

FOR TEACHERS ONLY

The University of the State of New York
REGENTS HIGH SCHOOL EXAMINATION

LIVING ENVIRONMENT

Thursday, June 18, 2026 — 9:15 a.m. to 12:15 p.m., only

RATING GUIDE

Directions to the Teacher:

Refer to the directions on page 2 before rating student papers.

Updated information regarding the rating of this examination may be posted on the New York State Education Department's website during the rating period. Check this website at: <https://www.nysed.gov/state-assessment/high-school-regents-examinations> and select the link "Scoring Information" for any recently posted information regarding this examination. This site should be checked before the rating process for this examination begins and several times throughout the Regents Examination period.

Directions to the Teacher

Follow the procedures below for scoring student answer papers for the Regents Examination in Living Environment. Additional information about scoring is provided in the publication *Information Booklet for Scoring Regents Examinations in the Sciences*.

Allow 1 credit for a correct response to each item.

At least two science teachers must participate in the scoring of the Part B–2, Part C, and Part D open-ended questions on a student's paper. Each of these teachers should be responsible for scoring a selected number of the open-ended questions on each answer paper. No one teacher is to score more than approximately one-half of the open-ended questions on a student's answer paper. Teachers may not score their own students' answer papers.

Students' responses must be scored strictly according to the Rating Guide. For open-ended questions, credit may be allowed for responses other than those given in the Rating Guide if the response is a scientifically accurate answer to the question and demonstrates adequate knowledge as indicated by the examples in the Rating Guide. Do not attempt to correct the student's work by making insertions or changes of any kind. On the student's separate answer sheet, for each question, record the number of credits earned and the teacher's assigned rater/scorer letter.

Fractional credit is *not* allowed. Only whole-number credit may be given for a response. If the student gives more than one answer to a question, only the first answer should be rated. Units need not be given when the wording of the questions allows such omissions.

For hand scoring, raters should enter the scores earned in the appropriate boxes printed on the separate answer sheet. Next, the rater should add these scores and enter the total in the box labeled "Total Raw Score." Then the student's raw score should be converted to a scale score by using the conversion chart that will be posted on the Department's website at: <https://www.nysed.gov/state-assessment/high-school-regents-examinations> on the day of the examination. The student's scale score should be entered in the box labeled "Scale Score" on the student's answer sheet. The scale score is the student's final examination score.

Schools are not permitted to rescore any of the open-ended questions on this exam after each question has been rated once, regardless of the final exam score. Schools are required to ensure that the raw scores have been added correctly and that the resulting scale score has been determined accurately.

Because scale scores corresponding to raw scores in the conversion chart may change from one administration to another, it is crucial that, for each administration, the conversion chart provided for that administration be used to determine the student's final score.

