

FOR TEACHERS ONLY

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

PHYSICAL SCIENCE: PHYSICS (NYSP12SLS)

Wednesday, June 10, 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 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 Physical Science: Physics. 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. 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 website at: <https://www.nysed.gov/state-assessment/high-school-regents-examinations> no later than June 26, 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.

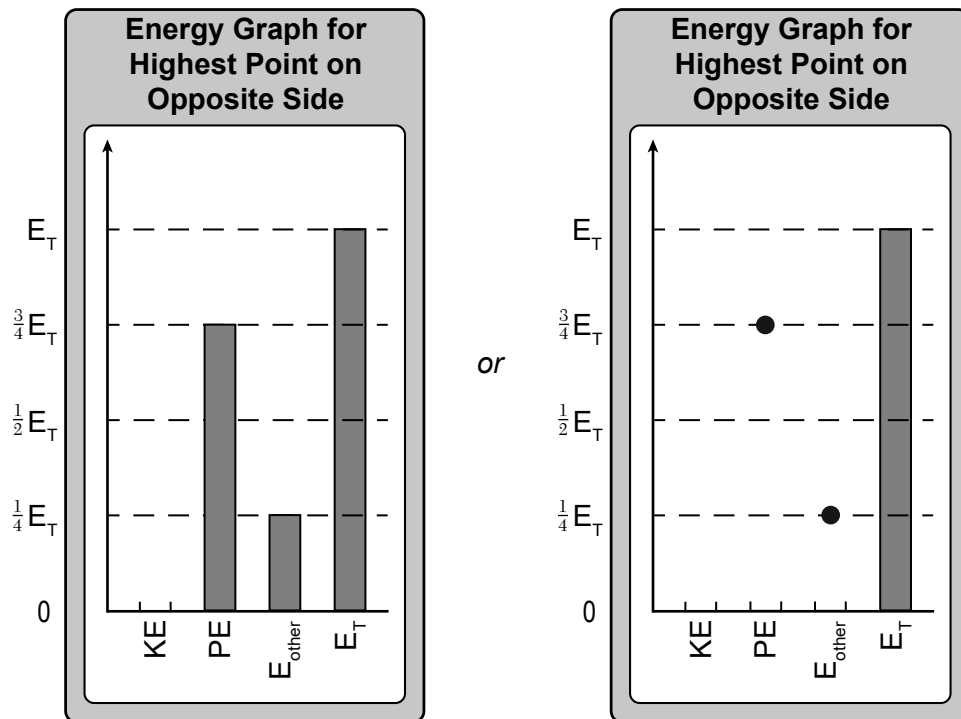
Because scale scores corresponding to raw scores in the conversion chart may change from one administration to another, it is crucial that, for each administration, the conversion chart provided for that administration be used to determine the student's final score.

The test item map on page 12 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-learningstandards.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 2.

2 [1] Allow 1 credit for a graph that shows that the sum of PE and E_{other} equals E_T , where PE is $\frac{3}{4}$ of E_T and E_{other} is $\frac{1}{4}$ of E_T .

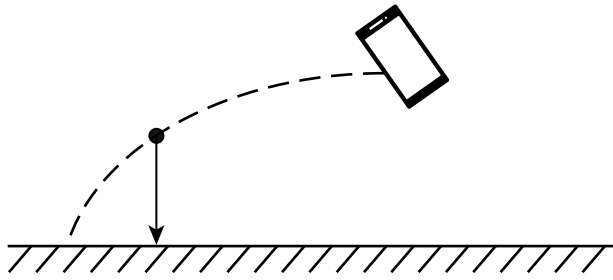
Examples of a 1-credit response:



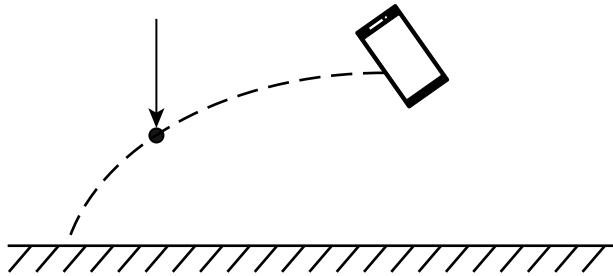
3 [1] Allow 1 credit for 1.

