FOR TEACHERS ONLY

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

PHYSICAL SETTING/EARTH SCIENCE

Friday, June 20, 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 Friday, June 20, 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.

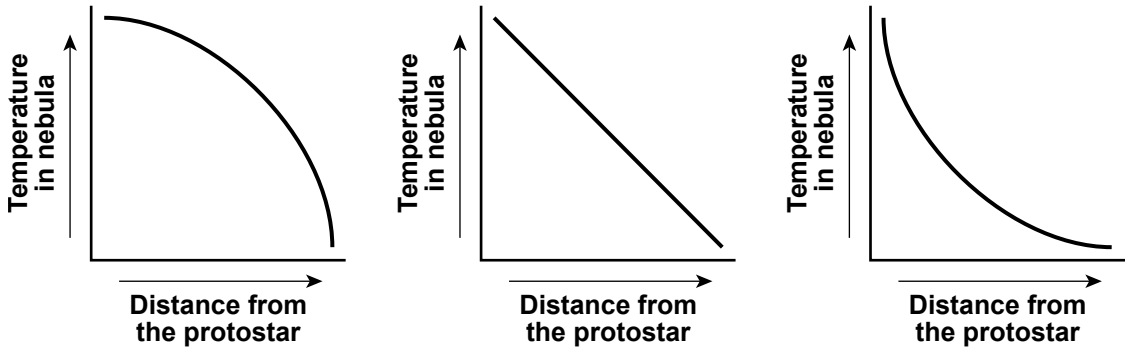
Part B–2

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 any line that indicates as distance from the protostar increases, temperature decreases.

Examples of a 1-credit response:



52 [1] Allow 1 credit for Mars and Jupiter.

53 [1] Allow 1 credit for white dwarf.

54 [1] Allow 1 credit for fusion *or* nuclear fusion.

55 [1] Allow 1 credit quartzite *or* hornfels.

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

— layer 3 has been folded

— layer 3 no longer shows original horizontality

— layer 3 has been faulted

— layer 3 is tilted

57 [1] Allow 1 credit if *both* location *A* and the evidence are correct. Acceptable responses include, but are not limited to:

— Isobars are close/closest together at location *A*.

— The pressure changes faster over a small distance near *A*.

— close isolines

— The air pressure gradient is greatest at *A*.

58 [1] Allow 1 credit for circling "away from the center of the high" for Characteristic 1 and "clockwise" for Characteristic 2.

59 [1] Allow 1 credit for any value from 29.29 to 29.295 in of Hg.

60 [1] Allow 1 credit for the South Equatorial Current and East Australia Current.

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

Relative air temperature:

— increases/rises

— gets warmer

Relative amount of precipitation:

— increases

— more rainfall

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

— melting

— solidification/crystallization

— cooling

63 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— clastic

— fragmental

— inorganic

— land derived

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

Crystal size of rock *C*:

— larger

— 1 mm or greater

Cooling rate of rock *C*:

— slower

— cooled over a longer period of time

65 [1] Allow 1 credit for gneiss.

Part C

Allow a maximum of 20 credits for this part.

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

— There was no irregular magnetic pattern found in the rocks around the crater.

— Volcanic eruptions will leave irregular magnetic patterns in rocks but no irregular pattern was found.

