Grade 3 Science Practice Test Answer Key

This document contains the answer keys, rubrics, and Scoring Notes for items on the Grade 3 Science Practice Test. Additional Practice Test resources are available in the LDOE Practice Test Library.

UPDATES INCLUDED - AUGUST 2021

- **Student Responses with Annotations -**
  Session 1 Item 4 (CR)
  Session 1 Item 8 (CR)
  Session 3 Item 26 (CR)

Session	Set	Sequence	Item Type	Key	Point Value	Alignment
1	Amazon River Dolphins	1	MC	D	1	PE: 3-LS2-1 SEP: 7. Engaging in argument from evidence DCI: UE.LS2D.a CCC: Systems and System Models
1		2	MC	B	1	PE: 3-LS1-1 SEP: 2. Developing and using models DCI: UE.LS1B.a
1		3	TPD: MC/ MC	C/D	2	PE: 3-LS1-1 DCI: UE.LS1B.a CCC: Patterns
1		4	CR	See Rubric	2	PE: 3-LS2-1 SEP: 7. Engaging in argument from evidence DCI: UE.LS2D.a
1	Winter Storms	5	MC	D	1	PE: 3-ESS2-1 SEP: 4. Analyzing and interpreting data DCI: UE.ESS2D.a
1		6	MC	A	1	PE: 3-ESS2-1 SEP: 4. Analyzing and interpreting data DCI: UE.ESS2D.a
1		7	TPI: MC/ MC	C/A	2	PE: 3-ESS3-1 SEP: 7. Engaging in argument from evidence CCC: Cause and Effect
		8	CR	See Rubric	2	PE: 3-ESS3-1 SEP: 7. Engaging in argument from evidence DCI: UE.ESS2B.a CCC: Cause and Effect
1	Standalone Items	9	MS	B, E	1	PE: 3-ESS3-1 SEP: 7. Engaging in argument from evidence DCI: UE.ETS1B.a CCC: Cause and Effect
1		10	MS	A, D	1	PE: 3-LS3-1 SEP: 4. Analyzing and interpreting data DCI: UE.LS3A.a
1		11	MC	B	1	PE: 3-LS3-2 DCI: UE.LS3A.b CCC: Cause and Effect
1		12	MS	B, C	1	PE: 3-LS4-1 SEP: 4. Analyzing and interpreting data CCC: Scale, Proportion and Quantity

Session	Set	Sequence	Item Type	Key	Point Value	Alignment
1	Standalone Items	13	MC	A	1	PE: 3-LS4-3 SEP: 7. Engaging in argument from evidence DCI: UE.LS4C.a CCC: Cause and Effect
1		14	MS	B, C	1	PE: 3-LS4-4 SEP: 7. Engaging in argument from evidence DCI: UE.LS4D.a CCC: Systems and System Models
.1		15	MC	B	1	PE: 3-PS2-4 DCI: UE.PS2B.b CCC: Patterns
1		16	TPI: MC/ MC	C/B	2	PE: 3-ESS2-2 SEP: 8. Obtaining, evaluating, and communicating information DCI: UE.ESS2D.b CCC: Patterns
1		17	TPI: MC/ MC	C/A	2	PE: 3-LS4-3 SEP: 7. Engaging in argument from evidence DCI: UE.LS4C.a
2	Rattlesnake Rattles	18	MC	D	1	PE: 3-LS3-1 DCI: UE.LS3A.a CCC: Patterns
2		19	MC	C	1	PE: 3-LS3-1 SEP: 6. Constructing explanations (for science) and designing solutions (for engineering) DCI: UE.LS3A.a CCC: Cause and Effect
2		20	TPD: MC/ MS	C/ B, D	2	PE: 3-LS4-2 SEP: 6. Constructing explanations (for science) and designing solutions (for engineering) DCI: UE.LS4B.a CCC: Cause and Effect
2		21	TPI: MS/ MC	B, C/ D	2	PE: 3-LS3-1 SEP: 4. Analyzing and interpreting data DCI: UE.LS3A.a CCC: Patterns
2		22	ER	See Rubric	6	PE: 3-LS4-2 SEP: 6. Constructing explanations (for science) and designing solutions (for engineering DCI: UE.LS4B.a CCC: Cause and Effect
3	Plants and Heat	23	MS	A, B	1	PE: 3-LS3-2 DCI: UE.LS3A.b CCC: Cause and Effect
3		24	MS	A, D	1	PE: 3-LS3-2 DCI: UE.LS3A.b CCC: Cause and Effect

