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# Guide to the Maine Educational Assessment

## 1992-93

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Department of Education



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# Guide To The Maine Educational Assessment 1992-1993

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Department of Education

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## INTRODUCTION

The Maine Educational Assessment (MEA) is a program growing out of the Educational Reform Act of 1984. That legislation called for a comprehensive set of reforms directed toward school improvement. The MEA is beginning its eighth year of operation. Within the state, the program has become increasingly utilized by Maine educators as an indicator of the effectiveness of curricula and instruction and as a stimulus to school improvement. Nationally, the MEA is recognized for both its innovative design and content. The program is administered by the Division of Curriculum of the Department of Education, with the cooperation of the Division of Special Education. Assisting state personnel is the contractor for the 1992-93 assessment, Advanced Systems in Measurement and Evaluation, Inc. of Dover, New Hampshire.

This *Guide to the Maine Educational Assessment* is divided into seven sections. The first section, in question-and-answer format, provides general information about the program. Then there is a separate section for each content area assessed in the past by the MEA: reading, writing, mathematics, science, social studies, and arts and humanities. These sections describe the content areas assessed by explaining the conceptual frameworks and rationale on which the test instruments are based and providing sample test questions. "Released" open-ended questions administered in 1991-92 are also presented along with selected student responses. The sections can be separated easily and reproduced for distribution to the appropriate persons.

# QUESTIONS & ANSWERS

## *What are the purposes of the MEA?*

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As mandated by legislation, the assessment program is designed to achieve these goals:

- provide information on the academic achievement and progress of Maine students;
- establish a process for continuing evaluation of state educational goals and aid in the development of educational policies, standards, and programs;
- provide school officials with information to assess the quality, effectiveness, and appropriateness of educational materials, methods, and curriculum, and to determine curriculum needs, including remediation and enrichment;
- provide school staffs with information about individual students which may be used, with other information, to meet individual educational needs of the student;
- identify year-to-year trends in student achievement;
- provide parents with information about the achievement of their children on the assessment tests.

## *What kind of testing program is the MEA?*

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The MEA combines two types of testing. A common set of test questions in reading and math is administered to every student at a grade level statewide. These questions compose standardized (general) achievement measures. Writing is assessed through a writing sample.

The MEA is also a program assessment. There are many different test forms administered at a grade level in the

MEA, each student completing only one form. In addition to the "common" questions used to generate student-level scores, each form contains a portion of a much larger set of questions in each of four major subject areas. This enables school scores to be based on much more comprehensive coverage of subject domains.

## *What subject areas do the MEA tests cover?*

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The MEA assesses the areas of reading, writing, mathematics, science, social studies, and arts and humanities. A full description of what is covered within most of these areas at the grades tested (grades 4, 8, and 11) is provided in subsequent sections of this document. Social studies will

not be assessed in 1992-93. Current plans call for social studies, and arts and humanities to be assessed on a rotating basis. This year the arts and humanities area will be included in the assessment.

## *Why is the MEA designed the way it is?*

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The MEA is designed as it is to meet the goals of the legislation in the most effective way possible. Student level results in reading, writing, and mathematics (i.e., total test scores) are best produced by the use of common sets of questions. In reading and mathematics, the contents of a 41-item test represent very well the generalizable skills associated with those skill areas. (In each of those areas, 36-multiple-choice and 5 open-response questions are used.) Issues of fairness dictate

that all students at a particular grade level respond to the same set of items. The writing sample is the generally accepted way of assessing writing ability.

The domains of content areas such as science, social studies, and humanities are not so easily covered by 41-item tests. Furthermore, in all subject areas, the production of program diagnostic information (e.g., school scores in various subareas of a content domain) necessitates the use of much larger numbers of test questions.

Consequently, the MEA employs the technique of "matrix sampling" to provide the broad coverage of an area needed for effective reporting at the school level. This technique simply takes one very large test and breaks it into parts, each student completing only one part. Test questions in a particular subcategory of a subject area are distributed across forms so that every student responds to questions in the subcategory, but not the same questions as every other student. This approach produces very reliable results at the school level and above, and at the same time minimizes the time spent testing. The group results are so reliable that increasing the testing time by a factor of ten to have all students

answer all the questions in an area (there are twelve forms used at a grade level in 1992-93) would raise the reliability of the tests very little.

The large number of test questions accommodated by matrix sampling allows for the field testing of questions for inclusion in the common portions of the assessment in future years, and for the partial replacement of the remaining matrix-sampled questions every year. Enough questions are used in two consecutive years to permit the statistical linking of the test so that the longitudinal information required by law and necessary for monitoring progress can be provided.

### *What kinds of testing do other states do?*

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Most states have at least one statewide testing program. These programs represent a vast range of types of testing. Some states use *commercially produced, standardized achievement measures*. These tests produce student-level, norm-referenced total test scores (e.g., reading, math) and major subtest scores (e.g., comprehension, study skills, computation, concepts, problem solving). In conjunction with other information, these scores are useful for making placement decisions at the individual student level and for determining the relative strengths of different classes of students passing through a school.

The use of the commercially produced, standardized achievement measures for purposes of statewide accountability and program evaluation and improvement is a misuse of these tests, which were primarily designed to compare students. The high visibility of results of publicly funded testing and the pressures of accountability make these tests "high stakes" tests. Consequently, the limited coverage of domains that they provide and their total reliance on multiple-choice format has a negative impact on instructional programs — namely, a narrowing of the curriculum actually taught and an emphasis on knowledge and skills in isolation. Since these test instruments remain in the school for many years, many incidences of indiscretion have been facilitated.

Some states use *basic skills or minimal competency tests* for their statewide programs. These tests are generally used to identify students who fail to meet minimal standards of performance. Their questions address a limited number of skills considered to be basic and often reflect lower cognitive processes. Skill level information is usually not provided since the emphasis in reporting is on the identification of students scoring above or below a "cut score." While the numbers of students passing or failing such a test are of some use in program evaluation, these results do not reflect program effectiveness in terms of the broader curriculum and in terms of the majority of students who pass the tests.

*Mastery tests and diagnostic tests* are used in some statewide testing programs. Mastery tests include repeated measures of each of a limited number of specific skills. For example, a mastery test might include four very similar questions addressing the same skill and define mastery of the skill as success on three of the four questions. Thus, these tests are designed to identify the skills mastered or not mastered by individual students. Diagnostic tests, instead of including similar questions addressing a skill, include questions covering subskills and underlying concepts of a skill in order to identify more specific deficiencies of individual students. Mastery and diagnostic tests are useful for managing instruction that focuses on the needs of individuals. While they yield far more than a total test score and do not necessarily emphasize lower level skills, they are like basic skills tests in that they cover a small portion of a curriculum area.

Although all of the above-mentioned types of tests are available commercially, many states have chosen to produce the same types of tests for themselves to better control security problems. However, the narrowing of curricula and the emphasis on isolated knowledge and skills seemingly encouraged by such programs remain a problem. Some states have instituted *program assessments* such as the matrix-sampled portion of the MEA and produce school level results much like those reported by the MEA. A few states have used this approach with only a sample of students across the states, so that they can produce statewide results, but not school or student results.

A few years ago, Maine was one of the few states to give considerable attention to *open-response questions* in its testing program. An open-response question is simply a question requiring students to construct their own responses rather than selecting a response from a list of options generated by the test developer. Responses to such questions contributed significantly to student level results, and that contribution has been increased over the years. Now, a few other states have shifted their focus to open-response testing, some on a sampling basis



and some in "census" testing involving all students.

"Performance-based testing" encompasses a broad range of assessment activities from group-administered, open-response testing to individually-administered, on-demand tasks requiring the use of apparatus, and long-term projects not completed during an on-demand, structured testing situation. Even multiple-choice formats can be used in conjunction with performance testing when students must first engage in some authentic

performance activity before identifying a "response" matching their findings. The direct assessment of writing through writing samples is a commonly used form of performance testing. Most innovative statewide testing to this point has been on-demand testing. Recently however, a few states have required the compilation of student "performance portfolios" during the course of a school year. Some issues of data quality associated with this mode of assessment remain unanswered.

### *How has the MEA kept up with the current movements in testing?*

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The answer to this question requires a little discussion of just what these "current movements in testing" are. Traditional multiple-choice tests have fallen in disfavor among experts in curriculum and instruction. At the root of this situation is the general public's dissatisfaction with what students coming out of the nation's schools know and are able to do. People are concerned that students are not being prepared to reason, solve problems, or see connections among ideas. Taking the blame for this situation are skill-mastery oriented programs that focus on the teaching of knowledge and skills in isolation. The increased stakes associated with the traditional accountability measures have led to instructional programs becoming increasingly oriented this way. Such an orientation results in an inattention to the broader goals of education and the engaging of students in uninspiring, contrived, drill-type activities. The experts are calling for the breaking down of the distinctions between assessment and instruction, and for a type of testing that is more "authentic" in that it engages students in more practical, real-world activities that they would encounter in situations outside of school.

From the beginning, the MEA has avoided practices encouraging instruction focusing on specific behavioral objectives. First, the MEA item sets included a preponderance of questions testing higher order skills. Second, results on specific skills have never been reported by the MEA. In the early years, when Maine educators pushed for greater specificity in the description of test content and in reporting, the MEA responded by describing general concepts and broad skills within the different subject areas, and by lengthening the tests so that results could be reported one level more specifically (e.g., matter, force and motion, and energy within the physical sciences; periods of U.S. history within the larger category of history).

The MEA reading tests exemplify authenticity in testing despite the fact that the majority of the associated test questions are multiple-choice. The passages represent quality literary, content, and practical pieces that students would encounter in nontesting situations. The questions are largely inferential; and without the need to report on specific skills, the test developers could ask about the important ideas students should understand in conjunction with each piece.

Also from the beginning, the MEA used performance testing in writing — direct writing assessment via writing samples. After the first year, the supplementary, multiple-

choice writing conventions test was dropped. To the extent possible in an on-demand situation, the direct writing assessment incorporated aspects of the writing process. The positive impact on instruction of direct writing assessment is well recognized. Incidentally, the "annotated holistic scoring method" currently being used to score MEA writing samples was inspired by Maine educators and is now used in other states. It provides better program diagnostic information than the former method (analytic scoring) and requires considerably less time and expense.

During the first five years of the MEA, twenty percent of the "common item" tests in reading and mathematics consisted of open-response questions. In other words, open-response questions, scored analytically, made up twenty percent of the individual student scores in those areas. In year six, the open-response questions were each rated on a scale from 0 to 4 points. This is in keeping with current trends and results in each question discriminating at many levels of student ability, thereby enhancing the overall reliability of the tests. The points awarded (0 to 4), allowed to stand with the 0s and 1s for multiple-choice responses, made the open-response portions of the tests account for up to 50 percent of a student's score. Also in year six, school scores on open-response questions in reading and mathematics were reported.

Last year (1991-92), the emphasis on open-response questions was increased substantially. Fifteen open-response questions were used in each of the areas of reading and mathematics, and twenty open-response questions were used in each of the areas of science, social studies, and the humanities. Significantly more space for responses was provided for these questions than in the past. (This year's program will again increase emphasis on open-response questions.) The matrix-sampling of these questions and a decrease by more than 50 percent in the number of multiple-choice questions kept testing time down. Responses to these questions carry considerable weight in the computation of school scores.

For the past few years, a few mathematics questions required the use of manipulatives (e.g., rulers, tangram shapes) provided to every student in his or her packet of testing materials. Such a practice is more typical of sample performance assessments than it is of census testing of all students in a state. This year, all students in grades 4, 8, and 11 will be allowed to use a hand calculator on all but a small subset of the mathematics questions.

(Only grade 8 and 11 students used calculators in 1991-92.) The requirement of calculators is a move many states have been contemplating for years, but again, Maine has taken the lead. This change in the MEA is in keeping with an important recommendation in *The Curriculum and Evaluation Standards for School Mathematics* issued by the National Council of Teachers of Mathematics.

The Maine Department of Education recognizes the instructional potential associated with the use of performance portfolios in the classroom. It also recognizes

that it takes a great deal of time and effort to institute a portfolio assessment system on a large scale. Where portfolio management is not already a primary focus of instruction, instruction would have to be changed dramatically. In 1992-93, plans call for a pilot study of portfolio assessment systems. This study is to be conducted in a few volunteer districts. It is likely that the MEA will make more extensive use of portfolio assessment techniques on a larger scale in the future.

### *How are the MEA instruments developed?*

The development of the MEA tests is a cooperative effort by staff members in the Department of Education, a contractor for the assessment, and curriculum advisory committees composed of teachers, curriculum specialists, and administrators from across the state. There is a separate advisory committee for each subject area tested, and each committee meets during the year for purposes of test development and results interpretation. Development tasks include the review and reevaluation of objectives/reporting categories; the review, revising,

selection, and rejection of test questions; and the recommendation of new questions to "fill gaps" in the coverage of the content domains.

Each year, approximately one-quarter to one-third of the questions are replaced. The contractor for the assessment, under the supervision of the Department of Education, is responsible for field testing questions, assigning questions to test forms, and producing the final materials.

### *How reliable and valid are the MEA instruments?*

Test reliability is the extent to which test results are consistent. A reliability coefficient (a computed measure or estimate of reliability) answers the question, "If we administered this or a similar test again, how similar would the results be?" In the case of the MEA, reliability is dependent on the quality of three things — the test questions, the sampling of the content domains provided by the sets of questions, and the sampling of students. Of course, the best sampling of students possible is accomplished since all students in the target grades are tested each year. The design of the program (discussed previously) assures that school results are based on a large number of questions in each subject area. The reliability coefficients for school scores obtained for the 1991-92 MEA are shown below.

In writing, each student's essay is scored independently by two raters. Differences in ratings of more than one point are arbitrated by table leaders. The arbitration rate is 2 percent for the MEA. Thus, interrater reliability (the reliability of scoring) is very good. Reliability in terms of generalizability of writing results would be typical of direct writing assessment (i.e., the assessment of writing through writing samples). The generalizability is somewhat limited because only a single piece of writing is provided by each student and all students write on the same topic. The generalizability of school results, as opposed to individual student results, tends to be affected less by this limitation.

Test validity is the extent to which a test is measuring what it is supposed to measure. Over the years, the MEA has generated a great deal of statistical evidence of the validity of MEA instruments. That evidence includes measures of relationships between MEA scores and scores on other tests/variables. Additionally, results of a content domain survey completed by educators across the state indicated strong agreement between what teachers and other educators feel is important for the MEA to cover and what actually has been covered by the MEA. Recent trends in testing have called for greater emphasis on non-multiple-choice testing requiring students to construct their own responses to more real-world, broader tasks. Because open-response and "performance" measures play an important role in the MEA, the program receives high marks on "ecological" and instructional validity so important in this current movement in the field of testing.

<b>Coefficient Alpha (Schools)</b>			
<b>Subject</b>	<b>Grade 4</b>	<b>Grade 8</b>	<b>Grade 11</b>
Reading	.96	.97	.96
Mathematics	.96	.97	.96
Science	.93	.93	.94
Social Studies	.95	.96	.96
Humanities	.90	.94	.92

## How are the MEA results reported?

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The same set of MEA reports produced in the past will be produced in 1992-93 at each grade level. They include:

### STUDENT LEVEL RESULTS

*Item Level Class Reports* – a list of students tested with their responses/scores for each test question (class, school, state item results also provided)

*Number Correct by Objective Report* – a list of students tested with their test and subtest scores (raw scores and percentile ranks)

*Parent Letters* – personalized letter to parents of each student giving the same summary results provided for the student in the *Number Correct by Objective Report*

*Gummed Labels* – same results provided in the parent letter, produced on gummed label for affixing to permanent student records

### SCHOOL AND DISTRICT RESULTS

*MEA Educational Assessment Report* for each school and district which provides

- information on students tested and excluded, handicapping conditions, etc.
- total test scores and score distributions for the past three years in each of the six subject areas
- background factor information and Comparison Score Bands showing how school/district would have scored had it scored near the mean of scores of schools/districts serving similar population of students
- school/district subtest scores providing program diagnostic information and displaying standard errors of measurement
- percentages of students (school, district, statewide) in various programs and subgroups defined by questionnaire responses and the average test scores of those subgroups of students

## What are the major changes in the MEA for 1992-93?

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There are four major changes to the MEA for the coming year. They are:

1. Social studies will not be assessed this year. Current plans call for social studies and arts and humanities to be assessed on a rotating basis. In 1992-93, in addition to reading, writing, mathematics, and science, arts and humanities will be assessed. Social studies will be assessed in 1993-94.
2. Calculators will be allowed at grade 4 for two of the mathematics sessions. This will continue for grades 8 and 11 testing.
3. The MEA will continue to increase its emphasis on open-response questions this year. Although the shift will not be as dramatic as it was last year, there will be a few more such questions in the 1992-93 MEA and slightly fewer multiple-choice questions. More space will be available for the responses to open-response questions in reading and mathematics.
4. A writing portfolio assessment pilot study will be conducted in 1992-93. This could lead to portfolio assessment on a larger scale in the future.

