

FOR TEACHERS ONLY

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

LE

LIVING ENVIRONMENT

Wednesday, August 13, 2008 — 12:30 to 3:30 p.m., only

SCORING KEY AND RATING GUIDE

Directions to the Teacher:

Refer to the directions on page 3 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 <http://www.emsc.nysed.gov/osa/> and select the link "Examination 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.

Part A and Part B-1

Allow 1 credit for each correct response.

Part A			Part B-1	
1 1	11 3	21 4	31 3	37 3
2 2	12 1	22 2	32 1	38 3
3 3	13 4	23 3	33 4	39 4
4 2	14 1	24 1	34 4	40 2
5 3	15 4	25 3	35 2	41 1
6 3	16 2	26 2	36 1	42 2
7 4	17 1	27 3		
8 4	18 1	28 1		
9 1	19 2	29 2		
10 4	20 4	30 4		

LIVING ENVIRONMENT – *continued*

Follow the procedures below for scoring student answer papers for the Regents Examination in Living Environment. Additional information about scoring is provided in the publication *Information Booklet for Scoring Regents Examinations in the Sciences*.

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

Allow 1 credit for each correct response for multiple-choice questions.

On the detachable answer sheet for Part A and Part B–1, indicate by means of a checkmark each incorrect or omitted answer to multiple-choice questions. In the box provided in the upper right corner of the answer sheet, record the number of questions the student answered correctly for each of these parts.

At least two science teachers must participate in the scoring of the Part B–2, Part C, and Part D 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 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 examination 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 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.

Raters should enter the scores earned for Part A, Part B–1, Part B–2, Part C, and Part D on the appropriate lines in the box printed on the answer sheet and should add these five scores and enter the total in the box labeled "Total Raw Score." Then the student's raw score should be converted to a scaled score by using the conversion chart that will be posted on the Department's web site <http://www.emsc.nysed.gov/osa/> on Wednesday, August 13, 2008. The student's scaled score should be entered in the box labeled "Final Score" on the student's answer sheet. 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 for that administration be used to determine the student's final score.

Part B–2

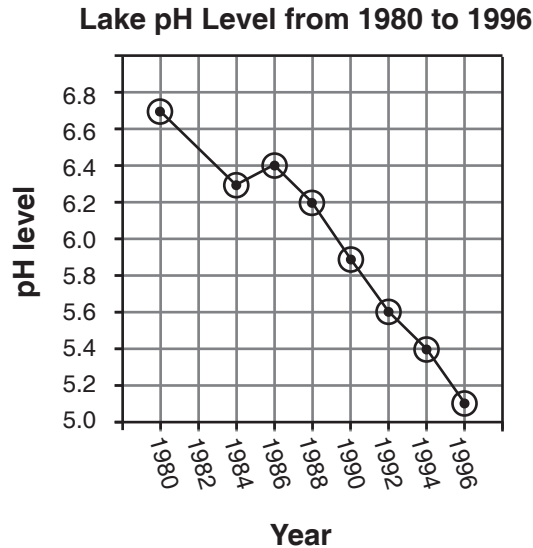
- 43** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- Testosterone influences the formation of sperm cells.
 - Testosterone influences the formation of gametes.
 - estrogen – regulates female reproductive cycles
 - Estrogen builds up the uterine lining for implantation and development of the embryo.
 - progesterone – maintains uterine lining during pregnancy
- 44** [1] Allow 1 credit for placenta.
- 45** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- drugs – fetal addiction
 - alcohol – low birth weight *or* premature birth *or* brain damage *or* fetal alcohol syndrome
 - nicotine – brain damage *or* low birth weight
 - Viruses, such as HIV, can cross the placenta putting the fetus at risk of disease or defects.
- 46** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- recycle nutrients
- 47** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- The closer the food source, the more waggle runs in 15 seconds.
 - Fewer waggles means that food is farther away.
 - As one variable increases, the other decreases.
- 48** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- If bees have better access to food, they can produce more offspring.
 - Finding food is easier, thus more bees can exist.

49 1

LIVING ENVIRONMENT – *continued*

- 50 [1] Allow 1 credit for correctly labeling the axes.
- 51 [1] Allow 1 credit for marking an appropriate scale on the y -axis.
- 52 [1] Allow 1 credit for correctly plotting the data and connecting the points.

Example of a 3-credit response for questions 50 through 52:



Note: Allow credit if the points are correctly plotted but *not* circled.
Make no assumptions about the origin unless it is labeled.
Do *not* allow credit for plotting points that are not in the data table or for extending lines beyond the data points.

- 53 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- The pH level decreased over this time period.
 - The acid level increased over this time period.
- 54 [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- water depth
 - time of year
 - The sample should be taken under similar weather conditions.
 - The sample should be taken from the same site.

LIVING ENVIRONMENT – *continued*

55 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- Organisms with antibiotic resistance would survive and reproduce. Others without resistance would decrease in number.
- Antibiotics target specific bacteria.