Session	Set	Sequence	Item Type	Key	Point Value	Alignment
3	Plants and Heat	25	TPD: MC/ MC	A/B	2	PE: 3-ESS2-1 SEP: 4. Analyzing and interpreting data DCI: UE.ESS2D.a CCC: Patterns
3		26	CR	See Rubric	2	PE: 3-LS3-2 SEP: 6. Constructing explanations (for science) and designing solutions (for engineering) DCI: UE.LS3A.b CCC: Cause and Effect
3	Seesaws	27	MS	A, D	1	PE: 3-PS2-1 SEP: 3. Planning and carrying out investigations DCI: UE.PS2A.b CCC: Cause and Effect
3		28	TPD: MC/ MC	B/C	2	PE: 3-PS2-2 SEP: 3. Planning and carrying out investigations DCI: UE.PS2A.c CCC: Patterns
3		29	TPI: MC/ MC	A/A	2	PE: 3-PS2-1 SEP: 3. Planning and carrying out investigations DCI: UE.PS2A.b CCC: Cause and Effect
3		30	MC	D	1	PE: 3-PS2-2 SEP: 3. Planning and carrying out investigations DCI: UE.PS2A.c CCC: Patterns
3	Standalone Items	31	MC	C	1	PE: 3-PS2-3 SEP: 1. Asking questions (for science) and defining problems (for engineering) DCI: UE.PS2B.b
3		32	MC	D	1	PE: 3-PS2-3 DCI: UE.PS2B.b CCC: Cause and Effect
3		33	MC	D	1	PE: 3-LS4-1 SEP: 4. Analyzing and interpreting data DCI: UE.LS4A.b
3		34	MC	C	1	PE: 3-LS4-2 DCI: UE.LS4B.a CCC: Cause and Effect
3		35	MC	D	1	PE: 3-PS2-1 SEP: 3. Planning and carrying out investigations DCI: UE.PS2A.a
3		36	MC	C	1	PE: 3-PS2-2 DCI: UE.PS2A.c CCC: Patterns

Session	Set	Sequence	Item Type	Key	Point Value	Alignment
3	Standalone Items	37	MC	A	1	PE: 3-LS4-4 SEP: 7. Engaging in argument from evidence DCI: UE.LS4D.a
3		38	MC	B	1	PE: 3-LS2-1 SEP: 7. Engaging in argument from evidence CCC: Systems and System Models
3		39	TPD: MC/ MC	B/C	2	PE: 3-PS2-4 SEP: 1. Asking questions (for science) and defining problems (for engineering) DCI: UE.ETS1A.a

Item Types and Scoring:

- Multiple-choice (MC) questions with four answer options and only one correct answer. All MC items are worth one point each.

  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 MS items are worth one point each.

- Two-part Items: require students to answer two related questions, worth a total of two points. Two-part items may combine MC and MS item types.
  - Two-part Dependent (TPD): the first part must be correct in order to earn credit for the second part. TPDs are scored as follows:
    - If both parts are correct, score is 2.
    - If Part A is correct and Part B is incorrect or partially correct, score is 1.
    - If Part A is incorrect, score is 0 regardless of Part B.
  - Two-part Independent (TPI): each part is scored independently, with each part worth one point.

- 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, a few sentences, and/or completion of a chart.

