NSCAS

NEBRASKA STUDENT-CENTERED ASSESSMENT SYSTEM

2015 NSCAS–Alternate Assessment Item and Scoring Sampler

Mathematics (NSCAS–AAM)

Grades 3–5

Assessments for the Nebraska Student-Centered Assessment System are administered by the Nebraska Department of Education (NDE)
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GENERAL INTRODUCTION

The Nebraska Department of Education provides districts and schools with tools to assist in delivering focused instructional programs aligned to the state assessment system. These tools include Table of Specifications documents, administration manuals, and content-based item and scoring samplers. This Item and Scoring Sampler is a useful tool for Nebraska educators in the preparation of local instructional programs and the statewide NeSA-Mathematics Alternate Assessment.

SAMPLER CONTENTS

This sampler contains test questions (items) that have been written to align to the assessment extended indicators that are based on the Nebraska College- and Career-Ready Mathematics Standards. The test questions provide an example of the types of questions that will appear on an operational, College- and Career-Ready NeSA-Alternate Assessment in Mathematics. All sample test questions have been through a rigorous review process to ensure alignment with the assessment extended indicators.

PURPOSE AND USES

The purpose of the sampler is to expose teachers and administrators to new items and to show how these items align to the revised Nebraska College- and Career-Ready Mathematics Extended Standards.

DOK

In addition to being aligned to the standards, the sample items included in this sampler were also developed with a particular emphasis on cognitive complexity, or Depth of Knowledge (DOK). The DOK level is also provided for each item in this sampler in the Item Information Table. DOK measures the level of cognitive demand required to complete an assessment item. The following descriptions show the expectations of the DOK levels in greater detail. Four levels of DOK are used for this analysis. The NeSA-Alt assessments include items written at levels 1 and 2. Levels 3 and 4 items are not included. In addition, the NeSA-Alt items are classified based on DOK stages—subsets of the four DOK levels. The stages include responding, reproducing, recalling at DOK 1, and basic reasoning at DOK 2.

MATHEMATICS LEVEL 1-STAGE 1: RESPONDING TO MATHEMATICAL FEATURES

Level 1-Stage 1 requires the ability to respond to, indicate, or acknowledge mathematical features. Some examples that represent, but do not constitute all of, Level 1-Stage 1 performance are:

- Students are able to recognize that there is a difference in patterns.
- Students respond to math ideas using appropriate vocabulary.

MATHEMATICS LEVEL 1-STAGE 2: REPRODUCE MATHEMATICAL FEATURES

Level 1-Stage 2 requires students to display the ability to copy, replicate, repeat, re-enact, mirror, or match mathematical features. Some examples that represent, but do not constitute all of, Level 1-Stage 2 performance are:

- Students write numbers accurately in a variety of contexts.
- Students accurately sort shapes into basic groups.
- Students accurately identify location terms when prompted (i.e., next to, between, over, under).

MATHEMATICS LEVEL 1-STAGE 3: RECALLS INFORMATION ABOUT MATHEMATICAL FEATURES

Level 1-Stage 3 requires the ability to recite or recall facts or information, using simple one-step procedures, and computing simple algorithms. Some examples that represent, but do not constitute all of, Level 1-Stage 3 performance are:

- Students locate a pattern to solve problems.
- Students measure lengths using feet and yards.
- Students use a calculator or concrete objects to add and subtract.

MATHEMATICS LEVEL 2-STAGE 4: BASIC REASONING

Level 2-Stage 4 requires students to make decisions of how to approach a problem. It requires students to compare, classify, organize, estimate, or order data. This typically involves two-step procedures. Some examples that represent, but do not constitute all of, Level 2-Stage 4 performance are:

- Students draw a two-dimensional representation of a three-dimensional object.
- Students evaluate an expression that requires two or more operations.
- Students identify characteristics of a number set (e.g., How many numbers are even?).

ITEM FORMAT AND SCORING GUIDELINES

The Nebraska College- and Career-Ready Alternate Assessment in Mathematics has one type of test question. Each assessment incorporates multiple-choice (MC) items to assess the Nebraska College- and Career-Ready Mathematics Extended Standards. Students are required to select a correct answer from three response choices with a single correct answer. MC items are used to assess a variety of skill levels in relation to the tested extended standards.

