item Format and Scoring Guidelines

Multiple-choice items are constructed similarly to past items with four choices. Open-ended items are written to take about ten minutes to complete.

The open-ended items in mathematics are scored with item-specific scoring guidelines on a 0–4 scale.

The open-ended items in reading are scored with item-specific scoring guidelines on a 0–3 scale. Samples of the item-specific scoring guidelines are presented in this sampler for each score point in reading.

Also included for both mathematics and reading are the General Scoring Guidelines used to develop the item-specific guidelines. These General Scoring Guidelines should be used to develop any item-specific scoring guidelines you may use in your instructional program.

## Stay Tuned

In the future, a robust item bank with PSSA items that have been used on the operational assessment will replace this item sampler. If you have any questions, please contact the Division of Assessment at 717-787-4234.

# Mathematics

- 1** Find the difference.

$$\begin{array}{r} 52 \\ -28 \\ \hline \end{array}$$

- 24
- 36
- 58
- 80

- 2** What is the next number in the pattern?

**2, 4, 7, 9, 12, \_\_\_\_\_**

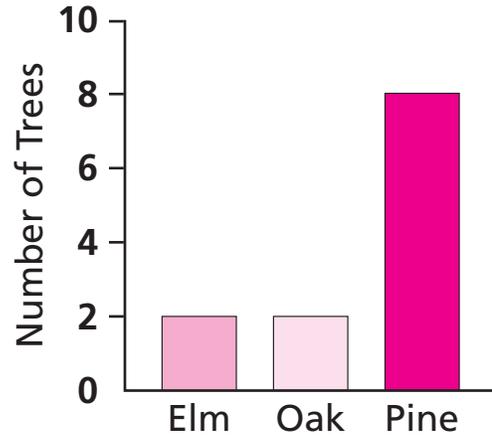
- 13
- 14
- 15
- 17

- 3** What is the place value of 5 in the number 2,995?

- ones
- tens
- hundreds
- thousands

- Directions** Use the graph below to answer Number 4.

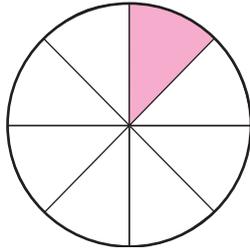
**Kinds of Trees in Mill Park**



- 4** Which statement is **false**?

- Two oak trees are in the park.
- Most of the trees in the park are pine trees.
- There are the same number of oak and elm trees.
- There are more elm trees than there are oak trees.

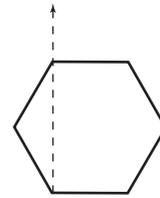
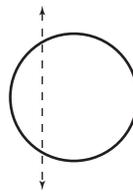
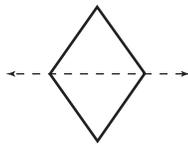
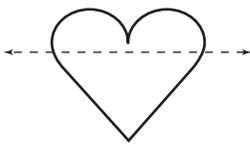
**Directions** Use the diagram below to answer Number 5.



**5** What part of the circle is shaded?

- $\frac{1}{5}$
- $\frac{1}{6}$
- $\frac{1}{8}$
- $\frac{1}{10}$

**6** Which figure shows a line of symmetry?



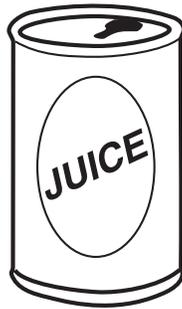
*Go On* ►

**7**

Alexander has a garden. He planted 4 rows of tomato plants with 6 plants in each row. How many tomato plants does Alexander have in his garden?

- 2 plants
- 10 plants
- 12 plants
- 24 plants

**Directions** Use the picture below to answer Number 8.



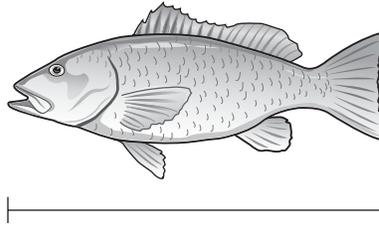
**8**

Which geometric shape is the juice can?

- cylinder
- cube
- pyramid
- rectangular prism

**Directions**

Use the centimeter side of your ruler to help you answer Number 9.

