LOUISIANA DEPARTMENT OF EDUCATION

Office of Assessments, Analytics, and Accountability

LEAP Assessment Guide for Grade 3 Science

Purpose

This document is designed to assist Louisiana educators in understanding the LEAP Grade 3 Science assessment.

Introduction

All students in grades 3-8 and Biology will take the LEAP science assessments, which provide

- questions that have been reviewed by Louisiana educators to ensure their alignment to the Louisiana Student Standards for Science and appropriateness for all Louisiana students;
- measurement of the full range of student performance; and
- information for educators and parents about student readiness in science and whether students are "on track" for college and careers.

Vision for Science Standards and Assessment

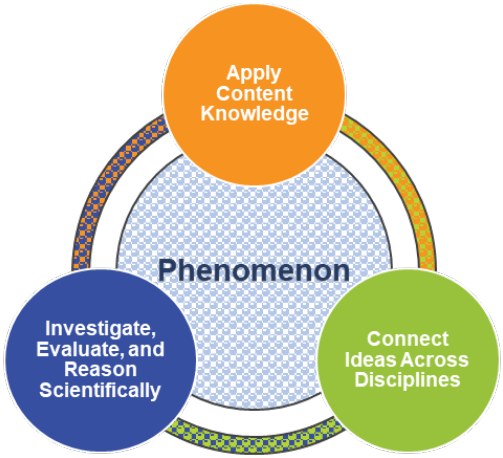
The Louisiana Student Standards for Science (LSS for Science) provide appropriate content for all grades or courses, maintain high expectations, create a logical connection of content across and within grades, represent the knowledge and skills students need to

successfully transition to postsecondary education and the workplace, and call for students to apply content knowledge; investigate, evaluate, and reason scientifically; and connect ideas across disciplines.

Assessment Design

Supporting Science Instruction

The LEAP tests will assess students' understanding of the LSS for Science, reflecting the multiple dimensions of the standards.



Apply content knowledge and skills (Disciplinary Core Idea, DCI)

In the classroom, students develop skills and content knowledge reflected in the Performance Expectations (PE) and detailed in the Disciplinary Core Ideas (DCI), the key skills and knowledge students are expected to master by the end of the course.
On the LEAP test, students answer questions which require content knowledge and skills aligned to PE bundles (groupings of PEs) and the corresponding DCIs.

Investigate, evaluate, and reason scientifically (Science and Engineering Practice, SEP)

In the classroom, students do more than learn about science; they "do" science. Simply having content knowledge and scientific skills are not enough; students must investigate and apply content knowledge to scientific phenomena. Phenomena are real world observations that can be explained through scientific knowledge and reasoning (e.g., water droplets form on the outside of a water glass, plants tend to grow toward their light source, different layers of rock can be seen on the side of the road). Science instruction must integrate the practices, or behaviors, of scientists and engineers as students investigate real-world phenomena and design solutions to problems.
On the LEAP test, students do more than answer recall questions about science; they apply the practices, or behaviors, of scientists and engineers to investigate each real-world phenomenon and design solutions to problems.

Connect ideas across disciplines (Crosscutting Concept, CCC)

In the classroom, students develop a coherent and scientifically-based view of the world; they must make connections across the domains of science (life science, physical science, earth and space science, environmental science, and engineering, technology, and applications of science). These connections are identified as crosscutting concepts (CCC).
On the LEAP test, sets of questions assess student application of knowledge across the domains of science for a comprehensive picture of student readiness for their next grade or course in science.

Set Based Design

The test includes item sets and standalone items. A scientific **phenomenon** provides the anchor for each item set or standalone item. Stimulus materials, related to the scientific phenomenon, provide context and focus for sets. A variety of stimulus materials provide context

for each described phenomenon. Art is used to help convey information in a simplified form; examples include maps, charts, data tables, bar or line graphs, diagrams, pictures, photographs, or artist's renderings. In addition to the information presented in the stimulus materials, the questions require students to bring in content knowledge from the course to demonstrate their understanding of science. Some **item sets** culminate with a short constructed-response item. Each test includes **standalone items,** which are not part of an item set.

Item Types

- Selected Response (SR): includes traditional multiple-choice (MC) questions with four answer options and only one correct answer, as well as multiple-select (MS) questions with five answer options and more than one correct answer. For MS items, the question identifies the number of correct answers. All SR items are worth one point each.
- Two-part SR: requires students to answer two related questions, worth two points. Two-part items may combine SR item types.
  - Two-part Dependent (TPD): the first SR must be correct in order to earn credit for the second SR item.
  - Two-part Independent (TPI): each SR is scored independently.
- Constructed Response (CR): requires a brief response provided by the student and will be scored using a 2-point rubric. These items may require a brief paragraph or a few sentences.

Test Design

The LEAP Science Grade 3 test will contain six item sets and twelve standalone items across two sessions. The test will also include a field-test item set and standalone items, which will not count toward a student's final score on the test. The table below outlines the test design.

Test Session	Component	Points	Time Allowed
Session 1	2 Item Sets	12	70 minutes
	5 Standalone Items	6	
Session 2	4 Item Sets	24	70 minutes
	7 Standalone Items	8	
Total Operational	6 Item Sets and 12 Standalones	50	140 minutes

The design of the LEAP Grade 3 Science Practice Test differs from the design of the test since it includes a task with an extended-response item. Because students in grade 3 should learn how to express scientific understanding and reasoning with written explanation, it is essential that teachers continue to incorporate extended-response tasks into classroom instruction and formative classroom assessments.

