FOR TEACHERS ONLY

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

LIFE SCIENCE: BIOLOGY

Tuesday, January 20, 2026 — 1:15 to 4:15 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 web site during the rating period. Check this web site 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 Life Science: Biology. Additional information about scoring is provided in the publication *Directions for Scoring Regents Examinations*.

Allow 1 credit for each correct response.

At least two science teachers must participate in the scoring of the 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 space provided. The student's score for the Life Science: Biology test should be recorded in the space provided. Then the student's raw score on the test should be converted to a scale score by using the conversion chart that will be posted on the Department's web site at: https://www.nysed.gov/state-assessment/high-school-regents-examinations no later than January 20, 2026. 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.

The test item map on page 10 identifies the Performance Expectation with which each test question is aligned. All NYSP-12SLS Performance Expectations are three-dimensional (https://www.nysed.gov/sites/default/files/programs/standards-instruction/p-12-science-learning-standards.pdf). The integration of these three dimensions provides students with a context for the content of science (DCI), the methods by which science knowledge is acquired and understood (SEP), and the ways in which the sciences are connected through concepts that have universal meaning across the disciplines (CCC).

1 [1] Allow 1 credit for Model *A* and correct identification of a structure. Acceptable responses include, but are not limited to:

— They started with one fertilized egg, so their DNA is identical.

— They usually share the same placenta.

— They developed from the same sperm and egg.

2 [1] Allow 1 credit for 3.

3 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Fraternal twins result from two eggs and two sperm, which carry many different combinations of chromosomes. Due to the mixing of genes/chromosomes during meiosis, the twins will inherit different traits from each parent.

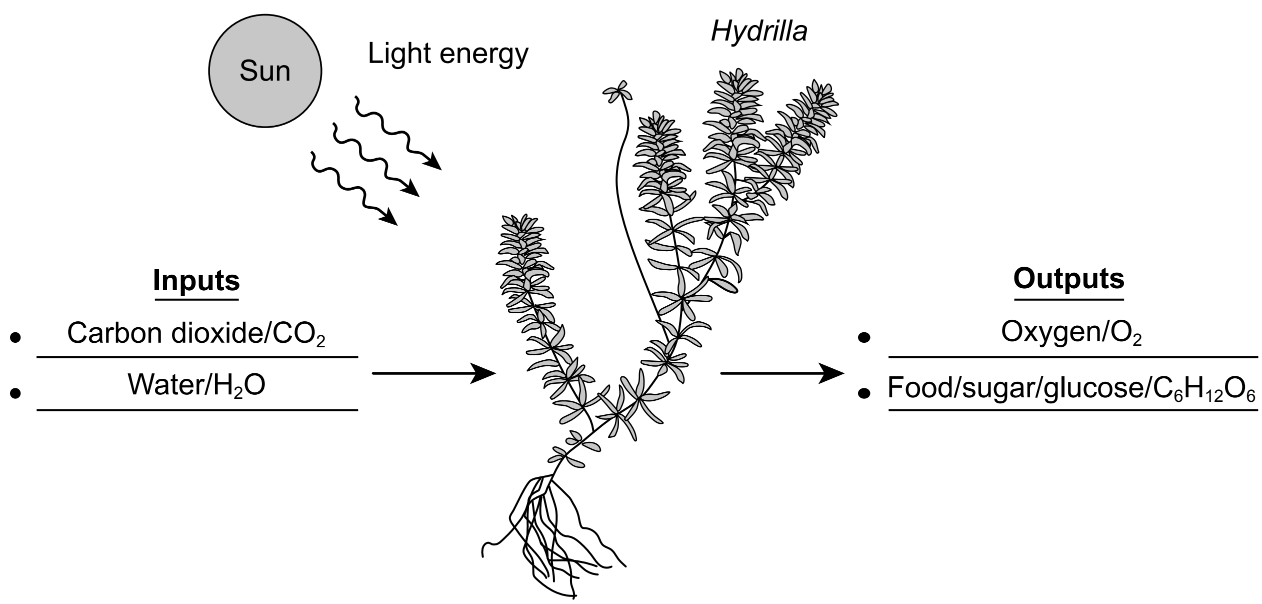
— Fraternal twins that have genes from different sperm and eggs will have different traits, because genes come together in new combinations when sex cells are produced.

4 [1] Allow 1 credit for 1.

5 [1] Allow 1 credit for 2.

6 [1] Allow 1 credit for 2.

7 [1] Allow 1 credit for a complete model.



8 [1] Allow 1 credit for 3.

9 [1] Allow 1 credit for 4.

10 [1] Allow 1 credit for 2.

11 [1] Allow 1 credit for 4.

12 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— This would increase the biodiversity of the park. The graphs show how the reintroduction of the wolves in 1995 resulted in an increase in both the number of willows and the percentage of canopy coverage in Yellowstone, as well as the number of beaver colonies.

