

FOR TEACHERS ONLY

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

PHYSICAL SCIENCE: CHEMISTRY (NYSP12SLS)

Wednesday, August 19, 2026 — 8:30 to 11:30 a.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: Chemistry. 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> 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.

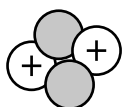
The test item map on page 11 identifies the Performance Expectation with which each test question is aligned. All NYSP-12SLS Performance Expectations are three-dimensional (<https://www.nysed.gov/sites/default/files/programs/standards-instruction/p-12-science-learningstandards.pdf>). The integration 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 4.

3 [1] Allow 1 credit for 34.9 *or* any value between 34.89 and 35.84, inclusive.

4 [1] Allow 1 credit. Acceptable responses include, but are not limited to:



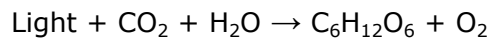
Note: Accept any model showing two protons and two neutrons.

5 [1] Allow 1 credit for 2.

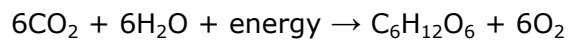
6 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- The optimal soil conditions for grapes have a greater $[H_3O^+]$ than for apples.
- The optimal soil conditions for apples have a lower hydrogen ion concentration than for grapes.

7 [1] Allow 1 credit. Acceptable responses include, but are not limited to:



or



8 [1] Allow 1 credit for 3.

9 [1] Allow 1 credit for 2.

10 [1] Allow 1 credit for 2.

11 [1] Allow 1 credit for 1.

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

- During the day, look through eclipse glasses. If you see anything, then the glasses are counterfeit.
- Look through the eclipse glasses. If visible light is transmitted, the glasses are counterfeit.
- Look through the eclipse glasses. If objects can be seen easily, the glasses are counterfeit.
- Shine a light source through the glasses. If light is seen on the other side, the glasses are not eclipse glasses.

13 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- The chemical bonds absorb UV light and the molecule undergoes a transformation.
- absorbs damaging energy and the structure changes

14 [1] Allow 1 credit for 4.

15 [1] Allow 1 credit for both an acceptable claim and evidence. Acceptable responses include, but are not limited to:

Claim:

- As first ionization energy increases, conductivity decreases.
- Conductivity increases as first ionization energy decreases.

Evidence:

- Tin has 0 eV of band gap energy and is the best conductor of the selected Group 14 elements.
- Carbon (diamond) has the highest band gap energy of the selected Group 14 elements.
- Carbon is an insulator and has the greatest ionization energy.

Note: Do *not* accept “conductivity increases” as evidence.

16 [1] Allow 1 credit for 2.

17 [1] Allow 1 credit for 1.

18 [1] Allow 1 credit for 3.

19 [1] Allow 1 credit for 4.

- 20** [1] Allow 1 credit for both an acceptable claim and evidence. Acceptable responses include, but are not limited to:

Claim:

- Na_2CO_3 would generate the highest solution temperature.

Evidence:

- Na_2CO_3 has a heat solution value of -26.7 kJ/mol .
- Sodium carbonate has the most negative ΔH .

- 21** [1] Allow 1 credit for 2.

- 22** [1] Allow 1 credit for 3.

- 23** [1] Allow 1 credit for 4.

- 24** [1] Allow 1 credit for 2.

- 25** [1] Allow 1 credit for a correctly completed table, as shown below:

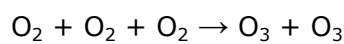
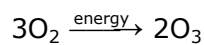
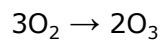
Methyl Orange	Bromothymol Blue	Phenol Red	Bromocresol Green
Yellow	Yellow	Yellow	Blue

- 26** [1] Allow 1 credit for 2.

- 27** [1] Allow 1 credit for 3.

- 28** [1] Allow 1 credit for 4.

29 [1] Allow 1 credit.



30 [1] Allow 1 credit for 3.

31 [1] Allow 1 credit for 2.30×10^3 or any value between 2300 grams and 2302 grams, inclusive.

32 [1] Allow 1 credit for 3.

33 [1] Allow 1 credit for 2.

34 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

Polarity of Compounds:

- The essential oil molecules are nonpolar.
- nonpolar

Evidence:

- The oil and water separate after condensing in the steam extraction.
- The oil settles on top of the water.

35 [1] Allow 1 credit for 1.

36 [1] Allow 1 credit for selecting Essential Oil A and acceptable evidence. Acceptable responses include, but are not limited to:

- Essential Oil A has a slower rate of evaporation.
- has a small change in temperature
- Essential Oil B has a shorter time to detect odor.

Note: No credit should be given for a selected oil without evidence. Allow credit if a symbol other than a ✓ is used.

37 [1] Allow 1 credit for 1.

38 [1] Allow one credit. Acceptable responses must include a correct mathematical representation, a correct calculated answer of 17 *or* any value from 16.5 to 17.5, inclusive, and indicating Perfume Number 2.