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

— global climate change

— major extinction events

— global cooling

— massive earthquakes

— increased volcanic activity

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

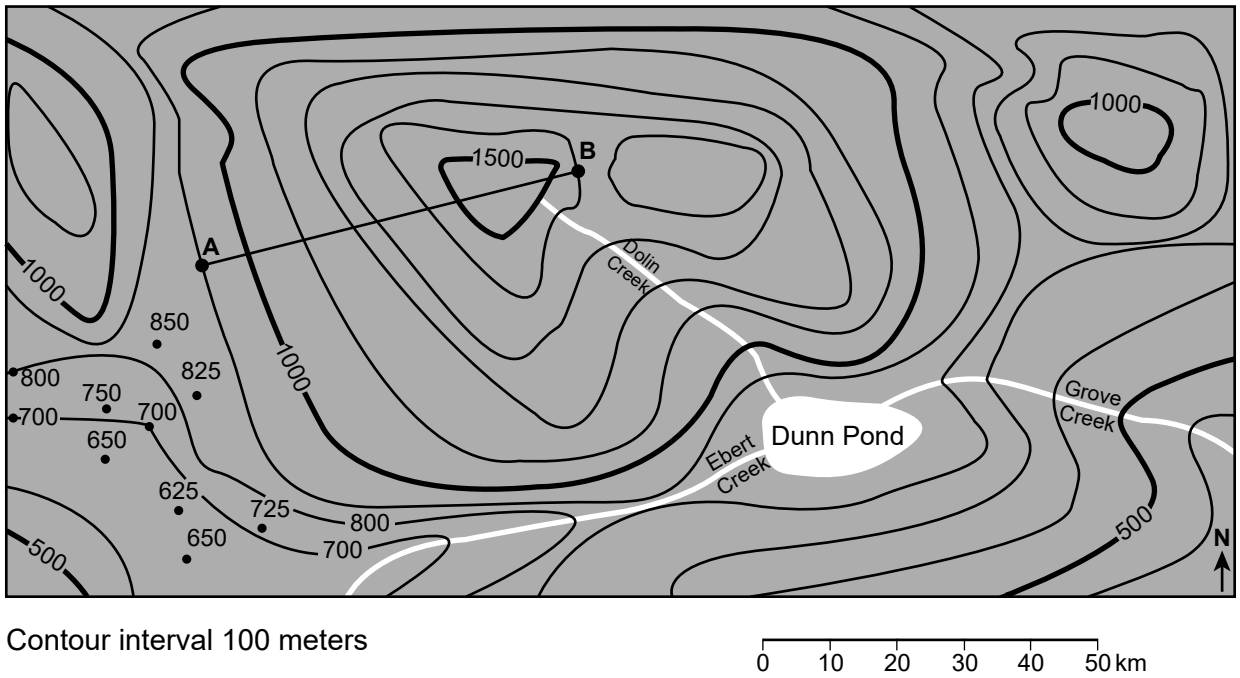
— latitude/high latitude/near North Pole location

— surrounded by cold ocean currents

— insolation/low yearly angle of insolation

69 [1] Allow 1 credit if both the 700-meter and 800-meter contour lines are correctly drawn. The 700-meter contour lines must pass through or touch the 700-meter dots, and the 800-meter contour lines must pass through or touch the 800-meter dots. If additional contour lines are drawn, all contour lines must be correct to receive credit.

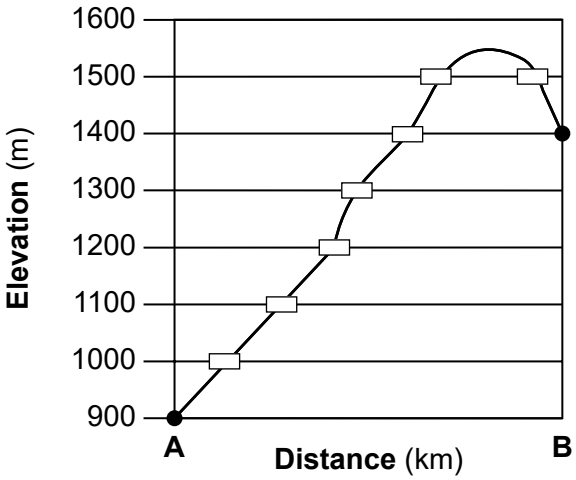
Example of a 1-credit response:



Note: If additional contour lines are drawn, all contour lines must be correct to receive credit.