MULTIPLE CHOICE (MC)

All MC items have three answer choices, including two distractors and one correct answer. Distractors represent common misconceptions, incorrect logic, common misinterpretations, unsound reasoning, casual reading, etc. A correct response to an MC item is worth one point.

DESCRIPTION OF SAMPLE ITEMS

Sample items are provided in this sampler, along with any related stimulus information. Before each test item is an item information table. It is followed by the administrator's directions and then the student view of the item.

Example Response Item Information Table

<table>
<tr><th colspan="3">Item Information</th></tr>
<tr><td>Alignment</td><td>Assigned Extended Indicator</td><td>Assigned extended indicator definition</td></tr>
<tr><td>Answer Key</td><td>Correct Answer</td><td rowspan="3">Option Annotations

Brief answer analysis or rationale</td></tr>
<tr><td>Depth of Knowledge</td><td>DOK Level, Stage</td></tr>
<tr><td>Focus</td><td>Skill/Task</td></tr>
</table>

ADDITIONAL INFORMATION

For more information related to the Nebraska plan and schedule for making the transition to NeSA-Alternate Mathematics, see http://www.education.ne.gov/Assessment and select the link on the left titled "CCR Math Transition".

ITEM INFORMATION AND QUESTIONS

Item Information		
Alignment	MAE.3.1.1.g	Identify parts of a set as one-half, one-fourth, or the whole of the set, limited to four objects.
Answer Key	C	**Option Annotations** Option C is correct. The picture shows 1 out of 2 trees, or $\frac{1}{2}$ the trees colored black. Options A and B are incorrect. Option A shows a picture of 0 out of 2 trees colored black. Option B shows a picture of 2 out of 2, or 1 whole set of trees colored black. Students may choose these options if they do not understand $\frac{1}{2}$ of a set of 2, as 1 out of 2.
Depth of Knowledge	1, 3	
Focus	Fractional Parts of a Set	

Administrator's Test Booklet	**Indicator MAE.3.1.1.g** **No info was given** **DOK Level 1, 3**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here are two trees. One half of the trees are colored black.** *Indicate.*
ASK	**Which group of trees shows one-half black?** *Indicate (but do not read) answers.* A. *two white trees* B. *two black trees* C. *one white tree, one black tree*

Question 1

Item Information		
Alignment	MAE.3.2.1.b	Identify a multiplication equation as representing equal groups up to 20.
Answer Key	A	**Option Annotations** Option A is correct. The picture shows 2 groups of 5 cats. Options B and C are incorrect. Option B shows the sum of 2 and 5. Option C shows the difference of 5 and 2. Students may choose these options if they do not understand multiplication as equal groups.
Depth of Knowledge	2, 4	
Focus	Multiplication as Equal Groups	

Administrator's Test Booklet	**Indicator MAE.3.2.1.b** **Meaning of Multiplication** **DOK Level 2, Stage 4**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here are two groups of cats.** *Indicate picture.*
ASK	**Which problem goes with the picture?** *Indicate and read answers.* A. **2x5** B. **2+5** C. **5-2**

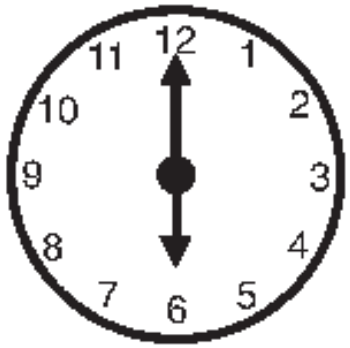
Question 2

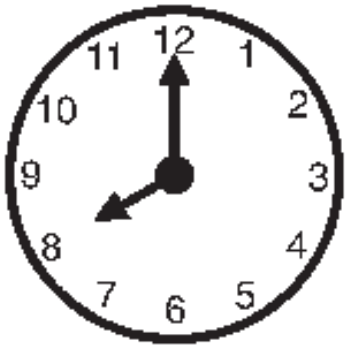
2 x 5 **2 + 5** **5 - 2**

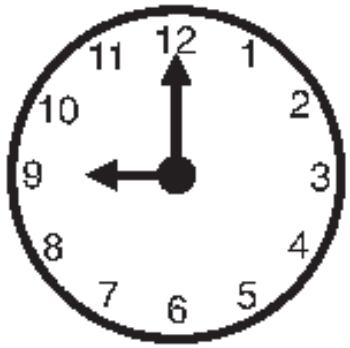
Item Information		
Alignment	MAE.3.3.3.b	Tell time to the hour.
Answer Key	C	**Option Annotations**
Depth of Knowledge	1, 3	Option C is correct. The clock shows the hour hand pointing to the 9 and the minute hand pointing to the 12, showing a time of 9:00. Options A and B are incorrect. Option A has a clock that shows a time of 6:00. Option B has a clock that shows a time of 8:00. Students may choose these options if they do not recognize the digit 9.
Focus	Telling Time to the Hour	