The continued use of extended-response tasks in the classroom will deepen students' understanding of the content and help students transfer that understanding to different phenomena and ensure student readiness for the next grade.

Reporting Categories

All Louisiana Student Standards for Science are eligible for assessment. The LEAP science assessments examine students' performance of scientific and engineering practices (SEPs) in the context of disciplinary core ideas (DCIs) and crosscutting concepts (CCCs). Although these SEPs are described separately, they generally function in concert. This overlap of SEPs means that assessment items must be designed around a bundle of related performance expectations (PEs) and not tested in isolation from one another.

The table below shows the reporting category titles and descriptions as well as the PEs associated with each reporting category.

Reporting Category	Description	Content
Investigate	Ask Questions, Define Problems, and Plan Investigations	3-PS2-1, 3-PS2-2, 3-PS2-3, 3-PS2-4
Evaluate	Analyze and Interpret Data, Use Mathematics and Computational Thinking, and Engage in Argument from Evidence	3-LS2-1, 3-LS3-1, 3-LS4-1, 3-LS4-3, 3-LS4-4, 3-ESS2-1, 3-ESS3-1
Reason Scientifically	Develop and Use Models, Construct Explanations, and Design Solutions	3-LS1-1, 3-LS3-2, 3-LS4-2

3-ESS2-2 may be assessed and would be reported as part of the overall score. This particular PE does not fit neatly into any one of the three categories; rather, it partly touches all three categories.

Achievement-Level Definitions

Achievement-level definitions briefly describe the expectations for student performance at each of Louisiana's five achievement levels:

- **Advanced:** Students performing at this level have **exceeded** college and career readiness expectations and are well prepared for the next level of study in this content area.
- **Mastery:** Students performing at this level have **met** college and career readiness expectations and are prepared for the next level of study in this content area.
- **Basic:** Students performing at this level have **nearly met** college and career readiness expectations and may need additional support to be fully prepared for the next level of study in this content area.

- **Approaching Basic:** Students performing at this level have **partially met** college and career readiness expectations and will need much support to be prepared for the next level of study in this content area.
- **Unsatisfactory:** Students performing at this level have **not yet met** the college and career readiness expectations and will need extensive support to be prepared for the next level of study in this content area.

Achievement Level Descriptors

Achievement Level Descriptors (ALDs) indicate what a typical student at each level should be able to demonstrate based on his or her command of grade-level standards. ALDs are written for the three assessment reporting categories. Access the ALDs in the Assessment library for a breakdown of the knowledge, skills, and practices associated with each achievement level.

Test Administration

All LEAP tests are computer-based (CBT), but districts may choose to administer paper-based tests (PBT) for grade 3. The **computer-based testing window opens April 2, 2025, and runs through May 14, 2025.** Your school or district test coordinator will communicate your school's testing schedule. For updates to the testing schedule, refer to the 2024-2025 Louisiana Assessment Calendar. All LEAP assessments are timed. No additional time is permitted, except for students who have a documented extended time accommodation (e.g., an IEP).

Scheduling Requirements for Computer-Based Testing

Computer-based testing allows school systems some flexibility in scheduling. However, to reduce incidences of testing irregularities, school systems **must** adhere to the following scheduling and administration practices:

- Testing students in the same grade level across the school at or very close to the same time
- Completing makeup testing for students immediately upon their return
- Limiting student interaction during breaks between test sessions
- Isolating students who have not completed testing for the day (e.g., students with extended time accommodation)
- Preventing interaction between groups of students taking the same tests at different times within a testing day
- Requiring the completion of a session once it is opened (i.e., limiting the reopening of test sessions)
- Taking the sessions within a content area in the correct order (e.g., Math Session 1 taken before Math Session 2)

The following is also recommended:

- Limiting sessions to no more than three in one day for a student.

For more information about scheduling and administration policies, refer to the Online Assessment Scheduling Guidance, found in the LDOE Assessment library.

Administration Schedule for Paper-Based Testing

The table below shows the paper-based testing schedule for grade 3.

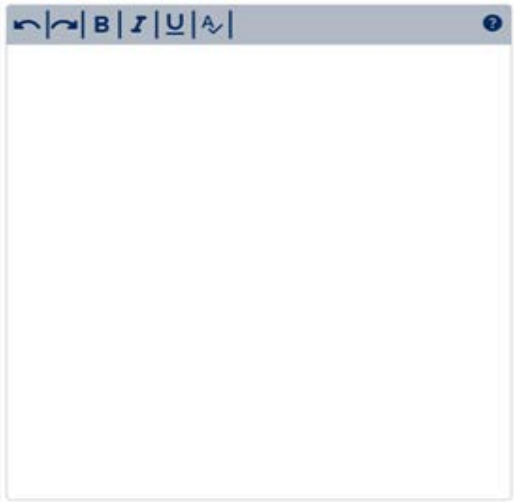
Test Dates	Subjects and Sessions	Test Time
Wednesday, April 2, 2025	English Language Arts, Session 1	75 minutes
	Mathematics, Session 1	65 minutes
Thursday, April 3, 2025	English Language Arts, Session 2	45 minutes
	Mathematics, Session 2	65 minutes
Friday, April 4, 2025	English Language Arts, Session 3	45 minutes
	Mathematics, Session 3	65 minutes
Monday, April 7, 2025	Science, Session 1	70 minutes
	Science, Session 2	70 minutes
Tuesday, April 8, 2025	Social Studies, Session 1	TBD
	Social Studies, Session 2	TBD

Testing Materials

All students must receive scratch paper and two pencils from their test administrator.

