

Minnesota

**Minnesota Test of Academic Skills (MTAS)
Mathematics Item Sampler
Grade 4**



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Minnesota Department of
Education

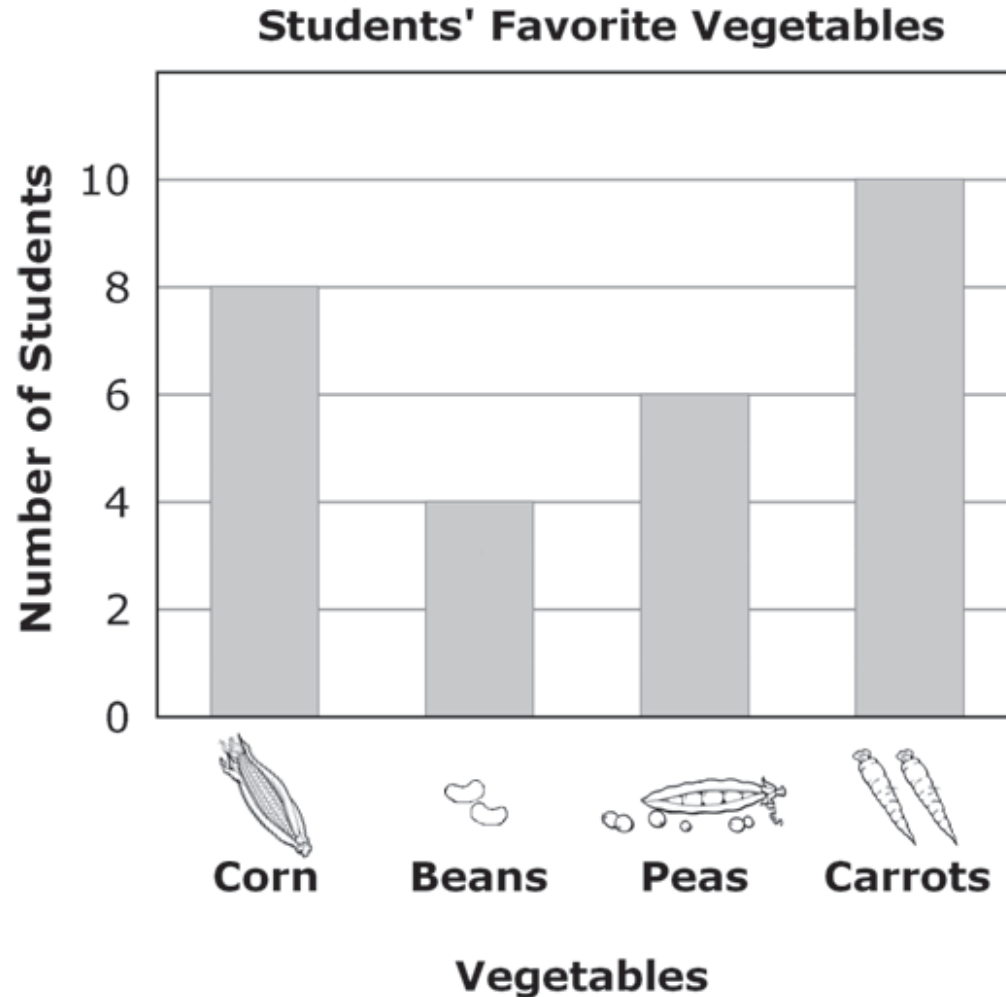
Minnesota Test of Academic Skills

Grade 4 Mathematics

Sample Task 1

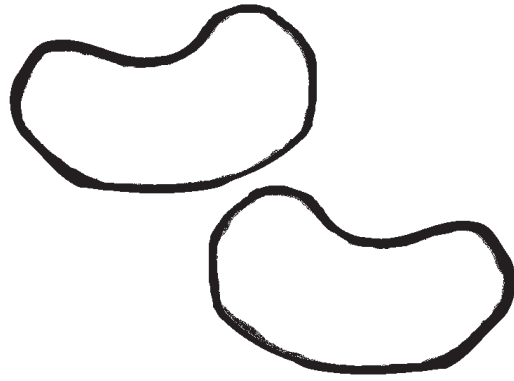
Test Administrator Instructions	Score	Student Responses
<p><i>Administration notes:</i></p> <ul style="list-style-type: none"> ▪ You may use objects when presenting questions and answer options. However, some tasks limit how objects can be used; any limitations will be specified on the task. ▪ Repeat the question exactly as it appears at score 3 as many times as needed until the student responds or until it is clear that the student will not respond. 		
<p><u>Present:</u> M4_Sample 1.1</p> <p>Say: This graph shows students' favorite vegetables. Which vegetable was chosen by the least number of students?</p> <p><u>Present</u> the answer options in order. <i>Point to each option as you say it.</i></p> <p>A. Beans B. Peas C. Carrots</p>	3	<p>Beans</p> <p><i>If you believe the student's correct response was unintentional, reorder the answer options to B, C, A (instead of A, B, C). Repeat the question. If the student chooses the correct answer again, the task should be scored a 3. If the student chooses an incorrect answer, continue below.</i></p>