**9**

What is the length of the fish?

- 2 centimeters
- 3 centimeters
- 4 centimeters
- 5 centimeters

**Directions**

Use the pattern below to answer Number 10.

<b>In</b>	2	3	4	5
<b>Out</b>	4	5	6	7

**10**

What is the rule?

- add 2
- multiply by 2
- add 6
- count by 3s

*Go On* ►

**11**

The bags shown below contain different kinds of candy bars. Each bag has a different number of candy bars inside.

Nicker Bars



3 candy bars

Choco Bars



5 candy bars

Sesame Bars



2 candy bars

Fruit Bars



4 candy bars

June wants to buy **9** candy bars.

She can only buy unopened **bags** of candy.

She can buy **more than one** bag of any type of candy to get her 9 candy bars.

**SHOW 4 ways** June can buy 9 candy bars.

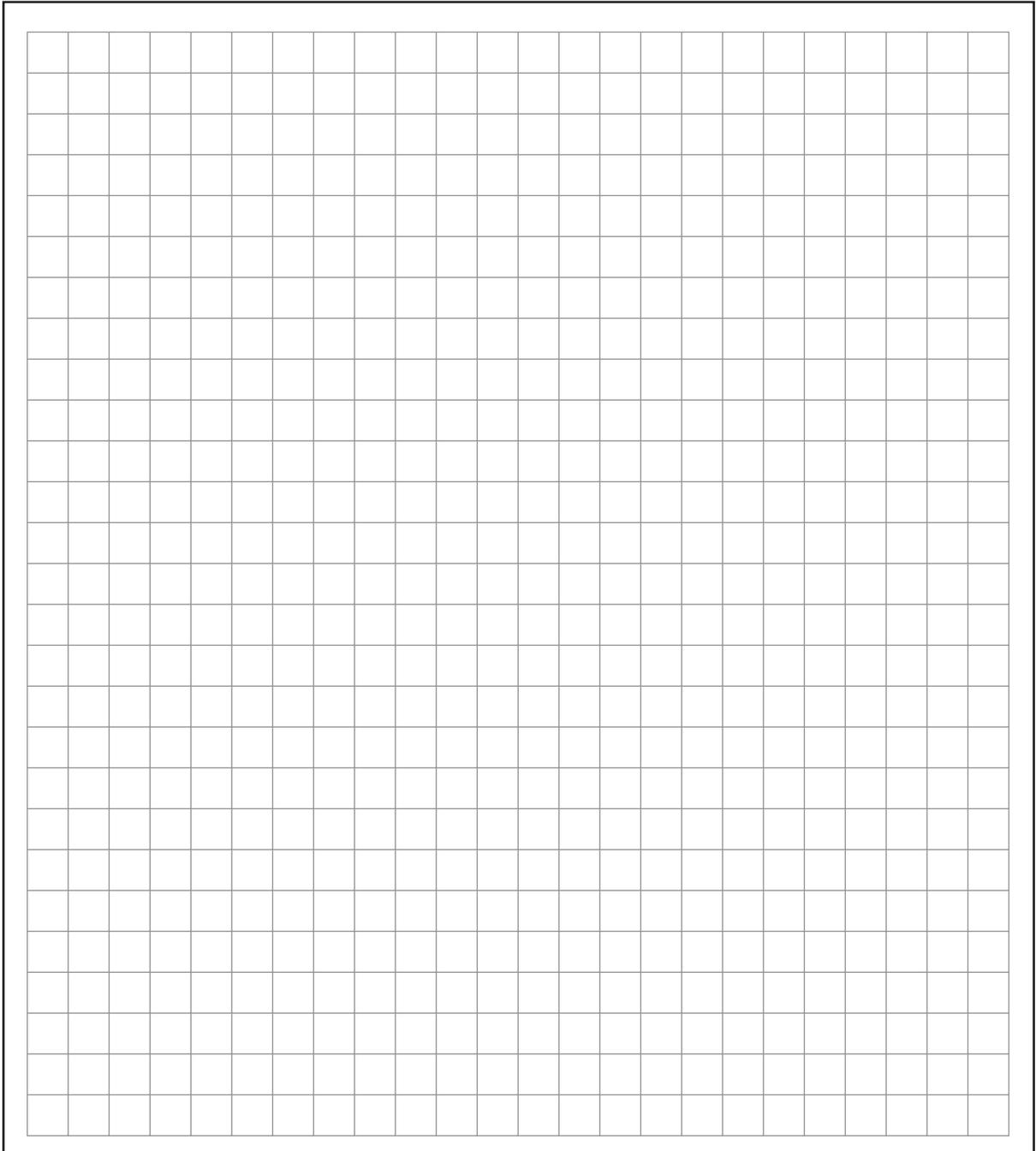
**SHOW** all your math work.