Testing Platform

Students taking the computer-based tests will enter their answers into the online testing system. When composing their written responses, students will type their responses into an answer box, like the one shown. The toolbar at the top of the response box allows students to undo or redo an action, and add boldface, italics, or underlining to their response. There is a limit to the amount of characters that can be typed into the response box; however, it is set well beyond what a student might produce given the LEAP expectations for written responses and timing. The character count is not included on the response box so students focus on the quality of their responses rather than the amount of writing.



The computer-based tests include the following online tools, which allow a student to select answer choices, “mark” items, eliminate answer options, highlight text, take notes, enlarge the item, apply a

mask to cover a part of the screen, and guide the reading of a text or an item line by line. A help tool is also featured to assist students as they use the online system.

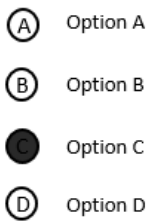
- Pointer 
- Highlighter 
- Sticky note 
- Masking 
- Cross-off 
- Magnifier 
- Line guide 
- Help 

All students taking the computer-based test should work through the Online Tools Training, using the online tools so students are well prepared to navigate the online testing system.

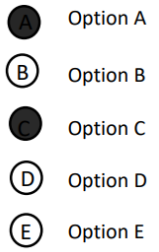
Paper-Based Tests

Students taking the paper-based tests will enter all answers in their test booklets. There will be no separate answer documents. Instructions for how to manage the test booklets will be outlined in the Test Administration Manual.

Multiple-choice questions for grade 3 have four answer options. Students will shade the bubble of the **one** correct answer.



Multiple-select questions for grade 3 have five options. Students will fill in the number of correct answers identified in the stem of the question. **The number of correct answers will vary from item to item.** The sample asks for two correct answers.



General Guidelines

The following information presents guidelines for marking/writing in the LEAP consumable test booklet.

- Students are encouraged to mark in the test booklet (e.g., highlight or underline, annotate, circle key words in the questions, etc.).
- Students may use yellow highlighters to highlight text in the test booklet.
- Highlighting text in options and placing an X to the right of the text in an option are recommended ways for students to eliminate options. However, crossing out options could create scoring issues if students mark through answer circles.
- When students are answering items requiring written responses, they should make sure to write their responses in the space provided. Any information written outside the space or which has been scratched out in the printed test booklet will not be scored.

Sample Test Items

Standalone Items

Before the standalone items, the item set, and the task, included in this section, is a table containing item type, alignment information, and point values. Additionally, analyses of the multi-dimensional alignment for each standalone item, each item in the item set, and each item in the task, as well as rubrics for the CRs and ERs are included.

Item Type	PE	DCI	SEP	CCC	Points
MC	3-PS2-1	UE.PS2A.b		C/E	1
MC	3-LS3-2	UE.LS3B.b	6. E/S	C/E	1
TPD	3-LS4-2	UE.LS4B.a	6. E/S		2
MC	3-ESS3-1	UE.ESS3B.a; UE.ETS.1B.a	7. ARG		1

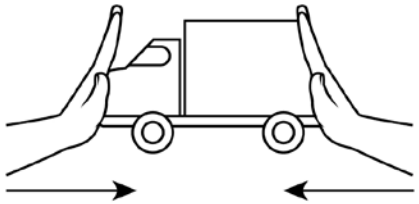
SEP = blue; DCI = orange; CCC = green An asterisk (*) denotes correct answer(s).

Multiple-Choice Item

Performance Expectation: **3-PS2-1** Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

Some students conducted an investigation with force and motion. They placed a toy truck on a table. One student pushed the truck from the right and the other student pushed from the left at the same time, as shown.

Experiment with Toy Truck



The students conducted five trials. Their observations are shown in the table.

Students' Observations

Trial	Observation
1	The truck stayed still.
2	The truck stayed still.
3	The truck moved to the left.
4	The truck moved to the right.
5	The truck stayed still.

Which statement explains what caused the truck to move in trials 3 and 4 but stay still in trials 1, 2, and 5?

A. When one student pushed with more force than the other student, the truck rolled.*
B. When both students pushed with the same force, the truck rolled to the right or the left.
C. When one student pushed with more force than the other student, the truck stayed still.
D. When one student stopped pushing before the other student stopped, the truck stayed still.

Multi-Dimensional Alignment: The item requires the student to apply knowledge of how **forces that do not sum to zero can cause changes in the object's speed or direction of motion** to demonstrate an understanding of **cause and effect relationships**.

Multiple-Choice Item

Performance Expectation: **3-LS3-2** Use evidence to support the explanation that traits can be influenced by the environment.

Spoonbills are birds that live near the water along the Louisiana coast. They are white to light pink and often have bright-pink feathers on their wings. While taking a field trip, a few students notice that the feathers of the spoonbills at the zoo are not as bright pink as the feathers of spoonbills in the wild.

The table shows some information about spoonbills in zoos and in the wild.

Spoonbills

	Diet	Life Span	Habitat	Activities
Zoo	duck pellets, insects	15 years	fresh water and salt water	eat and sleep in the sun during the day
Wild	small shrimp, insects	10 years	fresh water and salt water	search for food day and night

Which statement explains the **most likely** reason why the spoonbills in the zoo have a paler pink color than those in the wild?