Administrator's Test Booklet	**Indicator MAE.3.3.3.b Time to the Hour DOK Level 1, Stage 3**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here are three clocks.** *Indicate.*
ASK	**Which clock says 9:00?** *Indicate (but do not read) answers.* A. *6:00* B. *8:00* C. *9:00*

Question 3



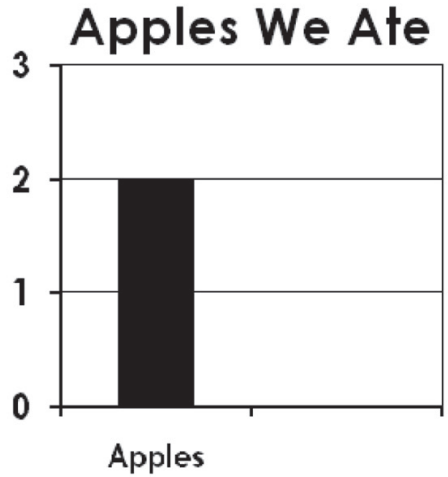




Item Information		
Alignment	MAE.3.4.1.a	Identify a characteristic of a bar graph or pictograph (e.g., quantities, comparisons).
Answer Key	B	**Option Annotations**
Depth of Knowledge	1, 3	Option B is correct. The bar graph shows a bar extending up to 2 apples. Options A and C are incorrect. Students may choose these options if they do not understand how to read a bar graph.
Focus	Characteristics of Bar Graphs	

Administrator's Test Booklet	**Indicator MAE.3.4.1.a** **No info was given** **DOK Level 1, Stage 3**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**This graph shows how many apples we ate.** *Indicate.*
ASK	**Which is true?** *Indicate and read answers.* A. **We ate 3 apples** B. **We ate 2 apples.** C. **We ate 1 apple.**

Question 4



We ate 3 apples.

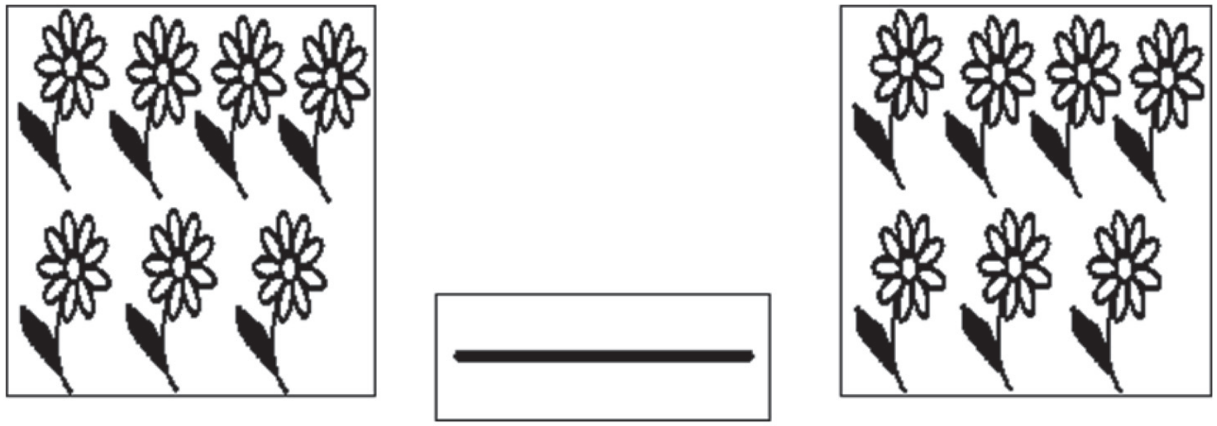
We ate 2 apples.

We ate 1 apple.