- 4 [1] Allow 1 credit for an arrow pointing directly downward *and* a net force of 1.5 N, *or* any value between 1.4 N and 1.5 N, inclusive. The arrow does not have to be on the dot.

Examples of a 1-credit response:



or



- 5 [1] Allow 1 credit for 1.

- 6 [1] Allow 1 credit for 2.

- 7 [1] Allow 1 credit for an algebraic relationship that uses $v = f\lambda$ with appropriate numerical values. Acceptable responses including, but are not limited to:

$$\begin{aligned} - \quad v &= f\lambda \\ 1560 &= (7.5 \times 10^6)\lambda \\ - \quad \lambda &= \frac{1560 \text{ m/s}}{5.0 \times 10^6 \text{ Hz}} \end{aligned}$$

Note: Allow credit for the substitution of any frequency between 5.0×10^6 and 7.5×10^6 , inclusive, and a substitution of 1560 for speed.

- 8 [1] Allow 1 credit for 3.

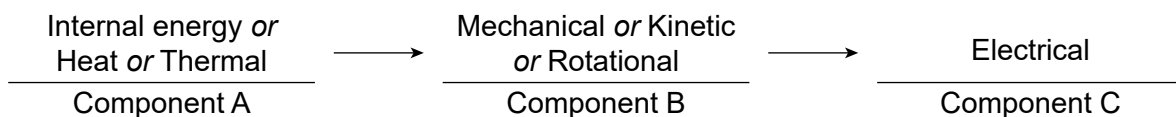
- 9 [1] Allow 1 credit for 2.

- 10** [1] Allow 1 credit for one or more mathematical relationships that determines the photon energy for a holmium laser is less than the photon energy for a pulsed dye laser. Acceptable responses include, but are not limited to:

- Holmium has a smaller frequency and $E_{\text{photon}} = hf$.
- As frequency increases, the energy increases.
- Holmium: $E_{\text{photon}} = hf = (6.63 \times 10^{-34})(1.43 \times 10^{14})$
Pulsed Dye: $E_{\text{photon}} = hf = (6.63 \times 10^{-34})(5.13 \times 10^{14})$

Note: Do *not* allow credit for a response that *only* gives the mathematical relationship $E = hf$.

- 11** [1] Allow 1 credit for the energies shown below.



- 12** [1] Allow 1 credit for 2.

- 13** [1] Allow 1 credit for indicating *three* correct choices, as shown below:

- ☐ Boiling point
- ☒ Mass
- ☒ Temperature change
- ☐ Melting point
- ☒ Specific heat capacity
- ☐ Color

Note: Allow credit if a symbol other than a check mark is used.

- 14** [1] Allow 1 credit for 2.

- 15** [1] Allow 1 credit for 1.

- 16** [1] Allow 1 credit for 3.

17 [1] Allow 1 credit for 1.

18 [1] Allow 1 credit for a correct magnitude of 1.06×10^4 *or* any answer between 1.0×10^4 and 1.1×10^4 , inclusive, *and* indicating Up.

19 [1] Allow 1 credit for 4.

20 [1] Allow 1 credit for indicating Helmet 3 *and* an appropriate explanation. Acceptable responses include, but are not limited to:

- The head in Helmet 3 has the smallest maximum acceleration in Table 2.
The force is reduced along with the acceleration based upon $F_{net} = ma$.
- It has the smallest maximum force because $F_{net} = ma$, and it has the smallest acceleration.
- $F_{net} = ma$, and smallest a is produced by the smallest F_{net} .
- Newton's 2nd Law, F_{net} is directly related to a .
- The smallest maximum acceleration results from the smallest maximum force if the masses are the same.