A. Spoonbills in the zoo live very close to fresh water.

B. Spoonbills in the zoo sit in the sun for much of the day.

C. Spoonbills in the zoo are older than spoonbills in the wild.

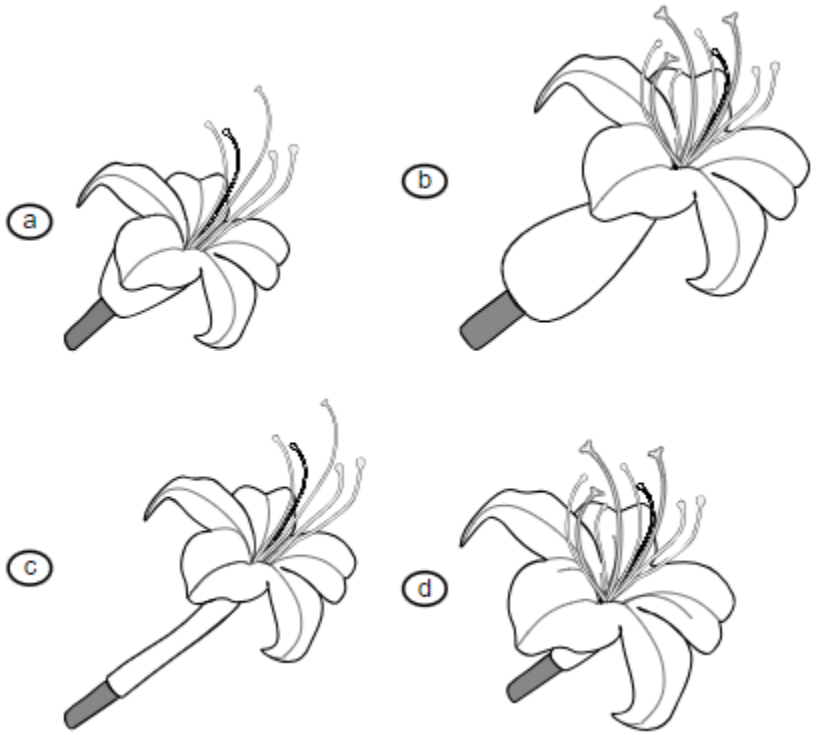
D. Spoonbills in the zoo have a different diet than spoonbills in the wild.*

Multi-Dimensional Alignment: The item requires the student to apply the science practice of **constructing explanations** by **using evidence to support an explanation** and knowledge that **the environment affects the traits that an organism expresses** to demonstrate an understanding of **cause and effect relationships**.

Two-Part Dependent Item (Part A: Multiple Choice, Part B: Multiple Choice)
Performance Expectation: **3-LS4-2** Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

Many plants rely on organisms called pollinators (organisms that help spread pollen among flowers) to survive. Flowers produce nectar to attract pollinators, such as bees and hummingbirds. Hummingbirds have long, narrow beaks that they push deep into a flower and drink the nectar from the bottom of certain flowers where insects, like bees, cannot reach. When a hummingbird drinks nectar from a flower, some pollen sticks to its feathers and is carried to the flowers on another plant.

Part A
Which flower is **most** attractive to hummingbirds, rather than to bees?



Part B
Which statement **best** supports the answer to Part A?

A. The most attractive flower has large petals so that hummingbirds can see it.

B. The most attractive flower has small petals so that hummingbirds will not hit it with their wings.

C. The most attractive flower has a long, narrow tube so that other insects cannot get at the nectar.*

D. The most attractive flower has a short, wide tube so that hummingbirds can more easily get at the nectar.

Multi-Dimensional Alignment: While effectively applying the science practice of **constructing explanations** by **using evidence to support an explanation**, the student demonstrates knowledge of how **differences in characteristics between individuals provide advantages for reproducing**.

Multiple-Choice Item

Performance Expectation: **3-ESS3-1** Make a claim about the merit of a design solution that reduces the impact of a weather-related hazard

Tornadoes have very strong winds that can damage the roof of a house. Students study different design solutions to help reduce the damage caused by tornadoes. One student argues that the best design solution is to use thick metal straps to attach the roof of the house to the walls.

Houses in an area are hit by a tornado. Which evidence **best** supports the student's claim that metal straps are the best design solution?

A. Houses with metal straps have more water damage than houses without metal straps.

B. Houses with metal straps have larger cracks in the roof than houses without metal straps.

C. Houses with metal straps have more dents in their roofs than houses without metal straps.

D. Houses with metal straps have less of their roofs blown off than houses without metal straps.*

Multi-Dimensional Alignment: While effectively applying the science practice of **engaging in argument from evidence** by **making a claim about the merit of the solution cited by relevant evidence**, the student demonstrates knowledge of the **steps humans can take to reduce the impacts of natural hazards**.

Item Set: Lightning and Static Electricity

Performance Expectations:

3-PS2-3 Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.

3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

Item Type	PE	DCI	SEP	CCC	Points
TPD	3-PS2-3	UE.PS2B.b		C/E	2
MC	3-PS2-3	UE.PS2B.b	1. Q/P		1
MC	3-ESS2-1	UE.ESS2D.a	4. DATA	PAT	1
CR	3-ESS2-1	UE.ESS2D.a	4. DATA	PAT	2

SEP = blue; DCI = orange; CCC = green An asterisk (*) denotes correct answer(s).

Stimulus Materials

Use the information about lightning and static electricity and your knowledge of science to answer the questions.