Examples of a 1-credit response:

Mathematical Representation
$\frac{5.0 \text{ g}}{30.0 \text{ g}} \times 100$
<u>17</u> %

Mathematical Representation
$\frac{5}{30} \times 100$
<u>16.67</u> %

Perfume
Number

1

☐

Perfume
Number

2

☒

Perfume
Number

3

☐

Perfume
Number

4

☐

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

39 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- Helium has a full valence shell and is not reactive.
- Helium is unreactive due to its filled outer shell with two outermost electrons.
- Helium has a full outermost shell.

40 [1] Allow 1 credit for 4.

41 [1] Allow 1 credit for 3.

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

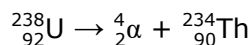
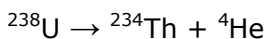
$$\frac{(101.3 \text{ kPa})(155 \text{ L})}{(298.15 \text{ K})} = \frac{(11.6 \text{ kPa})(1172 \text{ L})}{T_2}$$

$$\frac{101.3 \times 155}{298} = \frac{11.6 \times 1172}{X}$$

$$101.3 \times 155 \times T = 298 \times 11.6 \times 1172$$

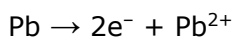
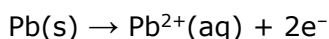
$$T_2 = \frac{(11.6)(1172)(298)}{(101.3)(155)}$$

43 [1] Allow 1 credit. Acceptable responses include, but are not limited to:



44 [1] Allow 1 credit for 3.

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



Note: Do *not* allow credit for the e without the minus sign.

46 [1] Allow 1 credit. Acceptable responses must include indicating Particle Number 2, a correct description of structure, and a correct description of function.

Particle Number: ☐ 1 ☒ 2 ☐ 3 ☐ 4

Structure: — The smaller carbon atoms fill spaces between the larger atoms.

— The carbon atoms take up the empty space between the larger atoms.

Function: — The alloy will be harder and stronger.

— heat resistant

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

47 [1] Allow 1 credit for 4.

48 [1] Allow 1 credit for 1.

The *Chart for Determining the Final Examination Score for the August 2026 Regents Examination in Physical Science: Chemistry* 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.

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
August 2026 Physical Science: Chemistry Test Item Map to the Standards

Question	Type	Points	Performance Expectation
1	Multiple Choice	1	HS-PS1-8
2	Multiple Choice	1	HS-PS3-1
3	Constructed Response	1	HS-PS1-7
4	Constructed Response	1	HS-PS1-8
5	Multiple Choice	1	HS-PS1-8
6	Constructed Response	1	HS-PS1-11
7	Constructed Response	1	HS-LS1-5
8	Multiple Choice	1	HS-PS1-7
9	Multiple Choice	1	HS-PS1-10
10	Multiple Choice	1	HS-PS4-4
11	Multiple Choice	1	HS-PS4-4
12	Constructed Response	1	HS-ETS1-2
13	Constructed Response	1	HS-PS2-6
14	Multiple Choice	1	HS-PS1-1
15	Constructed Response	1	HS-PS1-1
16	Multiple Choice	1	HS-PS1-2
17	Multiple Choice	1	HS-PS2-6
18	Multiple Choice	1	HS-PS3-1
19	Multiple Choice	1	HS-PS3-1
20	Constructed Response	1	HS-PS3-1
21	Multiple Choice	1	HS-PS3-5
22	Multiple Choice	1	HS-PS1-2
23	Multiple Choice	1	HS-PS1-11
24	Multiple Choice	1	HS-PS1-6
25	Constructed Response	1	HS-PS1-11
26	Multiple Choice	1	HS-PS4-4
27	Multiple Choice	1	HS-PS4-4
28	Multiple Choice	1	HS-PS1-10
29	Constructed Response	1	HS-PS1-7
30	Multiple Choice	1	HS-PS1-5
31	Constructed Response	1	HS-PS1-7
32	Multiple Choice	1	HS-PS1-4
33	Multiple Choice	1	HS-PS1-5
34	Constructed Response	1	HS-PS1-10
35	Multiple Choice	1	HS-PS1-3
36	Constructed Response	1	HS-PS1-3
37	Multiple Choice	1	HS-PS1-5
38	Constructed Response	1	HS-PS1-10
39	Constructed Response	1	HS-PS1-1
40	Multiple Choice	1	HS-ETS1-1
41	Multiple Choice	1	HS-PS1-9
42	Constructed Response	1	HS-PS1-9
43	Constructed Response	1	HS-PS1-8
44	Multiple Choice	1	HS-ETS1-3
45	Constructed Response	1	HS-PS1-12
46	Constructed Response	1	HS-PS2-6
47	Multiple Choice	1	HS-PS1-2
48	Multiple Choice	1	HS-PS1-5