

FOR TEACHERS ONLY

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

PHYSICAL SETTING/EARTH SCIENCE

Tuesday, January 21, 2025 — 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 Physical Setting/Earth Science. Additional information about scoring is provided in the publication *Information Booklet for Scoring Regents Examinations in the Sciences*.

Allow 1 credit for each correct response.

At least two science teachers must participate in the scoring of the Part B–2 and Part C 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 Earth Science Performance Test should be recorded in the space provided. Then the student’s raw scores on the written test and the performance 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> on Tuesday, January 21, 2025. 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

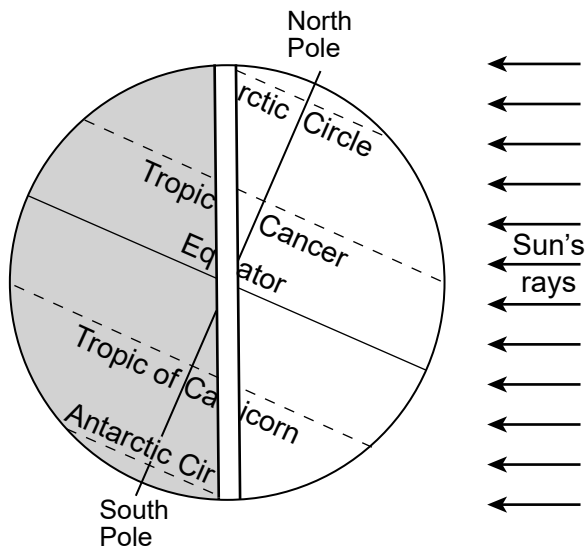
Allow a maximum of 15 credits for this part.

To ensure the accuracy of overlays, select a printer setting such as *full*, *actual size*, or *100%* when printing this document. Do **not** select the *fit to page* setting.

- 51** [1] Allow 1 credit for fusion *or* nuclear fusion.
- 52** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- 40 Eridani B
 - Procyon B
- 53** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- Betelgeuse is a much more massive star.
 - Barnard’s Star has too small of a mass to undergo a supernova.
- 54** [1] Allow 1 credit for Quaternary Period.
- 55** [1] Allow 1 credit for 0.006 cm to 0.2 cm *or* 0.2 cm to 0.006 cm.
- 56** [1] Allow 1 credit for wind.
- 57** [1] Allow 1 credit for any value from 1.7 m to 2.0 m.
- 58** [1] Allow 1 credit for any time from 9:00 a.m. to 10:00 a.m.
- 59** [1] Allow 1 credit for gravity *or* gravitational force.
- 60** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- The thicker the cloud cover, the less solar radiation reaches Earth’s surface.
 - Thicker clouds prevent more insolation from reaching Earth’s surface.
 - Less incoming radiation is blocked by thin clouds.
 - Thick clouds absorb much more solar radiation than thin clouds.

61 [1] Allow 1 credit for troposphere.

62 [1] Allow 1 credit for shading the left half of Earth. The shading should end within, or touching the sides of, the boxed region but not extending beyond the boxed region below.



63 [1] Allow 1 credit for summer.

64 [1] Allow 1 credit for 12 hr.

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

Summer temperatures:

- would get warmer
- increase
- hotter

Winter temperatures:

- would get cooler
- decrease
- colder

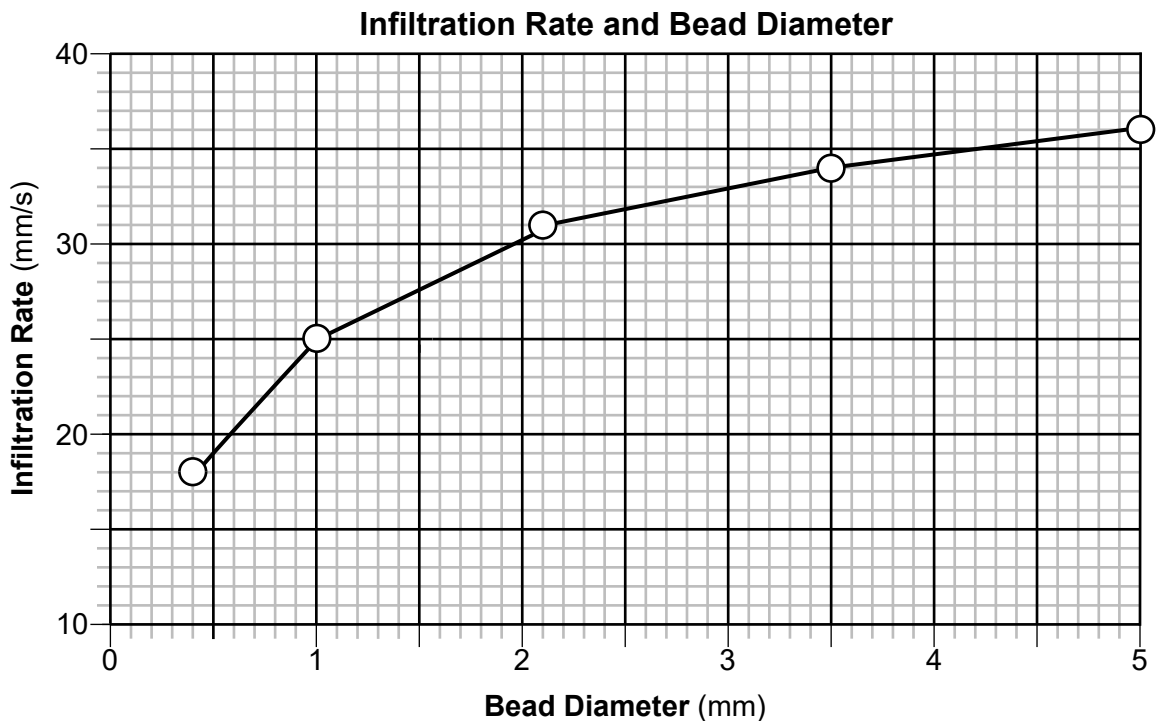
Part C

Allow a maximum of 20 credits for this part.

- 66** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- metamorphism
 - contact metamorphism
 - regional metamorphism
- 67** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- plagioclase feldspar
 - orthoclase/potassium feldspar
 - feldspar
 - talc
- 68** [1] Allow 1 credit for Champlain Lowlands *or* Interior Lowlands.

- 69 [1] Allow 1 credit if the center of *all five* plots are within or touch the circles shown and are correctly connected with a line that passes within or touches each circle.

Example of a 1-credit response:



Note: Allow credit if the line does not pass through the students plots, but is still within or touches the circles.

It is recommended that an overlay of the same scale as the student answer sheet be used to ensure reliability in rating.

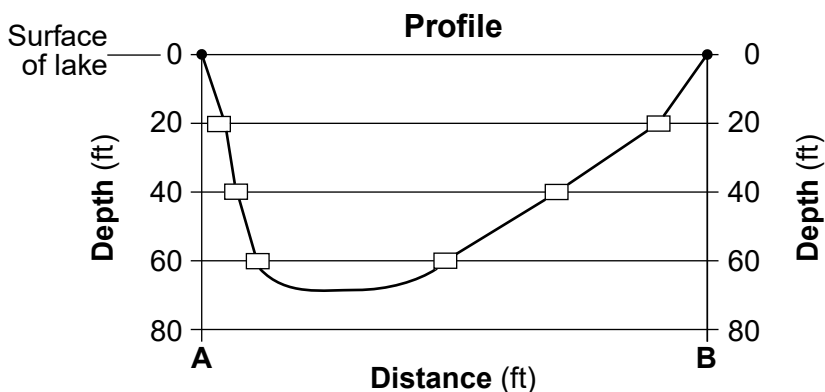
Do *not* allow credit if the student extends the line beyond the 5 plots.

- 70 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- As bead size increases, water retention decreases.
- As bead size increases, retention goes down.
- inverse relationship/negative correlation
- larger particles retain less water

- 71 [1] Allow 1 credit if *all six* plots are within or touch the rectangles shown below and are correctly connected with a line from A to B that passes within or touches each rectangle. The line should extend below 60 ft, but remain above 80 ft.

Example of a 1-credit response:

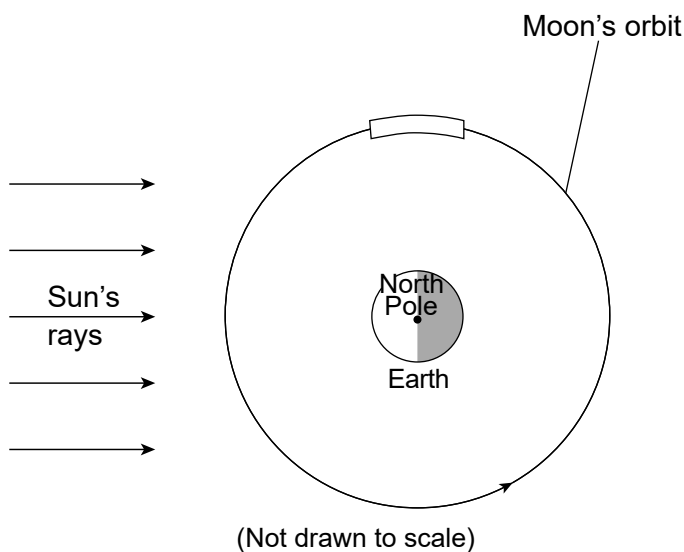


Note: It is recommended that an overlay of the same scale as the student answer sheet be used to ensure reliability in rating.

- 72 [1] Allow 1 credit for any value greater than 80 ft, but less than 100 ft.

- 73 [1] Allow 1 credit if the center of the **X** is within or touches the rectangle shown below.

Example of a 1-credit response:



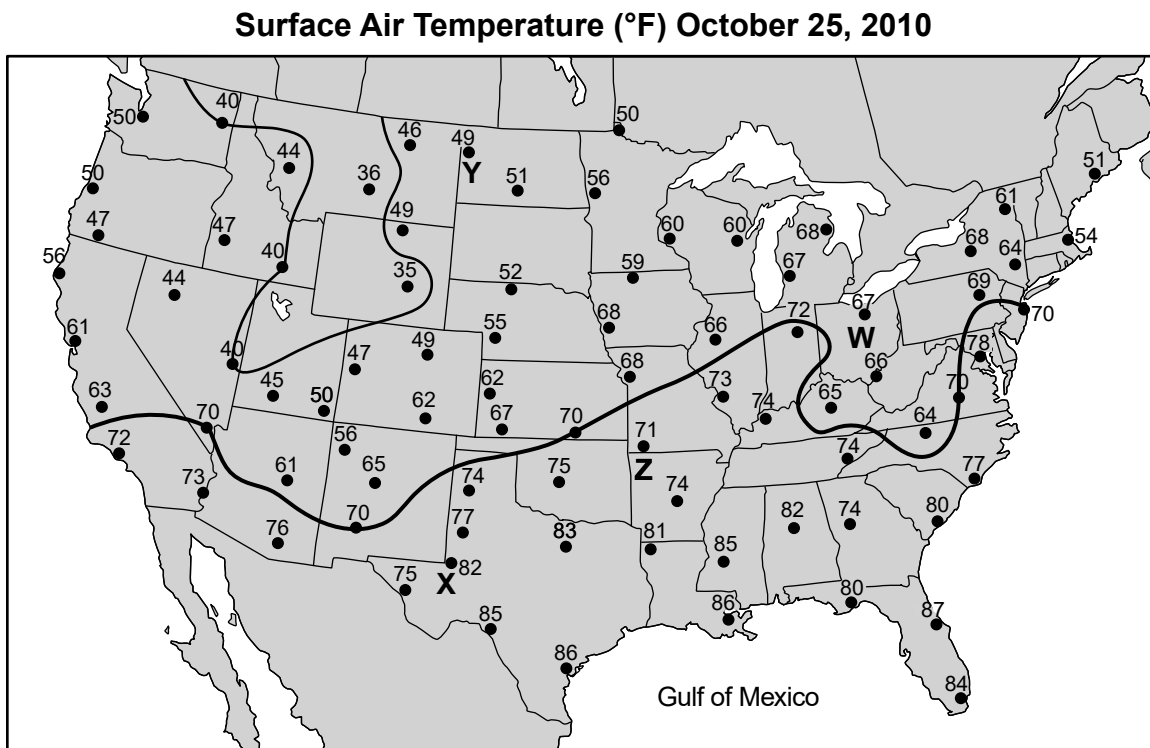
Note: Allow credit if a symbol other than **X** is used.

- 74 [1] Allow 1 credit for any value from 29 days to 30 days.

- 75 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- The distance between Earth and the Moon varies over the 9 days.
 - The approximate Earth-Moon distance is not the same.

- 76 [1] Allow 1 credit if the 70°F isotherm is correctly drawn to the edges of the United States. The isotherm must pass through *all five* 70°F points. If additional lines are drawn, all isolines must be correct to receive credit.