<p><i>Additional administration notes:</i></p> <ul style="list-style-type: none"> ▪ If the student responds incorrectly or not at all, present the task with support as scripted. ▪ Once additional support is provided, the task may not be re-administered for a score of 3. 		
<p><u>Re-present:</u> M4_Sample 1.1</p> <p>Say: This graph shows students' favorite vegetables. This bar shows how many students chose corn. Point to the bar for corn. This bar shows how many students chose beans. Point to the bar for beans. This bar shows how many students chose peas. Point to the bar for peas. This bar shows how many students chose carrots. Point to the bar for carrots. Which vegetable was chosen by the least number of students?</p> <p><u>Re-present</u> the answer options in order. <i>Point to each option as you say it.</i></p> <p>A. Beans B. Peas C. Carrots</p>	2	<p>Beans</p> <p><i>If you believe the student's correct response was unintentional, reorder the answer options to B, C, A (instead of A, B, C). Repeat the question. If the student chooses the correct answer again, the task should be scored a 2. If the student chooses an incorrect answer, the task should be scored a 1.</i></p>
	1	<p>Peas or Carrots</p>
	0	<p>Unrelated or none</p>

Grade 4 Math 4.4.1.1: Students will use and interpret tables and graphs displaying data.



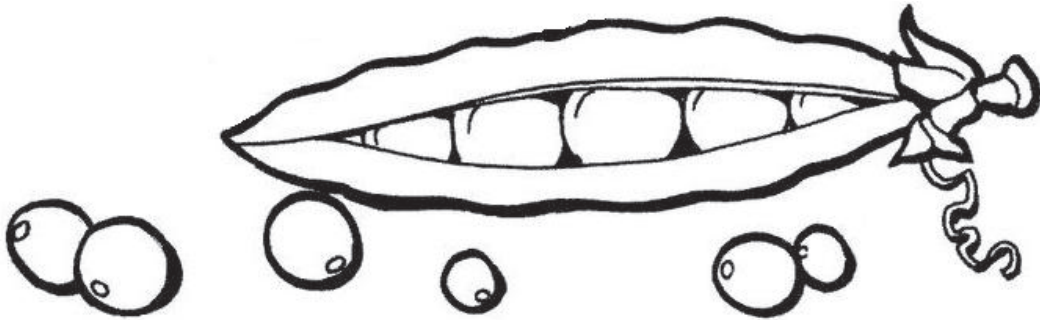
Which vegetable was chosen by the least number of students?

