

# New York State Documents Regents Examinations

## EARTH SCIENCE

June 1957

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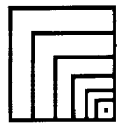


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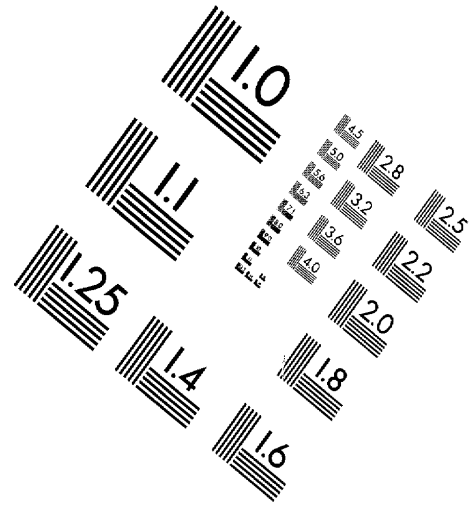
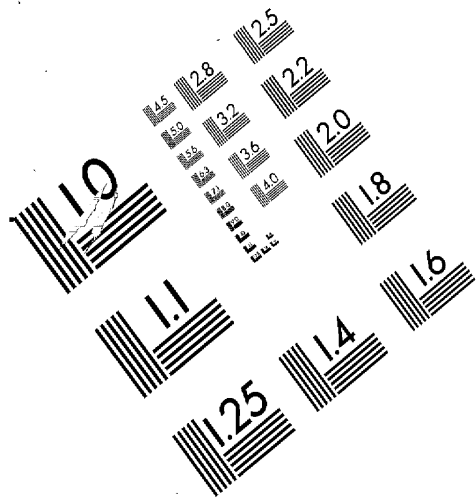
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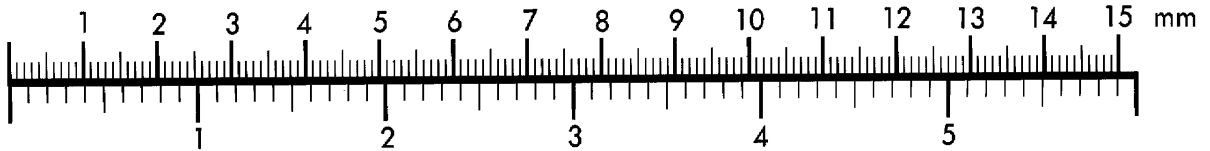


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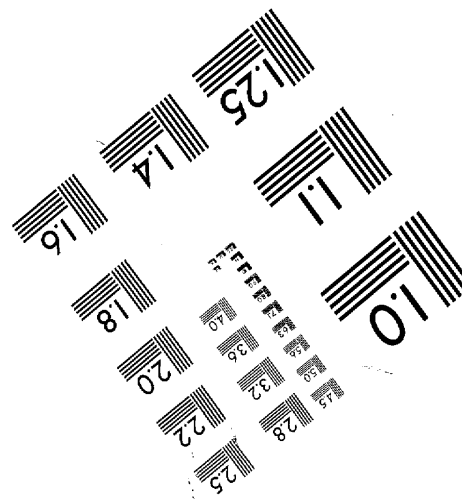
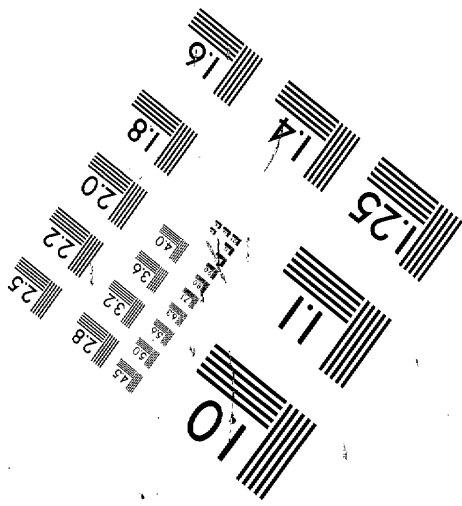
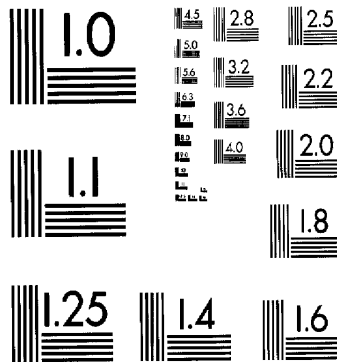
MS303-1980



Centimeter



Inches



The University of the State of New York

REGENTS HIGH SCHOOL EXAMINATION

EARTH SCIENCE

Tuesday, June 18, 1957 — 1:15 to 4:15 p.m., only

Write at top of first page of answer paper (a) name of school where you have studied, (b) number of weeks and recitations a week in earth science. Give either the total number of laboratory periods in earth science and the length of such periods or the number of laboratory exercises performed. A paper lacking the statement of laboratory work will not be accepted at a standing of less than 75 credits.