Lightning and Static Electricity

Students in a 3rd-grade class watched a video of a thunderstorm. They learned these facts.

- Lightning will strike the tops of trees.
- Lightning will strike metal poles on buildings.
- Lightning is a type of shock caused by static electricity.
- Thunderstorms often bring heavy rain.

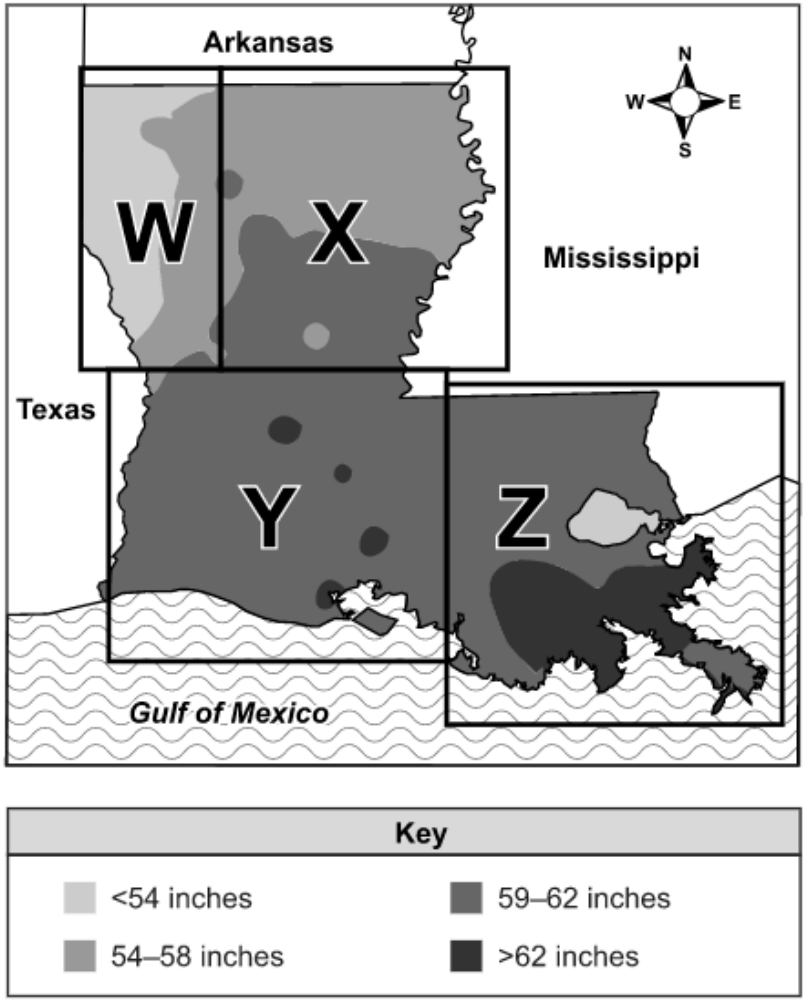
Table 1 shows information about lightning storms in Louisiana.

Table 1. Average Number of Lightning Storms per Month in Louisiana, 2001–2016

Month	Number of Lightning Storms
January	3
February	7
March	10
April	24
May	29
June	56
July	59
August	51
September	11
October	5
November	1
December	7

Map 1 shows information about the yearly rainfall in four different regions in Louisiana.

Map 1. Yearly Rainfall in Louisiana



Source: Parameter-Elevation Regressions on Independent Slopes Model (PRISM).

A student wanted to test whether lightning only strikes near metal. She did an experiment with static electricity. She took these steps.

1. She rubbed her feet on the carpet to make herself electrically charged.
2. She put her finger near an object and observed the results.
3. She repeated steps 1 and 2 with four different objects.

Table 2 shows her observations.

Table 2. Student's Observations from Static Electricity Experiment

Object	Observation
metal doorknob	I got a shock every time, but my finger had to be close to the metal doorknob before I would get a shock. If I rubbed my feet on the carpet more, I got a bigger shock.
running water from a faucet	I never got a shock, but the water bent toward my finger.
wooden chair	I never got a shock.
piece of fake fur	The fake fur would rise up toward my hand.

Two-Part Dependent Item (Part A: Multiple Choice, Part B: Multiple Choice)

Use the information from Table 2 to answer the questions.

Part A

Which statement describes what will **most likely** happen if the student rubs her feet on the carpet and then holds her hand near a metal ruler?

A. The student will feel a shock when her hand is close to the metal ruler.*
B. The ruler will bend toward the student's hand as she reaches for it.
C. The student will feel a shock only if she touches the metal ruler.
D. The metal ruler will not have any effect on the student's hand.

Part B

Which statement **best** explains the answer to Part A?

A. The student will not feel anything because her hand is too close to the metal ruler.
B. The student will not feel anything because the metal ruler will bend away from her hand and toward something that is charged.
C. The student will feel a shock if she touches the metal ruler because electricity only moves through things that are in direct contact with one another.
D. The student will feel a shock before she touches the metal ruler because her body became electrically charged when she rubbed her feet on the carpet.*

Multi-Dimensional Alignment: The item requires the student to apply knowledge of how electric forces between objects depend on the properties of the objects and their distance apart to demonstrate an understanding of cause and effect relationships.

Multiple-Choice Item

The students saw lightning strike two different objects in the video. First, lightning struck the tallest tree in a large forest. Second, lightning struck the metal pole on top of the tallest building in a city. Which question should the students investigate to help them understand why lightning struck these two objects?