## How and when will the tests be administered?

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At various times during this school year, Advanced Systems, the contractor for the assessment, will contact superintendents and building principals to collect the information necessary to conduct testing. The tests are designed to be administered by teachers and will require a total testing time of approximately six hours divided among several separate testing sessions. Manuals for testing coordinators and administrators will provide detailed instructions for the processing of materials and the administration of the tests. Additionally, training sessions will be conducted in various locations in Maine prior to the testing dates at the different grade levels.

The test administration periods for the 1992-93 school year are shown in the list of important dates below. The actual dates of testing within these periods are to be

determined by district personnel. They may schedule testing sessions any time during the first week of the two-week period provided they adhere to the guidelines provided in the instruction manuals. The second week should be reserved for make-up testing of students absent during the regular testing sessions.

All Maine public school students in grade 4, 8, and 11, and students approved for tuition purposes, will be tested. Exceptional students requiring testing modifications will be tested in accordance with the policies and procedures in the document titled *Maine Educational Assessment: Policies and Procedures for Modifications and Exclusions*. Exclusions from testing will be minimized and well-documented.

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### IMPORTANT DATES FOR 1992-93

OCTOBER 26 TO NOVEMBER 6, 1992 .....	TEST ADMINISTRATION GRADE 8
NOVEMBER 18, 19, 20 .....	SCORING OF GRADE 8 WRITING (BANGOR)
DECEMBER 2, 3, 4 .....	SCORING OF GRADE 8 WRITING (PORTLAND AREA)
JANUARY 25 TO FEBRUARY 5, 1993 .....	TEST ADMINISTRATION GRADE 4
FEBRUARY 24, 25, 26 .....	SCORING OF GRADE 4 WRITING (BANGOR)
MARCH 3, 4, 5 .....	SCORING OF GRADE 4 WRITING (PORTLAND AREA)
MARCH 22 TO APRIL 2, 1993 .....	TEST ADMINISTRATION GRADE 11
APRIL 28, 29, 30 .....	SCORING OF GRADE 11 WRITING (BANGOR)
MAY 5, 6, 7 .....	SCORING OF GRADE 11 WRITING (PORTLAND AREA)
MAY 12, 13, 14 .....	SCORING OF GRADE 11 WRITING (AROOSTOOK COUNTY AREA)



# Maine Educational Assessment - Reading

The reading tests of the MEA provide three separate types of information to schools and individuals. **Process** information pertains to the objectives of comprehension and reader management, the latter involving a combination of strategies and reference skills. **Passage type** data is derived from literary, content, and practical passages. Performance on long and short passages is also reported because of the known effects of **passage length** on the reading process.

The broad, yet straightforward, objectives of comprehension and reader management have two qualities consistent with current research and good instruction. They deemphasize isolated reading skills in favor of reading for broader understanding. They, further, shift emphasis from the static role of the text to the active role of the reader. Having broad objectives also allows the MEA to ask only questions posed naturally by the passages; no questions need be force fit to fill up narrowly defined reporting categories. Implicit in the MEA's objectives is a view of reading as a holistic and interactive process by which readers construct meaning, both from the passage and from the various kinds of background knowledge they bring to the reading experience.

## Comprehension

Comprehension questions represent a wide range of levels of inference:

1. **literal comprehension/textually explicit (reading the lines):** The answer is stated explicitly within the text. (No inference is required.) The range of difficulty of these items reflects the complexity of the text which must be scanned for the answer.
2. **inferential comprehension/textually implicit (reading between the lines):** The answer is implied by the text.
3. **inferential comprehension/scriptally implicit (reading beyond the lines):** The answer cannot be found solely in the text. These items require connecting the text with relevant prior knowledge gained from experience, perceptions, and a storehouse of mental scripts.

The emphasis in the MEA is clearly on inferential comprehension – reading is more than simply locating information. Approximately half of the comprehension questions pertain to textually implicit information, and another quarter of the items pertain to scriptally implicit information. This does not mean that overall the tests are difficult. Whether questions test literal or inferential comprehension is independent of item difficulty. Locating information can be difficult if the passage is complex. At the same time, some inferences can be quite obvious.

## Reader Management

The reader management questions fall into two categories – reading strategy questions and reference skill questions. Strategy questions pertain to the information that a student might use to make decisions about how to approach a reading task as well as to the students' awareness of appropriate strategies and techniques to use in different situations. Thus, strategy items may require students to:

- UNDERSTAND – the purpose of a passage
  - the structure of a passage
  - the author's tone, style, and choices concerning content
  - the purpose of adjunct aids such as charts, pictures, end-of-chapter questions, etc.
  - the purpose of text cues such as bold face type, italics, etc.
- RECOGNIZE – relevant prior knowledge that would aid comprehension
- PREDICT – passage content or structure based on an understanding of genre, purpose, early passage clues, etc.
- SELECT – a reading strategy appropriate to the reader's purpose and genre
  - strategies to solve comprehension problems (e.g., self-checking questions; ways to refine, review, remember ideas)

Reference skill questions require students to:

- identify passage genre
- select appropriate sources of information
- use reference materials

## Passages

The reading portions of the MEA tests require students to read both long and short passages from literature, the content areas, and practical sources. Literary passages represent a variety of forms – biography, drama, essay, novel, poetry, short story. Content passages are clearly informational and are taken from such sources as science and social studies textbooks as well as from information-dense articles in newspapers and magazines. Practical passages are functional materials leading the reader to an immediate action – directions, reference tools, manuals.

The passages selected for the MEA differ somewhat from those found in traditional reading tests. They reflect the advisory committee's belief that a reading test should be based on real-life reading tasks students could encounter in their classrooms and in their personal lives. The

MEA passages often include pictures and graphics, and many are much longer than traditional test passages. Every effort is made to choose quality passages which represent a range of reading materials in the literary, content, and practical areas. Each passage is introduced by a carefully worded purpose-setting statement, designed to activate relevant prior knowledge and provide a focus for reading.

### Item Type

As indicated previously, the 1992-1993 MEA places more emphasis on open-response questions. Such questions lend themselves naturally to higher order skills, multiple correct answers, unique strategies and purposes in the reading act. The new test battery includes more open-response items that weigh heavily in the computation of scores.

Every open-response is rated on a scale from 0-4. While a tailored scoring guide has to be developed for each question, every such guide is consistent with the following template based upon the levels of inference described earlier.

4 points	- a demonstration reflecting evaluation and synthesis to address the surface demands of the question as well as its underlying principles; specific and apt examples are used as support. Cue is used to extend meaning. <b>BEYOND THE LINES.</b>
3 points	- a demonstration which moves from the literal level of the 2 to analysis or application; correct or reasonable inferences cover all aspects of the question. Cue used to create, manipulate. <b>BETWEEN THE LINES.</b>
2 points	- an adequate demonstration of literal reading ability; specific and accurate while not going beyond the concrete. Cue is used. <b>ON THE LINES.</b>
1 point	- some understanding, but incomplete with respect to the demands of the task or the content of the response. The reader is off the mark, but on board. Cue not clearly identified. <b>SOME OF THE LINES.</b>
0 points	- answer unrelated, unresponsive, or inappropriate

Scored on such a continuum, each question discriminates among many levels of student ability and contributes considerably more to the overall test reliability than an individual multiple-choice item.

One real benefit of the open-response format comes from the additional requirement that students explain the reason(s) for their responses. This approach forces them to evaluate and cite evidence from a passage – an important critical thinking skill. The question below pertains to a chapter from Gary Paulsen’s novel *Dogsong*, about Russel, a 14-year-old boy in Alaska, and his grandfather Oogruk.

*Both Russel’s and Oogruk’s behavior reflects the traditional beliefs about death held by their people. What are these beliefs? Please give examples of the characters’ behavior to support your ideas.*

A question used in Maine in the past referred students to two passages, one a content piece on the American civil war and the other a literary piece about an incident in Northern Ireland, and asked,

*Do you think the authors of these two passages agree in their attitudes about war? Please support your answer with reasons from the passages.*

The open-response question shown below, which was also used in the MEA, pertained to a passage describing the ancient Japanese fishing method by which teams of fisherman, headed by the U-jo, use long-necked diving birds called cormorants.

*This ancient fishing method probably cannot compete with more modern commercial fishing methods. Explain why the cormorant fishermen continue to use this ancient method.*

A weaker reader, relying more on the text and less on prior knowledge and broader, abstract thinking, might give a response dealing more with cormorant fishing as a tourist attraction since the text described it as such. A stronger student might include the importance of tradition in his or her response.

Multiple-choice questions 1 through 5 pertain to the same passage on cormorant fishing. The first three represent the ascending levels of comprehension. Questions 4 and 5 illustrate the two components of reader management: strategies and reference skills, respectively.

1. The firelight is used to A. light the boatmen's way. B. attract the fish. C. warm the fishermen. D. entertain the tourists.	2. Which of the following words <b>best</b> describes the job of the U-jo? A. exciting B. complicated C. dangerous D. monotonous	3. The dark blue head wrap worn by the U-jo is <b>probably</b> shaped like the silhouette of a cormorant because it A. helps to attract the fish. B. frightens the cormorants. C. is worn to honor the cormorant as well as protect the U-jo. D. is the shape that provides the best protection for the U-jo.
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4. Which strategy would **best** help you to find the answer to question 3?

- A. returning to the passage and looking for the answer
- B. analyzing or thinking carefully about each answer option
- C. summarizing the key ideas in the passage
- D. predicting the answer based on the behavior of the U-jo

5. Which of the following would provide you with the best additional information about cormorants?

- A. *The World Almanac*
- B. *The American Heritage Dictionary*
- C. *Swimming and Diving Birds*
- D. *Fly Fishing the Rivers of Japan*

That the firelight is used to attract the fish is stated in the passage; hence the answer to the first question is textually explicit. Several sentences describe the many tasks the U-jo must accomplish at the same time, allowing the reader to infer appropriately that the U-jo's job is "complicated," the correct response to the second question (textually implicit). To determine the correct response to question 3 (scriptally implicit), the reader must make an inference that is not so direct. Success on this item most likely results from a combination of good evaluative skills and exposure to ceremonial behaviors, the importance of tradition in different cultures, and perhaps even fishing. It is not likely that a head wrap would attract fish; further it was stated that firelight was used to accomplish that. Thus, option A could be eliminated. Frightening the cormorants (option B) would probably be undesirable and counterproductive to the task at hand. It is likely that shapes other than the strange shape of a swimming cormorant would provide as much protection for the U-jo; therefore, option D could be eliminated. Thus,

evaluative skills could be used to reject the incorrect answers. Additionally, the passage conveyed the importance of tradition effectively in many ways. Knowing that this method of fishing is used primarily as a tourist attraction (as stated in the text) and is not the predominant technique employed by modern Japanese fishermen, and knowing of the importance of traditional ceremonial costumes by peoples celebrating their past and their cultures, a knowledgeable reader should be drawn to the correct third response.

In responding to question 4, a student should remember that the answer to question 3 was not stated in the passage and therefore should reject option A. The remaining options deal with things to do with information – analyzing, summarizing, predicting. If the student used any of the thinking described above in the discussion of question 3, he or she would recognize B as the correct response. Question 5 is a routine "best source" question.

## 1991-92 Released Open-Response Reading Questions

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### Grade 4

1. [passage about a boy who tricked a lady by switching turtles in the lady's tank] In "The Magic Turtle" Jack played a trick on Madame. What helped make the joke work? Explain your answer with information from the story.
2. [passage consisting of kids' personal accounts of how they set up their own little businesses] How does the author make "Kids in Business" interesting? Use information from the passage to support your answer.
3. [same passage as #2] On your answer sheet, show what a page from Kate's notebook would look like. Use information from the passage to give detail to your page.
4. [passage explaining good and bad points about having different animals as pets] Imagine you are going to try to convince your parents to let you have a pet. Choose a pet from the chart and explain what you would say to your parents. Include information from the passage in what you say to your parents.
5. [passage about a song, the lyrics of which contained hidden directions for following the Underground Railroad] The Underground Railroad was like a real railroad in some ways. Use information from the passage and what you know about real railroads to answer this question: How was the Underground Railroad like a real railroad?



## Grade 8

1. [poem describing the experience of a kayaker drifting on a lake] Choose 2 definitions of the word "reflect" from this dictionary entry as they might apply to the poem "Red Kayak." Explain how each definition applies.

**re-lect** (ri flect') *v.t.* 1. to turn or throw back, as waves of light, heat, or sound. 2. to give back an image of; mirror. 3. to be a truthful representation of: *That choice reflects your good taste.* 4. to bring or to give back as a result; cast (with *on* or *upon*). 5. to ponder or realize: *He reflected that he hadn't seen her in some time.*

2. [magazine article about how some animals survive winter by sleeping] What was the author's purpose in writing "The Long Sleep"? Explain the reasons for your answer.
3. [personal sketch of a young writer about how her own life relates to the stories and books she wrote] Based on the personal sketch on page 6, what does Norma Fox Mazer value? Use evidence from the passage to support your answer.
4. [2 passages - one a Reuben sandwich recipe and the other directions for preserving newspaper clippings] Compare the directions for preparing Reuben sandwiches to those for preserving newspaper clippings. How are they alike?
5. [story of a young girl and a grotesque man who meet when they try to help a wounded snow goose] What finally happens to the three characters in "The Snow Goose"?

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## Grade 11

1. [Joan Benoit's account of how she coped with both adversity and success] Explain what Joan Benoit means when she says, "My worst races are my best teachers." Base your answer on what you understand from the passage "Running Tide" and your own experience.
2. [story of a young, southern black girl who, while walking in the woods encountered the skeleton of a man who had been hanged] Write a continuation of the story "The Flowers" that describes Myop's walk back home.
3. [advertisement for membership in a compact disc club] In the paragraphs that describe the Ace Compact Disc Club, the first highlighted words, **A sound investment, indeed!** introduce some information. Explain the function of the other two highlighted phrases that follow.
4. [description from *Deliverance* of four men's peaceful evening around a campfire after an invigorating day on the river] Toward which of the five senses does the author direct his writing in *Deliverance*? Explain how he uses language to do so.
5. [preface to a book about the Vietnam war] In what way does the Vietnam Preface act as a typical preface to a book?

# The Flowers

*The story you are about to read was written by Alice Walker, the author of The Color Purple. Ms. Walker writes powerful stories about the struggles of black people in the United States. Read to learn about an important day in the life of a young, southern black girl named Myop, and then answer the questions that follow.*

It seemed to Myop as she skipped lightly from hen house to pigpen to smokehouse that the days had never been as beautiful as these. The air held a keenness that made her nose twitch. The harvesting of the corn and cotton, peanuts and squash, made each day a golden surprise that caused excited little tremors to run up her jaws.

Myop carried a short, knobby stick. She struck out at random at chickens she liked, and worked out the beat of a song on the fence around the pigpen. She felt light and good in the warm sun. She was ten, and nothing existed for her but her song, the stick clutched in her dark brown hand, and the tat-de-ta-ta-ta of accompaniment.

Turning her back on the rusty boards of her family's sharecropper cabin, Myop walked along the fence till it ran into the stream made by the spring. Around the spring where the family got drinking water, silver ferns and wildflowers grew. Along the shallow banks pigs rooted. Myop watched the tiny white bubbles disrupt the thin black scale of soil and the water that silently rose and slid away down the stream.

She had explored the woods behind the house many times. Often, in late autumn, her mother took her to gather nuts among the fallen leaves. Today she made her own path, bouncing this way and that way, vaguely keeping an eye out for snakes. She found, in addition to various common but pretty ferns and leaves, an armful of strange blue flowers with velvety ridges and a sweetsuds bush full of the brown, fragrant buds.

By twelve o'clock, her arms laden with sprigs of her findings, she was a mile or more from home. She had often been as far before, but the strangeness of the land made it not as pleasant as her usual haunts. It seemed gloomy in the little cove in which she found herself. The air was damp, the silence close and deep.

Myop began to circle back to the house, back to the peacefulness of the morning. It was then she stepped smack into his eyes. Her heel became lodged in the broken ridge between brow and nose, and she reached down quickly, unafraid, to free herself. It was only when she saw his naked grin that she gave a little yelp of surprise.

He had been a tall man. From feet to neck covered a long space. His head lay beside him. When she pushed back the leaves and layers of earth and debris Myop saw that he'd had large white teeth, all of them cracked or broken, long fingers, and very big bones. All his clothes had rotted away except some threads of blue denim from his overalls. The buckles of the overalls had turned green.

Myop gazed around the spot with interest. Very near where she'd stepped into the head was a wild pink rose. As she picked it to add to her bundle she noticed a raised mound, a ring, around the rose's root. It was the rotted remains of a noose, a bit of shredding plowline, now blending benignly into the soil. Around an overhanging limb of a great spreading oak clung another piece. Frayed, rotted, bleached, and frazzled — barely there — but spinning restlessly in the breeze. Myop laid down her flowers.

And the summer was over.

## Sample Student Responses

(Grade 11 Question Number 2)

Write a continuation of the story "The Flowers" that shows Myop walking back home.

