

# FOR TEACHERS ONLY

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

# PS-ES

## PHYSICAL SETTING/EARTH SCIENCE

Thursday, June 14, 2001 — 9:15 a.m. to 12:15 p.m., only

### SCORING KEY AND RATING GUIDE

**Directions to the Teacher:**

Refer to the directions on page 3 before rating student papers.

**Part A and Part B-1**  
**Allow 1 credit for each correct response.**

Part A			Part B-1	
1 ..... <b>4</b> .....	13 ..... <b>1</b> .....	25 ..... <b>4</b> .....	36 ..... <b>3</b> .....	44 ..... <b>1</b> .....
2 ..... <b>4</b> .....	14 ..... <b>2</b> .....	26 ..... <b>3</b> .....	37 ..... <b>1</b> .....	45 ..... <b>4</b> .....
3 ..... <b>3</b> .....	15 ..... <b>3</b> .....	27 ..... <b>1</b> .....	38 ..... <b>4</b> .....	46 ..... <b>1</b> .....
4 ..... <b>3</b> .....	16 ..... <b>4</b> .....	28 ..... <b>2</b> .....	39 ..... <b>3</b> .....	47 ..... <b>3</b> .....
5 ..... <b>2</b> .....	17 ..... <b>2</b> .....	29 ..... <b>1</b> .....	40 ..... <b>4</b> .....	48 ..... <b>3</b> .....
6 ..... <b>4</b> .....	18 ..... <b>1</b> .....	30 ..... <b>1</b> .....	41 ..... <b>2</b> .....	49 ..... <b>1</b> .....
7 ..... <b>2</b> .....	19 ..... <b>3</b> .....	31 ..... <b>4</b> .....	42 ..... <b>1</b> .....	50 ..... <b>2</b> .....
8 ..... <b>1</b> .....	20 ..... <b>2</b> .....	32 ..... <b>3</b> .....	43 ..... <b>4</b> .....	51 ..... <b>3</b> .....
9 ..... <b>2</b> .....	21 ..... <b>2</b> .....	33 ..... <b>1</b> .....		
10 ..... <b>4</b> .....	22 ..... <b>3</b> .....	34 ..... <b>2</b> .....		
11 ..... <b>4</b> .....	23 ..... <b>1</b> .....	35 ..... <b>2</b> .....		
12 ..... <b>3</b> .....	24 ..... <b>2</b> .....			



**Directions to the Teacher**

Follow the procedures below for scoring student answer papers for the Physical Setting/Earth Science examination. Additional information about scoring is provided in the publication *Information Booklet for Administering and Scoring Regents Examinations in Living Environment and Physical Setting/Earth Science*.

Use only *red* ink or *red* pencil in rating Regents papers. Do *not* correct the student's work by making insertions or changes of any kind.

On the detachable answer sheet for Part A and Part B–1, indicate by means of a checkmark each incorrect or omitted answer. In the box provided at the end of each part, record the number of questions the student answered correctly for that part.

At least two science teachers must participate in the scoring of each student's responses to the Part B–2 and Part C open-ended questions. 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 all the open-ended questions on a student's answer paper.

Students' responses must be scored strictly according to the Scoring Key and 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. In the student's answer booklet, record the number of credits earned for each answer in the box printed to the right of the answer lines or spaces for that question.

Fractional credit is *not* allowed. Only whole-number credit may be given to 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.

Raters should enter the scores earned for Part A, Part B–1, Part B–2, and Part C on the appropriate lines in the box printed on the answer booklet and then should add these four scores and enter the total in the box labeled "Total Written Test Score." The student's score for the Earth Science Performance Test should be entered in the space provided. Then, the student's raw scores on the performance test and written test should be converted to a scaled score by using the conversion chart printed at the end of this Scoring Key and Rating Guide. The student's scaled score should be entered in the labeled box on the student's answer booklet. The scaled score is the student's final examination score.

All student answer papers that receive a scaled score of 60 through 64 **must** be scored a second time. For the second scoring, a different committee of teachers may score the student's paper or the original committee may score the paper, except that no teacher may score the same open-ended questions that he/she scored in the first rating of the paper. The school principal is responsible for assuring that the student's final examination score is based on a fair, accurate, and reliable scoring of the student's answer paper.