Note: Do *not* allow credit for a response that *only* gives the mathematical relationship $F_{net} = ma$.

21 [1] Allow 1 credit for appropriate evidence *and* a correct description. Acceptable responses include, but are not limited to:

Evidence of relative motion:

- The Tadpole Galaxy spectrum is shifted (red shift).
- The wavelengths observed from the Tadpole Galaxy are different than the wavelengths emitted by the gas emission tube.
- The wavelength for each spectral line is shorter using the gas emission tube than the wavelength for the corresponding spectral line observed from the galaxy.
- The Tadpole Galaxy exhibits a Doppler shift.

Description of relative motion:

- The Tadpole Galaxy is moving away from Earth.
- The distance between Earth and the Tadpole Galaxy is increasing.

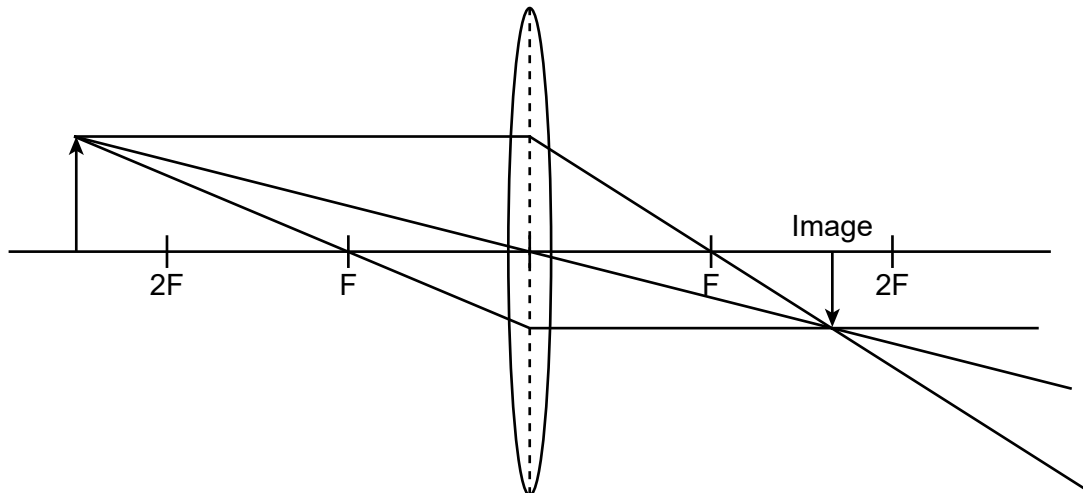
22 [1] Allow 1 credit for 1.

23 [1] Allow 1 credit for 4.

24 [1] Allow 1 credit for 3.

- 25** [1] Allow 1 credit for a correctly constructed ray diagram that shows the image inverted *and* located between F and 2F.

Example of a 1-credit response:

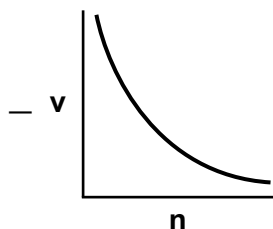


Note: Students *only* have to draw two rays *and* an image arrow for credit.

- 26** [1] Allow 1 credit for indicating Refute *and* an appropriate justification. Acceptable responses include, but are not limited to:

Justification:

- $n = \frac{c}{v}$: as n increases, v decreases.
- As the index of refraction increases, the speed of light decreases.
- Any example using $n = \frac{c}{v}$ or $\frac{n_2}{n_1} = \frac{v_1}{v_2}$ where students substituted numbers for n and solved for v to show n and v are inversely proportional.



Note: Students can indicate increase/decrease with arrows. Use of the terms “denser” or “optically denser” as terms for index of refraction are acceptable.

Do *not* accept a response that *only* gives the mathematical relationship $n = \frac{c}{v}$.

27 [1] Allow 1 credit for 4.