### Scoring Guide

- 4 - Answer addresses the issues of the story (e.g., racism, betrayal, loss of innocence) by either **interpreting** the story at a higher level or by **portraying the effect** at a higher level.
- 3 - Answer uses the continuation of the story either to convey key elements of the story or to predict effects of events on Myop's behavior.
- 2 - Answer uses the key elements of the story or a substantially parallel style to describe Myop's walk back home. Answer must show importance to the events of the story, probably by a change in Myop's behavior.
- 1 - Answer partially conveys sense of the story elements or effect in a sequentially appropriate continuation.
- 0 - Answer unresponsive.

### Sample Student Responses\*

#### Score point 4

*The sun was low in the sky now. With one last look at the man hidden under the leaves, Myop turned and walked home. What had earlier been delicate ferns now became angry hands – cruel fingers that were waiting to trap an unwary person. The sky, as it grew darker, told of shadow. Shadows are always there; never is a person, a family, a race free of shadows. Myop walked out of the woods, past the fence, toward the cabin which no longer held the sun's rays.*

#### Score point 3

*Myop's walk home seemed long and cold. Maybe it was because she was thinking of not only the good side of the world, she had always lived in, but of the evil side that she had been exposed to. Never before had Myop seen what cruelty man possessed, the power to kill another human.*

#### Score point 2

*She felt very wierd as she started her walk back home. Having seen what she did made her very nervous and uneasy. She never went in the woods again.*

#### Score point 1

*On her way back home she saw some roses so she ran to go pick them. When she got there she trip and fell in the rose bush and it cut her all up. The thors ripped the flesh right off of her bone and she died. And her life was over.*

#### Score point 0

*Myops walk back home end very badly where a drumk driver hit her will she was crossing the road.*

**\*NOTE:** Although the sample student responses have been typed, spelling and grammatical errors that the students made have not been corrected.

# Maine Educational Assessment - Writing

The MEA assesses writing skills directly through the use of writing prompts eliciting samples of students' writing. The objectives addressed by the writing component of the MEA program were developed by the writing advisory committee and are listed below:

## **Objective I – Comprehends and Manages the Writing Experience**

- The writer will demonstrate the ability to generate a piece of writing and apply strategies that help him/her to produce and refine that writing.
- The writer will demonstrate the ability to organize and present information so that the writing fulfills its purpose and makes sense to its intended audience.

## **Objective II – Makes an Individual Response**

- The writer's voice is evident, and the writing demonstrates the writer's interest and involvement in the piece.

## **Objective III – Conforms to Conventions**

- The writer will aid others in reading his/her writing by using the conventions of standard edited American English: punctuation, usage, spelling, legibility, format, paragraphing, margins.

## **Prompts**

Each student at a grade level responds to the same prompt. An MEA prompt clearly states a purpose and an audience. Generally, writing prompts have been categorized according to traditional modes of discourse:

- narrative – tells a story or narrates an event;
- descriptive – gives an account of or delineates a person, place, thing, or experience;
- expository – informs, instructs, or presents ideas;
- argumentative – convinces, persuades, or refutes an issue.

While such labels have been attached to the MEA prompts, this has been done with the full recognition that every prompt does not always fall cleanly into one and only one category. It is often appropriate for responses to a prompt to contain elements of different modes.

Three other criteria for the selection of writing prompts are that they be interesting to students, that they be on topics about which any student would have something to say, and that they elicit enough text from students to be effectively scored. Field testing of the prompts provides useful information on these criteria. The prompts that have been used in the MEA are not secure and have been included in the materials sent to the schools with test results.

## **Test Administration**

Students are allowed up to 90 minutes (75 minutes at grade 4) to produce their writing samples. They may prepare a draft and edit it before transferring it to the booklet that is ultimately scored. Reference aids such as dictionaries and thesauruses are available to the students.

## **Scoring**

Each writing sample will be scored and critiqued by two readers using the Annotated Holistic Scoring Guide. This scoring method is based upon the six analytic traits used in past assessments: topic development, organization, details, sentences, wording, and mechanics. When a paper is scored, the reader gives it a holistic score, but then also marks up to two comments, drawn from a list of commendations or needs statements pertaining to the analytic traits. Thus, for example, a paper that is moderately well done overall, but is especially strong because the topic is original and insightful, while quite weak in word usage, would receive an overall rating of "4" on a 6-point scale with a commendation in topic development and a need listed under wording. This information is included in the individual student report, and summaries of this information are included in the school report. These summaries include the percentages of students in a school and statewide receiving commendations and statements of need in each of the six analytic categories.

## RELEASED MEA WRITING PROMPTS\*

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### Grade 4, 1990-91

Today you can trade places with anyone you would like to be. This person can be real or imaginary, from the past or the present. Tell who that person is (or was) and why you would like to trade places. Write about what you would do as that person for the day and how you would feel about it.

### Grade 4, 1991-92

Most people think about their future. What would you like to be doing in the year 2020? You may write about your home, your job, what kinds of sports or activities you might enjoy, or what the world you're living in is like.

### Grade 8, 1990-91

As children we all had toys and playthings. Some of these were expensive items and some were not, like an old beat-up pan with a wooden spoon. Think about the toy or plaything that was a particular favorite and write about it. Show how and why it was such a favorite.

### Grade 8, 1991-92

Think about an experience that was important to you AND involved money. This experience might have been one when you earned, lost, needed, spent, or found money. It might also be any other experience you have had involving money. Tell what the experience was and why it was important to you.

### Grade 11, 1990-91

Life is full of turning points or times for making decisions, big or small. Think for a moment about how decisions can change people and their outlooks. Write about one such decision. It can be from your own experience, your observations of those around you, or your reading. Recreate the situation so that the reader will understand the problem, the choices involved, and the final decision.

### Grade 11, 1991-92

Sometimes events turn out very differently from the way we expect. Things we have eagerly anticipated can turn out to be disappointing. Sometimes things we have dreaded can be positive or even pleasant. Recreate an experience in which things turned out very differently from what you expected.

\*For the actual administration of the writing assessments, there were more directions to the students than shown above where only the "topics" are provided.

## Sample Annotated Holistic Scoring Guide

# HOLISTIC SCORING GUIDE

1	2	3	4	5	6
<ul style="list-style-type: none"> <li>Little or no topic development, organization, and/or details</li> <li>Little or no awareness of audience and/or task</li> <li>Errors in surface features seriously interfere with communication</li> </ul>	<ul style="list-style-type: none"> <li>Random and/or weak topic development, unfocused, limited details</li> <li>Poor awareness of audience and/or task</li> <li>Errors in surface features are disproportionate to the length and complexity of the piece.</li> </ul>	<ul style="list-style-type: none"> <li>Rudimentary development of topic and supporting details, limited focus</li> <li>Simplistic vocabulary</li> <li>Errors in surface features are disproportionate to the length or complexity of the piece.</li> </ul>	<ul style="list-style-type: none"> <li>Moderately fluent, adequate details, focused</li> <li>Acceptable vocabulary</li> <li>Some errors in surface features that do not interfere with communication</li> </ul>	<ul style="list-style-type: none"> <li>Fluent, fully developed</li> <li>Evidence of voice and strong details</li> <li>Few errors in surface features relative to length or complexity</li> </ul>	<ul style="list-style-type: none"> <li>Topic and details richly developed</li> <li>Careful but subtle organization</li> <li>Effective and/or rich language</li> <li>Accomplished control of surface features</li> </ul>

		COMMENDATIONS		NEEDS	
<b>TOPIC DEVELOPMENT</b>	<ul style="list-style-type: none"> <li>the overall effect of the paper</li> </ul>	TX original and/or insightful	TY voice	TJ greater awareness of topic and/or what was asked for	TK more development of ideas
<b>ORGANIZATION</b>	<ul style="list-style-type: none"> <li>the degree to which the response is               <ol style="list-style-type: none"> <li>focused</li> <li>clearly and logically ordered</li> </ol> </li> </ul>	OX ideas flow smoothly	OY clear focus	OJ smoother flow of ideas	OK clearer focus
<b>DETAILS</b>	<ul style="list-style-type: none"> <li>the degree to which the response includes examples which develop the main points</li> </ul>	DX rich, interesting details	DY details appropriate to topic	DJ more elaboration of details	DK more details to support the topic
<b>SENTENCES</b>	<ul style="list-style-type: none"> <li>the degree to which the response includes sentences that are:               <ol style="list-style-type: none"> <li>complete and correct</li> <li>varied in structure and length</li> </ol> </li> </ul>	SX variety in structure and length	SY complete and correct sentences	SJ variety in structure and length	SK complete and correct sentences
<b>WORDING</b>	<ul style="list-style-type: none"> <li>vocabulary</li> <li>word choice</li> <li>usage</li> </ul>	WX effective use of language	WY varied vocabulary	WJ more attention to correct word usage	WK more varied vocabulary
<b>MECHANICS</b>	<ul style="list-style-type: none"> <li>spelling</li> <li>capitalization</li> <li>punctuation</li> <li>paragraphing</li> </ul>	MX use of capitalization and punctuation aids clarity	MY spelling enhances readability	MJ greater control of punctuation and capitalization	MK appropriate spelling to aid reader

## Samples of Student Writing\*

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### Grade 4 – Score point 2

*I think my house will be filled with ornaments like glass unicorns and glass dogs and cats. I think I'll have a job at a restaurant or maybe I'll have my own store. Running my own store would be fun but I would have to find some workers. I am interested in basketball. I've always wanted to play basketball. I can play basketball good. I've been interested in basketball since I was six I also like playing horseshoe.*

### Grade 4 – Score point 5

*In the year 2020 I would be really old. The things have changed you've changed, and the people have changed remember that*

*This is the year 2020 and I have this really cool house. Most people say it's weird but you should see some houses. Well to start off I have a circular shaped house and it's painted gray, I have nice steps that glisten in the sun shine, they're coated with some coating on it. Then inside of my house well it's got a wood floor in the dining room, with a rug laid over it which is Chinese with a table on top it's so pretty when the sun from the door shines ever ever so bright on it. The kitchen that's a whole different story. To start off I have oak cabinets they glisten when the sun shines on them. My living room a blue rug that shines like a blueberry. For my matching chair and couch there are all sorts of different colors like light purple, light green, blue, and gray. Now I have another story which has a bedroom, bathroom, and of course a den.*

*Now just as I said before the people have changed jobs have changed well you might not like that but, I'm a teacher of the fourth grade. It's a lot harder. I have a bright happy class, that I think stands out. Our principal is really weird if they do something bad he says good job. Now that you don't here every day.*

*What sports am I interested in well nothing changed in sports. I enjoy baseball, Now that's what I call fun.*

*What's the world like now it's very different environment is really different and better it's cleaner and all the mills found a way not to make so much smoke, it's really do I mean really brilliant they have this big vacuum that sucks up smoke. Now you don't here that everyday do you. Now the world has changed the grass is fresh the air is more cleaner than it used to be. Why? because every one pitched in and helped. One day I went out for a ride and the sun glistened in my face. And that's the wonderful now 2020. Ah but that's not all today our world is celebrating that there will be no more wars now what do you think about that President Marcos has just decided there will be no more wars throughout the whole world now isn't that just great and that was the end of a happy day. January 25, 2020.*

### Grade 8 – Score point 2

*Just the other day I was walking down the street by Domino's Pizza. I was hungry, but I had no money. I was looking at the ground as I walked down the street when suddenly I found a twenty dollar bill. I picked it up and dried it out and went inside Domino's Pizza. I ordered a large Ham and Pineapple pizza, I only spent \$15.49. The man said it would be ten minutes.*

*I took the pizza home and shared it with my parents, they said it was good. I liked the pineapples on the pizza, they gave it flavor. After I ate I went to the store and got some candy and soda for dessert. After I went to the store I went home and went to bed.*

*My dream was about me going to the arcade to play some games. I went in and started to play a game when everyone left. I stopped playing the game when quarters started to come out of all the games and the walls more the top than bottom. I tried to open the doors but they were jammed shut. Within five minutes I was touching the ceiling then it stopped I awoke.*

**\*NOTE:** Although the sample student responses have been typed, spelling and grammatical errors that the students made have not been corrected.

## **Grade 8 – Score point 5**

*I have been wearing glasses since the end of third grade. Since then, I have despised wearing them. But, my eyesight was bad enough, that I couldn't get by without them.*

*After over four years of being called four-eyes, bookworm, and smartypants, I finally decided this summer, I was going to get myself a pair of contacts. Not so that other kids would like me or think I looked better, but for myself.*

*The problem was, that my father refused to pay for them. Then, after thinking about it for a long time, I decided that I would earn them myself.*

*I live on a dairy farm, and because I wasn't old enough to apply for a working permit, I got stuck working in the barn, for my dad. And because I was his daughter, or something like that, I only received \$2.50 an hour.*

*I started working right away, cleaning out the cow's stalls, bedding down, and feeding hay and grain. It wasn't easy work, but it was the only way to earn the \$200 needed. I even swept cobwebs from the hay loft and spent three hours at it. That turned out to be totally useless, because they were all back the next week.*

*When my dad had nothing else for me to do, I did odds and ends for my Aunt Betty. She only paid me \$2.00 an hour, but I still needed it. I kept an accurate tally, adding on each day's earnings.*

*After about a month of working, I finally reached the \$200 mark. The second I had all of the money, I grabbed the phone and made an appointment. I really wanted them before school started, but the earliest possible time slot was on September 6. School started the 5th. I was disappointed about that.*

*Then, on the 28th of August I received a call from Dr. Michaud's office, saying that they had an opening the next day. I was so excited that I almost ran headlong into Dad who was walking in the door. He agreed to take me, even though it was going to be his birthday the next day.*

*I spent over an hour in the doctor's office, having the contacts fitted. But, when I walked out with them, I realized that my work had paid off.*

## **Grade 11 - Score point 4**

*About five years ago, I played Little League Softball. At the end of the season, I was chosen to play on the All Star Team. Our coach, Mr. K..., made us practice every day at 8:00 am.*

*In the first few games, I was very nervous. We were playing for City Champions. Mr. K... put a lot of pressure on us, which I think made us such a good team. We won the City Championship game easily.*

*It got harder when we were playing the State Championship games We lost our first game in Augusta. It was double elimination, which meant if we lost another game, it would be all over. This made us work harder in practice and toward winning the State Championship in Machias. I felt like I was going to explode during that game in Machias because of all of the pressure on the team to win. I was playing left field and the first girl up to bat hit a fly ball right to me. My heart was pounding so loud that I thought other people must be able to hear it too. It was an easy play and after that I started to feel more relaxed. We beat Machias. The score was 16-4.*

*Now we were the State Champions and we had a lot of confidence in our playing ability. Our next goal was to win in the New England tournament. This was single elimination, so we couldn't afford to lose even one game. Our first game was in New Hampshire. The field was soaked and it was freezing out. That game seemed to last forever. It was tied in the last inning with two outs and our first baseman hit a home run.*

*The last game we played was in Connecticut. I could tell right from the beginning that we didn't have a chance against them. They won the game with a score of 10-0. I was disappointed and I felt like we worked so hard for so long and then we lost all of what we worked for in one game. We shook hands with the other players and we spent the rest of the day in our hotel. No one could believe that it was over, but it was.*



## Grade 11 - Score point 6

*Living in Plano, Texas, a suburb located directly outside of Dallas, I epitomized the comfortable and rather static teenager who dreaded change. A week previous to the day that my parents tried to ruin my life, I was the quarterback of my middle school football team, an honor student, and I was becoming quite familiar with a cute, blonde cheerleader. I couldn't have been happier, not to mention more naive.*

*One night in late October of 1989, my father, arriving home from a two week business trip, appeared as if a ton of bricks had been lifted from his shoulders. Not only did he make a detour from his bedroom to give me a high-five, but he was also whistling "zip-pa-de-doo-da"! Something strange was afoot at our humble abode, and immediately I began to panic. Before I could seek out my mother, a family meeting had been called at the kitchen table. Knowing family meetings only occur in crisis situations, my stomach began churning and forming knots. At this point, I tried to remain optimistic and to set an example for my younger siblings. However, upon rationalizing my scattered thoughts, I focused on my smiling father as he excitedly blurted, "We're moving to Portland!"*

*A deathly silence fell over the Smith kitchen that night as we all contemplated how we would in fact, deal with this event that had so quickly shattered our lives. I remember feeling numb and thinking that Oregon couldn't be that bad. Although it rained quite often, I knew it had a season known as Spring. Suddenly it hit me, My father had been transferred to the home office in Portland, Maine. As the tears crept down my cheeks that night in bed, emotions ranging from hate towards my parents to joy pertaining to my father's promotion raced through my mind. However, my prominent thought was how much I hated the cold, rural, old-fashion, potatoe-picking, lobstering state of Maine.*

*Months dragged by as our family prepared for the big move. After numerous "going-away" parties, we managed to say our good-byes. Eventually, our beloved house was sold also. Before I knew it, we were making our connection in Boston, and I was writing a letter to that cute blonde imagining what could have been. As we pulled into the boarding gate in our twelve passenger commuter jet, the Pilot said that we had chosen a nice day to visit Portland. If overcast skies, muggy and 48 is considered a nice day, we were in for a big surprise.*

*After a week we had decided on a house in ....., and our family had began to settle down. Moving in was fun, but I was terrified at the thought of attending school. What if they all thought I wear cowboy boots with a ten-gallon hat and spurs? Upon assessing the situation, I came to the conclusion that I didn't need any friends and I was going to be a loner, a rebel.*

*The morning finally arrived, and choosing the proper attire was quite a task. Sitting in the front seat of the Astro Van, I looked at my worried mother, as we pulled into the parking lot, and I gave her a thumbs up. As she drove away, I will never forget the loneliness I felt. After a deep breath, I headed for the door. Curious and interested eyes began to scope me. Suddenly, a voice shot out, "Hey man, I heard you play basketball. Do you like Bird?" I didn't know what to say. I felt a bead of sweat dripping from my brow. Without warning I responded, "Bird is great, but Jordan is the best in the game!" Suddenly I had a friend. We began to talk about hoops, and before I knew it all kinds of people were gathered around me. I had failed to realize that one student was a big deal to a graduating class of 53. From day one, my time in Maine has been the most cherished time in my life. My morning episode exemplifies a situation which is dreaded from the outset, but is transformed into a positive experience. In retrospect, I did alright for a broken-hearted cowboy from Texas.*

# Maine Educational Assessment - Mathematics

*"What is tested is what gets taught. Tests must measure what is most important."*

- *Everybody Counts*, MSEB

The Mathematics portion of the Maine Educational Assessment, given annually at grades 4, 8, and 11, is developed by an advisory committee of Maine educators representing the various grade levels and geographic areas of the state.