Because scaled scores corresponding to raw scores in the conversion chart may change from one examination to another, it is crucial that for each administration, the conversion chart provided in the scoring key for that administration be used to determine the student's final score. The chart in this scoring key is usable only for this administration of the examination.

**Part B–2**

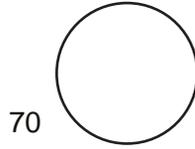
**Allow a total of 14 credits for this part. The student must answer all questions in this part.**

- 52** [2] **a** Allow 1 credit for **northeast** or **east northeast** or **north northeast**.  
**b** Allow 1 credit for **increase** or **become longer**.
- 53** [1] Allow 1 credit for **2:30** p.m.(±1 hour)
- 54** [1] Allow 1 credit for a correct response. Acceptable responses include, but are not limited to, these examples:  
The Sun is highest in the sky at noon at location *C*.  
The observer is at the Equator.
- 55** [1] Allow 1 credit for a correct response. Acceptable responses include, but are not limited to, these examples:  
Polaris has an altitude of 90°.  
The Sun’s apparent path is along the horizon.  
The only direction shown on the diagram is south; she must be at the North Pole.
- 56** [1] Allow 1 credit for **September 21, 22, 23**, or **autumnal equinox**.
- 57** [1] Allow 1 credit for a correct response. Acceptable responses include, but are not limited to, these examples:  
The intrusion cuts across all rock layers.  
The basalt is on the surface.
- 58** [1] Allow 1 credit for **solidification** or **crystallization**.
- 59** [1] Allow 1 credit for **conglomerate**.
- 60** [1] Allow 1 credit for **marble** or **hornfels**.
- 61** [1] Allow 1 credit for a correct response. Acceptable responses include, but are not limited to, these examples:  
The bedrock is faulted.  
There is an unconformity.

**62** [1] Allow 1 credit for **14°C**.

**63** [1] Allow 1 credit for **relative humidity increases**.

**64** [1]



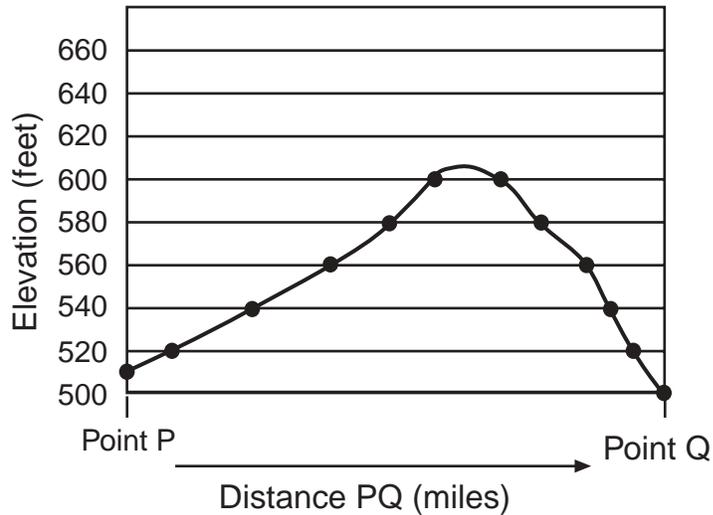
Allow 1 credit for correctly indicating the dewpoint. Do *not* allow this credit if ° or °F is written.

**Part C**

**Allow a total of 20 credits for this part. The student must answer all questions in this part.**

- 65** [1] Allow 1 credit for a correct response. Acceptable responses include, but are not limited to, these examples:
- burning fossil fuels
  - population increases
- 66** [1] Allow 1 credit for a correct response. Acceptable responses include, but are not limited to, these examples:
- Global warming melts glaciers, causing a rise in sea level.
  - Increased evaporation could lower sea level.
- 67** [1] Allow 1 credit for a correct response. Acceptable responses include, but are not limited to, these examples:
- warmer winter temperatures and cooler summer temperatures
  - smaller temperature range
- 68** [1] Allow 1 credit for a correct response. Acceptable responses include, but are not limited to, these examples:
- Lack of contour lines indicates a relatively flat area.
  - The stream shows meanders.
  - The contour lines are spaced far apart.
- 69** [2] **a** Allow 1 credit for **north** or **northeast** or **north northeast**.
- b** Allow 1 credit for a correct response. Acceptable responses include, but are not limited to, these examples:
- Contour lines bend upstream.
  - Streams flow from higher contours to lower contours.
  - Streams flow opposite the apex of the contour lines.