M4_Sample 1
A



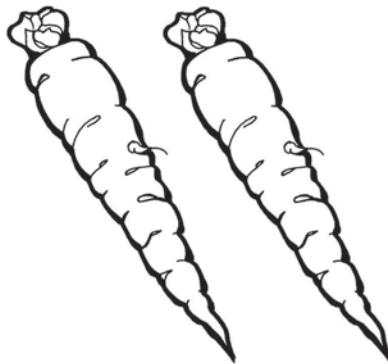
Beans

M4_Sample 1
B



Peas

M4_Sample 1
C



Carrots

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Grade 4 Mathematics

Sample Task 2

Test Administrator Instructions	Score	Student Responses
<p><i>Administration notes:</i></p> <ul style="list-style-type: none"> ▪ You may use objects when presenting questions and answer options. However, some tasks limit how objects can be used; any limitations will be specified on the task. ▪ Repeat the question exactly as it appears at score 3 as many times as needed until the student responds or until it is clear that the student will not respond. 		
<p><u>Present:</u> M4_Sample 2.1</p> <p><u>Say:</u> This fraction bar shows one-fifth ($\frac{1}{5}$). Point to the fraction bar.</p> <p>Which fraction bar shows a fraction equal to one-fifth ($\frac{1}{5}$)?</p> <p><u>Present</u> the answer options in order. Point to each option as you say it.</p> <p>A. Fraction bar A B. Fraction bar B C. Fraction bar C</p>	3	<p>Fraction bar B</p> <p><i>If you believe the student's correct response was unintentional, reorder the answer options to B, C, A (instead of A, B, C). Repeat the question. If the student chooses the correct answer again, the task should be scored a 3. If the student chooses an incorrect answer, continue below.</i></p>
<p><i>Additional administration notes:</i></p> <ul style="list-style-type: none"> ▪ If the student responds incorrectly or not at all, present the task with support as scripted. ▪ Once additional support is provided, the task may not be re-administered for a score of 3. 		
<p><u>Present:</u> M4_Sample 2.2</p> <p><u>Say:</u> This bar shows one-half ($\frac{1}{2}$). Point to the first fraction bar. This bar shows two-fourths ($\frac{2}{4}$). Point to the second fraction bar. One-half is equal to two-fourths. Point to the two fraction bars.</p> <p><u>Re-present</u> M4_Sample 2.1.</p> <p><u>Say:</u> This bar shows one-fifth. Point to the fraction bar. Which fraction bar shows a fraction equal to one-fifth ($\frac{1}{5}$)?</p> <p><u>Re-present</u> the answer options in order. Point to each option as you say it.</p> <p>A. Fraction bar A B. Fraction bar B C. Fraction bar C</p>	2	<p>Fraction bar B</p> <p><i>If you believe the student's correct response was unintentional, reorder the answer options to B, C, A (instead of A, B, C). Repeat the question. If the student chooses the correct answer again, the task should be scored a 2. If the student chooses an incorrect answer, the task should be scored a 1.</i></p>
	1	<p>Fraction bar A or Fraction bar C</p>
	0	<p>Unrelated or none</p>

Grade 4 Math 4.1.2.1: Students will recognize or represent equivalent fractions using fraction models.



$$\frac{1}{5}$$

What fraction bar shows a fraction equal to $\frac{1}{5}$?



$$\frac{1}{2}$$



$$\frac{2}{4}$$

One-half is equal to two-fourths.

M4_Sample 2
A



Fraction bar A

M4_Sample 2
B



Fraction bar B

M4_Sample 2
C



Fraction bar C

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Grade 4 Mathematics

Sample Task 3

Test Administrator Instructions	Score	Student Responses
<p><i>Administration notes:</i></p> <ul style="list-style-type: none"> ▪ You may use objects when presenting questions and answer options. However, some tasks limit how objects can be used; any limitations will be specified on the task. ▪ Repeat the question exactly as it appears at score 3 as many times as needed until the student responds or until it is clear that the student will not respond. 		
<p><u>Present:</u> M4_Sample 3.1</p> <p><u>Say:</u> Here are 3 shapes. Present the answer options. Which shape has 2 parallel sides?</p> <p><u>Present</u> the answer options in order (trapezoid, triangle, pentagon). <i>Point to each option as you say "Shape A, Shape B, Shape C."</i></p> <p>A. Shape A (trapezoid) B. Shape B (triangle) C. Shape C (pentagon)</p>	3	<p style="text-align: center;">Shape A (trapezoid)</p> <p><i>If you believe the student's correct response was unintentional, reorder the answer options to B, C, A (instead of A, B, C). Repeat the question. If the student chooses the correct answer again, the task should be scored a 3. If the student chooses an incorrect answer, continue below.</i></p>
<p><i>Additional administration notes:</i></p> <ul style="list-style-type: none"> ▪ If the student responds incorrectly or not at all, present the task with support as scripted. ▪ Once additional support is provided, the task may not be re-administered for a score of 3. 		
<p><u>Present:</u> M4_Sample 3.2</p> <p><u>Say:</u> These 2 lines are parallel. Point to the lines. Which shape has 2 parallel sides?</p> <p><u>Re-present</u> the answer options in order (trapezoid, triangle, pentagon). <i>Point to each option as you say "Shape A, Shape B, Shape C."</i></p> <p>A. Shape A (trapezoid) B. Shape B (triangle) C. Shape C (pentagon)</p>	2	<p style="text-align: center;">Shape A (trapezoid)</p> <p><i>If you believe the student's correct response was unintentional, reorder the answer options to B, C, A (instead of A, B, C). Repeat the question. If the student chooses the correct answer again, the task should be scored a 2. If the student chooses an incorrect answer, the task should be scored a 1.</i></p>
	1	Shape B (triangle) or Shape C (pentagon)
	0	Unrelated or none