**12**

**DRAW** a house on the grid below. **USE** all 5 of these shapes:

**circle   rectangle   square   triangle   pentagon**

Each shape may be used more than once. **LABEL** each of the 5 shapes.



**STOP** 

# Reading

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**Directions** Read the story “Scarlet’s Race.” Then do Numbers 1 through 9.

## *Scarlet’s Race* by Kathryn England

Scarlet walked to the front of the class to read her essay. Her legs felt like jelly. Her heart was thumping so hard she thought it would jump right out of her chest and land on someone’s desk. Her hands shook so much she couldn’t read the words properly, so she ran back to her seat.

Jack sat at his desk and tried to write his essay. He looked at the page. It was blank except for the title, “My Favorite Animal.”

At recess Jack sat next to Scarlet. “Why didn’t you read your essay?” he asked. He had seen Scarlet’s page. It was full.

“When everyone is watching me, I feel all funny inside,” Scarlet told him.

“Have you written your report yet?” Scarlet asked.

“I can’t think of anything to write,” Jack told her.

“What’s your favorite animal?” Scarlet asked.

“My dog, Nutmeg,” Jack replied.

“What’s Nutmeg like?” asked Scarlet.

“He has long legs and big feet, and when he jumps on me he nearly knocks me over. He has droopy eyes and a shaggy brown coat, and he drools.”

“Well then, just pretend you’re telling me what Nutmeg is like and write it all down,” Scarlet told Jack.

That evening, Jack worked on his essay. He pretended he and Scarlet were talking about Nutmeg. As words filled his head, he wrote them all down.

The next day, Jack read his essay to the class. But when Scarlet tried to read hers again, the same thing happened. She was so nervous she ran back to her seat.

Jack remembered what it was like when he lined up for the relay race at the sports carnival the week before. His heart had pounded so hard he didn't think he would hear the starter's gun. His legs had felt so weak he didn't think he would be able to run even one meter. His hands shook so much he was sure he would drop the relay baton. But once he began running, he forgot all about being nervous.

"I want to tell you something about running a race," he told Scarlet. And then he did.

The next morning, when the teacher asked Scarlet if she wanted to have another try at reading her essay, Scarlet looked at Jack and nodded. As she walked to the front of the class, she pretended she was walking up to the starting line for a race. Her legs still felt wobbly.

When the teacher said, "Off you go, Scarlet," she pretended the teacher's voice was the starter's gun.

Scarlet began to read. As she read the first line, her voice shook. She glanced at Jack, and when he smiled at her she made herself keep going. She went on to the second and third line. Each time she got to the end of a line, she pretended she had passed a runner. She passed twenty-two runners.

She pretended the last line on her page was the finish line. When she reached it and heard everyone clapping, Scarlet knew she had won her race.



**1 This story is mostly about**

- running races
- writing essays
- making friends
- overcoming fears

**2 Where does the story take place?**

- at a school
- at Scarlet's home
- at a sports carnival
- in Scarlet's imagination

**3 Read this sentence from the story.**

“When everyone is watching me, I feel all funny inside,” Scarlet told him.

**Feeling all funny inside probably means Scarlet feels**

- happy
- strange
- like telling a joke
- glad to be noticed

**4 Why did Scarlet pretend she was passing runners as she read her essay?**

- She was participating in a relay race.
- She was trying to read her essay faster.
- She was trying to stay calm while she read.
- She was reading an essay about running races.

**5** How did Jack probably feel after Scarlet read her essay to the class?

- angry
- jealous
- lucky
- proud

**6** Which of these happened right after Scarlet asked what Jack's dog was like?

- Jack sat at his desk.
- Jack described Nutmeg.
- Jack sat next to Scarlet.
- Jack worked on his essay.

