

Minnesota

**Minnesota Test of Academic Skills (MTAS)  
Science Item Sampler  
High School**



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Minnesota Department of  
**Education**

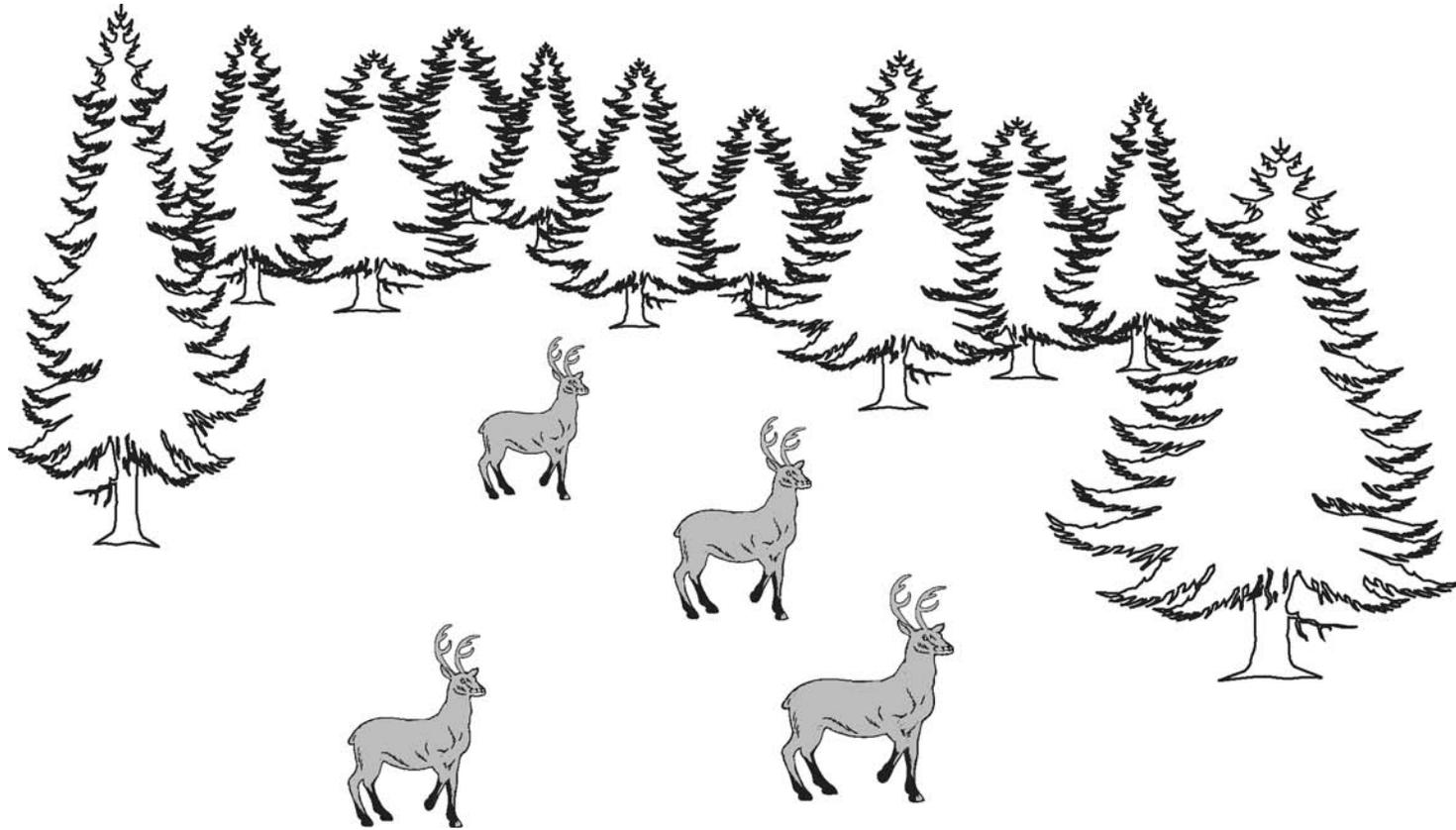
# Minnesota Test of Academic Skills

## High School Science

### Sample Task 1

Test Administrator Instructions	Score	Student Responses
<p><i>Administration notes:</i></p> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> </ul>		
<p><u>Present:</u> SHS_Sample 1</p> <p><b>Say: Deer get food and shelter from trees. The trees are cut down. What happens to the number of deer when the trees are cut down?</b></p> <p><u>Present</u> the answer options in order. <i>Point to each option as you say it.</i></p> <p><b>A. There are more deer.</b>  <b>B. There are fewer deer.</b>  <b>C. There is the same number of deer.</b></p>	<b>3</b>	<p style="text-align: center;">There are fewer deer.</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"> <li>▪ If the student responds incorrectly or not at all, present the task with support as scripted.</li> <li>▪ Once additional support is provided, the task may not be re-administered for a score of 3.</li> </ul>		