- Extended Response (ER): asks students to write an in-depth response that expresses the students' ability to apply all three dimensions of the LSS for Science and will be scored using a 6-point rubric.

Session 1 Item 4 (CR)

Sometimes a dolphin will be forced out of its group. Predict one effect of a dolphin living without a group. Use evidence to support your response.

Scoring Information	
Score	**Description**
2	Student's response correctly predicts one effect AND uses evidence to support the response.
1	Student's response correctly predicts one effect, but does not use evidence to support the response.
0	Student's response does **not** correctly predict one effect or use evidence to support the response. **OR** Student's response is blank, irrelevant, or too brief to evaluate.

Scoring Notes:

- Correct prediction (1 point)
- Evidence to support the response (1 point)

Examples include:

- The dolphin might be more likely to be eaten by predators as there are no other dolphins to provide protection from predators.
- The dolphin may not be able to find as much food without the cooperation of other dolphins.

Accept other reasonable answers.

Student Responses for Session 1 Item 4 (CR)

Sometimes a dolphin will be forced out of its group. Predict one effect of a dolphin living without a group. Use evidence to support your response.

Response 1

When a dolphin is forced out of its group, it will not live long because it will not have the protection as it does in a group. the information given states that these dolphins live in groups for protection. They protect eachother and take turns eating, and they make groups around the young to protect them. Even if this outcast dolphin manages to survive, there wont be many other outcast dolphins to reproduce with.

Score: 2

This response earns a 2. It correctly predicts one effect of a dolphin living without a group, “When a dolphin is forced out of its group, it will not live long.” The response also accurately uses evidence to support the response, “because it will not have the protections as it does in a group. the information given states that these dolphins live in groups for protection.”

Response 2

I think a dolphin will not survive because it needs its group to help support it and help it survive from predators.

Score: 2

This response earns a low 2. It correctly predicts one effect of a dolphin living without a group, “I think a dolphin will not survive.” The response also uses evidence to support the response, “because it needs its group to help support it and help it survive from predators.” It earns a low 2 because although support from the group is mentioned, no specific actions (protection, hunting) from the group are provided.

Response 3

The effect of the dolphin without a group will have no protection and no food.

Score: 1

This response earns a 1. It correctly predicts one effect of a dolphin living without a group, “The effect of the dolphin without a group will have no protection.” The response does not use evidence to support the response. The remainder of the response, “and no food”, is considered a second effect of a dolphin living without a group and receives no credit.

Response 4

living without the group means the dolphin can’t find food

Score: 1

This response earns a 1. It correctly predicts one effect of a dolphin living without a group, “living without the group means the dolphin can’t find food.” The response does not use evidence to support the response.

Response 5

some dolphins are forced out of there groups because of a predatdor. A predator may attack split them up.

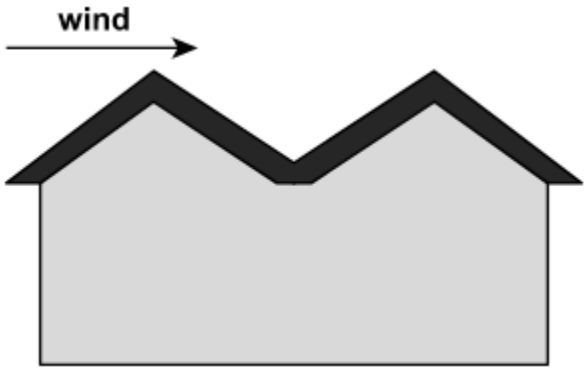
Score: 0

This response earns a 0. It does not correctly predict one effect of a dolphin living without a group, “some dolphins are forced out of there groups because of a predatdor.” The response does not correctly predict an effect, and therefore, does not receive credit for evidence to support the response, “A predator may attack split them up.”

Session 1 Item 8 (CR)

Snowstorms can cause large amounts of snow to fall in a short amount of time. The snow can cover the roof of a house. If too much snow sits on the roof, it can cause a roof leak or even cause the roof to fall in.