Item Information		
Alignment	MAE.4.1.1.f	Use symbols <, >, and = to compare whole numbers up to 40.
Answer Key	C	**Option Annotations** Option C is correct. Both pictures show equal amounts of 7 flowers. Options A and B are incorrect. Students may choose these options if they count the flowers incorrectly.
Depth of Knowledge	1, 3	
Focus	Comparing Whole Numbers	

Administrator's Test Booklet	**Indicator MAE.4.1.1.f** **Compare Groups** **DOK Level 1, Stage 3**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here are two groups of flowers.** *Indicate.*
ASK	**Which sign goes in the blank?** *Indicate and read answers.* A. **greater than** B. **less than** C. **equal to**

Question 5



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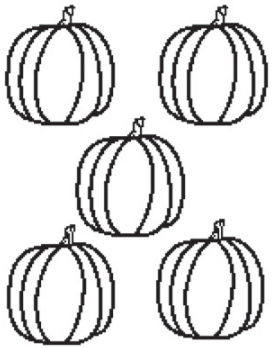
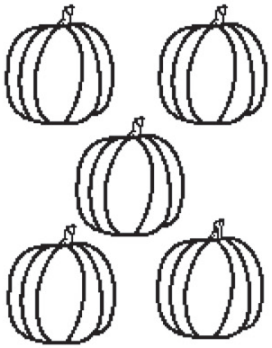
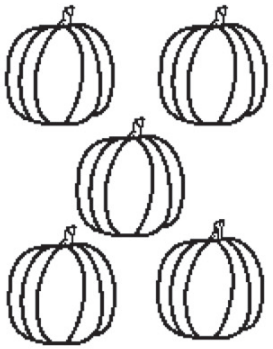
Item Information		
Alignment	MAE.4.1.2.b	Multiply 2's, 5's, and 10's by a single number.
Answer Key	C	**Option Annotations**
Depth of Knowledge	1, 3	Option C is correct. There are 3 × 5 = 15 pumpkins. Options A and B are incorrect. Option A shows the number of pumpkins in each group. Option B shows the number of pumpkins in 2 groups. Students may choose these options if they do not understand multiplication represented by equal groups.
Focus	Multiplying by 5	

Administrator's Test Booklet	**Indicator MAE.4.1.2.b Add Equal Groups DOK Level 1, Stage 3**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here are three groups of pumpkins.** *Indicate.* **There are five pumpkins in each group.**
ASK	**How many pumpkins are there all together?** *Indicate and read answers.* A. **5** B. **10** C. **15**

Question 6





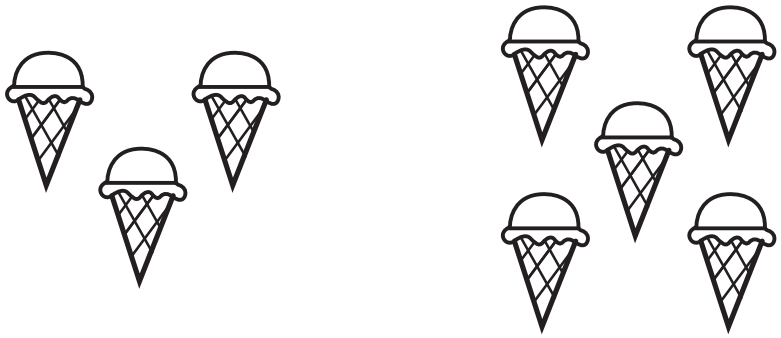


5 **10** **15**

Item Information		
Alignment	MAE.4.2.1.a	Solve simple one-step single-digit equations using addition or subtraction.
Answer Key	C	**Option Annotations**
Depth of Knowledge	1, 3	Option C is correct. There are 3 + 5 = 8 ice cream cones. Options A and B are incorrect. Option A shows the number of ice cream cones in the first group. Option B shows the number of ice cream cones in the second group. Students may choose these options if they do not understand how to solve the equation by adding the numbers.
Focus	Addition Equations	

Administrator's Test Booklet	**Indicator MAE.4.2.1.a One-Step Equations DOK Level 1, Stage 3**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**This says 3 + 5 = blank.** *Indicate.*
ASK	**Which answer makes the number sentence true?** *Indicate and read answers.* A. **3** B. **5** C. **8**