Note: Do *not* accept “the bacteria were immune.”

Part C

- 56** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- no competition
 - no predators
 - large food supply
 - bigger/stronger than other species
- 57** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- pass laws
 - inspections
 - increase public knowledge about the problem
- 58** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- The purple loosestrife crowded out other plants.
 - Zebra mussels outcompete native species.
 - The brown tree snake ate birds’ eggs and reduced bird populations.
 - Gypsy moths eat oak leaves and can kill oak trees.
- 59** [2] Allow 1 credit for rabbit and deer, and 1 credit for supporting the responses. Acceptable responses include, but are not limited to:
- rabbit and deer – They have fewer predators.
- 60** [1] Allow 1 credit. Acceptable responses include, but are not limited to:
- Their grain crops decreased.
 - Fewer cattle were killed.

LIVING ENVIRONMENT – *continued*

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

- The problem was to determine how the yellow fever microbe was being transferred from person to person.
- How is yellow fever spread?

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

- Yellow fever is spread by contact with the clothing of people who had yellow fever.

Note: Do *not* allow credit for a hypothesis written in the form of a question.

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

- The control should have been a group of people sleeping in nightshirts *or* bedding that had not been used by yellow fever patients.

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

- Pesticides can harm other parts of the environment (other species) but native fish will not.
- Native species will target the larvae with less disruption of food chains.
- Pesticides may disrupt the food chains in the area but native fish will not.
- Pesticides may cause human illness.

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

- A vaccine contains dead *or* weakened pathogens *or* their products.

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

- immune system

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

- White blood cells produce antibodies for a particular pathogen.
- White blood cells are prepared to recognize a particular pathogen in the future.
- causes the immune system to produce antibodies
- stimulates an immune response

LIVING ENVIRONMENT – *continued*

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

- Rain may wash the toxins into lakes.
- They may seep into groundwater.

69 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- may move through the food web
- may change the pH of pond water
- may kill organisms

70 [1] Allow 1 credit.

Examples of 1-credit responses:

1	2	3	4
hydrocarbons	sulfur dioxide	carbon dioxide	chlorofluorocarbons
reduce pesticide use reduce auto exhaust	reduce burning of fossil fuel	reduce car use reduce deforestation	use alternatives to chlorofluorocarbons

71 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- exposes organisms to UV rays
- increases chance of mutations in cells

Part D

72 2

73 3

74 [1] Allow 1 credit for Amino acid sequence: MET *or* START ALA GLY SER

75 [1] Allow 1 credit for mRNA strand: AUG AAA CGU CCU

76 [1] Allow 1 credit for DNA strand: TAC AAA ACA GGG

77 [1] Allow 1 credit for *B* and *E* and supporting the answer. Acceptable responses include, but are not limited to:

— Their amino acid sequences are the same.

Note: Allow credit for a response that is consistent with the student’s responses to questions 74 through 76.

78 2

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

— The large tree finch eats mainly animal food, while the large ground finch eats mainly plant food.

— They occupy different environmental niches.

— They eat different kinds of food.

80 2

LIVING ENVIRONMENT – *concluded*

81 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- diffusion
- osmosis
- passive transport

82 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- Water diffused into the cells of the potato because there was a higher concentration of water outside than inside the slice.
- The potato slice increased in water content.

83 3

84 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

- starch indicator
- iodine solution
- Lugol's solution

Note: Do *not* allow credit for just “indicator.”

The *Chart for Determining the Final Examination Score for the August 2008 Regents Examination in Living Environment* will be posted on the Department's web site <http://www.emsc.nysed.gov/osa/> on Wednesday, August 13, 2008. Conversion charts provided for previous administrations of the Regents Examination in Living Environment 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 www.emsc.nysed.gov/osa/exameval/.
2. Select the test title.
3. Complete the required demographic fields.
4. Complete each evaluation question and provide comments in the space provided.
5. Click the SUBMIT button at the bottom of the page to submit the completed form.

Map to Core Curriculum

August 2008 Living Environment

Standards	Question Numbers			
	Part A 1–30	Part B–1 31–42	Part B–2 43–55	Part C 56–71
Standard 1 — Analysis, Inquiry and Design				
Key Idea 1				
Key Idea 2			54	61,62,63
Key Idea 3		31	47	
Appendix A (Laboratory Checklist)			50,51,52	
Standard 4				
Key Idea 1	2,3,5,8,9	33,36,40		59,60
Key Idea 2	6,7,10,12,13,18,19	35		
Key Idea 3	11,15,16,17		48,49,55	
Key Idea 4	4,21	39	43,44,45	
Key Idea 5	20,22,23,27	37,38,41,42		65,66,67
Key Idea 6	1,14,26,28,29,30	32,34	46	
Key Idea 7	24,25			56,57,58,64,68, 69,70,71

Part D 72–84	
Lab 1	72,74,75,76,77
Lab 2	73
Lab 3	78,79
Lab 5	80,81,82,83,84