The goal of the committee is to fulfill the vision of the NCTM *Curriculum and Evaluation Standards* which calls for mathematics instruction and assessment to emphasize understanding, not rote learning; applications, not abstractions; problem solving, not drill; and thinking, not just recall. As such, the test is quite different from traditional standardized testing in two important ways – what is tested and how it is tested.

A recent study of the six most widely used standardized achievement tests found that well over 80 percent of all the questions were classified as computation (Romberg, 1990). The apportionment of items on the MEA is quite different.

**Percentages of 1991-92 MEA Total Math Points in Various Process Categories**

	Grade <b>4</b>	Grade <b>8</b>	Grade <b>11</b>
Procedural Knowledge .....	16	18	23
Conceptual Knowledge .....	29	30	44
Problem Solving .....	55	52	33

**Procedural knowledge** includes not only computation, but many typical one-step word problems as well.

**Conceptual Knowledge** includes items that measure understanding of concepts and linkages of ideas that require the ability to translate, explain, exemplify, or model ideas.

**Problem solving** generally requires combining the above types of cognitive processing to develop and implement strategies to solve multistep and nonroutine problems.

The process categories described above also serve as reporting categories for the assessment – categories for which scores are reported. The math questions are also categorized and reported by content categories. These categories are described below in terms of selected major concepts, topics, and skills. Of course, the advisory committee assures that the questions used at each grade level are appropriate for that grade.

**Numbers and Numeration** - translation of numerals to different forms; place value; concepts of number theory such as odd/even, factors and multiples; and operations with whole numbers, fractions, decimals, etc.

**Variables and Relations** - equations and inequalities (number sentences); algebraic manipulations; patterns and functions; coordinate systems

**Geometry** - properties of plane and solid figures; congruence and similarity; spatial visualization; perimeter, area, and volume

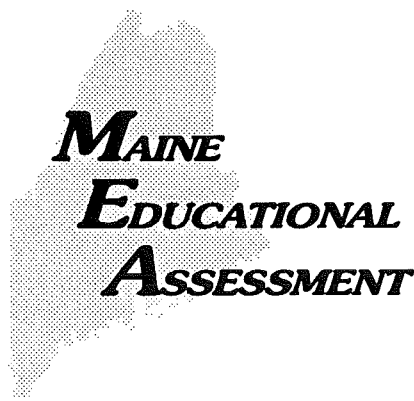
**Measurement** - appropriate instruments and units; unit equivalents; and measurement concepts such as accuracy, precision, measurement error

**Problem Solving Skills** - estimation/reasonableness; understanding of problems; relevance of information; and problem-solving strategies

**Probability and Statistics** - combinations and permutations; informal and formal probability; tables and graphs; mean (average), median, and mode

While the multiple-choice format is a very economical and effective method for large-scale testing programs, exclusive reliance on this format can restrict the kind of information that test results can provide. Accordingly, the MEA has placed an increasing emphasis on open-response questions. For the 1991-92 MEA, for instance, approximately 40% of a school's score was based on open-response questions.

Each student response is rated on a scale from 0 to 4 by a trained scorer. While each item is scored on a scoring guide tailored to that item, all scoring guides are consistent with the general rubric that follows.



## HOLISTIC SCORING RUBRIC MATHEMATICS OPEN-RESPONSE ITEMS

### 4 points

- a correct solution and an appropriate strategy are shown or explained and the solution is shown with correct label or description if necessary.

### 3 points

- a complete, appropriate strategy is shown or explained but:
  - an incorrect solution is given due to a simple computational or other error;
  - no solution is given;
- a correct solution is given with no solution strategy or explanation shown;
- a correct solution and appropriate strategy is shown or explained, but not labeled correctly when necessary.

### 2 points

- some parts of an appropriate strategy are shown or explained, but some key elements are missing;
- some parts of an appropriate strategy are shown or explained, along with some inappropriate parts;
- appropriate strategy shown or explained, but implemented incorrectly.

### 1 point

- some work or explanation beyond re-copying data, but work would not lead to a correct solution;
- one or more incorrect approaches attempted or explained.

### 0 points

- no work or solution shown or explained;
- incorrect solution and no work shown or explained;
- some data from the problem copied over, but no evidence of any strategy is shown or explained.

The use of this model for scoring open-response questions allows for the awarding of partial credit and rewards appropriate strategies, not just final answers. It also allows the test instrument to measure what a student knows, and not just what they don't know, and permits problems to have more than one correct answer.

In recent years, the MEA has provided materials such as rulers, counters, unit tiles and tangrams with the tests to more closely align itself with sound pedagogy. Beginning in 1991-92, calculators were allowed on the majority of questions on the eighth and eleventh grade tests, and in 1992-93 calculators are allowed at all three grade levels.

Shirley Hill, Chairman of the Mathematical Sciences Education Board and a former NCTM president, said during the National Summit on Mathematics Assessment in Washington, D.C. in April of 1991, "We must make the meaningful measurable, and not the measurable meaningful." The changes that have been made in the MEA in the past and those to come in the future all reflect this mission.

## 1991-92 Released Open-Response Mathematics Questions

### Grade 4

1. Mrs. Cottrell wants to buy a can of juice from a vending machine that takes nickels, dimes, and quarters. The juice costs 45 cents. List at least four combinations of these coins that Mrs. Cottrell could use to buy her can of juice. She must use exact change.
2. Elizabeth is delivering Girl Scout cookies to her neighbors. On Monday, she delivered  $\frac{1}{2}$  of the boxes. On Tuesday, she delivered  $\frac{1}{2}$  of the boxes that were left. On Wednesday, she counted and found that she still had six boxes left to deliver. What was the total number of boxes that Elizabeth had to deliver?
3. Nick wants to buy a set of rollerblades that costs \$86.75, including tax. He has already saved \$60.00. He gets \$5.00 a week allowance for the chores he does around the house. How many weeks does he have to save his allowance to be able to buy the roller-blades?
4. The custodians are setting up small square tables for the family night supper. These tables will seat one person on each side. Jack set up eight small tables so that they formed two large square tables. Dorothy set up eight small tables end-to-end in a row.
  - a. Draw a diagram of Jack's tables and a diagram of Dorothy's tables.
  - b. Dorothy said her way was best because more people could be seated. Was she correct? Please explain your answer.
5. Draw a rectangle that has a perimeter (distance around) of 16 cm. Label the sides of your figure.

### Grade 8

1. The diagram in your answer booklet is a scale drawing of John's room. John has four pieces of furniture that he needs to put in the room. The measurements of the furniture are:

Bed	6 feet long and 3 feet wide
Desk	5 feet long and 3 feet wide
Chest	5 feet long and 2 feet wide
Bookcase	4 feet long and 1 foot wide

When arranging the furniture John must follow these rules:

- The doors may not be blocked.
- Each piece of furniture must have at least one side against a wall of the room.
- Because the chest is too tall, it cannot be placed against a window.

The bookcase has been placed and labeled on the diagram. Choose a way that John could arrange the other three pieces of furniture so that the arrangement follows all the rules. On the diagram, show that arrangement by drawing in each piece of furniture. Draw each one to scale, using the same scale used to make the diagram. Label each piece of furniture.

2.

TELEPHONE CALLING RATES

From Allenville To	Day Rate Mon-Fri, 8am-5pm		Evening Rate Mon-Fri, 5pm-11pm Sat-Sun, 8am-11pm		Night Rate All Days, 11pm-8am	
	First Minute	Each Additional Minute	First Minute	Each Additional Minute	First Minute	Each Additional Minute
Burneyford	\$ .09	\$ .03	\$ .07	\$ .02	\$ .05	\$ .02
Camptown	\$ .28	\$ .09	\$ .22	\$ .07	\$ .17	\$ .05
Dorning	\$ .37	\$ .11	\$ .30	\$ .09	\$ .22	\$ .07
Edgeton	\$ .42	\$ .12	\$ .34	\$ .10	\$ .25	\$ .07

Ken made two telephone calls Monday from his home in Allenville. At 11:15 a.m. he called Tom in Burneyford and talked 15 minutes. That night at 6 p.m. he called Al in Dorning and talked for 5 minutes.

- A. Explain how Ken will determine which call is more expensive.
- B. How much would Ken have saved by placing both calls between 11 p.m. and 8 a.m.?

3. Look at the number sentences below and describe the pattern.

$$53 \times 111 = 5883$$

$$26 \times 111 = 2886$$

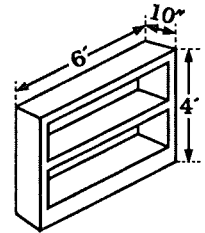
$$43 \times 111 = 4773$$

$$12 \times 111 = 1332$$

4. At 10:03 a.m., you enter a parking garage. The parking rates are posted on the sign at the entrance. You leave the garage at 3:48 in the afternoon. If you give the parking attendant a ten dollar bill, how much change should you receive?

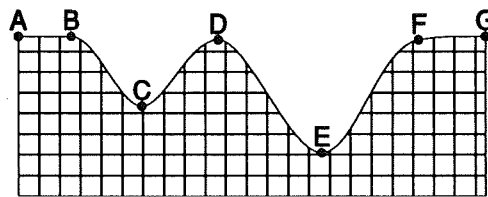
PARKING RATES	
\$ .75	first hour
\$ .50	each additional hour
\$5.00	daily maximum

SALE PRICES			
#2 Ponderosa Kiln-Dried Pine 1"x10"			
LENGTH	8'	10'	12'
PRICE	\$5.25	\$6.30	\$7.30



5. You plan to build the bookcase sketched above. The newspaper has an ad from a store which carries the 1" x 10" Ponderosa pine boards you want for the project. Use the ad to estimate what the lumber will cost. Explain the procedure you used and your reasoning.

## Grade 11



1. The picture above shows the track of a roller-coaster, which is traveling at a slow, constant speed between A and B.
- Show how the speed of this roller-coaster will vary as it travels along the track from A to G. Describe your answer by sketching a graph on the coordinate axes given in your answer booklet.
- Using only your graph, answer the following questions:
- Will the roller-coaster be traveling faster at B or D?
  - Will the roller-coaster be traveling faster at D or F?
  - Will the roller-coaster be traveling faster at C or E?
  - Do you notice any connection between the shape of the roller-coaster track and the shape of its graph? If so, write a description of this connection.

2. Karen, who lives in York, Maine, made the following calls to her sister in Houston, Texas.

Date	Time	Length of Call
Mon., Jan. 6	4:45 p.m.	2 hrs.
Fri., Feb. 14	8:30 p.m.	1 hr. 45 min.
Wed., Feb. 25	4:50 p.m.	1 hr. 30 min.

Long Distance Rates to Houston, Texas		
Daytime	8 a.m. – 5 p.m. (M-F)	\$.25/min.
Evening	5 p.m. – 11 p.m. (M-F)	\$.15/min.
Night/wkend	11 p.m. – 8 a.m.	\$.13/min.

- a. The cost of a telephone call is determined by the time the call was placed, regardless of how long the call lasts. Using the rates above, determine the cost of the calls (not including tax) which Karen placed to her sister.

- b. Karen's long distance telephone company has a special CALL-USA plan. If her call is placed in one time period and extends into another, Karen will receive discounts for the time she uses in each time period. If Karen's first call using the CALL-USA plan was the call she placed on February 14, how much did she save on her call that day? (Use the rates below.)

SPECIAL PLAN RATES	
Daytime Portion	– (8 a.m. – 5 p.m.) 10% discount off daytime rate
Evening Portion	– (5 p.m. – 10 p.m.) 25% discount off evening rate
Night Portion	– (10 p.m. – 8 a.m. and all day Sat. and Sun.) 1st hour free, remainder at regular night rate

3. When you start work at the XYZ Company you are given the choice of how your salary is computed. Your salary can either be the median or the mean salary of the current employees. The following are the salaries of the current employees:

\$15,312      \$30,781      \$7,432      \$18,432      \$5,321      \$25,401      \$135,412

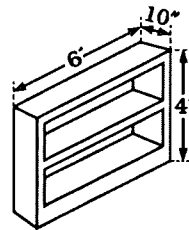
Would you choose the mean or the median? Give a complete explanation of your reasoning.

4. You see an ad in the newspaper about an audio store which is going out of business. The store opens at 9:30 tomorrow morning. The price of every item in the store will be reduced 10% of the current price every hour, on the hour, beginning at 10:00 a.m., until the store closes. The SuperSound stereo you would love to buy is priced at \$939.00 when the store opens, and there are only 5 left. Sales tax on audio equipment is 6%. What will the stereo cost, including tax, at 2:05 p.m.? Explain how you determined your answer.
5. A rectangle has a width of 8 cm and an area of 120 cm<sup>2</sup>.
- Find the perimeter of the rectangle.
  - Make a **scale** drawing of the rectangle.

### Sample Student Responses

(Grade 8 Question Number 5)

SALE PRICES			
#2 Ponderosa Kiln-Dried Pine 1"x10"			
LENGTH	8'	10'	12'
PRICE	\$5.25	\$6.30	\$7.30



You plan to build the bookcase sketched above. The newspaper has an ad from a store which carries the 1" x 10" Ponderosa pine boards you want for the project. Use the ad to estimate what the lumber will cost. Explain the procedure you used and your reasoning.

### Scoring Guide

- 4 points – complete appropriate strategy, including cost of lumber, selection of boards, and relationship of board selected to the lengths of the shelves, sides, and top of the bookcase
- |                            |                           |
|----------------------------|---------------------------|
| 1 - 8' @ \$5.25 = \$5.25   | 2 - 8' @ \$5.25 = \$10.50 |
| 2 - 10' @ \$6.30 = \$12.60 | 1 - 12' @ \$7.30 = \$7.30 |
| TOTAL 17.85                | TOTAL \$17.80             |
- 3 points – correct strategy for finding cost estimate, relationship of boards selected to parts of bookcase indicated, selection of boards wasteful, e.g., 4 - 8', \$21
- 2 points – incomplete appropriate strategy, shows at least TWO of the following:
- cost of lumber
  - appropriate board selection
  - relationship of board selection to bookcase parts
- 1 point – incomplete appropriate strategy, shows only ONE of the following:
- cost of lumber
  - appropriate board selection
  - relationship of board selection to bookcase parts
- 0 points – incorrect solution; NO WORK
- data copied; no strategy evident
  - explanation vague
  - some strategy attempted; will not lead to correct conclusion

## Sample Student Responses

### Score point 4

1 8' board for the 2 4' sides - \$5.25  
 +  
 1 12' board for 1/2 of the 6' shelves = 7.30  
 Another 8' board for the last shelf - \$5.25  
 \$17.80 total cost

### Score point 3

I would need 1-8 foot board (\$5.25) for the sides.  
 I would also need 3-8 foot boards for the shelves  
 that are 6 feet long (\$5.25). That is 4 boards at 5.25  
 which is \$21

### Score point 2

~~5.25~~  
~~x 3~~  
 6.30  
 x 2  
 \$12.60 → 12.60  
 + 5.25  
 \$17.85

### Score point 1

\$6.30  
 + 3  
 \$18.90  
 + 5.26  
 \$24.16 ← cost

\$2.62 \$263  
 2 \$5.25 x 2  
 - 4  
 - 12  
 - 12  
 - 8  
 - 1

## Bibliography

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National Research Council. *Everybody Counts*. Washington, DC: National Academy Press, 1989

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# Maine Educational Assessment - Science

## Change in Emphasis

Beginning with the 1991 school year, the MEA science assessment moved forward with new performance requirements for students. Instead of encountering only multiple-choice questions, students were asked to respond to two open-response questions that required them to construct responses. These questions, one step away from following students into the laboratory setting, engaged them in work with science concepts and methods of scientific inquiry. Student responses are being scored holistically, giving increasing credit for the completeness and sophistication of the answers. The sample questions below are typical of MEA open-response questions in science.