Question 7



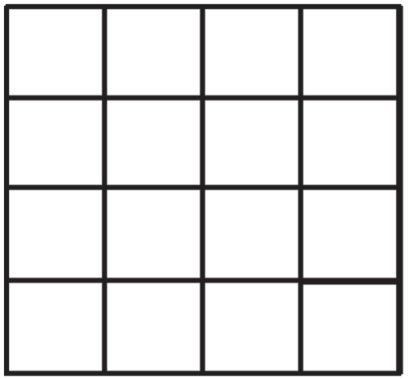
3 + 5 = ___

3 5 8

Item Information		
Alignment	MAE.4.3.3.a	Identify the area of a rectangle by counting unit squares.
Answer Key	C	**Option Annotations**
Depth of Knowledge	1, 3	Option C is correct. The square has 4 rows of 4 unit squares, and 4 × 4 = 16. Options A and B are incorrect. Students may choose these options if they count the number of unit squares incorrectly.
Focus	Area	

Administrator's Test Booklet	**Indicator MAE.4.3.3.a** **Area** **DOK Level 1, Stage 3**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here is a square.** *Indicate.*
ASK	**What is the area of the square?** *Indicate and read answers.* A. **9 square units** B. **12 square units** C. **16 square units**

Question 8



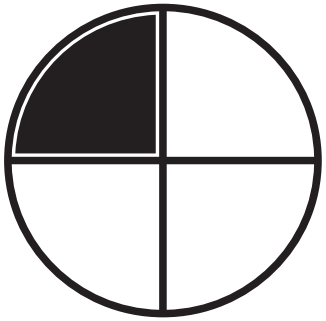
9 12 16

Item Information		
Alignment	MAE.5.1.1.d	Use models to identify equivalent fractions between thirds, fourths, halves, and one whole.
Answer Key	B	**Option Annotations**
Depth of Knowledge	1, 3	Option B is correct. The fraction $\frac{1}{2}$ is equivalent to $\frac{2}{4}$ since two $\frac{1}{4}$'s is equivalent to one $\frac{1}{2}$. Options A and C are incorrect. Students may choose these if they do not understand multiple representations of equivalent fractions.
Focus	Equivalent Fractions (one-half)	

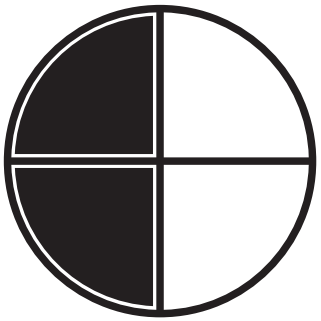
Administrator's Test Booklet	**Indicator MAE.5.1.1.d Equivalent Fractions DOK Level 1, Stage 3**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Follow along as I read this story.** *Indicate.* **Laura is eating a cookie. She ate one-half of her cookie. Here is Laura's cookie.** *Indicate.*
ASK	**Which picture shows how much of Laura's cookie is left?** *Indicate (but do not read) answers.* A. *1/4* B. *2/4* C. *3/4*

Question 9

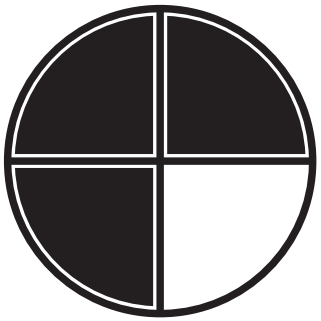
Laura is eating a cookie. She ate $\frac{1}{2}$ of her cookie. Here is Laura's cookie.



$\frac{1}{4}$



$\frac{2}{4}$



$\frac{3}{4}$

Item Information		
Alignment	MAE.5.1.2.a	Multiply a two-digit number by a single-digit number.
Answer Key	C	**Option Annotations** Option C is correct. The product of 53 × 6 is 318. Options A and B are incorrect. Option A shows the sum of 53 + 6 = 59. Option B shows the sum of 5 + 6 = 11, and the sum of 3 + 6 = 9, listed together as 119. Students may choose these options if they misinterpret the multiplication symbol.
Depth of Knowledge	2, 4	
Focus	Multiplying Two-Digit Number by Single-Digit Number	

Administrator's Test Booklet	**Indicator MAE.5.1.2.a** **Computation** **DOK Level 2, Stage 4**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here is the problem 53 × 6.** *Indicate.*
ASK	**Which is the correct answer?** *Indicate and read answers.* A. **59** B. **119** C. **318**