**7** Which of these words best describes Scarlet?

- bossy
- funny
- nervous
- quiet

**8** Read this sentence from the story.

He has long legs and big feet, and when he jumps on me he nearly knocks me over.

Nearly means about the same as

- almost
- already
- also
- always

*Go On* ►



**Directions**

Read the passage “Early Birds.” Then do Numbers 10 through 19.

# Early Birds

by Lynea Bowdish

**I**n many places, the coming of robins signals the beginning of spring. During the winter, robins live in big groups. But early in spring, they leave their groups to look for mates.

These birds are easy to spot, with their dark heads and bright red breasts. The colors on a female are a little lighter than on the male robin. They’re also easy to spot because robins live around people.

Often robins can be found on a lawn, looking for worms and insects. Robins don’t usually eat seeds. That’s why they don’t bother to go to bird feeders. In winter they eat berries.

## Making a home

**B**ecause robins arrive at their breeding grounds so early in the spring, many trees don’t have leaves yet. But evergreen trees keep their needles or leaves all year. So a lot of robins build their nests in evergreens to protect them. Robins also construct nests on buildings and fences.

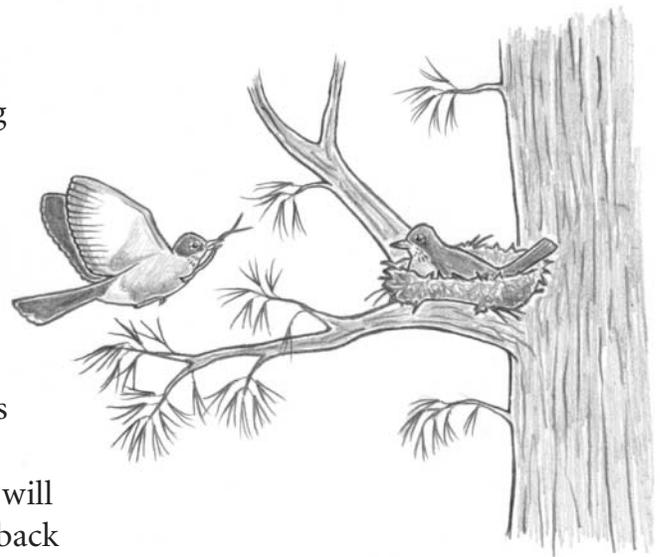
Robins make their nests out of twigs, grass, and mud. The female builds the nest, but the male helps by bringing the building supplies to the tree.

The female shapes the nest by getting inside and pushing against it. Sometimes a robin will have a line of mud across its chest. That means she’s been building a nest.

## Caring for the young

**E**ach day the female lays one blue egg until there are three or four. Once the eggs hatch, the babies must be fed. Both parents do this job. The young birds don’t look exactly like their parents yet because their breasts are spotted. When the young birds leave the nest, the male takes over feeding them by himself. That’s when the female starts a second family.

When winter is on its way, the robins will return to their big groups. But they’ll be back soon enough to signal the start of the next spring!



Go On ►

**10** This passage would most likely appear in a

- sports magazine
- nature magazine
- book of animal poems
- book of fiction stories

**11** The author probably used the title “Early Birds” because robins

- arrive in very early spring
- like to eat early in the day
- get up early in the morning
- build their nests in early summer

**12** Look at this chart.

**HOW ROBINS LOOK**

Male	Female	Young (babies)
bright red chest	lighter red chest	?

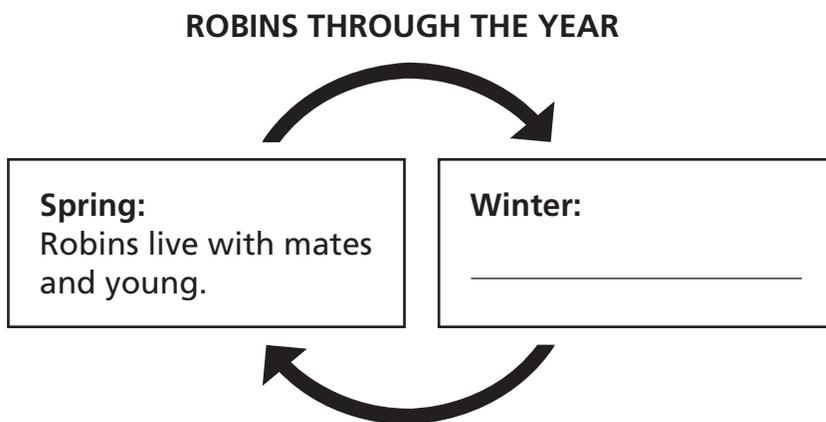
According to the passage, what goes in the blank space?