<p><u>Re-present:</u> SHS_Sample 1</p> <p><b>Say: When the trees are cut down, the deer have less food, and it is hard for them to hide and stay safe. Point to the deer in the woods. What happens to the number of deer when the trees are cut down?</b></p> <p><u>Re-present</u> the answer options in order. <i>Point to each option as you say it.</i></p> <p><b>A. There are more deer.</b>  <b>B. There are fewer deer.</b>  <b>C. There is the same number of deer.</b></p>	<b>2</b>	<p style="text-align: center;">There are fewer deer.</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>
	<b>1</b>	<p style="text-align: center;">There are more deer. or There is the same number of deer.</p>
	<b>0</b>	<p style="text-align: center;">Unrelated or none</p>

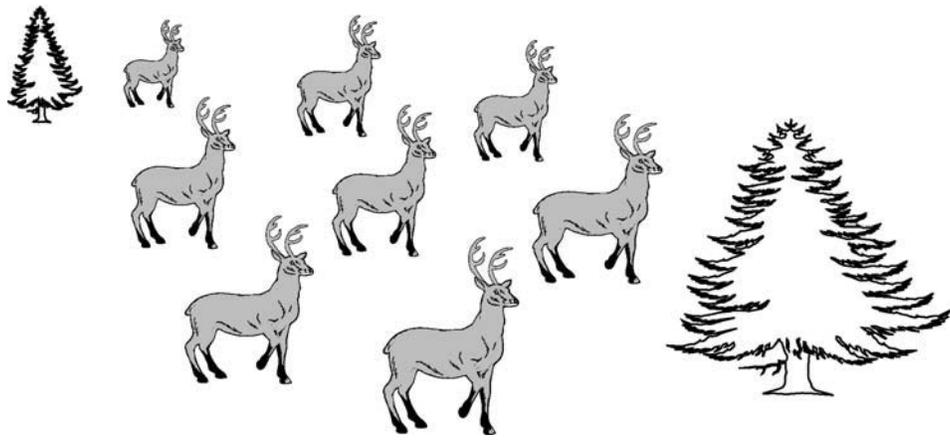
**High School Science 9.4.4.1.2:** The student will recognize the risks and benefits of changing a natural ecosystem as a result of human activity.



What happens to the number of deer when the trees are cut down?

SHS\_Sample 1

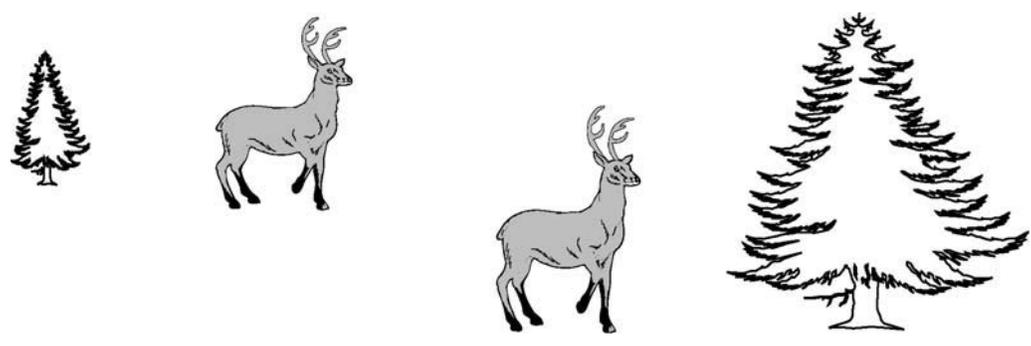
A



There are more deer.