Question 10

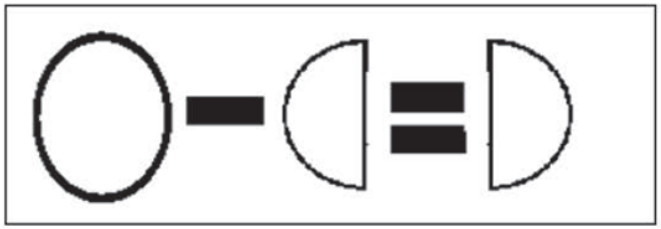
$$\begin{array}{r} 53 \\ \times\ 6 \\ \hline \end{array}$$

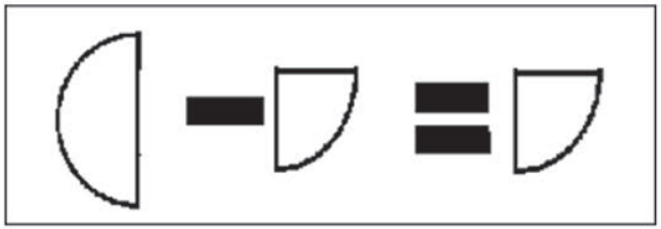
59 119 318

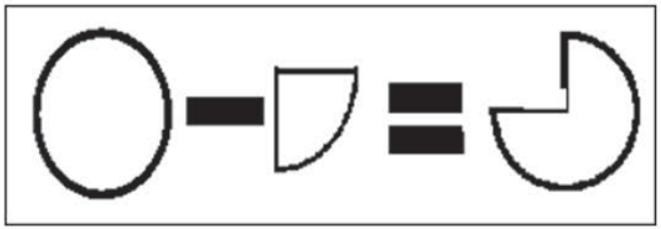
Item Information		
Alignment	MAE.5.1.2.h	Add and subtract fractions with like denominators using a visual model without regrouping.
Answer Key	C	**Option Annotations** Option C is correct. The model shows $1 - \frac{1}{4} = \frac{3}{4}$. Options A and B are incorrect. Option A shows $1 - \frac{1}{2} = \frac{1}{2}$. Option B shows $\frac{1}{2} - \frac{1}{4} = \frac{1}{4}$. Students may choose these options if they do not recognize visual models of fourths.
Depth of Knowledge	1, 2	
Focus	Subtracting Fractions with Visual Model	

Administrator's Test Booklet	**Indicator MAE.5.1.2.h Subtraction of Fractions DOK Level 1, Stage 2**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here are 3 subtraction problems using fraction pieces.** *Indicate.*
ASK	**Which subtraction problem shows one whole minus one fourth equals three-fourths?** *Indicate (but do not read) answers.* A. *one whole – one-half = one-half* B. *one-half – one-fourth = one-fourth* C. *one whole – one-fourth = three-fourths*

Question 11



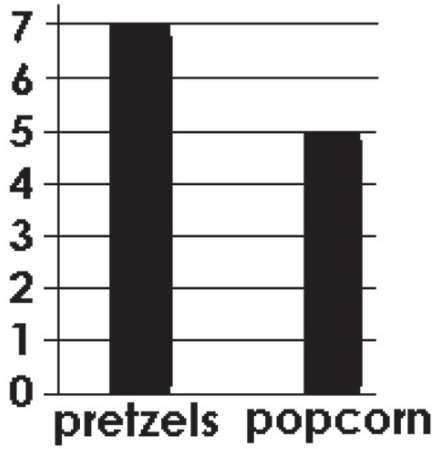




Item Information		
Alignment	MAE.5.4.2.a	Interpret information in a bar graph using two data points.
Answer Key	A	**Option Annotations** Option A is correct. The bar graph shows 7 children who like pretzels and only 5 children who like popcorn. Option B is incorrect. Students may choose this option if they reverse the labels or do not understand how to compare quantities in a bar graph.
Depth of Knowledge	1, 3	
Focus	Interpreting Information From Bar Graph	

Administrator's Test Booklet	**Indicator MAE.5.4.2.a** **Data Interpretation** **DOK Level 1, Stage 3**
Prepare	• *Place student test page in front of the student.* • *Call student's attention to the page.*
SAY	**Here is a bar graph.** *Indicate.* **It shows children's favorite snacks.** **There are pretzels** *(indicate)* **and popcorn** *(indicate)***.**
ASK	**Which snack do the children like more?** *Indicate and read answers.* A. **pretzels** B. **popcorn**

Question 12



pretzels popcorn

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2016 NeSA-ALTERNATE ASSESSMENT
MATHEMATICS
ITEM AND SCORING SAMPLER 2016
GRADES 3–5

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