- plain chest
- spotted chest
- light red chest
- dark brown chest

**13** Which sentence from the passage best helps the reader understand how robins care for their young?

- In many places, the coming of robins signals the beginning of spring.
- The colors on a female are a little lighter than on the male robin.
- When the young birds leave the nest, the male takes over feeding them by himself.
- When winter is on its way, the robins will return to their big groups.

**14** Look at this chart.



Choose the answer that best completes the chart for winter.

- Robins live alone.
- Robins live in pairs.
- Robins live in large groups.
- Robins live in small groups.

**15** Robins like lawn areas because

- the lawns often have worms and insects
- people often have bird feeders near lawns
- they like to eat the fresh grass from lawns
- they build their nests in the middle of lawns

**16** Look at this chart of words from the passage.

Nest-Making Words
build
construct
shape
_____

Which word best completes the chart?

- arrive
- hatch
- push
- signal

**17** Read this sentence.

The male robin makes hundreds of trips to get building supplies for the nest.

The best place to add this sentence to the passage would be in

- the first three paragraphs under the title “Early Birds”
- the part under “Making a home”
- the part under “Caring for the young”
- any of the parts of the passage

**18** The mother robin starts her second family

- in summer, when the weather turns warm
- in winter, when she lives in a large group
- in fall, right before she leaves her own nest
- in spring, after her young birds leave the nest



# Item Sampler Answer Key

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<b>Mathematics</b>		
<b>Item Number</b>	<b>Correct Response</b>	<b>Pennsylvania Anchor Statement Measured</b>
1	A	M3.A.3.1
2	B	M3.D.1.1
3	A	M3.A.1.1
4	D	M3.E.1.1
5	C	M3.A.1.2
6	B	M3.C.2.1
7	D	M3.A.2.1
8	A	M3.C.1.1
9	D	M3.B.2.1
10	A	M3.D.1.2
11	See page 20	M3.A
12	See page 21	M3.C

# General Scoring Guidelines for Open-Ended Mathematics Items

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## 4 Points

The response demonstrates a thorough understanding of the mathematical concepts and procedures required by the task.

The response provides correct answer(s) with clear and complete mathematical procedures shown and a correct explanation, as required by the task. Response may contain a minor “blemish” (e.g., missing \$) or omission in work or explanation that does not detract from demonstrating a thorough understanding.

## 3 Points

The response demonstrates a general understanding of the mathematical concepts and procedures required by the task.

The response and explanation, as required by the task, are mostly complete and correct. The response may have minor errors or omissions that do not detract from demonstrating a general understanding.

## 2 Points

The response demonstrates a *partial* understanding of the mathematical concepts and procedures required by the task.

The response is somewhat correct with *partial* understanding of the required mathematical concepts and/or procedures demonstrated and/or explained. The response may contain some work that is incomplete or unclear.

## 1 Point

The response demonstrates a *minimal* understanding of the mathematical concepts and procedures as required by the task.

## 0 Points

The response has no correct answer and *insufficient* evidence to demonstrate any understanding of the mathematical concepts and procedures as required by the task for that grade level.

Response may show only information copied from the question.

# Scoring Guide for Open-Ended Mathematics Items

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## 11

PENNSYLVANIA STANDARD CATEGOR(IES): 3M.A

DESCRIPTION OF TASK: June's Bags of Candy

PROBLEM SOLUTION:

There are 5 possible solutions:

Bag of 2 + Bag of 3 + Bag of 4	1 Sesame + 1 Nicker + 1 Fruit
3 Bags of 3	3 Nicker
Bag of 4 + Bag of 5	1 Fruit + 1 Choco
Bag of 5 + 2 Bags of 2	1 Choco + 2 Sesame
Bag of 3 + 3 Bags of 2	1 Nicker + 3 Sesame

### SCORING RUBRIC

4. Student provides 4 or 5 correct combinations. No incorrect combinations are given.
3. Student provides 3 correct combinations.
2. Student provides 2 correct combinations.
1. An attempt to solve the problem using information from the problem. May have nothing correct, but if something is correct, it is less than what is needed for a score of 2.
0. Nothing correct and what has been written does not relate to the problem. Blank papers, off-task responses, and student responses of "I don't know" all receive this score.