70 [1] Allow 1 credit if the centers of *all seven* student plots are located within or touch the rectangles shown below and *all nine* plots are correctly connected with line that passes within or touches the rectangles from point *A* to point *B*. The high point of the line must extend above 1500 m, but below 1600 m.

Example of a 1-credit response:



Note: Allow credit if the student-drawn line *does not* pass through the student plots, but is still within or touches the rectangles.

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

71 [1] Allow 1 credit for any value greater than 800 m but less than 900 m.

72 [1] Allow 1 credit if *only* three **X**'s are placed in the correct boxes, as shown below.

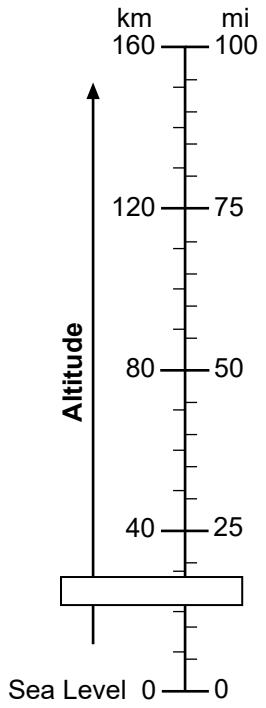
Example of a 1-credit responses:

	Flows into Dunn Pond	Flows out of Dunn Pond
Ebert Creek		X
Dolin Creek	X	
Grove Creek		X

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

73 [1] Allow 1 credit for *both* the center of an **X** within or touching the sides of the rectangular box shown in the diagram below, and stratosphere for the temperature zone of the atmosphere.

Example of a 1-credit responses:



Temperature zone of the atmosphere: Stratosphere

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

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

74 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— The ozone layer absorbs harmful incoming radiation.

— The ozone layer reduces the amount of harmful short wave radiation that can reach Earth's surface.

— Ozone layer blocks ultraviolet radiation from the Sun from reaching Earth's surface.

75 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Smoke/soot will block sunlight from reaching Earth's surface, causing a drop in temperatures.

— Smoke/soot will reflect insolation back into space, causing a drop in surface temperatures.

— Smoke/soot reflects sunlight back into space.

76 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Carbon dioxide is a greenhouse gas and leads to global climate change.

— Carbon dioxide causes global warming.

— An increase in carbon dioxide will cause global temperatures to increase.

— Carbon dioxide absorbs terrestrial radiation, which increases global temperature.

77 [1] Allow 1 credit for red.

78 [1] Allow 1 credit for Jupiter.

79 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Trappist-lg is closer to its host star than Mercury is to the Sun.

— The closer a planet is to the star, the shorter its period of revolution.

— The orbit of Trappist-1g is very close to Trappist-1.

— One revolution is a relatively short distance for Trappist-1g to orbit its star.

— Mercury's period of revolution is much longer because the length of Mercury's orbit is a much greater distance.

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

— the Moon

— Mercury

— Venus

— an asteroid or a comet

81 [1] Allow 1 credit for letter *D* and a correct explanation. Acceptable responses include, but are not limited to:

— the shape of the sample is rounded

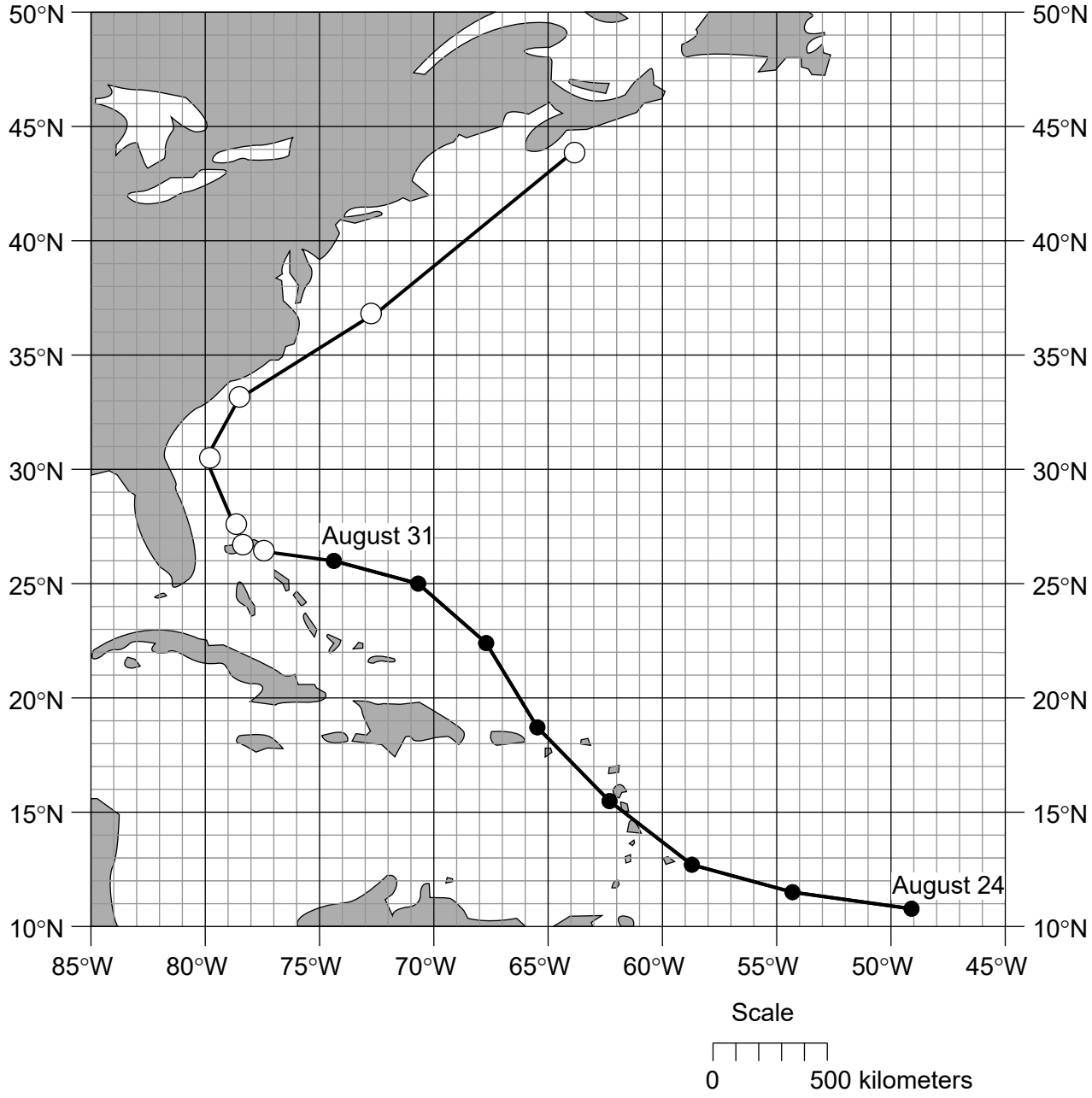
— It is the least angular rock sample.

82 [1] Allow 1 credit for any value from 70 to 100 cm/sec.

83 [1] Allow 1 credit for 0.006 to 0.2 cm *or* .2 to .006 cm.

84 [1] Allow 1 credit if the centers of *all seven* plots are within or touch the circles shown and are correctly connected with a line (beginning at the August 31 plot) that passes within or touches each circle.

Example of a 1-credit responses:



Note: Allow credit if the line does *not* pass through the student's 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.

85 [1] Allow 1 credit for August 31 to September 1 or 8/31 to 9/1.

Note: Do *not* allow credit for September 1 to August 31 because the question asks when the hurricane went from a category 4 to a category 5, not a category 5 to a category 4.

The *Chart for Determining the Final Examination Score for the June 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 Friday, June 20, 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

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