1a. Wanda wants to test the following hypotheses: (1) girls who play a musical instrument are not as good in math as girls who do not play a musical instrument and (2) the opposite is true for boys. She will ask many students to complete a questionnaire to get the information she needs. What are the questions that Wanda **must** include in the questionnaire?

1b. Explain how Wanda might analyze and display her results. (For example, how could she set up a table or graph to help her test her hypotheses?)

2. Every time Tom boils water to make spaghetti, the insides of his kitchen windows get wet. Explain how this happens.

The two parts of question 1 deal with skills of scientific inquiry, the latter part illustrating a question with many possible "correct" answers. Question 2 is a content question. Responses to every open-response question are scored using a scoring guide describing responses at different levels. While each question has its own unique scoring guide, all guides are consistent with the general scoring rubric shown below.

4 points – Student completes all important components of the task and communicates effectively.

- The response demonstrates in-depth understanding of the relevant content and/or procedures.
- Where appropriate, student chooses more efficient and/or sophisticated procedures.
- Where appropriate, student goes beyond the minimum requirement to offer insightful interpretations or extensions (generalizations, applications, analogies).

3 points – Student completes most important aspects of the task and communicates successfully.

- The response demonstrates understanding of major concepts, even though some less important ideas or details may be overlooked or misunderstood.

2 points – Student completes some important aspects of the task, but not others.

- Student communicates some important ideas.

- Gaps in student's conceptual understanding are evident.

1 point – Student completes only small portion of the required components of the task.

- Response reveals only fragmented understanding of concepts.

0 points – Student's response is either totally irrelevant or, if there is some understanding of the task, the response is totally wrong or provides no evidence of appropriate reasoning.

The new open-response component is being administered using matrix-sampling, with a total of twenty-four questions being distributed across twelve forms of the MEA test. In addition, ninety six multiple-choice questions are distributed in sets of eight across the twelve forms of the tests. The science assessment continues to report only school and district scores because there is no common set of questions for all students.

The changes in the MEA reflect the renewed national interest in achieving scientific literacy among all youth. The American Association for the Advancement of Science publication, *Science for All Americans*, the first phase of Project 2061, has established recommendations for the knowledge, skills, and habits of the mind which should be acquired by all students by the time they complete high school. In brief, the recommendations which address the basic dimensions of scientific literacy include

- being familiar with the natural world and recognizing both its diversity and unity;
- understanding key concepts and principles of science;
- being aware of some of the important ways in which science, mathematics, and technology depend on one another;
- knowing that science, mathematics, and technology are human enterprises and knowing what that implies about their strengths and limitations;
- having the capacity for scientific ways of thinking;
- using scientific knowledge and ways of thinking for individual and social purposes.

The transition to a more performance-based assessment format is consistent with the directions suggested in Project 2061. Further, the data from the MEA itself suggests that schools which are moving toward more highly inquiry-based, hands-on instructional approaches tend to be those schools with higher scores.



## Reporting Categories

The development of the science portion of the MEA tests was guided by the following content-by-process matrix.

		CONTENT			
		Scientific Inquiry	Life Science	Earth/Space Science	Physical Science
PROCESS	Knowledge/Comprehension				
	Application/Higher Order				

The row and column headings in the matrix above are MEA reporting categories – i.e., subtests for which separate school scores will be reported. The content categories are described below in terms of selected major concepts, topics, and skills. Of course, the advisory committee assures that the questions used at each grade level are appropriate for that grade.

**Scientific Inquiry** – nature of science and scientific procedures, design of investigations; observing, measuring, sampling; data reduction, analysis, interpretation

**Life Science** – stages of life, basic life functions, heredity, characteristics/classification of living things; nutrition, health and disease, organ systems, behavior, plant structure/function, photosynthesis; predator/prey relationships, populations, ecosystems and ecological balance, food chains/webs, energy cycle

**Earth and Space Science** – relative motion of bodies within the solar system (darkness, seasons, moon phases); characteristics of earth, moon, planets; weather and climate; geological formations, changes in the earth's surface, natural resources, oceanography

**Physical Science** – force and motion (machines, laws, gravity); energy conservation and transformations, heat transfer, electricity, light; nature/conservation of matter, physical and chemical changes; types, structure, and stages of matter; gas laws

The process dimension is used to assure that the test questions cover a full range of cognitive processes. The categories are hierarchical. **Knowledge** questions require primarily memory processes (factual recall). **Comprehension** questions involve translations or explanations of concepts, principles, etc. **Application** questions require students to apply their knowledge or understanding of general concepts to particular situations. **Higher order** questions require students to analyze, synthesize, or evaluate information.

The sample questions below from various grade levels are presented as examples of questions addressing the different cognitive processes.

<p>1. Chris wants to find out which of two laundry soaps is best. Chris washes two loads of dirty clothes. What should be different about the two loads?</p> <p>A. the kind of clothes B. the type of dirt C. the temperature of the water D. the brand of soap</p> <p>CONTENT: Scientific Inquiry PROCESS: Application</p>	<p>3. The source of energy for the earth's water cycle is</p> <p>A. the earth's rotation. B. radiation from the sun. C. radiation from the earth's core. D. the sun's gravity.</p> <p>CONTENT: Earth Science PROCESS: Knowledge</p>
<p>2. Which of the following is <b>most likely</b> to contaminate the drinking water in a well in a family's back yard?</p> <p>A. starting a compost pile nearby B. fertilizing the lawn C. throwing rocks into the well D. building a toolshed nearby</p> <p>CONTENT: Life Science PROCESS: Higher Order</p>	<p>4. A nuclear-power reactor must be carefully monitored. It cannot, however, explode like an atomic bomb. Why?</p> <p>A. The reactor turns itself off when it gets too hot. B. The container of the reactor is too thick. C. The nuclear reaction takes place too slowly in the reactor. D. Uranium does not sustain fission.</p> <p>CONTENT: Physical Science PROCESS: Comprehension</p>

## Using the MEA Results

The utility of the MEA program lies in the analysis of results at the school and district level. As a basis for curriculum planning, it is suggested that results be analyzed over a period of three or more years. The school and district reports have been reformatted to make this task easier, with all science data appearing in a single section of the report. It is suggested that you complete at least the following analysis for grades 4, 8, and 11.

1. Develop a graphic representation of performance in the broad content domains (scientific inquiry, life science, earth and space science, and physical science) over at least a three-year period.
2. Create a table with a three-year average of the students falling into each performance quarter from low to high.
3. Review the subgroup report across at least a three-year period, looking for changes in the performance of

subgroups defined by such variables as gender, year entering the school, and academic program.

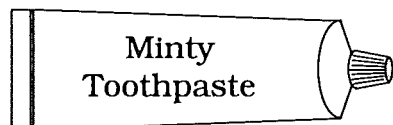
4. Look for changes in responses to student questions reflecting attitudes, expectations, and study habits.

The open-response questions provide a new level of analysis with questions and scoring guides being returned to the school. Finally, remember that the MEA is only one measure of your program and you need to compare the results of your analysis with other testing information and your own observations. The judgments you make to modify or change your science curriculum or instructional approach should be based on those trends in performance which have been consistent over time and agree with your experience in the classroom.

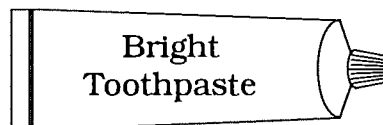
## 1991-92 Released Open-Response Science Questions

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### Grade 4

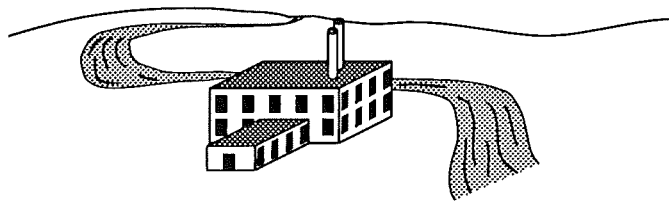


FEWER CAVITIES?



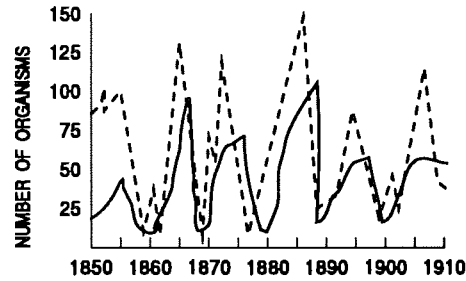
MORE CAVITIES?

1. Alice believes that children who use Minty Toothpaste get fewer cavities than children who use Bright Toothpaste. Alice found 20 fourth graders in her town who all use Minty Toothpaste regularly and asked them how many cavities they had. What else should Alice do to test out what she believes?



2. Twenty years ago a factory was built on the shores of Lazy River. Describe several ways the factory might pollute and damage the environment.
3. Water that you will drink today was probably in the ocean at one time. Your water does not have salt in it like the ocean does. What changes did the water go through between the time it was in the ocean and when it arrived in your glass?
4. Roger blew up a balloon, tied the end closed, and put it into the refrigerator. What happened to the balloon? Did it get larger, or smaller, or stay the same? Explain why.

CHANGES IN PREDATOR AND PREY POPULATIONS IN AN AREA

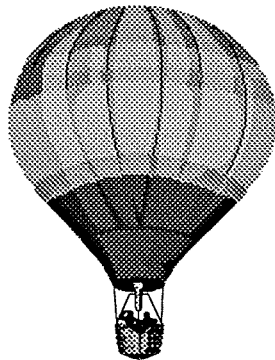


1. The graph above shows the changes in population of 2 different animals living in a region. One of the animals is the chief predator of the other. Which line on the graph (solid or dashed) represents the predator? Explain why.

**ENERGY SOURCES IN THE U.S.**

- coal
- oil
- natural gas
- nuclear
- hydro or geothermal

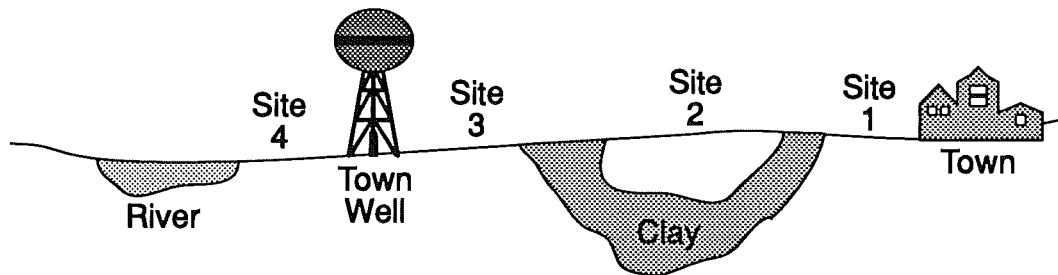
2. The chart above shows major sources of energy in the United States. Describe the advantages and disadvantages of using at least 3 of the energy sources listed above.



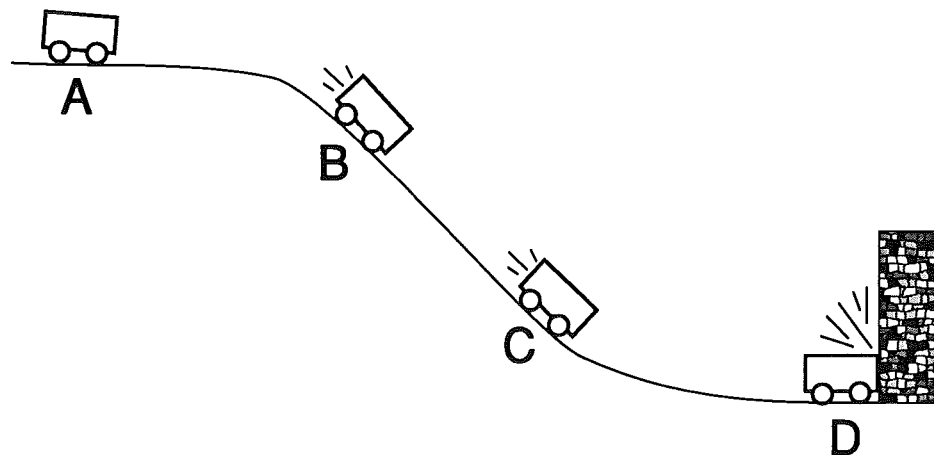
3. Explain, in as much detail as possible, why a hot air balloon rises when the air inside the balloon is heated.

## Grade 11

1. A teacher wanted to know if homework really made a difference in how much science students learn. He had two classes of students of equal ability. During one three-week unit of instruction, he assigned no homework to one of the classes. Instead, he shortened their lab periods and used that lab time to have those students complete extra worksheets. The other class had full-length lab periods and regular homework. At the end of the unit, the two classes performed equally well on a test, so the teacher concluded homework does not make a difference. Is the teacher's conclusion a good one, or could the experiment have been improved? Explain your answer.
2. Large numbers of dead fish, all white perch, have been found along the shore of a large Maine lake. Other fish species have not been dying. Give two possible hypotheses explaining these findings. Describe how each hypothesis might be tested.



3. On the diagram above are four possible sites for a landfill area. You have been hired by the town to analyze the sites and decide which one is the best. Which would you select? Describe why your choice of site is the best compared to each of the other sites and why the other three are not as good.



4. The cart on the top of the hill rolls down the hill and hits the wall at the bottom. Discuss how the laws of energy and motion would apply at points A, B, C and D in this situation.

## Sample Student Responses

(Grade 11 Question Number 1)

A teacher wanted to know if homework really made a difference in how much science students learn. He had two classes of students of equal ability. During one three-week unit of instruction, he assigned no homework to one of his classes. Instead, he shortened their lab periods and used that lab time to have those students complete extra worksheets. The other class had full length lab periods and regular homework. At the end of the unit, the two classes performed equally well on a test, so the teacher concluded homework does not make a difference. Is the teacher's conclusion a good one, or could the experiment have been improved? **Explain your answer.**

### Scoring Guide

- 4 points – student disagrees with teacher with reasons AND designs a better experiment
- 3 points – student disagrees with teacher with reasons AND designs a better experiment BUT is vague
- 2 points – student disagrees with the teacher's conclusion with clear reasons OR  
– designs a better experiment and doesn't give reasons for disagreeing
- 1 point – student simply disagrees with teacher's conclusion without reason OR  
– agrees but then gives meaningful improvements
- 0 points – totally incorrect or clearly off task

\*\* disagreement with teacher may be implied \*\*

A "4" response will indicate that the teacher was wrong because the experiment did not show that no homework had no effect. It did show that a program with shorter labs, worksheets, and no homework produced similar results to a program with longer labs and homework. The teacher should have done everything identically each class except had homework in one and not the other.

### Sample Student Responses\*

#### Score point 4

*The teacher's conclusion was not a good one because both groups did (in a sense) have homework. One group had worksheets, the other had homework. And the teacher doesn't really know how much effort the students put into their homework. Some students just do it to get it done. The experiment could have been improved. He should have had full length lab periods for both and homework in one of them. That would show how homework affected their grades. The worksheet substituted for homework, the conditions were not the same for the experiment, so the experiment was not a good one.*

#### Score point 3

*Either the teacher should have made the lab periods the same length and given only one class homework, or distribute the time of one class lab and homework time to equal the other class' lab time. The teacher gave the kids homework in both classes, he just gave work in class to one of the groups. If both groups understood the work then it won't matter how much you gave them, it will just waste their time. Homework helps if you're not quite sure on what to do.*

#### Score point 2

*I think the experiment could've been improved. The time period used to do the experiment should've been longer. Maybe the class that had long labs could've done better with homework, and the class with a lot of homework could've done better with labs. The experiment should've been done again switching the classes, to try it the other way. That way you could see how good or bad the student does both ways. You can't really tell unless the same students are used both times and then compare.*

#### Score point 1

*There is no way that two classes are of equal working abilities. Different people may do different work. His conclusion is false. If one does homework, one has a reference to go back to. If there was more time in a lab period, more would get covered along with the homework from the night before.*

**\*NOTE:** Although the sample student responses have been typed, spelling and grammatical errors that the students made have not been corrected.

# Maine Educational Assessment - Social Studies

## Social Studies for the 21st Century

Classrooms today bring together young people of many backgrounds with a broad spectrum of life experiences. We can expect an even more diverse student population in the twenty-first century. This diversity enriches our nation even as it presents a new challenge to develop social education that integrates all students into our system of democratic government and helps them to subscribe to the values from our past – especially our devotion to democratic values and procedures.