**PENNSYLVANIA STANDARD CATEGOR(IES): 3M.C**

DESCRIPTION OF TASK: Draw a House Using 5 Shapes

**PROBLEM SOLUTION:**

Student draws a house or another similar figure that incorporates all 5 shapes. The shapes don't all have to be attached to the house as long as they are part of the overall picture (e.g., moon, a pond, a swimming pool). Shapes may be used more than once, but the student's score will only reflect how many of the shapes are used rather than the frequency of use of any particular shape. Each of the 5 shapes need only to be labeled once, but to receive full credit, at least one labeling of each of the 5 shapes must be shown.

**SCORING RUBRIC**

4. Student's figure incorporates all 5 shapes with correct labeling.
3. Student's figure incorporates 3 or 4 shapes with the correct labeling.
2. Student's figure incorporates 2 of the shapes with correct labeling.
1. An attempt to solve the problem using information from the problem. May have nothing correct, but if something is correct, it is less than what is needed for a score of 2.
0. Nothing correct and what has been written does not relate to the problem. Blank papers, off-task responses, and student responses of "I don't know" all receive this score.

**Note: At the 4-point level, additional shapes that are incorrectly labeled result in the loss of one score point.**

# Item Sampler Answer Key

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Reading		
Item Number	Correct Response	Pennsylvania Anchor Statement Measured
1	D	R3.A.1.4
2	A	R3.B.1.1
3	B	R3.A.1.1
4	C	R3.B.1.1
5	D	R3.A.1.3
6	B	R3.B.1.1
7	C	R3.B.1.1
8	A	R3.A.1.1
9	See page 24	R3.A.1.5
10	B	R3.A.2.6
11	A	R3.A.2.3
12	B	R3.A.2.4
13	C	R3.B.3.2
14	C	R3.A.2.4
15	A	R3.A.2.4
16	C	R3.B.3.3
17	B	R3.B.3.3
18	D	R3.A.2.4
19	See page 25	R3.A.2.5

# General Scoring Guidelines for Open-Ended Reading Items

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## 3 Points

- The response provides a complete answer to the task, e.g., a statement that offers a correct answer as well as text-based support.
- The response provides specific, appropriate, and accurate details (e.g., naming, describing, explaining, or comparing) or examples.

## 2 Points

- The response provides a partial answer to the task, e.g., indicates some awareness of the task and at least one text-based detail.
- The response attempts to provide sufficient, appropriate details (e.g., naming, describing, explaining, or comparing) or examples; may contain minor inaccuracies.

## 1 Point

- The response provides an incomplete answer to the task, e.g., indicating either a misunderstanding of the task or no text-based details.
- The response provides insufficient or inappropriate details or examples that have a major effect on accuracy.

## 0 Points

- The response provides insufficient material for scoring.
- The response is inaccurate in all aspects.

# Scoring Guide for Open-Ended Reading Items

**9** What does Scarlet do to help Jack in the passage? Use at least two details from the passage to explain how Scarlet helps Jack.

## Exemplary response

Jack can't think of anything to write about for his school report. Scarlet helps Jack by telling him a way to find something to write about. She asks him what his favorite animal is. When Jack says it is his dog, Nutmeg, Scarlet asks questions about Nutmeg. Jack tells her lots of things about Nutmeg. Scarlet tells Jack to write all the information down, just like he was talking to her.

When Jack works on his essay, he follows Scarlet's advice and pretends he is telling Scarlet about his dog. Then, "as words filled his head, he wrote them all down."

## Key elements:

### *What Scarlet does to help Jack (main idea)*

- Scarlet helps Jack by telling him how to find something to write about for his report/essay (find a topic for his essay).