— After the wolves were reintroduced in 1995, populations of willows increased. The percentage of canopy cover also increased, allowing for more and diverse animal species to find suitable habitat.

13 [1] Allow 1 credit for 2.

14 [1] Allow 1 credit for 2.

15 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Histamines are released by mast cells of the immune system when *Fel d 1* binds to their receptors. These histamines signal cells of the nasal passages in the respiratory system to produce mucus.

— Immune system cells called mast cells release a signaling molecule that causes the airways in the lungs to constrict/the lungs to have difficulty breathing.

16 Allow 1 credit for 4.

17 Allow 1 credit for 1.

18 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— The *Fel d 1* genes determine the structure of the allergen protein because they contain a code that is transcribed and then translated to produce a chain of amino acids with a specific order that will determine the shape of the protein. CRISPR-cas9 editing of the *Fel d 1* gene would change the DNA code and therefore change the order of amino acids and the shape of the protein. Proteins with the wrong shape do not function properly.

— CRISPR-cas9 editing would change the DNA/genetic code so the protein that results from that code would have a different shape that may no longer function or will not be produced at all, resulting in no allergen.

19 [1] Allow 1 credit for 3.

20 [1] Allow 1 credit for 3.

21 [1] Allow 1 credit for 2.

22 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— The fact that the diamondback moth and European corn borer can both develop resistance to *Bt* toxins by producing the same protein indicates that they must have similar DNA and are likely to have a recent common ancestor.

— Similarities in DNA sequences can produce similar amino acid sequences (proteins) that result in *Bt* toxin resistance, which means they could have a common ancestor.

23 [1] Allow 1 credit for 1.

24 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— The endocrine system releases insulin into the circulatory system, which carries insulin to the cells.

— The blood vessels of the circulatory system carry the insulin/glucose to the muscles of the musculoskeletal system.

— The digestive system breaks down food into glucose, which diffuses into the circulatory system to transport glucose throughout the body.

25 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— The blood plasma glucose kept increasing at the two-hour mark in Participant 2, indicating that insulin is not playing a role in bringing glucose back to the set point as it did in Participant 1.

— The blood plasma glucose levels returned to a normal range after two hours in Participant 1 but not in Participant 2. This indicates that insulin is functioning normally in a properly functioning feedback loop in Participant 1 but not in Participant 2.

26 [1] Allow 1 credit for 1.

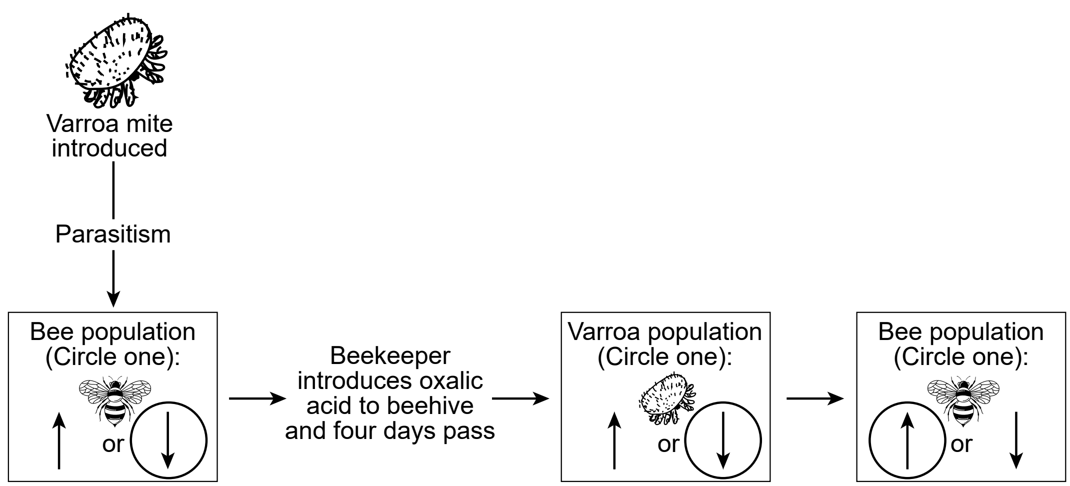
27 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

Criterion	Constraint
– improved blood sugar control – reduce risk of future complications	– cost – side effects

28 [1] Allow 1 credit for 2.

29 [1] Allow 1 credit for 3.

30 Allow 1 credit for:



31 [1] Allow 1 credit for 3.

32 [1] Allow 1 credit. Acceptable responses include but are not limited to:

Claim is valid	– Treatment in the spring may not improve colony survival because the treatment lasts only 18 days, so the infestation rates may be above 5% in the fall, reducing the bee population in the spring, resulting in the fewer pollinators. – Treatment in the fall will reduce the infestation rate, which will not result in the death of the colony. This will maintain biodiversity in the ecosystem.
Claim is not valid	– Although the time of year the mites are treated will affect the colony's survival, we don't have enough information to know if this would result in a new ecosystem.