A new group of houses are being built in a state that has many snowstorms.



Use evidence to support an explanation about why this design will **not** prevent damage from snow. Be sure to explain why this design will cause snow to sit on the roof.

Scoring Information	
Score	**Description**
2	Student's response correctly describes how this design does not prevent damage from snow AND explains why this design will cause snow to sit on the roof.
1	Student's response correctly describes how this design does not prevent damage from snow OR explains why this design will cause snow to sit on the roof.
0	Student's response does **not** correctly describe how this design does not prevent damage from snow or explain why this design will cause snow to sit on the roof. **OR** Student's response is blank, irrelevant, or too brief to evaluate.

Scoring Notes:

- Description of how this design does not prevent damage from snow (1 point)
- Explanation of why this design will cause snow to sit on the roof (1 point)

Session 1 Item 8 (CR), continued

Examples include:

- Snow will collect when an object prevents the wind from blowing snow away. On this roof, wind will cause snow to pile up on the right side of the roof. The snow may not slide off the roof, so the roof may fall in.
- Wind will cause snow to pile up on the right side of the roof and in the middle of the roof. This is because snow will collect when an object blocks the wind from blowing snow away. The snow in the middle of the roof will cause the roof to fall in.

Accept other reasonable answers.

Student Responses for Session 1 Item 8 (CR)

Use evidence to support an explanation about why this design will **not** prevent damage from snow. Be sure to explain why this design will cause snow to sit on the roof.

Response 1

The design won't work because to much snow could fill up in the middle of the roof and if to much snow sits on the roof, it can cause a roof leak or even cause the roof to fall in.

Score: 2
This response earns a 2. It correctly describes how the design does not prevent damage from snow, "if to much snow sits on the roof, it can cause a roof leak or even cause the roof to fall in." It also accurately explains why this design will cause snow to sit on the roof, "to much snow could fill up in the middle of the roof."

Response 2

This design will not prevent damage from snow because the snow is most likely to fall in the middle because it is the deepest curve so a lot of snow will get in in the curve.

Score: 1
This response earns a 1. It does not describe how the design does not prevent damage from snow, but does correctly explain why this design will cause snow to sit on the roof, "the snow is most likely to fall in the middle because it is the deepest curve so a lot of snow will get in in the curve."

Response 3

The design will not prevent damge from snow because the snow will cause the roof to leek are fall.

Score: 1
This response earns a 1. It correctly describes how the design does not prevent damage from the snow, "the snow will cause the roof to leek are fall." It does not explain why this design will cause snow to sit on the roof.

Response 4

The design will not prevent damage from the snow. The design will cause snow to sit on the roof because they are building it and it is open and snow is easy to pile up on if a roof is open. Another reason it will it will not prevent damage from snow is because it is being built and it will pile up while the walls and the house is open. This is why this design will not prevent damage from snow.

Score: 0

This response earns a 0. It does not describe how the design does not prevent damage from snow. It also does not correctly explain why this design will cause snow to sit on the roof, “because they are building it and it is open and snow is easy to pile up on if a roof is open,” and “because it is being built and it will pile up while the walls and the house is open.”

Session 2 Item 22 (ER)

Some ranchers in South and Central Texas have observed the following:

- Some rattlesnakes with rattles no longer shake their tails when they are scared.
- The feral (wild) hog populations in South and Central Texas have been getting bigger.
- Feral hogs have been known to eat snakes.

The ranchers claim that rattlesnakes are changing their rattling behavior. Use evidence to explain why not rattling their tails may help rattlesnakes in South and Central Texas survive. In your explanation, be sure to:

- Explain how not rattling their tails can affect the survival of the snakes.
- Explain why not rattling their tails may provide the snakes with an advantage over other snakes.