### *How Scarlet helps Jack (supporting details)*

- Scarlet asks Jack what his favorite animal is and then asks him questions ("What's Nutmeg like?") about his dog.
- Scarlet tells Jack to pretend he is telling her about Nutmeg (when he works on his essay) and to "write it all down."

**Score Points:** Use Pennsylvania Grade 3 Reading General Scoring Guidelines.

## 3 Points:

### General Scoring Guidelines

- The response provides a complete answer to the task, e.g., a statement that offers a correct answer as well as text-based support.
- The response provides specific, appropriate, and accurate details (e.g., naming, describing, explaining, or comparing) or examples.

### Item Specific Scoring Guidelines

Student uses relevant details from the passage to explain what Scarlet does to help Jack (main idea key element) and how she helps him (two supporting detail key elements).

## 2 Points:

### General Scoring Guidelines

- The response provides a partial answer to the task, e.g., indicates some awareness of the task and at least one text-based detail.

- *The response attempts to provide sufficient, appropriate details (e.g., naming, describing, explaining, or comparing) or examples; may contain minor inaccuracies.*

### **Item Specific Scoring Guidelines**

Student provides main idea (key element) to explain what Scarlet does to help Jack, supported by one relevant detail (supporting detail key element) from the passage.

**or**

Student provides two details of what Scarlet did to help Jack, but does not explain main idea (that purpose was to help him find a topic to write about).

### **1 Point:**

### **General Scoring Guidelines**

- *The response provides an incomplete answer to the task, e.g., indicating either a misunderstanding of the task or no text-based details.*
- *The response provides insufficient or inappropriate details or examples that have a major effect on accuracy.*

### **Item Specific Scoring Guidelines**

Student provides incomplete or very general explanation of main idea (e.g., Scarlet helps Jack write his report.) without explanation and/or accurate supporting details.

**or**

Student uses one relevant detail (supporting detail key element) from the passage to show what Scarlett did but does not explain main idea (that purpose was to help him find a topic to write about).

### **0 Points:**

- *The response provides insufficient material for scoring.*
- *The response is inaccurate in all aspects.*

**19** **How do male robins help their mates make their nests and care for their young?  
Use at least three details from the passage to support your answer.**

### **Exemplary response**

Male robins help gather “building supplies” such as twigs, grass, and mud for the nest. The female uses these to build the nest. The males also help feed the babies once the eggs hatch. They look for worms and insects on lawns. Then, while the female robin lays more eggs, the male robin takes over the feeding when the young birds leave the nest.

### **Key elements:**

- Male robins help bring the female robin building supplies, such as twigs, grass, and mud.
- The male robin/parent helps feed the babies once the eggs hatch. (They may find worms and insects on lawns to feed the babies.)

- The male robin takes over the feeding when the young birds leave the nest (while the female starts a second family/lays more eggs).

**Score Points:** Use Pennsylvania Grade 3 Reading General Scoring Guidelines.

**3 Points:**

**General Scoring Guidelines**

- The response provides a complete answer to the task, e.g., a statement that offers a correct answer as well as text-based support.
- The response provides specific, appropriate, and accurate details (e.g., naming, describing, explaining, or comparing) or examples.

**Item Specific Scoring Guidelines**

Student uses at least three relevant details from the passage to explain how male robins help their mates make their nests and care for their young.

**2 Points:**

**General Scoring Guidelines**

- The response provides a partial answer to the task, e.g., indicates some awareness of the task and at least one text-based detail.
- The response attempts to provide sufficient, appropriate details (e.g., naming, describing, explaining, or comparing) or example; may contain minor inaccuracies.

**Item Specific Scoring Guidelines**

Student uses two relevant details from the passage to explain how male robins help their mates make their nests and care for their young.

**1 Point:**

**General Scoring Guidelines**

- The response provides an incomplete answer to the task, e.g., indicating either a misunderstanding of the task or no text-based details.
- The response provides insufficient or inappropriate details or examples that have a major effect on accuracy.

**Item Specific Scoring Guidelines**

Student uses one relevant detail from the passage to explain how male robins help their mates make their nests or care for their young.

**0 Points:**

- The response provides insufficient material for scoring.
- The response is inaccurate in all aspects.