A. Does lightning strike only objects made of metal?

B. Does lightning usually strike more in forests or in cities?

C. Does lightning usually strike the tallest object in an area?*

D. Does lightning strike more in one season than in another?

Multi-Dimensional Alignment: While effectively applying the science practice of **asking questions and defining problems** by **determining cause and effect relationships**, the student demonstrates knowledge that the **size of electric forces between objects depends on the properties of objects and their distance apart**.

Multiple-Choice Item

Based on the information in Map 1, which region **most likely** has the most thunderstorms?

A. Region W

B. Region X

C. Region Y

D. Region Z*

Multi-Dimensional Alignment: The item requires the student to apply the science practice of **analyzing and interpreting data** by **revealing patterns in graphical displays that indicate relationships** and knowledge that scientists record **patterns in weather data to make predictions** to demonstrate an understanding of **patterns**.

Constructed-Response Item

Use the information in Table 1 and your knowledge of science to answer the question.

Describe the pattern between the months that have a lower number of lightning storms and the months that have a higher number of lightning storms. Support your answer with evidence from Table 1.

Multi-Dimensional Alignment: The item requires the student to apply the science practice of analyzing and interpreting data by patterns in tables that indicate relationships and knowledge that scientists record patterns in weather data to make predictions to demonstrate an understanding of patterns.

Scoring Guide

Scoring Information	
Score	Description
2	Student's response correctly describes the pattern of months with higher and lower numbers of lightning storms AND supports his or her reasoning with evidence from Table 1.
1	Student's response correctly describes the pattern of months with higher and lower numbers of lightning storms, but does not support his or her reasoning with evidence from Table 1.
0	Student's response does not correctly describe the pattern of months with higher and lower numbers of lightning storms and does not support his or her reasoning with evidence from Table 1.

Scoring Notes:

- Explanation of pattern of months with higher and lower numbers of lightning storms (1 point)
- Providing evidence from Table 1 (1 point)

Examples include:

- Colder months have fewer lightning storms, and warmer months have more lightning storms. There are more than 50 lightning storms per month in June, July, and August, which are warm months. There are fewer than 10 lightning storms per month in November, December, January, and February, which are cold months.
- There are more lightning storms in the summer than in the winter. June, July, and August are summer months. There are 56 lightning storms in June, 59 lightning storms in July, and 51 lightning storms in August. December, January, and February are winter months. There are 7 lightning storms in December, 3 lightning storms in January, and 7 lightning storms in February.

Because students in grade 3 should learn how to express scientific understanding and reasoning with written explanation, it is essential that teachers continue to incorporate extended-response tasks into classroom instruction and formative classroom assessments. The continued use of extended-response task sets in the classroom will deepen students' understanding of the content and help students transfer that understanding to different phenomena and ensure student readiness for the next grade.

Task Set: Tundra Animals: Meet the Caribou and the Musk Ox

Performance Expectations:

3-LS2-1 Construct and support an argument that some animals form groups that help members survive.

3-LS4-3 Construct and support an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

Item Type	PE	DCI	SEP	CCC	Points
TPI	3-LS2-1	UE.LS2D.a	7. ARG		2
MC	3-LS2-1	UE.LS2D.a		SYS	1
MC	3-LS2-1	UE.LS2D.a		SYS	1
MC	3-LS4-3	UE.LS4C.a	7. ARG		1
ER	3-LS4-3; 3-LS2-1	UE.LS4C.a; UE.LS2D.a	7. ARG	SYS	6

SEP = blue; DCI = orange; CCC = green An asterisk (*) denotes correct answer(s).

Stimulus Materials

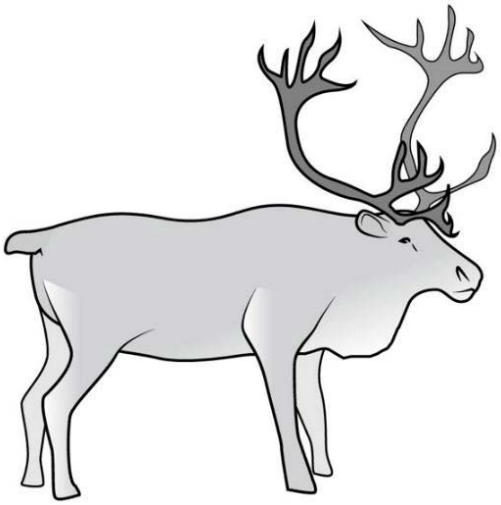
Use the information about tundra animals and your knowledge of science to answer the questions.

Tundra Animals: Meet the Caribou and Musk Ox

Winters in the tundra are very cold. The ground is covered with snow and ice. It is hard for animals that eat plants to find food. Snow melts during the summer, but part of the ground is frozen all year long. Caribou and musk oxen are some of the few big mammals that live in the tundra.

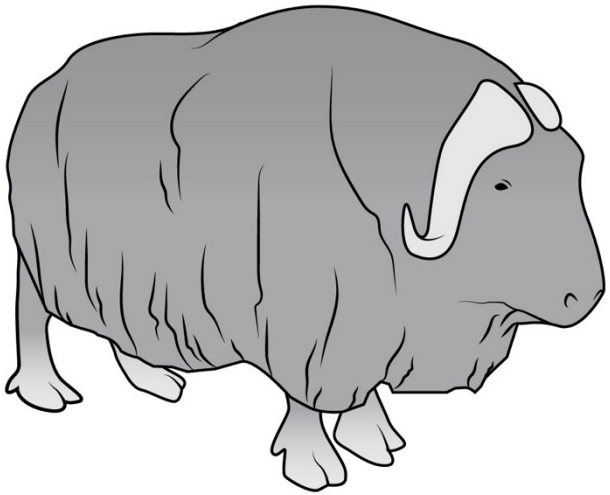
Caribou are large deer with short, thick fur. They eat small plants. In the summer, they move around in large herds. In the winter, they form even larger herds and move to warmer places in the tundra. A caribou is shown in Image 1.