70 [3] *a-b*



- a** Allow 2 credits if 8 to 10 points are plotted correctly. Allow only 1 credit if only 5 to 7 points are plotted correctly.
- b** Allow 1 credit for correctly connecting all the plotted points. The high point of the profile must be greater than 600 ft but less than 620 ft.

71 [3] Allow 1 credit for measuring the distance with the rope.

*and*

Allow 1 credit for timing the apples.

*and*

Allow 1 credit for a correct equation. Acceptable responses include, but are not limited to, these examples:

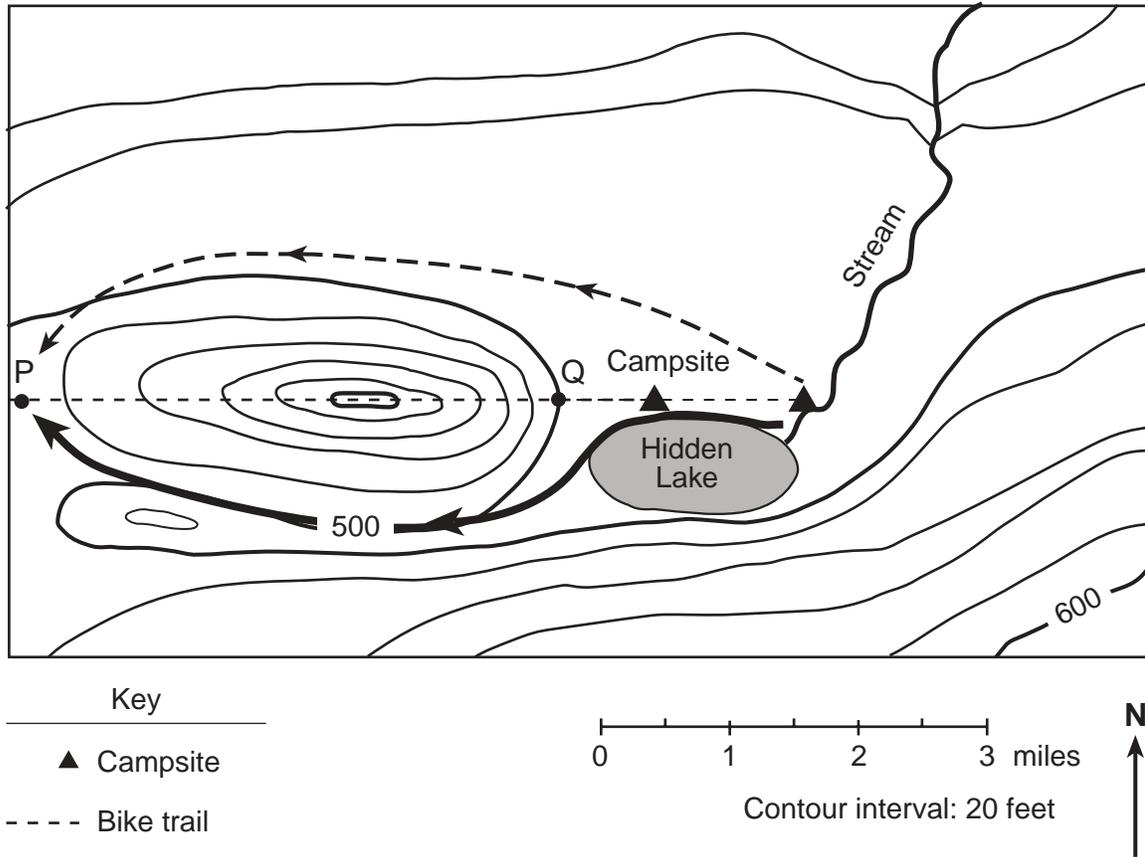
$$\text{rate} = \frac{\text{distance}}{\text{time}}$$

$$\text{rate of change} = \frac{\text{change in field value}}{\text{time}}$$

72 [1] Allow 1 credit for **sedimentary** or any specific type of sedimentary rock.