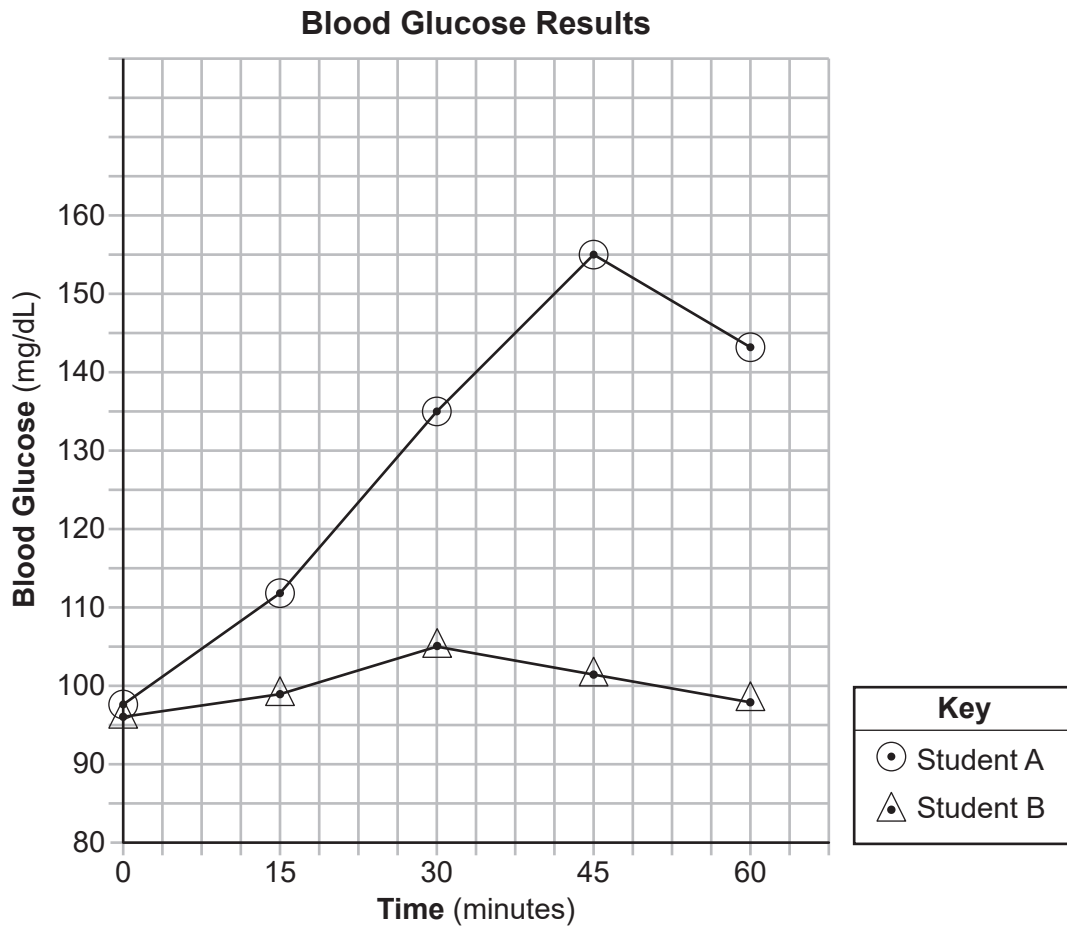
Part B–2

- 44** [1] Allow 1 credit for stating that most adults from South America and Africa are less likely and supporting the answer. Acceptable responses include, but are not limited to:
- They are less likely because approximately 60% to 100% of adults in South America and Africa are unable to digest lactose and will likely have trouble drinking milk, while in North America and Europe only 15% are unable to do so.
 - Only around 15% of adults in North America and Europe are unable to digest lactose. More will be able to drink milk than adults in Africa and South America, since over 60% of adults in those countries are unable to do so.
- 45** [1] Allow 1 credit for marking an appropriate scale on the grid provided, without any breaks in the data, on each labeled axis.

Note: Do *not* allow credit if the graph is extended to accommodate the scale.

- 46 [1] Allow 1 credit for correctly plotting the data, connecting the points, and surrounding the points for student A with a small circle and for student B with a small triangle.

Example of a 2-credit graph for questions 45-46:



Note: Allow credit if the points are plotted correctly, but not circled or with a triangle.

Do *not* assume that the intersection of the x - and y -axes is the origin (0,0) unless it is labeled. An appropriate scale only needs to include the data range in the data table.

Do *not* allow credit if points are plotted that are not in the data table, e.g., (0,0), or for extending lines beyond the data points.

Do *not* assume that the intersection of the x - and y -axis is the origin (0,0) unless it is labeled. An appropriate scale only needs to include the data range in the data table.

47 1

48 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- Low levels of glucose in the blood might indicate that the lactose in the milk is not being broken down.
- The enzyme lactase breaks down the lactose in milk into glucose and galactose. If the glucose levels in the blood are high after drinking milk, it could indicate that lactose is being digested and the glucose is diffusing into the blood.

49 4

50 3

51 [1] Allow 1 credit for using data from Graphs 1 and 3 and comparing the mass of ice loss in the last two land masses between 2002 and 2020. Acceptable responses include, but are not limited to:

- Antarctica lost approximately 2400 Gt of ice mass, while Greenland lost approximately 5000 Gt.
- Greenland lost about twice as much ice mass as Antarctica from 2002 to 2020.
- Antarctica lost about one-half of the mass that was lost in Greenland.

52 [1] Allow 1 credit for describing how the process of photosynthesis makes energy available to plants. Acceptable responses include, but are not limited to:

- Photosynthesis converts sunlight into chemical energy that can be used by plants for life functions.
- The energy in sunlight is stored in the bonds of glucose molecules.
- Light energy is converted into chemical energy that is stored in organic molecules.

53 [1] Allow 1 credit for explaining why the process of photosynthesis must continue to take place in order for ecosystems to remain stable. Acceptable responses include, but are not limited to:

- The Sun is the source of all energy on Earth, and photosynthesis is needed to convert it to a usable form.
- Photosynthesis provides a constant source of energy to the ecosystem as energy is being converted to heat and unavailable for life processes.
- Energy is always being lost by organisms to the environment so it must be replaced to maintain stability.
- Energy cannot be recycled in ecosystems so it has to be constantly added.