Score Points

- The student's score is the sum total of all the points earned (up to a maximum of 6 points) in the item.
- The student's score is 0 if the response is blank, incorrect, or does not address the prompt.
- 3 points for explaining how snakes not rattling their tails can affect the survival of the snakes:
    - Score 3 points: Explanation of how not rattling their tails can affect the survival of the snakes and using evidence to support the answer

    OR

    - Score 2 points: Explanation of how not rattling their tails can affect the survival of the snakes with no evidence to support the answer

    OR

    - Score 1 point: Statement that not rattling their tails can affect the survival of the snakes with no evidence to support the answer

Session 2 Item 22 (ER), continued

- 3 points for explaining the possible survival advantage:
  - Score 3 points: Explanation of the possible survival advantage and using evidence to support the answer

  OR

  - Score 2 points: Explanation of the possible survival advantage with no evidence to support the answer

  OR

  - Score 1 point: Statement that there is a possible survival advantage with no evidence to support the answer

Score Information

1. Explanation of how not rattling their tails can affect the survival of the snakes:

Rattling behavior makes noise. This allows the feral hogs to notice the snake. If the feral hog notices the snake, it can catch and eat the snake. Since there are more feral hogs than there used to be, rattling behavior means the snake will die.

2. Explain why not rattling their tails may provide the snakes with an advantage over other snakes:

Feral hogs eat snakes and there are now many feral hogs in South and Central Texas. Holding their tails still when they are scared means the snakes make less noise. Snakes that make less noise are less likely to be killed and eaten by feral hogs.

Session 3 Item 26 (CR)

A student lives in a desert that has little rainfall and very high temperatures. The student researches two plants and finds the information shown in the table.

Plant	Amount of Rainfall Required in One Year (cm)	Temperature Range (°C)
1	10	9–44
2	70	15–30

Predict which plant will grow **best** in the desert. Support your prediction with evidence.

Scoring Information	
Score	**Description**
2	Student's response correctly predicts which plant will grow best at very high temperatures with little rainfall AND supports the prediction with evidence.
1	Student's response correctly predicts which plant will grow best at very high temperatures with little rainfall but does not support the prediction with evidence.
0	Student's response does **not** correctly predict which plant will grow best at very high temperatures with little rainfall or support the prediction with evidence. **OR** Student's response is blank, irrelevant, or too brief to evaluate.

Scoring Notes:

- Prediction about which plant will grow best (1 point)
- Evidence supporting the prediction (1 point)

Examples include:

- Plant 1 will likely grow best in the desert because its temperature range is up to 44 degrees Celsius and it only needs 10 centimeters of water per year.

Accept other reasonable answers.

Student Responses for Session 3 Item 26 (CR)

Predict which plant will grow **best** in the desert. Support your prediction with evidence.

Response 1

Plant 1 will grow best in the desert because 10 cm of rain and 9-44 in temurature is all it requireds. The text says a desert has little rainfall and very high tempurature.

Score: 2
This response earns a 2. It correctly predicts which plant will grow best at very high temperatures with little rainfall, “Plant 1 will grow best.” The response also accurately supports the prediction with evidence, “because 10 cm of rain and 9-44 in temurature is all it requireds.”

Response 2

Plant 1 will grow best in the desert because plants in the desert do not need that much water and it can only survive in very hot temperatures.

Score: 2
This response earns a low 2. It correctly predicts which plant will grow best at very high temperatures with little rainfall, “Plant 1 will grow best.” It also accurately supports the prediction with general evidence, “because plants in the desert do not need that much water and it can only survive in very hot temperatures.”

Response 3

I think Plant 1.

Score: 1
This response earns a 1. It correctly predicts which plant will grow best at very high temperatures with little rainfall, “I think Plant 1.” The response does not support the prediction with evidence.

Response 4

The plant that is going to grow the best is plant 2 because plant’s that live in the desert need water to live.

Score: 0
This response earns a 0. It incorrectly predicts which plant will grow best at very high temperatures with little rainfall, “The plant that is going to grow the best is plant 2.” The response incorrectly predicts which plant will grow best, and therefore, does not receive credit for supporting the prediction with evidence.