Image 1. Caribou



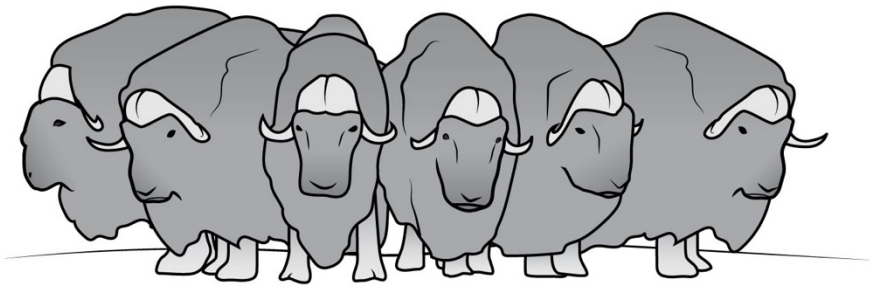
Musk oxen have long, thick fur that hangs low to the ground. They eat grass and small plants. In the summer, they form small herds. They do not travel very far. In the winter, they stay in the very cold tundra. They form large herds and press their bodies together. They dig in the snow to find food. A musk ox is shown in Image 2.

Image 2. Musk Ox



Wolves and grizzly bears are predators that eat caribou and musk oxen. Caribou can run a long distance very quickly, so they usually try to escape predators. Musk oxen get too hot if they run, even in the winter, so they do not try to escape predators. Instead, they press their bodies together in a tight circle with their horns facing out, as shown in Image 3.

Image 3. Musk Ox Circle



Two-Part Independent Item (Part A: Multiple Choice, Part B: Multiple Choice)

Part A
Which statement **best** explains a reason why musk oxen live in groups?

A. It allows them to share their food.

B. It allows them to provide shade for their young.

C. It allows them to travel a long way without getting lost.

D. It allows them to stay warm when the tundra is very cold.*

Part B
A student argues that a group of musk oxen face out when forming a circle as shown in Image 3 because it helps them survive.
Which statement is evidence that **best** supports the student's argument?

A. Oxen face outward toward the Sun so that the herd stays warmer.

B. Oxen face outward to defend against predators by hiding their young inside the circle.*

C. Oxen face outward so that they can walk while pressed together to travel long distances.

D. Oxen face outward so that they are better able to find food by seeing in all directions at once.

Multi-Dimensional Alignment: While effectively applying the science practice of engaging in argument from evidence by supporting a claim with relevant evidence, the student demonstrates knowledge that being part of a group helps animals defend themselves and cope with changes.

Multiple-Choice Item

Female caribou in a herd all give birth at the same time. They gather in large groups with their babies. How does staying with the herd instead of going off by themselves help the female caribou?

A. In a large herd, more individuals can keep watch for predators than can a lone individual.*

B. In a large herd, more individuals are able to hunt for food than can a lone individual.

C. In a large herd, fewer individuals are needed to care for more young.

D. In a large herd, fewer individuals are likely to become sick or injured.

Multi-Dimensional Alignment: The item requires the student to apply knowledge that being a part of a group helps animals defend themselves to demonstrate an understanding of systems and system models.

Multiple-Choice Item

Why do caribou and musk oxen form larger herds in the winter than in the summer?

A. It is harder for smaller herds to find food in the summer than in the winter.

B. It is easier for larger herds to travel long distances in the summer than in the winter.

C. Larger herds can defend themselves better against predators than smaller herds can.*

D. Smaller herds do not blend in as well with their environment in the winter as larger herds do.

Multi-Dimensional Alignment: The item requires the student to apply knowledge that **being a part of a group helps animals defend themselves** to demonstrate an understanding of **systems and system models**.

Multiple-Choice Item

Which evidence **best** supports the argument that a summer with unusually warm temperatures has less of an effect on caribou than it does on musk oxen?

A. Caribou can run faster than musk oxen.

B. Caribou have shorter fur than musk oxen.*

C. Caribou can travel farther than musk oxen.

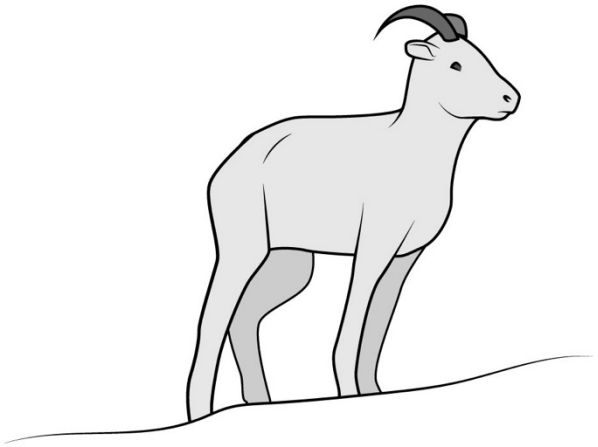
D. Caribou eat different foods than musk oxen eat.