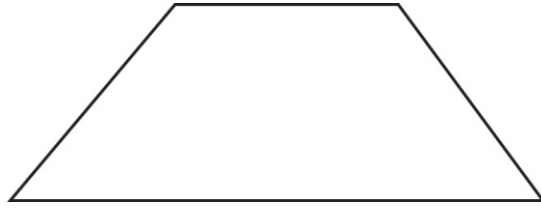
Grade 4 Math 4.3.1.2: Students will identify, describe and classify quadrilaterals.

Which shape has 2 parallel sides?



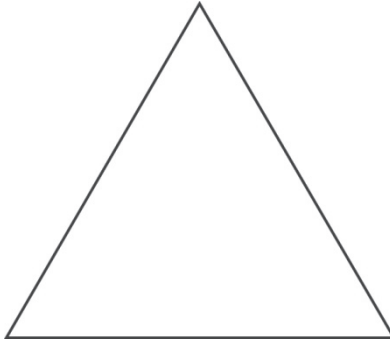
Which shape has 2 parallel sides?

M4_Sample 3
A



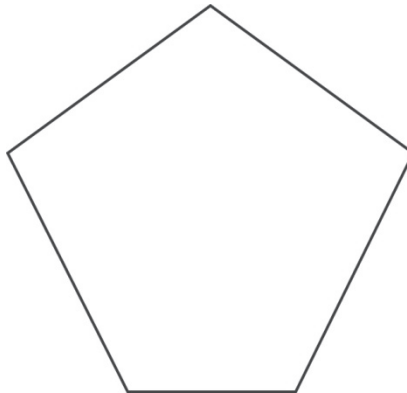
Shape A

M4_Sample 3
B



Shape B

M4_Sample 3
C



Shape C

MTAS Mathematics Object List (OPTIONAL) Mathematics Item Sampler

The MTAS Object Lists for mathematics and science include examples of objects and other variations in the presentation of the MTAS tasks. Some common ways to vary the task presentation include (1) using Braille text and tactile graphics, enlarging, or texturizing print and (2) supplementing numbers in tasks with some type of counter. These variations may be used with nearly all math and science tasks unless explicitly prohibited in the task script.

Calculators are allowed on all tasks but may be especially useful for tasks involving basic operations (addition, multiplication, subtraction, and division). Students may use **any** type of calculator on the MTAS with which they have demonstrated appropriate competence during classroom instruction.

Keep in mind that these lists provide recommendations only; test administrators may use different objects and/or text formats to make tasks more accessible for individual students as long as students are not provided with additional content information. For example, several math tasks incorporate a number line with an unlabeled point. Number lines used in classrooms may not be appropriate for all of the MTAS tasks if all points are labeled.

Please contact MDE (mde.testing@state.mn.us) if you have questions about objects that may be used to represent MTAS tasks.

Task	Objects
Grade 4 Sample 01	<p>Present raised version of the graph using sticky string and objects or Thermaform/Piaf pages: Cardstock of varying length to represent the bars Plastic objects or pictures to represent corn, beans, peas, and carrots</p> <p>Present answer options using plastic objects, pictures, or Braille: Beans Peas Carrots</p>
Grade 4 Sample 02	<p>Present task using cardboard fraction bars or Thermaform/Piaf pages: 1 bar with 1 of 5 sections shaded or textured</p> <p>Present additional information for score 2: 1 bar with 1 of 2 sections shaded or textured 1 bar with 2 of 4 sections shaded or textured</p> <p>Present answer options using fraction bars: 1 bar with 2 of 5 sections shaded or textured 1 bar with 2 of 10 sections shaded or textured 1 bar with 1 of 6 sections shaded or textured</p>
Grade 4 Sample 03	<p>Present task/answer options using objects that match the response option cards: 1 trapezoid 1 triangle 1 pentagon</p> <p>Present additional information for score 2 using sticky string or tactile graphics: 2 parallel sides</p>