54 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- Organisms at level *B* would be herbivores/consumers because they feed on the producers/plants in level *A*.

55 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- Different genes become activated in different cells.
- As new cells form, some genes are turned on and some genes are turned off. This determines which type of cells they will become.

Part C

56 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- They lower the biodiversity of the ecosystem. When carp invade new ecosystems, they can cause large changes to those ecosystems, leading to the possibility that some of the native species cannot survive the changes.
- They uproot many plants. Over time, these plants may disappear from the area. The loss of those plants could lead to the other species that depend on them to die out too. This lowers the biodiversity.
- Carp can become so abundant that they dominate the ecosystem, reducing the number of other organisms that can live there, thus reducing the biodiversity.

57 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- They were tolerant of low water quality so they could survive where other species may not have been able to.
- They had few predators/pathogens that would keep their numbers down in their new habitats.
- The predators and other factors that were present in Europe or Asia were not in the United States to control their population.
- They could outcompete native species for food.

58 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- The bluegills may not be adapted to conditions in the area where the carp are spawning, so they may become stressed and may not feed on the eggs.
- The water may be too warm for the bluegills to live. They could die and not consume any eggs.
- They may be well adapted to the conditions, begin reproducing, and become an invasive species, further upsetting existing food webs.
- The bluegills could upset the existing balance in the ponds where they are stocked.

59 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- If a small number of carp escape the nets, they could reproduce and continue to be a problem in the area.
- The nets might break or fish may escape, so they won't catch enough to clear them out of the lake.
- If the carp learn to avoid the nets, future generations may maintain this behavior, and they will be more difficult to catch.
- The devices they attach to the carp to find them may malfunction, so they cannot find the carp later.

60 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- One or more other species of fish in the lake might eat the poisoned corn and die.
- The carp might not like the taste of the treated corn.
- Other species, such as birds or small mammals that live in or near the lake, could eat the corn and die.
- The poison might diffuse out of the corn and enter in the lake water, poisoning other organisms that live there.

61 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- People who have koi ponds may be concerned that the KHV could kill their fish.
- People might be concerned that the KHV could infect more than just the invasive carp.
- People might feel that releasing a pathogen like KHV into the environment may have unexpected or unknown effects on other organisms, including people.

62 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- Several options allow for the assessment of risk, costs, benefits, and trade-offs.
- Careful consideration of different plans involves input from a number of researchers and concerned citizens. It is more likely to be successful.
- Exploring actions would allow people to be better prepared to deal with unintended consequences.
- Each location is different. What might work in one location may or may not work in another.

63 [1] Allow 1 credit for stating the mature body cell/nucleus and supporting the answer with evidence from the model. Acceptable responses include, but are not limited to:

- Only the mature monkey body cell has a nucleus that contains monkey DNA.
- the mature body cell, because it contains a full set of monkey genetic information
- The DNA from the mature body cell is the source of the cloned monkey's DNA. The egg cell in the diagram does not have a nucleus, therefore it does not have nuclear DNA.

64 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- It interferes with the normal growth and development of the pod.
- The fungus gets nutrients from the pod and harms it in the process.

65 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- Using leaf litter from healthy cacao plants, the farmers could put it around other plants to prevent diseases.
- The results show that leaf litter helped to reduce black pod rot, so using leaf litter may help to reduce other diseases.

66 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- The immune system detects specific proteins/chemicals on the surface of the pathogens. Specific white blood cells produce antibodies and mark the pathogens for killing.
- The immune system detects the presence of foreign antigens. Some white blood cells mount an attack on these pathogens.
- Receptors on immune cells detect proteins on pathogens. This stimulates an immune response.

67 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- It allows researchers to determine which species prey on other species.
- The number of organisms with chemical evidence from jellyfish indicates that they are consumed by numerous organisms in a food web.
- These data provide evidence that jellyfish are more important in maintaining the stability of marine ecosystems than previously thought.
- It adds a food/energy source to the ecosystem.

68 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- The birds that eat mostly squid may not have enough food if the squid decrease; the bird populations could also decrease.
- Populations of organisms that the squid feed on could either increase or decrease, depending on the squid population change. This could disrupt the birds' food web.
- In years when there are many squid, more bird offspring would survive, and when there are fewer squid, many of these birds will not survive.