73 [1] Allow 1 credit for **Paleozoic** Era.

74–75



- 74 [1] Allow 1 credit for correctly indicating on the map the location of the second campsite ( $\pm 0.2$  mi).
- 75 [1] Allow 1 credit for either route shown on the map above or for any other appropriate route from the student's plotted campsite on which the 500-foot contour line is crossed only once.
- 76 [1] Allow 1 credit for a correct response. Acceptable responses include, but are not limited to, these examples:
- The temperature of the lake water at the surface must be higher than the temperature of the air flowing over the water.
  - Water temperature is warmer than air temperature.
- 77 [1] Allow 1 credit for a correct response. Acceptable responses include, but are not limited to, these examples:
- prevailing winds
  - Lake Ontario runs lengthwise from west to east, and the prevailing winds pick up moisture as they flow across the entire length.
- 78 [1] Allow 1 credit for **Erie-Ontario Lowlands**.
- 79 [1] Allow 1 credit for a correct response that includes the idea of **rising** or **cooling air** or **increased condensation** or **orographic lifting**.







**Map to Core Curriculum**

Standards	Question Numbers		
	Part A	Part B	Part C
<b>Standard 1—Analysis, Inquiry, and Design</b>			
<b>Mathematical Analysis</b>			
<b>Key Idea 1</b>	<b>19</b>	<b>40,44,45,46,48,52a, 55</b>	<b>71,75</b>
<b>Key Idea 2</b>	<b>3,21</b>	<b>40</b>	<b>71</b>
<b>Key Idea 3</b>		<b>37,47,48,52a,52b</b>	<b>69a,69b,71</b>
<b>Scientific Inquiry</b>			
<b>Key Idea 1</b>		<b>41,51</b>	<b>77,79</b>
<b>Key Idea 2</b>			<b>71</b>
<b>Key Idea 3</b>			<b>71</b>
<b>Engineering Design</b>			<b>74</b>
<b>Standard 2—Information Systems</b>			
<b>Key Idea 1</b>		<b>64</b>	<b>76</b>
<b>Key Idea 2</b>		<b>64</b>	
<b>Key Idea 3</b>			
<b>Standard 6—Interconnectedness: Common Themes</b>			
<b>Key Idea 1</b>		<b>38,49,57,58,59,60,63</b>	<b>67,69b,71,76,77</b>
<b>Key Idea 2</b>	<b>5</b>	<b>39,41,52a,52b,54,55,56,57,61</b>	<b>68,69b,70,78</b>
<b>Key Idea 3</b>	<b>4,5,32</b>	<b>38,53</b>	<b>74</b>
<b>Key Idea 4</b>			
<b>Key Idea 5</b>	<b>19</b>	<b>38,41,50,52,53,56,63</b>	<b>66,77,79</b>
<b>Key Idea 6</b>		<b>36,37</b>	<b>65,75</b>
<b>Standard 7—Interdisciplinary Problem Solving</b>			
<b>Key Idea 1</b>			<b>71,73</b>
<b>Key Idea 2</b>			<b>75</b>
<b>Standard 4</b>		<b>Intro. Key Idea 1 45,46</b>	<b>Intro. Key Idea 2 76</b>
<b>Key Idea 1</b>	<b>1,2,3,4,6,7,8,9,10,12,14,19,25,26,28,32,33,34</b>	<b>44,46,51,52a,52b,53,54,55,56,57,61</b>	<b>67,72,73</b>
<b>Key Idea 2</b>	<b>7,11,13,14,15,16,18,20,21,22,24,27,29,30,31</b>	<b>36,37,41,42,43,47,48,49,50,54,59,60,61,62,63,64</b>	<b>65,66,68,69a,69b,70,71,72,74,75,76,77,78,79</b>
<b>Key Idea 3</b>	<b>17,18,23,35</b>	<b>39,40,58,59,60</b>	
<b>Earth Science Reference Tables (2001 edition)</b>	<b>3,4,5,13,16,17,22,23,25,27,30,35</b>	<b>38,41,42,48,49,58,59,60,62,63,64</b>	<b>71,73,78</b>