SHS\_Sample 1

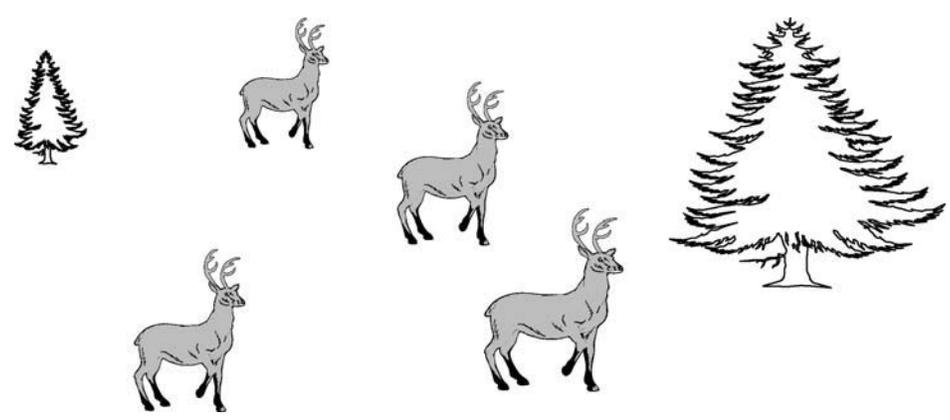
B



There are fewer deer.

SHS\_Sample 1

C



There is the same number of deer.

# Minnesota Test of Academic Skills

## High School Science

### Sample Task 2

Test Administrator Instructions	Score	Student Responses
<p><i>Administration notes:</i></p> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> </ul>		
<p><u>Present:</u> SHS_Sample 2</p> <p><u>Say:</u> <b>Here are 3 plants.</b> Point to each of the answer options. <b>Leaves get light from the Sun. Which plant will get the most light from the Sun?</b></p> <p><u>Present</u> the answer options in order. Point to each option as you say it.</p> <p><b>A. A plant with 1 leaf</b>  <b>B. A plant with 2 leaves</b>  <b>C. A plant with many leaves</b></p>	<b>3</b>	<p style="text-align: center;">A plant with many leaves</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"> <li>▪ If the student responds incorrectly or not at all, present the task with support as scripted.</li> <li>▪ Once additional support is provided, the task may not be re-administered for a score of 3.</li> </ul>		
<p><u>Re-present:</u> SHS_Sample 2</p> <p><u>Say:</u> <b>Here are 3 plants.</b> Point to each of the answer options. <b>Plants need light to grow. The more leaves a plant has, the more light it can use to grow. Which plant will get the most light from the Sun?</b></p> <p><u>Re-present</u> the answer options in order. Point to each option as you say it.</p> <p><b>A. A plant with 1 leaf</b>  <b>B. A plant with 2 leaves</b>  <b>C. A plant with many leaves</b></p>	<b>2</b>	<p style="text-align: center;">A plant with many leaves</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>
	<b>1</b>	<p>A plant with 1 leaf or A plant with 2 leaves</p>
	<b>0</b>	Unrelated or none

**High School Science 9.1.1.2.1:** The student will recognize a scientific experiment by making a hypothesis, analyzing data and/or making a conclusion on this data.

Which plant will get the most light from the Sun?