Multi-Dimensional Alignment: While effectively applying the science practice of **engaging in argument from evidence** by **supporting a claim with relevant evidence**, the student demonstrates knowledge that **for any particular environment, some kinds of animals will survive better than others**.

Extended-Response Item

The Dall sheep is another animal that lives in the tundra. Dall sheep have short white fur and live in herds. They spend the summer on rocky mountains in the tundra. They move to lower places in the tundra during the winter. A picture of a Dall sheep is shown.

Dall Sheep



A student says that the Dall sheep survive in the tundra because they behave more like musk oxen than like caribou. Write an argument that explains why the student is **incorrect**. Be sure to include:

- similarities or differences among the fur of the Dall sheep, musk oxen, and caribou
- how each animal group responds to cold temperatures
- how each animal group protects against predators

As you respond to the prompt, follow the directions below.

- Address all parts of the instructions.
- Use evidence from the information provided and your own knowledge of science to support your response.

Multi-Dimensional Alignment: While effectively applying the science practice of **engaging in argument from evidence** by **supporting a claim with relevant evidence**, the student demonstrates knowledge that:

- **for any particular environment, some kinds of animals will survive better than others**, and
- **being a part of a group helps animals**

to demonstrate an understanding of **systems and system models**.

Score Points

The student's score is the sum total of all points earned (up to a maximum of 6 points) in the item.

- No response (blank) or a response that does not address the prompt earns 0 points.
- 2 points for identifying similarities and differences in fur
  - Score 2 points: Correct comparison of two characteristics of fur for the three animals
    OR
  - Score 1 point: Correct comparison of one characteristic of fur for the three animals
- 2 points for describing how each animal group responds to cold temperatures
  - Score 2 points: Correct comparison of behaviors of caribou and musk oxen and correct prediction about the behavior of Dall sheep
    OR
  - Score 1 point: Correct prediction about the behavior of Dall sheep but no descriptions of behaviors of caribou or musk oxen
- 2 points for describing how each animal group protects against predators
  - Score 2 points: Correct description of behaviors of caribou and musk oxen and correct prediction about the behavior of Dall sheep
    OR
  - Score 1 point: Correct prediction about the behavior of Dall sheep but no descriptions of behaviors of caribou or musk oxen

Score Information

1. Comparison of fur characteristics:
   - Dall sheep have white fur, caribou have darker fur, and musk oxen have very dark fur.
   - Musk oxen have long, thick fur that hangs low to the ground. Dall sheep and caribou both have shorter fur.

2. Response to cold temperatures:
   - Musk oxen press their bodies together to stay warm without traveling, while caribou move to warmer places.
   - Dall sheep have short fur and cannot stay warm in the winter, so they move to warmer places like caribou do.

3. Defense against predators:
   - Musk oxen form tight circles to fight off predators, while caribou run from predators.
     Dall sheep have white fur that blends into their surroundings, so they can avoid being seen.

Accept other reasonable predictions, such as Dall sheep running away from predators like caribou do.

Resources

Assessment Guidance Library

- Assessment Development Educator Review Committees: describes the item development process and the associated committees, includes information on applying for participation

Practice Test Library

- LEAP Grade 3 PBT Practice Test and Answer Key, and CBT Practice Test Answer Key: helps prepare students for the spring assessment, includes answer keys, scoring rubrics, and alignment information
- LEAP Science Practice Test Guidance: provides guidance on using the practice tests to support instructional goals
- Practice Test Quick Start Guide: provides information regarding administration and scoring of online practice tests

Assessment Library

- 2024-2025 Louisiana Assessment Calendar: includes information on testing windows for test administrations
- Grade 3 Science Achievement Level Descriptors: contains descriptions of the knowledge, skills, and processes that students demonstrate with relative consistency and accuracy at each level of achievement
- LEAP Accessibility and Accommodations Manual: provides information about accessibility and accommodations
- LEAP Technology Enhanced Item Types: provides a summary of technology enhanced items students may encounter in any CBT across courses and grade levels

EAGLE: instructional resources in grade-level documents that teachers can download and incorporate into their daily instruction; contact school test coordinator for instructions on accessing the files

DRC INSIGHT Portal:

- includes access to tutorials, manuals, and user guides
- LEAP Science Grade 3 CBT Practice Test: helps prepare students for the spring assessment
- Online Tools Training: allows students to become familiar with the online testing platform and its available tools; also available through this link using the Chrome browser

K-12 Science Planning Resources Library

- K-12 Louisiana Student Standards for Science (2017): provides the performance expectations for all grades
- Planning Guide for Science Instruction: assists educators in planning with high quality curriculum
- Grade 3 Louisiana Guide to Implementing Amplify: assists teachers with the implementation of high quality curriculum
- Grade 3 Louisiana Guide to Implementing PhD Science: assists teachers with the implementation of high quality curriculum

Contact the LDOE

- assessment@la.gov for assessment questions
- classroomsupporttoolbox@la.gov for curriculum and instruction questions
- AskLDOE for general questions
- ldoecommunications@la.gov to subscribe to newsletters; include the newsletter(s) you want to subscribe to in your email
- **Newsroom**: archived copies of newsletters including LDOE Weekly School System Newsletters and Teacher Leader Newsletters

Updates Log

The table below lists any updates made to this document after the original post date.

Available	Description of Updates
October 2024	Document original posting for 2024-2025

Email assessment@la.gov with any questions or comments about this assessment guide.