33 [1] Allow 1 credit for 3.

34 [1] Allow 1 credit for 2.

35 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— If the observed groomings received are 100, there are no ticks present; therefore the African baboon will have stronger social bonds and be less likely to die from disease, increasing its chances of surviving and reproducing.

— If an African baboon receives fewer groomings, it is more likely to have ticks, which makes it more likely to be exposed to diseases and die as an infant or juvenile.

36 [1] Allow 1 credit for 4.

37 [1] Allow 1 credit for 3.

38 [1] Allow 1 credit for 4.

39 [1] Allow 1 credit for 2.

40 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— The root hair cell in the root system takes in nitrogen in the form of nitrates from the soil and transports it throughout the plant through the stem of the shoot system.

— Nitrogen/nitrates are taken in by the root hair cells and moved to the leaves of the plants through the stem.

— Nitrogen/nitrates are taken in by the root system and moved to the cells of the plant through the shoot system.

41 [1] Allow 1 credit for 1.

42 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Both spotted and striped zebras produce the same protein/melanin/pigment, so the DNA sequence in the melanin gene must be the same.

— Since the zebras produce the same protein, the DNA, which codes for the production of melanin, is the same.

43 [1] Allow 1 credit for 2.

44 [1] Allow 1 credit for 1.

45 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

Wildlife Corridors

— Joining fragmented areas would allow populations to migrate, which would allow individuals from different populations to reproduce and increase genetic diversity.

Sustainable Land Use Planning

— Limited development would prevent additional habitat fragmentation and would prevent zebra populations from becoming isolated from one another.

Protected Areas

— New conservation areas will not be fragmented and would allow zebra populations to have usable land to live on and graze.

The *Chart for Determining the Final Examination Score for the January 2026 Regents Examination in Life Science: Biology* will be posted on the Department's web site at: https://www.nysed.gov/state-assessment/high-school-regents-examinations no later than January 20, 2026. Conversion charts provided for previous administrations of the Regents Examination in Life Science: Biology 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.

THE STATE EDUCATION DEPARTMENT

THE UNIVERSITY OF THE STATE OF NEW YORK / ALBANY, NY 12234

January 2026 Life Science: Biology Test Item Map to the Standards

Question	Type	Points	Performance Expectation
1	Constructed Response	1	HS-LS1-8
2	Multiple Choice	1	HS-LS1-4
3	Constructed Response	1	HS-LS3-2
4	Multiple Choice	1	HS-LS3-1
5	Multiple Choice	1	HS-ETS1-2
6	Multiple Choice	1	HS-LS3-1
7	Constructed Response	1	HS-LS1-5
8	Multiple Choice	1	HS-LS2-2
9	Multiple Choice	1	HS-ETS1-3
10	Multiple Choice	1	HS-LS2-6
11	Multiple Choice	1	HS-ESS2-6
12	Constructed Response	1	HS-LS2-7
13	Multiple Choice	1	HS-LS2-8
14	Multiple Choice	1	HS-LS1-1
15	Constructed Response	1	HS-LS1-2
16	Multiple Choice	1	HS-LS3-3
17	Multiple Choice	1	HS-LS3-2
18	Constructed Response	1	HS-LS1-1
19	Multiple Choice	1	HS-LS4-3
20	Multiple Choice	1	HS-LS3-1
21	Multiple Choice	1	HS-LS3-3
22	Constructed Response	1	HS-LS4-1
23	Multiple Choice	1	HS-LS1-7
24	Constructed Response	1	HS-LS1-2
25	Constructed Response	1	HS-LS1-3
26	Multiple Choice	1	HS-LS1-1
27	Constructed Response	1	HS-ETS1-1
28	Multiple Choice	1	HS-ETS1-2
29	Multiple Choice	1	HS-LS2-8
30	Constructed Response	1	HS-LS2-2
31	Multiple Choice	1	HS-LS4-2
32	Constructed Response	1	HS-LS2-1
33	Multiple Choice	1	HS-LS4-1
34	Multiple Choice	1	HS-LS4-2
35	Constructed Response	1	HS-LS2-8
36	Multiple Choice	1	HS-LS4-4
37	Multiple Choice	1	HS-LS1-5
38	Multiple Choice	1	HS-ESS2-6
39	Multiple Choice	1	HS-LS2-3
40	Constructed Response	1	HS-LS1-2
41	Multiple Choice	1	HS-LS3-1
42	Constructed Response	1	HS-LS1-1
43	Multiple Choice	1	HS-LS4-2
44	Multiple Choice	1	HS-LS3-3
45	Constructed Response	1	HS-LS2-7