The coexistence of increasing diversity and cherished tradition require social studies courses in our schools to cultivate participatory citizenship and encourage the growth of independent, knowledgeable young adults who will conduct their lives in accord with democratic and ethical principles. This requires study of

- (a) the evolving responsibilities and rights of citizens of the United States;
- (b) the interactions prompted by migrations of peoples and the emergence of a system of global communications connecting and often melding diverse cultural heritages;
- (c) the principal group identities that compete for every person's loyalty – family, community, nation, and world – and how they interact, sometimes conflict, and necessarily coexist.

The study of social involvement and often competing loyalties addresses basic questions: "Who am I," "To what communities do I belong," "What does citizenship in our nation require of me as an individual and as a member of all the various groups to which I belong," "What does being a member of the world community mean to me and to my nation," and "How have things changed, and how *should* they change in time to come?" These questions must, in practice, be answered by every young person. They are dealt with extensively only in social studies course work. Therefore, systematic social studies are needed for successful transition from childhood to adult life, beginning in the primary grades and continuing throughout secondary school.

## Characteristics of a Social Studies Curriculum for the 21st Century

1. A well-developed social studies curriculum must instill a clear understanding of the roles of citizens in a democracy and provide opportunities for active, engaged participation in civic, cultural, and volunteer activities designed to enhance the quality of life in the community and in the nation.
2. A complete social studies curriculum provides for *consistent* and *cumulative* learning from *kindergarten* through *12th grade*. At each grade level, students should build upon knowledge and skills already

learned and should receive preparation for the levels yet to come. Redundant, superficial coverage should be replaced with carefully articulated in-depth studies.

3. Because they offer the perspectives of time and place, history and geography should provide the matrix or framework for social studies; yet concepts and understandings from political science, economics, and the other social sciences must be integrated throughout all social studies courses so that by the end of 12th grade, students will have a firm understanding of their principles and methodologies.
4. *Selective* studies of the history, geography, government, and economic systems of the major civilizations and societies should together receive attention at least equal to the study of the history, geography, government, economics, and society of the United States. A curriculum that focuses on only one or two major civilizations or geographic areas while ignoring others is neither adequate nor complete.
5. Social studies provides the obvious connection between arts and humanities and the natural and physical sciences. To assist students to see the interrelationships among branches of knowledge, integration of other subject matter with social studies should be encouraged whenever possible.
6. Content knowledge from the social studies should not be treated merely as received knowledge to be accepted and memorized, but as the means through which open and vital questions may be explored and confronted. Students must be made aware that just as contemporary events have been shaped by actions taken by people in the past, they themselves have the capacity to shape the future.
7. Reading, writing, observing, debating, role-play or simulations, working with statistical data, and using appropriate critical thinking skills should be an integral part of social studies instruction. Teaching strategies should help students to become both independent and cooperative learners who develop skills of problem solving, decision making, negotiation, and conflict resolution.
8. Learning materials must incorporate a rich mix of written matter, including original sources, literature, and expository writing; a variety of audiovisual materials including films, television, and interactive media; a collection of items of material culture including artifacts, photographs, census records, and historical maps; and computer programs for writing and analyzing social, economic, and geographic data. Social studies coursework should teach students to evaluate the reliability of all such sources of information and to be aware of the ways in which various media select, shape, and constrain information.

9. A complete social studies curriculum for students can only be provided through the support of school boards, school administrators, and the community. Teachers must be granted appropriate in-service opportunities for enhancing their content knowledge and their abilities to use appropriate teaching strategies. Above all, teachers must be provided substantial blocks of time in which to prepare course outlines, teaching guides, and lesson plans.
10. The core of essential knowledge to be incorporated in the instructional program at every level must be selective enough to provide time for extended in-depth study and must be directed toward the end goals of social studies education – the development of thoughtful Americans who have the capacities for living effective personal and public lives.

### Framework for MEA Social Studies

Although social studies is not being assessed in 1992-93, this section provides an accurate description of what the social studies portion of the MEA will be like when it is assessed in the near future. The major reporting categories for the social studies portion of the MEA tests are shown in the content-by-process matrix below.

#### CONTENT

<b>P R O C E S S</b>		Geography	History (U.S. and World)	Citizenship	Economics	Sociology/ Anthropology	Process Skills
	Knowledge/ Comprehension						
	Higher Order						

The row and column headings in the matrix above represent subtests for which separate school scores will be reported. The content categories are described below in terms of selected major concepts, topics, and skills. Of course, the advisory committee assures that the questions used at each grade level are appropriate for that grade level.

**Geography** – place geography, climate regions, surface features, resources and products; man’s use of/adaptation to the land; interaction of geography with history, politics, economics, sociocultural phenomena

**History** – pre-19th Century World History (early civilizations, Middle Ages, Renaissance, exploration/colonization); 19th and 20th Century World History; Pre-20th Century U.S. History; 20th Century U.S. History

**Citizenship** – systems of government, levels and branches of U.S. government, political processes, rights and responsibilities of citizenship

**Economics** – economic systems; basic principles/concepts (supply and demand, products and needs); U.S. economy (taxes, trade, employment and productivity, stock market); international economy/events


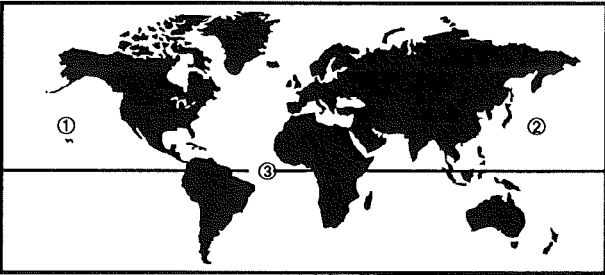
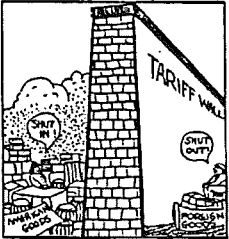
**Sociology/Anthropology** – social institutions, changing roles of men and women, urban/rural life, contemporary social issues; cultural universals, traits, transmission

**Process Skills** – reading/translating information (maps, tables, graphs); analyzing and evaluating information (drawing conclusions, evaluating evidence, evaluating resources; detecting perspective, bias, assumptions; identifying facts, opinion, inconsistencies, analogous situations)

School scores will also be produced for one other category — “Maine Studies,” a set of questions assigned to other content categories, but which pertain specifically to the state of Maine.

The cognitive process categories in social studies are the same as those used in science. They are used to assure that the full range of processes is represented in all of the content areas. **Knowledge** questions require primarily memory processes (factual recall). **Comprehension** questions involve translations or explanations of concepts, principles, etc. **Application** questions require students to apply their knowledge or understanding of general concepts to particular situations. **Higher order** questions require students to analyze, synthesize, or evaluate information. Also, there is a content category, “Process Skills,” that addresses the critical thinking skills of analyzing and evaluating information. Questions testing these skills require minimal content knowledge of social studies content.

The sample questions below from various grade levels are presented as examples of multiple-choice questions from past MEA instruments.

 <p>1. During which of the following decades in American history would you have been most likely to see the poster shown?</p> <p>A. 1900s B. 1920s C. 1940s D. 1960s</p> <p>Content: U.S. History Process: Knowledge/Comprehension Grade: 11</p>	<p>Use the map below to answer question 4.</p>  <p>4. 3 is located on the</p> <p>A. axis. B. equator. C. Tropic of Capricorn. D. Tropic of Cancer.</p> <p>Content: Process Skills Process: Knowledge/Comprehension Grade: 8</p>
 <p>2. What economic situation is illustrated by the cartoon?</p> <p>A. High tariffs help the United States because they keep goods at home. B. High tariffs help the United States because they keep out low-priced foreign goods. C. High tariffs are opposed by American industry. D. High tariffs hurt the trade of both the United States and foreign countries.</p> <p>Content: Economics Process: Higher Order Grade: 11</p>	<p>5. A system of checks and balances was included in the Constitution so that the power of the federal government would</p> <p>A. be subject to regulation by state government. B. be concentrated in the Office of the President. C. always be under the control of the Supreme Court. D. not be controlled by any of the government's branches.</p> <p>Content: Citizenship Process: Knowledge/Comprehension Grade: 8</p>
<p>3. If you were looking at a globe of the world, which feature would cover the greatest area?</p> <p>A. mountains B. plains C. lakes D. oceans</p> <p>Content: Geography Process: Knowledge/Comprehension Grade: 4</p>	<p>6. Who is Maine's governor?</p> <p>A. John McKernan B. Jasper Wyman C. Joseph Brennan D. George Mitchell</p> <p>Content: Citizenship Process: Knowledge/Comprehension Grade: 8</p>

As in the other MEA subject areas, emphasis on open-response questions will be increasing in the social studies. Thus, each student will respond to questions requiring substantive writing. Students will be required to read and analyze what each question asks of them. They then will have to decide what knowledge and experiences are needed to generate a response. This information must then be developed and organized using all of the elements of good writing.

A sample of an open-response question is as follows:

All communities in Maine face many tasks and responsibilities related to the operation of their local government. Some of these tasks and responsibilities include government administration, law enforcement, building and road maintenance, recreation, and environmental planning and protection. Most of the funding for local government operation is often paid by tax money collected from businesses and individual citizens. Many communities are experiencing problems in providing enough money to pay for all the services they require.

Choose a problem that your community faces or may face in the future and write a short report on how it could be solved. Include the following:

- Tell what the problem is, what caused it, and why it continues to exist.
- Present what you believe to be the best solution to solve the problem. Tell why your solution is realistic.



Responses to open-response questions will be scored holistically on a scale from 0 to 4. They will account for approximately 40 percent of the MEA school scores in social studies. While each question has its own unique scoring guide, every scoring guide is consistent with the general scoring rubric shown below.

- |  |
|--|
| <p>4 points – Student completes all important components of the task and communicates effectively.</p> <ul style="list-style-type: none"><li>– The response demonstrates <u>in-depth</u> understanding of the relevant content and/or procedures.</li><li>– Where appropriate, student chooses more efficient and/or sophisticated procedures.</li><li>– Where appropriate, student goes beyond the minimum requirement to offer insightful interpretations or extensions (generalizations, applications, analogies).</li></ul> <p>3 points – Student completes most important aspects of the task and communicates successfully.</p> <ul style="list-style-type: none"><li>– The response demonstrates understanding of major concepts, even though some less important ideas or details may be overlooked or misunderstood.</li></ul> <p>2 points – Student completes some important aspects of the task, but not others.</p> <ul style="list-style-type: none"><li>– Student communicates some important ideas.</li><li>– Gaps in student’s conceptual understanding are evident.</li></ul> <p>1 point – Student completes only small portion of the required components of the task.</p> <ul style="list-style-type: none"><li>– Response reveals only fragmented understanding of concepts.</li></ul> <p>0 points – Student’s response is either totally irrelevant or, if there is some understanding of the task, the response is totally wrong or provides no evidence of appropriate reasoning.</p> |
|--|

## 1991-92 Released Open-Response Social Studies Questions

### Grade 4

1. Use details from the painting below to help you explain what is taking place. What circumstances led to this event?



The passage below is taken from the diary of Christopher Columbus. Read it and answer the questions that follow.

Friday, October 12.

We waited a day and then reached a small island. When we landed, we saw very green trees, much water, and fruit of various kinds. I took possession of the island for the King and Queen of Spain. Soon many inhabitants of the island assembled. Some of them paint their faces, some their whole bodies, some only around their eyes, and some only their noses.

Saturday, October 13.

They came to the ship in small canoes made of tree trunks. They row them with a paddle, and they travel very fast.

I took the trouble to find out if there was gold on this island. I saw that some of them wore

a small piece of gold hanging from a hole in the nose. I learned about an island to the south where there is a king who has much gold. They did not want to make the trip there, though.

They brought us parrots and balls of cotton and spears and many other things, which they exchanged for the glass beads and hawk's bells. They willingly traded everything they owned. They were well-built with good bodies and handsome features. They do not bear arms, and do not know them, for I showed them a sword, they took it by the edge and cut themselves out of ignorance. They have no iron. Their spears are made of cane. They would make fine servants. With fifty men we could overpower them all and make them do whatever we want.

2. What did Columbus think about the people who lived in the new land? Use several examples from the diary to explain your answer.
3. Explain how Columbus' arrival in the new land changed the lives of the people who lived there.

Three methods for improving our earth's environment are:

1. REDUCE WASTE
2. RECYCLE PRODUCTS
3. RESTORE OUR NATURAL RESOURCES

4. For each **method**, describe one action that you could take to improve our earth's environment.
5. For each **action** you described above, explain in detail how you would go about getting other people your age to participate in making these improvements.

## Grade 8

1. The recent war which took place in the Persian Gulf region was fought between Iraq and its allies and the U.S. and its allies. Some of the effects of the war were that it separated families, introduced new military technology, caused the death of over 90 Americans and over 100,000 Iraqis, removed Kuwait from Iraqi rule, and made refugees of the Kurdish people.

Describe at least three events, situations, or conditions that led to the war. You should discuss how these events, situations, or conditions caused the war to occur. Give as much detail as you can.

2. Look at the advertisement below. You are to

- identify the audience that the advertisement is directed to
- describe the selling methods being used for the product

Be sure to explain how the features in the advertisement helped you draw your conclusions.

Write your answers in complete sentences.

# CLASSIC-STYLED SOLAR FLEX

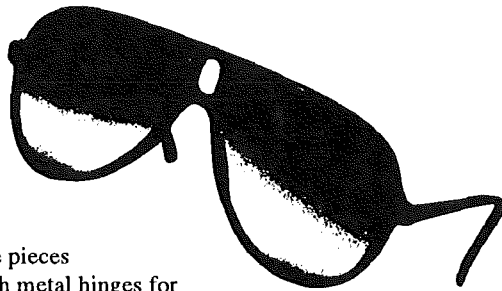
## TINTED SUNGLASSES

With CR39 High Resolution Lenses!

\$5

The same features found in sunglasses costing much, much more:

- Filters ultraviolet and blue light
- Highly rated CR39 gradient lenses coated to prevent scratches
- Comfortable molded nose pieces
- Polycarbonate frames with metal hinges for strength and durability
- Classic unisex styling one size fits all



**YOUR EYES ARE PRECIOUS!  
DO NOT CONFUSE WITH  
INFERIOR IMITATIONS.  
THESE ARE GENUINE CR39  
HIGH RESOLUTION LENSES!**

**TO ORDER the Solar Flex Tinted Sunglasses**, send your name, address, zip code and check or money order for **\$5.00** plus \$2.50 postage and handling for each pair ordered to: **American Buyer, Box 4165, Dept. KL80, Huntsville, NJ 11700.** NY, NJ, IA, IL, MI residents add appropriate sales tax.

You'll Notice The Difference — Instantly!

Our Solar Flex sunglasses have the look, the feel and features found in sunglasses selling for up to \$40!

The CR39 high resolution lenses have a hard, scratch resistant coating designed to reduce glare due to reflection of surfaces such as snow, sand or water. These lenses are perfect for fishing, sailing, water sports, tennis, golf or skiing. They're ideal for professionals who work outdoors, or under bright lights!

These are the most exciting sunglasses we've seen. Not only do they look terrific, they will protect your eyes.

### Our Incredible Offer . . .

The moment you slip on your Solar Flex sunglasses you won't believe you purchased them for only \$5 . . . neither will anyone else who receives a pair as a gift!

Only 100,000 Solar Flex sunglasses will be offered to the public. There is a limit of 3 sunglasses per address, but if your order is mailed before December 1, 1991, you may request up to 5.

The Solar Flex sunglasses come with a 100% money back guarantee. We ship on a first-come, first-served basis with all orders shipped within 60 days. We expect a sellout - don't be disappointed.

**ORDER TODAY!**

3. A local newspaper in New Bedford, MA called *The Standard-Times* has published a new feature entitled "Drug Watch." An article about the newspaper's new feature appeared in a recent *Newsweek* magazine article.

The city's Housing-Authority used "Drug Watch" to identify undesirable tenants for its 2,583 units of low-income housing. The agency has rejected prospective tenants and commenced eviction proceedings based on the newspaper photos. "We're not a criminal court so we don't need absolute proof," says Joseph Finnerty, executive director of the agency. "It's up to them to prove to us that they can be a good neighbor."

Five days a week, the paper plans to run photos of every person [whether proven guilty or not] who shows up in district court in New Bedford on drug-related charges.

The U.S. Constitution provides for freedom of the press. Our system of laws is based on the principle that a citizen accused of a crime is innocent until proven guilty.

Based on the publication of the photos by *The Standard-Times*, write a letter to the editor of *The Standard-Times* either in support of or in opposition to the newspaper's policy for the feature. Your letter should

- state your position either in support or in opposition to the policy of the "Drug Watch" feature
- have at least two arguments in support of your position and
- give a statement about the action you would like to see the newspaper take after receiving your letter

Be forceful and convincing in your arguments. Write your letter in complete sentences.

4. You are preparing to give a report in front of the class on the information in the chart below entitled *Fast Food Facts in 1986*. The facts were collected on a sample of popular items sold at three fast food restaurants.