Example of a 1-credit response:

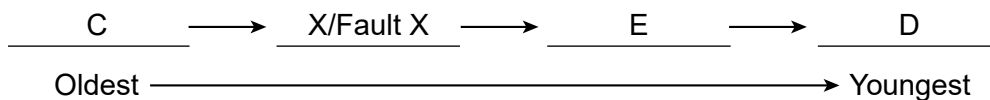


- 77 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- high elevation
 - altitude
 - height above sea level
- 78 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- When the air temperature and dew points are close, the chance of precipitation is greater, and location Z is located in the extreme storm and wind zone.
 - storms were forecasted at location Z

- 79 [1] Allow 1 credit for two correct emergency preparations. Acceptable responses include, but are not limited to:
- find a secure shelter/ go to a storm shelter in house/ go to the basement
 - have emergency warning systems (such as phones and televisions) in place
 - make sure all medicines and necessary medical kits are prepared
 - secure outside objects that can blow away
 - make sure generators are operational

- 80 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- Rock layers *C*, *F*, *G*, *H*, and *J* are tilted.
 - Some rock units, like rock unit *F*, no longer show original horizontality.
 - There is displacement/offset along the fault.
 - An unconformity is present.

- 81 [1] Allow 1 credit if the letters are in the correct order as shown below.



- 82 [1] Allow 1 credit for *Tetragraptus*, or *Maclurites*, or *Lichenaria*.

- 83 [1] Allow 1 credit for 31° North (N) for latitude and 103° West (W) for longitude.

Note: Units and compass directions must be included in student's answer to receive credit.

- 84 [1] Allow 1 credit for Chicxulub.

- 85 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- asteroid
 - meteor/meteorite/meteoroid
 - comet

The *Chart for Determining the Final Examination Score for the January 2025 Regents Examination in Physical Setting/Earth Science* will be posted on the Department’s web site at: <https://www.nysed.gov/state-assessment/high-school-regents-examinations> on Tuesday, January 21, 2025. Conversion charts provided for previous administrations of the Regents Examination in Physical Setting/Earth Science 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

January 2025 Physical Setting/Earth Science			
Question Numbers			
Key Ideas/Performance Indicators	Part A	Part B	Part C
Standard 1			
Math Key Idea 1			69, 71, 84
Math Key Idea 2		58, 60	70
Math Key Idea 3	8, 11, 23, 24, 28, 32, 34	57, 58	72, 76
Science Inquiry Key Idea 1	2, 4, 5, 15, 19, 22	41, 53, 56, 59	75, 77, 80, 85
Science Inquiry Key Idea 2			
Science Inquiry Key Idea 3	1, 3, 6, 8, 9, 13, 17, 19, 20, 21, 23, 24, 25, 28, 29, 31, 33, 35	36, 37, 38, 43, 44, 45, 46, 47, 49, 51, 52, 53, 54, 55, 61	66, 67, 68, 82, 84
Engineering Design Key Idea 1			
Standard 2			
Key Idea 1			
Key Idea 2			
Key Idea 3			79
Standard 6			
Key Idea 1	13, 32	59	78
Key Idea 2	9, 10, 11, 12, 13, 14, 27, 28, 29, 30, 32	39, 40, 41, 42, 43, 44, 45, 48, 50, 57, 58, 60, 62, 63, 64	69, 70, 71, 72, 73, 75, 76, 77, 78, 80, 81, 82, 83, 84
Key Idea 3			72
Key Idea 4			
Key Idea 5	13, 27, 30	42, 58, 63, 65	71, 73, 74, 81
Key Idea 6			
Standard 7			
Key Idea 1	18		
Key Idea 2			79
Standard 4			
Key Idea 1	1, 2, 3, 4, 5, 6, 7, 10, 11, 12, 20, 21, 28, 29	43, 44, 51, 52, 53, 54, 57, 58, 59, 62, 63, 64, 65	69, 70, 73, 74, 75, 80, 81, 82, 83, 84, 85
Key Idea 2	8, 9, 13, 14, 15, 16, 17, 18, 19, 22, 23, 24, 26, 27, 30, 31, 32	36, 37, 38, 39, 40, 41, 42, 48, 49, 50, 55, 56, 60, 61	68, 71, 72, 76, 77, 78, 79
Key Idea 3	25, 33, 34, 35	45, 46, 47	66, 67
Reference Tables			
ESRT 2011 Edition (Revised)	1, 3, 6, 8, 9, 13, 17, 19, 20, 21, 23, 24, 25, 28, 29, 31, 33, 35	36, 37, 38, 43, 44, 45, 46, 47, 49, 52, 54, 55, 61	66, 67, 68, 82, 84