28 [1] Allow 1 credit for 4.

29 [1] Allow 1 credit for indicating Refute *and* an appropriate justification. Acceptable responses include, but are not limited to:

- Neither network will cause ionization of elements commonly found in the human body because the maximum photon energy for each network is less than the ionization energy of all elements.
- The energy for each network is too small to cause ionization of elements commonly found in the human body that could cause cancer.

Note: Do *not* accept the conclusions from the National Cancer Institute in the article as justification.

30 [1] Allow 1 credit for 1.

31 [1] Allow 1 credit for 2.

32 [1] Allow 1 credit for indicating Refute *and* an appropriate justification that refers to the relationship between voltage and current, *and* a constant resistance. Acceptable responses include, but are not limited to:

- When resistance is kept constant, both tables show that current and potential difference are proportional.
- Both circuits follow Ohm's law because potential difference divided by current yields the resistance that is shown in Table 2 and Table 3.
- $V = IR$ is valid for both tables.

33 [1] Allow 1 credit for 4.

34 [1] Allow 1 credit for 3.

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

- LED bulbs contain heavy metals and must be recycled.
- The initial cost of an LED bulb is greater than that of an incandescent bulb.
- The LED bulb in Diagram 5 is non-dimmable and the incandescent bulb is dimmable.
- LED bulbs contain toxic metals like lead and should be recycled.

36 [1] Allow 1 credit for 3.

37 [1] Allow 1 credit for indicating Refute *and* an appropriate justification. Acceptable responses include, but are not limited to:

- $v_f = \sqrt{2gh}$ and g and h are the same for both balls.
- The balls are in free fall so their speeds change at the same rate.
- They both accelerate at 9.8 m/s^2 .
- They both experience the same acceleration due to gravity.
- The mass of the object does not affect this motion.

38 [1] Allow 1 credit for indicating Support *and* an appropriate mathematical representation. Acceptable responses include, but are not limited to:

- $m_A v_A + m_D v_D = m_A v'_A + m_D v'_D$
 $(0.0038\text{kg})(-3.13\frac{\text{m}}{\text{s}}) + (0.0627\text{kg})(+2.57\frac{\text{m}}{\text{s}}) = (0.0038\text{kg})(+10.1\frac{\text{m}}{\text{s}}) + (0.0627\text{kg})(+1.77\frac{\text{m}}{\text{s}})$
 $0.15\text{kg}\cdot\frac{\text{m}}{\text{s}} = 0.15\text{kg}\cdot\frac{\text{m}}{\text{s}}$
 - $\Delta p_1 = -\Delta p_2$
 $m_1 \Delta v_1 = -m_2 \Delta v_2$
 $.05 = .05$
 - $p = mv$
 $p_{\text{initial}} = (0.0627)(2.57) + (0.0038)(-3.13) = 0.149$
 $p_{\text{final}} = (0.0627)(1.77) + (0.0038)(10.1) = 0.149$
- or

Allow 1 credit for indicating Refute *and* an appropriate mathematical representation that results in momentum **not** being conserved due to significant digits.

- $p_{\text{initial}} = mv = 0.149245$
 $p_{\text{final}} = mv = 0.149359$

Note: Equations are *not* required.

39 [1] Allow 1 credit for 1.

40 [1] Allow 1 credit for 4.

41 [1] Allow 1 credit for 3.