SHS\_Sample 2

A



A plant with 1 leaf

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SHS\_Sample 2

B



A plant with 2 leaves

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SHS\_Sample 2

C



A plant with many leaves

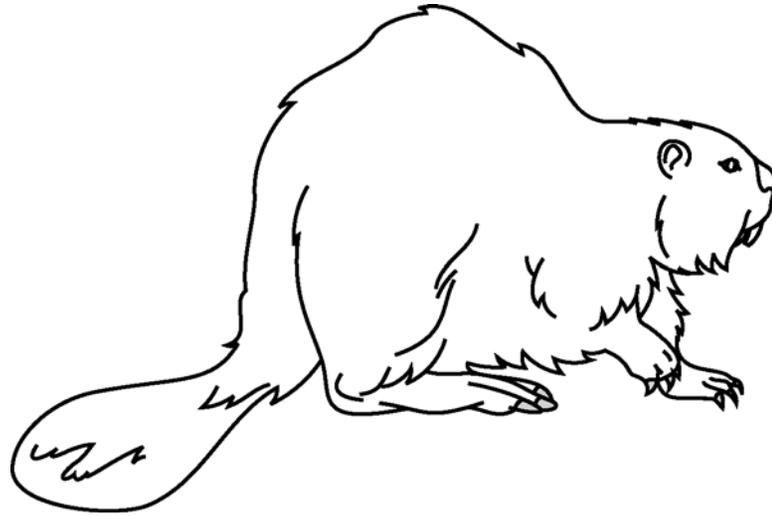
# Minnesota Test of Academic Skills

## High School Science

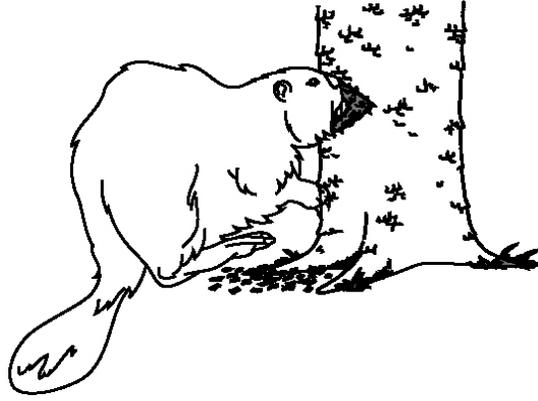
### Sample Task 3

Test Administrator Instructions	Score	Student Responses
<p><i>Administration notes:</i></p> <ul style="list-style-type: none"> <li>▪ 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.</li> <li>▪ 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.</li> </ul>		
<p><u>Present:</u> SHS_Sample 3</p> <p><b>Say: Here is a parent beaver. Which trait will the offspring get from the parent beaver?</b></p> <p><u>Present</u> the answer options in order. <i>Point to each option as you say it.</i></p> <p><b>A. Eating bark from a tree</b>  <b>B. Sitting under a tree</b>  <b>C. Having a flat tail</b></p>	<b>3</b>	<p style="text-align: center;">Having a flat tail</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"> <li>▪ If the student responds incorrectly or not at all, present the task with support as scripted.</li> <li>▪ Once additional support is provided, the task may not be re-administered for a score of 3.</li> </ul>		
<p><u>Present:</u> SHS_Sample 3</p> <p><b>Say: Offspring get traits from their parents. Traits make offspring look like their parents. Here is a parent beaver. Which trait will the offspring get from the parent beaver?</b></p> <p><u>Re-present</u> the answer options in order. <i>Point to each option as you say it.</i></p> <p><b>A. Eating bark from a tree</b>  <b>B. Sitting under a tree</b>  <b>C. Having a flat tail</b></p>	<b>2</b>	<p style="text-align: center;">Having a flat tail</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>
	<b>1</b>	<p>Eating bark from a tree or Sitting under a tree</p>
	<b>0</b>	Unrelated or none

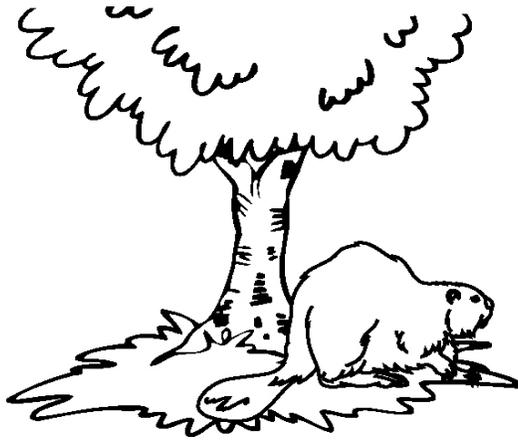
**High School Science 9.4.3.2.1:** The student will recognize that traits are transmitted from parents to offspring.



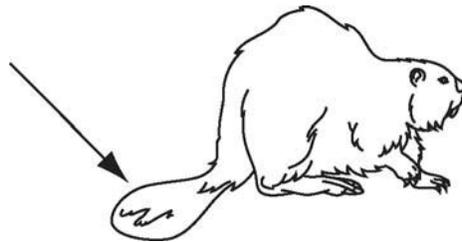
Which trait will the offspring get from the parent beaver?



Eating bark from a tree



Sitting under a tree



Having a flat tail

## MTAS Science Object List (OPTIONAL) Science 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.

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](mailto:mde.testing@state.mn.us)) if you have questions about objects that may be used to represent MTAS tasks.

Task	Objects
<b>Grade HS Sample 01</b>	<p><b>Present task using tactile graphics or objects such as plastic toys:</b> 4 deer 11 trees</p> <p><b>Present answer options using tactile graphics or objects:</b> 8 deer and 2 trees 2 deer and 2 trees 4 deer and 2 trees</p>
<b>Grade HS Sample 02</b>	<p><b>Present task/answer options using objects or tactile graphics:</b> 1 plant with 1 leaf 1 plant with 2 leaves 1 plant with 6 or more leaves</p>
<b>Grade HS Sample 03</b>	<p><b>Present task using objects or tactile graphics:</b> 1 adult beaver</p> <p><b>Present answer options using objects or tactile graphics:</b> 1 gnawed base of a tree 1 ungnawed base of a tree 3 beavers</p>