69 [1] Allow 1 credit for Bulwer's petrel and supporting the answer. Acceptable responses include, but are not limited to:

- Bulwer's petrel, because it has changed its feeding habits more than the other two bird species. It is feeding much less on *A* and much more on *C*. It is hardly feeding on species *D* at all, when it once made up about 20% of its diet.
- Bulwer's petrel, because it is feeding more on *C* (squid) and less on *A* (hatchet fish). These changes are greater changes than changes in any of the foods eaten by the tern and noddy.
- the petrel, because the amount of *A* decreased and *C* increased

70 [1] Allow 1 credit for pancreas.

71 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- The blue flowers attracted more bees for pollination, allowing them to produce more seeds.
- The plants with blue flowers were better adapted to getting water from the soil than the other plants
- The plants may have had deeper root systems to get more water in times of drought.
- The plants may have had larger leaves to carry on photosynthesis more efficiently.
- The plants may have been taller than the ones with white flowers, allowing them to get more sunlight.
- The plants may have produced more seeds per flower, so they would have more offspring.
- The plants with blue flowers may have outcompeted the plants with white flowers.

72 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- Botulinum toxin would block the signal for the muscle to contract, so spasms, cramps, and tremors would stop.
- The muscles would not get the signal to contract.
- It prevents the release of acetylcholine, that causes muscle contraction.
- It stops muscle contraction, which is the cause of these disorders.

Part D

73 1

74 1

75 2

76 2

77 [1] Allow 1 credit for 71.

78 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- If activity increases, then pulse rate will increase.
- The amount of activity will affect pulse rate.
- The pulse rate after running will be higher.

Note: Do *not* allow credit for a hypothesis written in the form of a question.

79 [1] Allow 1 credit for diffusion/passive transport.

80 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- size of the molecule
- concentration/amount of the molecule inside or outside of the membrane
- characteristics of the membrane

81 3

82 4

83 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- The long beak allows it to drink nectar and catch insects in deep crevices.
- Its beak allows it to probe deep openings for insects or reach deep into flowers for nectar.

84 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- The Maui parrotbill and Akiapola'au have different beak/bill shapes so they might feed on different types of insects.
- They might feed on different kinds of insects.
- They might feed at different times of the day.
- They might feed on insects from different habitats.
- There are enough insects to support both species.
- Insects are not a limiting resource.

85 [1] Allow 1 credit for recording the amino acid sequence: Pro Tyr Arg Gly

The *Chart for Determining the Final Examination Score for the June 2026 Regents Examination in Living Environment* will be posted on the Department's website at: <https://www.nysed.gov/state-assessment/high-school-regents-examinations> no later than on the day of the examination. Conversion charts provided for previous administrations of the Regents Examination in Living Environment must NOT be used to determine students' final scores for this administration.

Online Submission of Teacher Evaluations of the Test to the Department

Suggestions and feedback from teachers provide an important contribution to the test development process. The Department provides an online evaluation form for State assessments. It contains spaces for teachers to respond to several specific questions and to make suggestions. Instructions for completing the evaluation form are as follows:

1. Go to <https://www.nysed.gov/state-assessment/teacher-feedback-state-assessments>.
2. Click Regents Examinations.
3. Complete the required demographic fields.
4. Select the test title from the Regents Examination dropdown list.
5. Complete each evaluation question and provide comments in the space provided.
6. Click the SUBMIT button at the bottom of the page to submit the completed form.

Map to Core Curriculum

June 2026 Living Environment

Standards	Question Numbers			
	Part A 1–30	Part B–1 31–43	Part B–2 44–55	Part C 56–72
Standard 1 — Analysis, Inquiry and Design				
Key Idea 1				
Key Idea 2				
Key Idea 3		33, 43	44, 47, 48, 51	
Appendix A (Laboratory Checklist)		39	45, 46	
Standard 4				
Key Idea 1	1, 3, 11, 13, 16, 23	42		67, 68, 69
Key Idea 2	2, 4, 5, 9, 27	31, 32, 41		
Key Idea 3	8, 19	35, 36, 40		71
Key Idea 4	6, 21	34, 37, 38	55	63
Key Idea 5	7, 10, 12, 17, 20, 26		49, 52	64, 65, 66, 70, 72
Key Idea 6	14, 15, 18, 24, 28		53, 54	56
Key Idea 7	22, 25, 29, 30		50	57, 58, 59, 60, 61, 62

Part D 73–85	
Lab 1	73, 75, 85
Lab 2	74, 76, 77, 78
Lab 3	81, 82, 83, 84
Lab 5	79, 80