- 42** [1] Allow 1 credit for providing a disadvantage. Acceptable responses include, but are not limited to:
- Digital processed sounds have less information than the original sound.
 - Voice recognition software often misinterprets the spoken words.
 - Text displayed may not be accurate.
 - Memory storage is limited.
 - Text displayed may be slow due to processing speeds.
- 43** [1] Allow 1 credit for 3.
- 44** [1] Allow 1 credit for 1.
- 45** [1] Allow 1 credit for describing evidence from Graph 1 and Graph 2 that addresses accuracy. Acceptable responses include, but are not limited to:
- Decreasing the time between samples increases the number of data points collected, which will improve the accuracy of the text.
 - Increasing the sampling rate increases the number of data points and improves accuracy.
 - Graph 2 has more data points, which is more accurate.
 - Graph 1 has more gaps in the data and is less accurate.
 - Graph 2 resembles a wave more accurately.
- 46** [1] Allow 1 credit for 1.
- 47** [1] Allow 1 credit for indicating Negative *and* an appropriate justification. Acceptable responses include, but are not limited to:
- The negatively charged oil drop will be attracted to the positively charged plate and repelled from the negatively charged plate.
 - The oil drop must be attracted to the top positively charged plate. Therefore, the oil drop is negatively charged.
 - The negatively charged plate repels the oil drop upward.
 - The electrostatic force is opposite the downward gravitational force.
- 48** [1] Allow 1 credit for 2.
- 49** [1] Allow 1 credit for 3.
- 50** [1] Allow 1 credit for 4.

The Chart for Determining the Final Examination Score for the June 2026 Regents Examination in Physical Science: Physics will be posted on the Department’s website at: <https://www.nysed.gov/state-assessment/high-school-regents-examinations> no later than June 26, 2026.

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
June 2026 Physical Science: Physics Test Item Map to the Standards

Question	Type	Points	Performance Expectation
1	Multiple Choice	1	HS-PS3-2
2	Constructed Response	1	HS-PS3-2
3	Multiple Choice	1	HS-PS2-1
4	Constructed Response	1	HS-PS2-1
5	Multiple Choice	1	HS-PS2-1
6	Multiple Choice	1	HS-PS4-5
7	Constructed Response	1	HS-PS4-1
8	Multiple Choice	1	HS-PS4-1
9	Multiple Choice	1	HS-PS4-3
10	Constructed Response	1	HS-PS4-1
11	Constructed Response	1	HS-PS3-3
12	Multiple Choice	1	HS-PS3-3
13	Constructed Response	1	HS-PS3-4
14	Multiple Choice	1	HS-PS3-4
15	Multiple Choice	1	HS-ETS1-2
16	Multiple Choice	1	HS-PS3-3
17	Multiple Choice	1	HS-PS2-3
18	Constructed Response	1	HS-PS2-1
19	Multiple Choice	1	HS-PS3-2
20	Constructed Response	1	HS-PS2-3
21	Constructed Response	1	HS-ESS1-2
22	Multiple Choice	1	HS-PS4-1
23	Multiple Choice	1	HS-PS1-8
24	Multiple Choice	1	HS-PS1-8
25	Constructed Response	1	HS-PS4-6
26	Constructed Response	1	HS-PS4-1
27	Multiple Choice	1	HS-PS3-3
28	Multiple Choice	1	HS-PS4-6
29	Constructed Response	1	HS-PS4-4
30	Multiple Choice	1	HS-PS2-4
31	Multiple Choice	1	HS-PS4-1
32	Constructed Response	1	HS-PS3-6
33	Multiple Choice	1	HS-PS3-6
34	Multiple Choice	1	HS-PS3-6
35	Constructed Response	1	HS-ETS1-1
36	Multiple Choice	1	HS-PS3-1
37	Constructed Response	1	HS-PS2-1
38	Constructed Response	1	HS-PS2-2
39	Multiple Choice	1	HS-PS2-1
40	Multiple Choice	1	HS-ETS1-3
41	Multiple Choice	1	HS-PS4-2
42	Constructed Response	1	HS-PS4-2
43	Multiple Choice	1	HS-PS4-1
44	Multiple Choice	1	HS-PS4-1
45	Constructed Response	1	HS-PS4-2
46	Multiple Choice	1	HS-PS2-4
47	Constructed Response	1	HS-PS2-4
48	Multiple Choice	1	HS-PS3-5
49	Multiple Choice	1	HS-PS2-4
50	Multiple Choice	1	HS-PS2-1