### FAST FOOD FACTS IN 1986

Fast Food	Price*	Weight**	Cost per ounce	Calories	Sodium*** in milligrams	Fast Food	Price*	Weight**	Cost per ounce	Calories	Sodium*** in milligrams
<b>SPECIALTY BURGERS</b>						<b>CHOCOLATE SHAKES</b>					
Burger King Whopper (with cheese)	\$2.45	9½ oz.	26¢	711	1,164	Burger King	\$1.15	15 oz.	8¢	320	200
McDonald's Big Mac	\$1.89	7 oz.	27¢	570	980	McDonald's	95¢	10½ oz.	9¢	380	300
Wendy's Classic (with cheese)	\$2.19	9½ oz.	23¢	530	1,195	Wendy's Frosty	\$1.34	12½ oz.	11¢	598	329
<b>SIX-PIECE CHICKEN MEALS</b>						<b>FRENCH FRIES</b>					
Burger King Chicken Tenders	\$1.89	3 oz.	63¢	204	636	Burger King regular	85¢	2½ oz.	34¢	227	160
McDonald's Chicken McNuggets	\$1.79	4 oz.	45¢	323	510	McDonald's regular	77¢	2½ oz.	31¢	220	110
Wendy's Crispy Chicken Nuggets	\$1.89	3½ oz.	54¢	310	660	Wendy's regular	80¢	3 oz.	27¢	300	135
						large	99¢	4½ oz.	22¢	368	166

\* Prices were those at local restaurants. They may differ in your area.

\*\* Weights are rounded off to the nearest ½ ounce.

\*\*\* Sodium is an ingredient in salt. 2,000 mg per day is plenty for anyone. Too much isn't a good – or healthy – idea.

Make a draft or outline of your report in which you

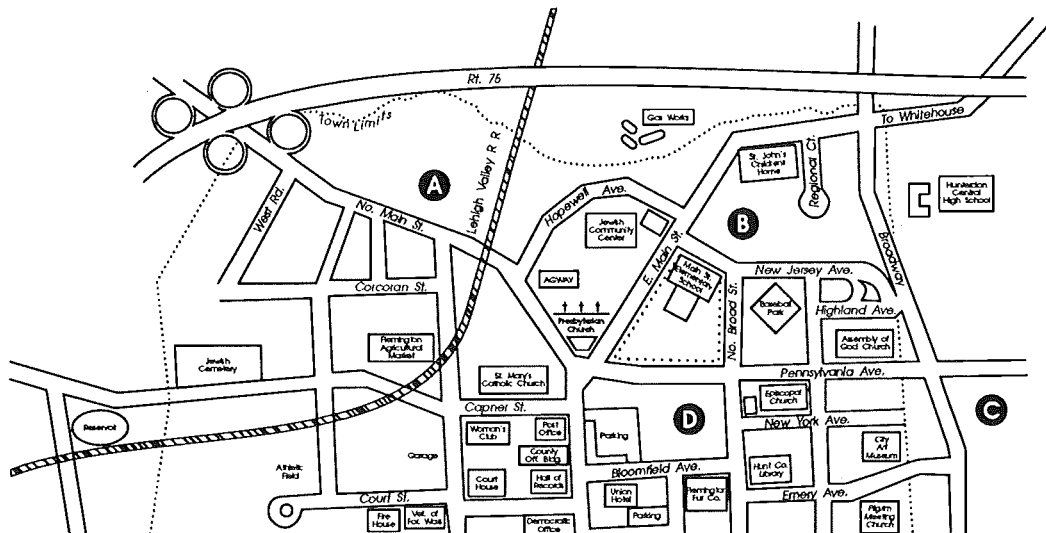
- describe TWO interesting pieces of information shown in the chart, and
- include at least one conclusion you have made based on your study of this information.

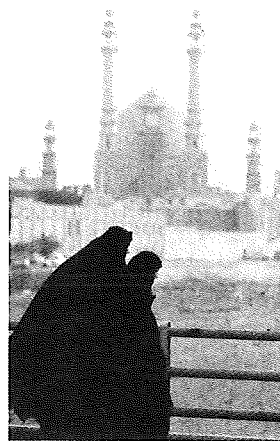
Write your answer in complete sentences.

Copyright© 1987 by Consumer Union of United States, Inc. Yonkers, New York 10703. Reprinted by permissions from Penny Powers - Zillions, October/November 1987.

5. The map below shows a portion of the town of Flemington. The Mammoth Machine Company wants to build a factory in this area. There are four sites available labeled A, B, C, and D. As Location Site Manager for Mammoth Machine Co., you are to select and identify the site you feel would be best suited for location of the new factory and explain at least three reasons for selecting it. Write your answer in complete sentences.

### FLEMINGTON





Magnum  
Photos

6. You have found the photographs above in a library book you are reading. One of your friends here in the U.S. is curious about the people of Iran and their culture. Your friend knows very little about modern life in the Middle East. Tell what you know about what is ALIKE and what is DIFFERENT between life in the U.S. and life in Iran. You may use the photographs to help in writing your explanation.

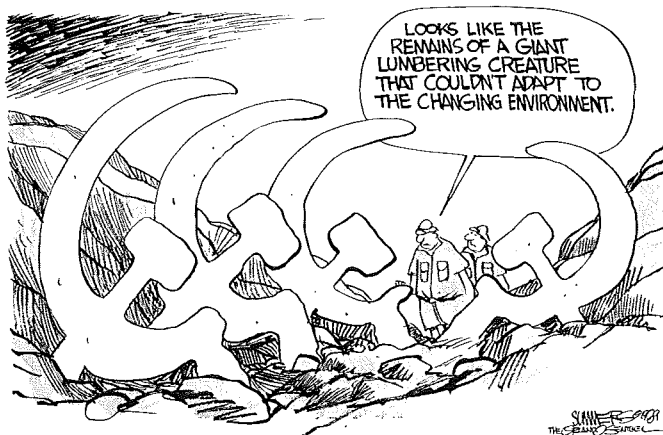
Write your answer in complete sentences.

## Grade 11



© SuperStock

1. Look at the pictures above. The cultures that produced each of these had specific ideas about the world and their place in it.
- Describe what each picture represents.
  - Choose two and describe the cultures that produced them. Use as much detail as you can. Be sure you place the numbers of the pictures you choose next to your answers.



By Dana Summers  
© Washington Post Writers Group  
Reprinted with permission.

2. What does the cartoon above indicate about Communism? Describe what issues led to this occurrence.

3. Due to the changing world situations, the United States government has decided to close a number of military bases across the nation. Loring Air Force Base in Maine is scheduled to be closed. Discuss three ideas for using the base after it has been released by the military and explain why each would be a good use for the base.
4. For many years, American companies have not done business with South Africa. Why? What recent changes in South Africa have taken place which have made it possible for some companies to once again do business with South Africa?
5. This year marks the 500th anniversary of the arrival of Christopher Columbus in this hemisphere. What have been some of the positive and negative impacts of exploration and colonization of the New World?

### Sample Student Responses

(Grade 11 Question Number 4)

For many years, American companies have not done business with South Africa. Why? What recent changes in South Africa have taken place which have made it possible for some companies to once again do business with South Africa?

### Scoring Guide

- 4 points • Student describes governmental system of South Africa and explains how the system of Apartheid led to a trade embargo against the country. Student also describes how recent changes in the government have made it possible for companies to once again do business in the country. Student may go beyond by explaining some of the history of South Africa.
- 3 points • Student displays understanding of the political situation in South Africa and can cite some changes that have taken place there in order to restore trade relations. Student cannot give an explanation of those changes or explanation of changes may be minimal (e.g., "The system of government in South Africa is called Apartheid. Over the last several months, people in the government have tried to dismantle Apartheid and give the black people of South Africa the right to vote. This has led to an easing of sanctions against the country.").
- 2 points • Student displays some understanding of Apartheid system of government. Student may cite some examples of how apartheid works, but answer gives indication of lack of historical and/or political knowledge (e.g., "Apartheid is a system of government that treats people differently. Because someone is black or Indian, they cannot participate in the government of South Africa. This is like slavery in America in the 1800's.").
- 1 point • Student answer displays minimal understanding of the political situation in South Africa. Student responds to only one part of the question (e.g., "We don't do business with South Africa because they have a system called Apartheid.").
- 0 points • Totally incorrect.

### Scorer Information

**Apartheid** - the policy of strict racial segregation and discrimination against the native blacks and other colored peoples as practiced in South Africa.

Changes that have taken place in order to make trade with the country possible again:

1. the release of Nelson Mandela from prison
2. the government holding talks with opposition parties
3. mandate from F.W. de Klerk to dismantle the system of Apartheid and create the system of one person, one vote in South Africa
4. the release of most political prisoners from South African jails

## Sample Student Responses\*

### Score point 4

*Africa is a country that is mostly made of "black" population. The south of Africa is where most of the "white" people live. The "whites" rule there. American companies have not done business with South African companies because of the discrimination against the colored. The African white's give few rights to the blacks. Americans use to be just like that but we learned that they are people just like us.*

*Changes recently taking place in South Africa to make it possible for companies to do business again are the revisions on their constitution to stop the apartheid and give blacks's rights to run for office and they'll be able to vote.*

### Score point 3

*American Companies haven't done business in South Africa because of the Aparthide system in which only whites can vote and Blacks are discriminated against. Some companies are now doing business in South Africa because of the reforms there, Blacks are now going to have a say in the government and be treated equily with the whites. So companies recognise this as progress and are willing to do business with South Africa.*

### Score point 2

*For many years, American companies have not done business with South Africa because of apatheid, or discrimination against blacks.*

*With the recent release of prisoner Nelson Mandella, a black anti-apartheid leader, there has been almost a complete end to apartheid. With this, the United States has started doing business once again with South Africa.*

### Score point 1

*They have not done business because of appartite movement and what they have done to the Native Africains. They are trying to let up a little & we are going along with them.*

**\*NOTE:** Although the sample student responses have been typed, spelling and grammatical errors that the students made have not been corrected.

# Maine Educational Assessment - Arts and Humanities

## Recommendations for the Humanities by the National Endowment for the Humanities

In *Life on the Mississippi*, Mr. Bixby advises young Sam Clemens, "My boy, you've got to know the shape of the river perfectly. It's all there is to steer by on a very dark night. Everything else is blotted out and gone."

The idea that the purpose of education is to teach students how to think rather than imparting knowledge to them is the equivalent of teaching them how to steer the steamboat without giving them any notion of the river. There are times when human beings can consult maps to figure out where they are going but for the surest navigation, the shape must be in the mind.

Thomas Jefferson consulted no books when he wrote the Declaration of Independence. He did not need to; Locke was as familiar to him as Monticello. The framers of the Constitution referred effortlessly to history as they debated. They knew the shape of the past, knew the shoals and sandbars on which other civilizations had run aground and determined to avoid them.

But one need not think of such august figures to understand the importance of knowledge internalized. We need only to think of ourselves, of the thousand decisions life forces upon us. Shall I do this or shall I do that? We cannot look the answer up. Life presses us on, and we have to decide according to what we know.

We would wish for our children that their decisions be informed not by the wisdom of the moment, but by the wisdom of the ages; and that is what we give them when we give them knowledge of culture. The story of past lives and triumphs and failures, the great texts with their enduring themes – these do not necessarily provide the answers, but they are a rich context out of which our children's answers can come.

It is in this spirit, then, that the following recommendations are made:

- I. More time should be devoted to the study of history, literature, and foreign languages.
  - Much that is in school curricula now under the guise of "social studies" should be discarded and replaced with systematic study of history. What goes under the name of "social studies" in the early grades should be replaced with activities that involve imaginative thought and introduce children to great figures of the past.
  - Both history and enduring works of literature should be a part of every school year and a part of every student's academic life.

- Foreign language study should start in grade school and continue through high school. From the beginning, it should teach students the history, literature, and thought of other nations.
- II. Textbooks should be made more substantive.
    - Reading textbooks should contain more recognizable good literature and less formulaic writing.
    - History textbooks should present the events of the past so that their significance is clear. This means providing more sophisticated information than dates, names, and places. Textbooks should inform students about ideas and their consequences, about the effect of human personality, about what it is possible for men and women to accomplish.
    - In literature, history, and foreign language classes, original works and original documents should be central to classroom instruction.
  - III. Teachers should be given opportunities to become more knowledgeable about the subjects that they teach.
    - In their college years, future teachers should be freed from excessive study of pedagogy so that they can take more courses in subject areas like history, literature, French, and Spanish.
    - Teacher preparation and teacher certification must be independent activities. This will help ensure that education courses taken by prospective teachers are of value to effective teaching.
    - Higher education liberal arts faculties must recognize their responsibility for arts and humanities education of future teachers. Further, these faculties must play a greater role in the continuing education of teachers.
    - School districts should invest in released time to give teachers time to study and think; and it will put them, rather than outside education specialists, in charge of what goes on in the classroom.

We all have a stake in seeing to it that arts and humanities are properly taught and thoroughly learned in our schools. We all have a stake in making sure our children know the shape of the river they are traveling.

Carrying that shape in memory will not guarantee wisdom or safety for them or any generation. But there are few surer guides through dark nights – or sunny days as well.



Framework for MEA Arts and Humanities

The MEA arts and humanities test is based on the following objectives framework:

Table with 4 rows (Literature/Language, Visual Arts, Performing Arts, Religion/Philos.) and 3 columns (Forms, Elements, and Techniques; Meaning and Purpose; Social/Historical Perspectives). Includes vertical text 'HUMANITIES' on the left.

Each row and each column in the matrix above constitutes a reporting category for school level results. As in other content areas, items in arts and humanities matrix cover a wide range of cognitive processes. Additionally, the columns of the figure above represent progressively more involved understandings of the different areas within arts and humanities.

Forms, Elements, and Techniques includes items dealing with the recognition of various forms of literature, types or styles of art, and characteristics of different languages, religions, or philosophies. Items that associate tools or materials with an art form or identify features or methods used in creating a literary or artistic work would also be placed in this category. Items under Meaning and Purpose deal with the interpretation of literature, specific works of art, and philosophical concepts.

Also covered are items identifying the purpose of various forms of literature and art and various religious practices, and items requiring students to compare and contrast types of literature, different works of art, differing forms of communication, and varying philosophical viewpoints. Social and Historical Perspectives items associate various aspects of arts and humanities with place or time in history or cultural origin. For example, they require that students associate famous authors/artists with their works, and place a variety of languages, religions, and philosophies or philosophers within the appropriate social reference or historical time frame. Influences of arts and humanities on society and history, and the effects of society and history on arts and humanities are also covered. The sample questions below illustrate these three categories.

Read the story below. Then answer question 1. THE DOG AND THE SHADOW. One day a dog stole a piece of meat from a butcher shop. He had to cross a bridge over a clear stream on his way to a safe place to eat his meat. Looking down, he saw his reflection in the water. Thinking that the reflection was another dog with another piece of meat, he made up his mind to have that also. So he snarled and made a grab for the other dog's meat. As his greedy mouth opened, out dropped the piece of meat; it fell into the water and was lost. 1. The story above is an example of a A. poem. B. legend. C. myth. D. fable. AREA: Literature OBJECTIVE: Forms, Elements, Techniques

3. Look at the Greek vase shown to the left. What was the purpose(s) of the illustration it bears? A. decoration and storytelling B. higher value at the market C. magic power D. durability and beauty AREA: Visual Arts OBJECTIVE: Meaning and Purpose



2. What is the most popular form of literature attributed to the Elizabethan period? A. short stories B. drama C. journals D. gothic novels

4. Look at the alphabets pictured above. What is common among these alphabets? A. If you can read one alphabet, you can read them all. B. Some letters appear the same in all three alphabets. C. The alphabets have the same number of letters. D. The alphabets have nothing in common. AREA: Language OBJECTIVE: Forms, Elements, Techniques

Table comparing Greek, Roman, and Russian alphabets side-by-side.

Twenty-four open-response questions are included in the battery of questions in arts and humanities. They are distributed across twelve forms. Thus, each student writes on two questions requiring substantive writing. Students are required to read and analyze what each question asks

of them. They then have to decide what knowledge and experiences are needed to generate a response. This information must then be developed and organized using all of the elements of good writing.

A sample of an open-response question is as follows:

Read the poem by Denise Levertov below.

#### THE SECRET

Two girls discover  
the secret of life  
in a sudden line of  
poetry.

I who don't know the  
secret wrote  
the line. They  
told me

(through a third person)  
they had found it  
but not what it was  
not even

what line it was. No doubt  
by now, more than a week  
later, they have forgotten  
the secret,

the line, the name of  
the poem. I love them  
for finding what  
I can't find,

and for loving me  
for the line I wrote,  
and for forgetting it  
so that

a thousand times, till death  
finds them, they may  
discover it again, in other  
lines

in other  
happenings. And for  
wanting to know it,  
for

assuming there is  
such a secret, yes,  
for that  
most of all.

Poets use a variety of ways to get readers to react to their poetry.

Tell why you think the poet stopped the lines of the poem at the points she did. What effect does this writing style have on readers of this poem? Read the poem through twice before writing your answer. Write your answer in complete sentences.

