INFORMATION SHEET
Grade 8 Intermediate-Level Science Test
Date of Introduction: Spring 2001

Test Description:

The purpose of the Grade 8 Intermediate-Level Science Test is to measure achievement of the **Learning Standards for Math, Science, and Technology** detailed in the I**ntermediate-Level Science Core Curriculum Grades 5-8**. The test will have a two-hour written component and a one-hour performance component. A State-designated level of performance will be established to help schools identify students who must receive academic intervention services. All students who score below a designated level on the test must receive such services, which must commence in the semester immediately following the administration of the test.

The test consists of questions in three formats: multiple-choice, constructed-response, and extended-constructed response. The questions are based on the material in New York State's **Intermediate Level Science Core Curriculum (5-8)**. The first table below shows the approximate percentage of the test that addresses each of the five relevant learning standards. The second table shows the approximate percentage of the test devoted to specific formats and purposes.

New York State Grade 8 Intermediate-Level Science Test Blueprint

Area in New York State *Intermediate Level Science Core Curriculum (5-8)*	Approximate Percentage of the Test
Standard 1 – Mathematical Analysis, Scientific Inquiry, and Technological Design	20 to 25%
Standard 2 – Information Systems	0 to 5%
Standard 4 – The Living Environment; The Physical Setting	65 to 75%
Standard 6 – Interconnectedness: Common Themes	0 to 5%
Standard 7 – Interdisciplinary Problem Solving	0 to 10%

Parts of the Test (formats and purposes)			Approximate Percentage of the Test
Written test	multiple-choice items	Content-based questions assessing the student's knowledge and understanding of core material (primarily from Standard 4)	25 to 35%
	multiple-choice and constructed-response items	Content- and skills-based questions assessing the student's ability to apply, analyze, and evaluate material (primarily from Standards 1 and 4)	25 to 35%
	constructed-response and extended-constructed response items	Content and application questions assessing the student's ability to apply knowledge of science concepts and skills to address real-world situations (primarily from Standards 1, 2, 4, 6, and 7) Through the use of real-world situations, students will be asked to formulate hypotheses, make predictions, or use other scientific inquiry skills in their responses to the questions posed.	20 to 30%
Performance test	open-ended items	Application questions assessing the student's skills in using hands-on equipment and materials in their responses to the questions posed (primarily from Standard 1)	15%

Scoring Time and Rating Techniques:

- Written test - Approximately 2/3 of the written test will be open-ended questions that will require scoring by intermediate-level science teachers. It is estimated that a science teacher should be able to rate the open-ended responses of about 10 students in an hour. It will be helpful if there is expertise in physical science and life science within the group of teachers participating in the scoring session. Using this approach, teachers should score the questions in their area of specialization. More suggestions for scoring will be included with the scoring materials that accompany the test.
- **Performance test (Form A) -** All questions will require rating by intermediate-level science teachers. It is estimated that a science teacher should be able to rate the responses to all three stations for 8-10 students in an hour. This scoring can be most quickly accomplished if one science teacher rates all students' responses to Station 1 while another rates all students' responses to Station 2 and a third rates all students' responses to Station 3.

Performance Test, Form A:
This test will consist of hands-on tasks set up at three different stations. Each student will spend 15 minutes at each of the three stations during the testing period. Detailed information on the equipment, materials preparation, and station setup will be provided at the regional workshops. The three stations on Form A are briefly described below:

Station 1 - Sorting Creatures - Students will use a dichotomous key to categorize a collection of plastic organisms, and then refine the key so it can be used for further study. Students will make microscopic observations and measurements of a real organism and use their key to classify that creature.

Station 2 - Ramp and Golf Ball - Students will use a ramp, ball, and a target (cup) to gather data. Students will be asked to make inferences and predictions based on the data they collect.

Station 3 - Woods and Water - Students use measuring equipment to determine several properties of objects (woods). Students then make additional observations and predictions related to the objects' densities.

Performance Test, Form A Materials List:
NOTE: Schools will need to provide microscopes, triple-beam balances, and hand-held calculators for the testing room. It is possible to set up one testing room with 8-12 groups of three stations each. In this case, 8-12 microscopes, 8-12 triple-beam balances, and 8-12 calculators are needed so that 24-36 students can be tested in a one-hour period.

Station 1 - Sorting Creatures (Material for one station):

- Sorting Chart (8 ½" x 14"), laminated
- Black permanent marker
- 3 x 5 index card (unlined)
- Slide A - slide of graph paper (1 mm squares)
- Slide X - Slide of microscopic specimen: (drosophila - must clearly show six legs)
- Microscope with eye piece of 10 x and at least two lenses providing a total magnifications of about 40 x and 100 x
- Collection of six specific plastic creatures

Station 2 - Ramp and Golf Ball (Material for one station):

- Carpet tape or duct tape
- Black permanent marker
- 5-gram mass or 25-cent coin
- Round plastic container with hole
- Place mat with measuring strip
- Ruler with groove (metric)
- Support block(s)
- Golf ball
- Ping-Pong ball
- Masking tape

Station 3 - Woods and Water (Material for one station):

- Balance (triple beam 0.1 gram)
- Ruler (metric)
- Transparent plastic cup (5 oz) with water
- Black permanent marker
- Hand-held calculator
- Paper towel
- Block A in sealed plastic bag (3.7 cm cube - pine, maple, or other wood with a density < 1.0 gm/ cm^3)
- Block B (2.5 cm cube - lignum vitae or other wood with a density > 1.0 gm/ cm^3)
  (Source for lignum vitae: science stores or wood specialty stores)