## 1991-92 Released Open-Response Arts and Humanities Questions

### Grade 4

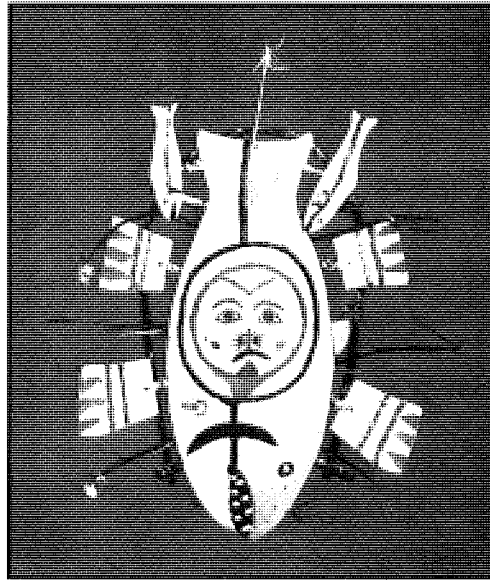
1. Read the passage below from *Winter Barn* by Peter Parnall. This passage is written in paragraph form. But it does many things that poems do.

As the cold grows deeper, the winter barn becomes the core of life in the thick, white world. Snow drifts down. Day after day it falls till beams groan and grumble with the added weight on the great dripping marshmallow of a barn. Tons of snow condense the life within. They wait and share warm spaces. Now no quarrels over private places. Now all share to survive.

- Explain two ways this passage is like a poem.

From *Winter Barn* by Peter Parnall. Copyright © 1986 by Peter Parnall. Reprinted by permission of MacMillan Publishing Company.

2. The Golden Rule says, "Do unto others as you would have them do unto you." Give an example of what this means by telling about something that happened to you or a friend.



ESKIMO MASK

Denver Art Museum

3. This is a mask used by a Shaman. A Shaman is a religious leader. The Eskimo people believe the Shaman's responsibilities are: curing sickness, controlling the weather, and making sure that Eskimo people have enough to eat.

Why did the Shaman make a mask using this shape, these colors\*, and a frown on the face of it? Explain what the Shaman's reasons would be.

\*Student test booklet covers were printed in color.

## Grade 8

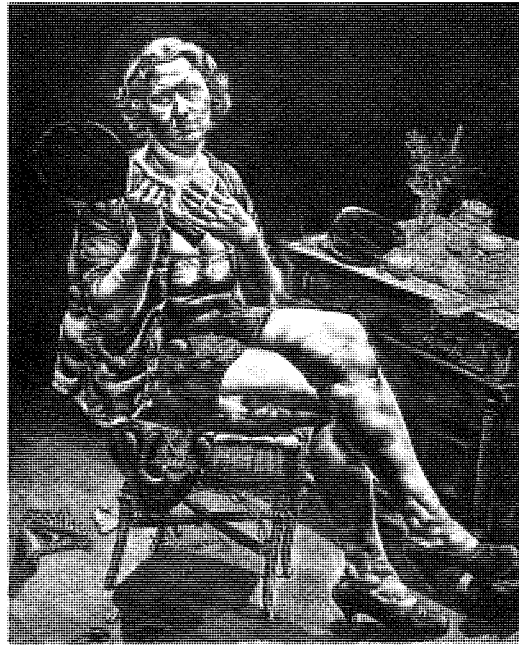
*Read the poem below and answer question 1.*

### Silent Poem

backroad leafmold stonewall chipmunk  
underbrush grapevine woodchuck shadblow  
woodsmoke cowbarn honeysuckle woodpile  
sawhorse bucksaw outhouse wellsweep  
backdoor flagstone bulkhead buttermilk  
candlestick ragrug firedog brownbread  
hilltop outcrop cowbell buttercup  
whetstone thunderstorm pitchfork steeplebush  
gristmill millstone cornmeal waterwheel  
watercress buckwheat firefly jewelweed  
gravestone groundpine windbreak bedrock  
weathercock snowfall starlight cockcrow

1. Explain why you think the poet calls this a "silent" poem. Give reasons to support your answer.

View the painting below entitled *Into the World Came A Soul Called Ida* by Ivan Albright in order to answer question 2.



2. People generally expect art to be beautiful. Describe what you think painter Ivan Albright was saying about beauty in his painting of *Ida*. **Describe elements of the painting that lead you to that conclusion.** Fill the space with your answer. Write in complete sentences.
3. Art has always been an important part of all cultures. The artwork on the cover of your test booklet was made by an artist in Peru who lived sometime between 100 B.C. and 200 A.D. Often, in ancient cultures, artists made art works to be used for special occasions as well as for decoration.



Peru. Kozca. Vessel in form of seated figure - 9th. Collection, The Metropolitan Museum of Art

- **Why do you think the artist chose to make this clay container look like this?**
- **For what occasion do you think this container was used?**
- **Why do you think so?**

Look at the sculpture carefully before writing your answer. Use complete sentences and fill the space with your answer.



4. Bruegel's painting *Return of the Hunters* inspired William Carlos Williams to write a famous poem, "The Hunters in the Snow." What thoughts or feelings does the painting bring out in you? **Write at least one stanza of a poem or song expressing these thoughts or feelings. Then describe the elements of the painting that inspired them. Write in complete sentences and fill the space with your answer.**

Read through the following text on the play *Our Town* by Thornton Wilder to complete the question that follows.

Narrator: Yepp, -there they are coming down Main Street now.

Emily: I can't Louise. I've got to go home. Good-by. Oh, Ernestine! Ernestine! Can you come over tonight and do Latin? Isn't that Cicero the worst thing-! Tell your mother you have to. G'by. G'by, Helen. G'by, Fred.

George: Can I carry your books home for you, Emily?

Emily: Why . . . uh . . . Thank you. It isn't far.

George: Excuse me a minute, Emily. -Say, Bob, if I'm a little late, start practice anyway. And give Herb some long high ones.

1→ Emily: Good-by, Lizzy.

2→ George: Good-by, Lizzy. — I'm awfully glad you were elected, too, Emily.

3→ Emily: Thank you.

4→ George: Emily, why are you mad at me?  
Emily: I'm not mad at you.  
George: You've been treating me so funny lately.

5→ Emily: Well, since you ask me, I might as well say it right out, George—Good-by Miss Corcoran.

6→ George: Good-by Miss Corcoran — wha—what is it?

7→ Emily: I don't like the whole change that's come over you in the last year. I'm sorry if that hurts your feelings, but I've got to tell the truth and shame the devil.

8→ George: A change? Wha —what do you mean?

9→ Emily: Well, up to a year ago I used to like you a lot. And I used to watch you as you did everything...because we'd been friends so long...and then you began spending all your time at baseball...and you never stopped to speak to anybody any more. Not even to your own family, you didn't...and, George, it's a fact, you've got awful conceited and stuck-up, and all the girls say so. They may not say so to your face, but that's what they say behind your back, and it hurts me to hear them say it, but I've got to agree with them a little. I'm sorry if it hurts your feelings...but I can't be sorry I said it.

10→ George: I...I'm glad you said it, Emily. I never thought that such a thing was happening to me. I guess it's hard for a fella not to have faults creep into his character.

Emily: I always expect a man to be perfect and I think he should be.

George: Oh...I don't think it's possible to be perfect, Emily.

Emily: Well, my father is, and as far as I can see your father is. There's no reason on earth why you shouldn't be, too.

5. In a play, stage directions are placed between lines of dialogue to guide the placement and movement of actors. The numbered arrows in the margin above indicate 10 places where stage directions might be inserted in the play. Write appropriate stage directions for at least 5 of those places. Identify each stage direction by the number corresponding to the arrow showing where it would be inserted.

This is an excerpt from *The Little Prince* by Antoine de Saint-Exupery. In this excerpt the Little Prince meets the businessman who owns the fourth planet. He counts the stars as the Little Prince approaches. Read the excerpt to answer the question that follows.

"And what do you do with five-hundred millions of stars?"

"Five-hundred-and-one million, six-hundred-twenty-two thousand, seven-hundred-thirty-one. I am concerned with matters of consequence: I am accurate."

"And what do you do with these stars?"

"What do I do with them?"

"Yes."

"Nothing. I own them."

"You own the stars?"

"Yes."

"But I have already seen a king who—"

"Kings do not *own*, they *reign over*. It is a very different matter."

"And what good does it do you to own the stars?"

"It does me the good of making me rich."

"And what good does it do you to be rich?"

"It makes it possible for me to buy more stars, if any are discovered."

"This man," the little prince said to himself, "reasons a little like my poor tippler. . ."

Nevertheless, he still had some more questions.

"How is it possible for one to own the stars?"

"To whom do they belong?" the businessman retorted, peevishly.

"I don't know. To nobody."

"Then they belong to me, because I was the first person to think of it."

"Is that all that is necessary?"

"Certainly. When you find a diamond that belongs to nobody, it is yours. When you discover an island that belongs to nobody, it is yours. When you get an idea before any one else, you take out a patent on it: it is yours. So with me: I own the stars, because nobody else before me ever thought of owning them."

"Yes, that is true," said the little prince. "And what do you do with them?"

"I administer them," replied the businessman. "I count them and recount them. It is difficult. But I am a man who is naturally interested in matters of consequence."

The little prince was still not satisfied.

"If I owned a silk scarf," he said, "I could put it around my neck and take it away with me. If I owned a flower, I could pluck that flower and take it away with me. But you cannot pluck the stars from heaven . . ."

"No. But I can put them in the bank."

"Whatever does that mean?"

"That means that I write the number of my stars on a little paper. And then I put this paper in a drawer and lock it with a key."

"And that is all?"

"That is enough," said the businessman.

"It is entertaining," thought the little prince. "It is rather poetic. But it is of no great consequence."

On matters of consequence, the little prince had ideas which were very different from those of the grown-ups.

"I myself own a flower," he continued his conversation with the businessman, "which I water every day. I own three volcanoes, which I clean out every week (for I also clean out the one that is extinct; one never knows). It is of some use to my volcanoes, and it is of some use to my flower, that I own them. But you are of no use to the stars . . ."

The businessman opened his mouth, but he found nothing to say in answer. And the little prince went away.

"The grown-ups are certainly altogether extraordinary," he said simply, talking to himself as he continued on his journey.

From *The Little Prince* by Antoine de Saint-Exupery, copyright © 1943, 1971 by Harcourt Brace Jovanovich, Inc. Reprinted by permission of the publisher.

6. The little prince and the businessman have different notions of ownership. Think about what each of them owns and his reasons for ownership. With whose reasoning do you agree? Explain why you agree in complete sentences. Fill the space with your answer.

## Grade 11

1. Look at the portraits below. On the left is portrait of Henry VIII painted by Hans Holbein in 1540. On the right is a self-portrait by female Mexican painter Frida Kahlo, painted in 1943. What can you learn about the cultures and time periods of the subjects just from looking at these portraits? Identify several elements and describe the details in the portrait or portraits that make you think that way.



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The National Gallery, Rome



Private collection

### What Is An American?

ADAPTED

*by Jean de Crèvecoeur*

What is an American, this new man? He is a person from Europe, or the descendant of a person from Europe. I could show you a man descended from an English father and a Dutch mother. This man married a French woman. His four sons married wives from four different nations.

He is an American. He does not share the prejudices and customs of his ancestors. In America, individuals of all nations intermarry and form a new nationality. Their labors and heritage will one day cause great changes in the world. Americans are the western pilgrims. They are carrying with them the arts, sciences, vigor, and industry of all their ancestors.

People with the American spirit were scattered about in the different European countries. Here they are all part of one of the finest systems which has ever appeared.

The American, therefore, should love his country much better than the land in which either he or his ancestors were born. In America, hard work will be quickly rewarded. If he lived in Europe, his children would be hungry. In America, they are well-fed and healthy. They gladly help their father clear those fields where crops will grow. No cruel prince, rich abbot, or mighty lord will demand to share their riches.

The American is a new man. He acts from a belief in new principles. He must therefore listen to new ideas with an open mind and form new opinions. He has left behind him in Europe idleness, dependence, poverty and useless labor. In America, he will be richly rewarded for hard work. This is an American.

2. Discuss one of the author's opinions about what an American is. Contrast this with your own opinions of what it means to be an American.

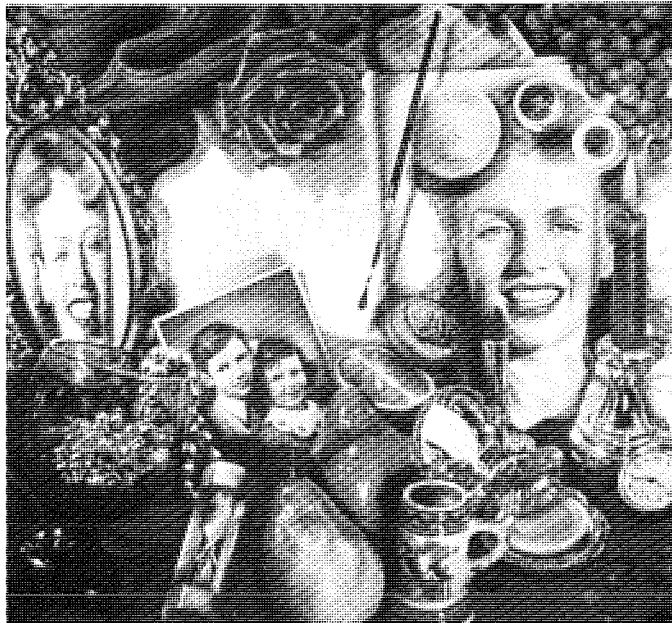


3. The clay vessel on the cover of your test booklet was created by a member of the Moche culture between 200 and 500 A.D. The Mochicas irrigated and farmed the desert area of South America which is now Peru. **Adobe** (sun-dried clay) was an available material that the Mochicas used frequently to build pyramids as well as create vessels. Often primitive societies created ceremonial vessels representing aspects of their cultural values.
- What kind of cultural values do you think these people held?
  - Look at the details of this vessel. What ceremony do you think it was used for? What details or elements of this vessel's appearance make you think this? Explain.



American-South, Peru. Ceramics. Strap-spout vessel, seated deer. Used by permission of The Metropolitan Museum of Art. Gift of Italian Cummings, 1963.

*View the painting below. This painting is heavy with symbolism of American values.*



4. Select two elements of the painting, and
- explain what they symbolize or stand for in American culture;
  - discuss how the elements you selected contribute to the overall theme of the painting.

## Sample Student Responses

(Grade 8 Question Number 4)

Bruegel's painting "The Return of the Hunters" inspired William Carlos Williams to write a famous poem, "The Hunters in the Snow." What thoughts or feelings does the painting bring out in you? Write at least one stanza of a poem or song expressing these thoughts or feelings. Then describe the elements of the painting that inspired them.



### Scoring Guide

- 4 points - A poem and explanation dealing with features of the artwork, feelings it evokes and projections of what is happening in the picture; strong consistency between poem and explanation inspired by painting; non-rhyming poetry of high quality or rhyming poetry with easy rhyme
- 3 points - A poem and explanation of equal proportion dealing with features of the artwork and the feelings they evoke; some consistency between poem and explanation inspired by painting; rhyming poetry-some forced rhyme
- 2 points - A brief poem with very limited explanation - one or two features of the artwork mentioned
- 1 point - Prose or no poem with very limited explanation - one or two features of the artwork mentioned
- 0 points - Response is incorrect or irrelevant

### Sample Student Responses\*

#### Score point 4

*As the hunters returned, trudging through the snow,  
they look down on the active village far below.  
One little boy shouts out "look there they are",  
"Can't you see them on the hill up far."  
People had come and formed a crowd.  
The hunter stoped and bowd.  
There feet were quiet like a mouse,  
As they walked toward there house.  
They walked in the door with snowy feet,  
And said, "I have brought you all something to eat"*

*A few things that inspired me was the hunters on a hill above the villige, the amount of people outside too. I thought they might be walking home to their familys. With the animals from the hunt*

**\*NOTE:** Although the sample student responses have been typed, spelling and grammatical errors that the students made have not been corrected.

**Score point 3**

*Great Snow*

*As the lonely men walk through the woods,  
they cry for their hunger as they walk  
to the village!*

*Coldness lerks in the air  
legs of the men are hevvy and bare  
Crying, will we ever make it though  
as the tears just come down but turn  
to ice threw and threw.*

*I look at this pitcher and see tried men tramping through the woods looking for some food. Possiblally hunting or even trying to get some skin from animals to make some clothes. This pitcher reminds me of poor people looking for food anywhere in sight.*

**Score point 2**

*Look, Look, Look at that peaceful snow white town. Look at the mountains in the background there so glamoures. Look at the birds flying overhead looking down on what got perfected. Then along came the hunters to ruin. Now there ain't know more peace.*

*What inspired me?*

*I just looked at the painting and thought about what was going on. It looked so peaceful and quiet.*

**Score point 1**

*They killed animals for there familys and probly they will sell the fur to people. They were hungry and came home.*