The minimum time requirement is five periods per week for a school year, including at least one prepared laboratory period or its equivalent. [Two unprepared laboratory periods are considered the equivalent of one prepared laboratory period. Laboratory exercises representing at least 30 laboratory periods are required.]

Name of pupil.....Name of school.....

Part I

Answer all questions in this part.

Write on the line at the right of each statement or question the number preceding the word or expression that best completes the statement or answers the question. [26]

- 1 Which cloud type is associated with hail? (1)cirrocumulus (2)cirrus (3)cumulonimbus (4)cumulus 1.....
- 2 Ground water is most destructive in regions where the bedrock is chiefly (1)gneiss (2)limestone (3)sandstone (4)shale 2.....
- 3 The dewpoint at a given time is 60° F. When the air temperature reaches the dewpoint, the relative humidity is (1) 0% (2) 30% (3) 60% (4) 100% 3.....
- 4 Which national park is famous for its hanging valleys? (1)Carlsbad (2)Yellowstone (3)Yosemite (4)Zion 4.....
- 5 The water-bearing layer of an artesian formation is always (1)an impervious layer (2)a pervious layer (3)limestone (4)shale 5.....
- 6 On a weather map, a line that joins points of equal temperature is called (1)a heat equator (2)an isobar (3)an isocline (4)an isotherm 6.....
- 7 The dark gray clouds that form a complete overcast on rainy days are called (1)altostratus (2)cirrostratus (3)nimbostratus (4)stratocumulus 7.....
- 8 Barometric pressure recorded on a weather map as 189 indicates a pressure of (1) 189 mb. (2) 918.9 mb. (3) 1018.9 mb. (4) 1,890 mb. 8.....
- 9 Which tide occurs only at the new and the full moon? (1)ebb tide (2)neap tide (3)slack tide (4)spring tide 9.....
- 10 A traveler goes from New Orleans to Miami, Florida. His watch should (1)be set ahead 1 hour (2)be set ahead 2 hours (3)be set back 1 hour (4)not be changed 10.....
- 11 Which mineral is most resistant to chemical weathering? (1)calcite (2)feldspar (3)gypsum (4)quartz 11.....
- 12 The part of any glaciated valley that has been flooded by the sea is called a (1)bay (2)fiord (3)lagoon (4)tidal inlet 12.....
- 13 A talus slope is usually the result of the action of (1)glaciers (2)gravity (3)streams (4)wind 13.....
- 14 Radiant solar energy is absorbed fastest by (1)air (2)dark-colored soil (3)light-colored soil (4)water 14.....
- 15 The number of "feathers" on a station-model symbol indicates the (1)barometric pressure (2)temperature (3)wind direction (4)wind velocity 15.....

EARTH SCIENCE — *continued*

- 16 The moon and the sun are on the same side of the earth at (1) full moon (2) new gibbous moon (3) new moon (4) old gibbous moon 16.....
- 17 The greatest amount of insolation is received from those rays of the sun that strike the earth's surface at an angle of (1) 0° (2) 45° (3) 90° (4) 180° 17.....
- 18 The shortest distance between two points on the earth's surface is measured along a (1) contour line (2) great circle (3) parallel (4) rhumb line 18.....
- 19 Which mineral can be scratched by a fingernail? (1) feldspar (2) gypsum (3) hornblende (4) quartz 19.....
- 20 The upper course of a river valley is likely to possess (1) broad flood plains (2) natural levees (3) oxbow lakes (4) waterfalls 20.....
- 21 Loess is a deposit of (1) glaciers (2) ground water (3) ocean currents (4) wind 21.....
- 22 The principal cause for the meandering of a stream is (1) glaciation (2) lateral erosion (3) rapid down-cutting (4) weathering 22.....
- 23 Alluvial fans tend to form where (1) ground moraine is deposited (2) rivers emerge from mountain canyons (3) streams empty into quiet bodies of water (4) sand dunes develop 23.....
- 24 Travertine deposits result chiefly from the action of (1) glaciers (2) ground water (3) weathering (4) wind 24.....
- 25 The lowest recorded temperature in the United States occurred (1) along the east coast (2) along the west coast (3) in the interior (4) on the coastal islands 25.....
- 26 Geologic evidence indicates that the number of years that have probably elapsed since the retreat of the last ice sheet covering New York State is closest to (1) 2,000 (2) 20,000 (3) 200,000 (4) 2,000,000 26.....

Write on the line at the right of *each* statement the word or expression that, when inserted in the blank, will make the statement true. [12]

- 27 The breaking of minerals along smooth plane surfaces is known as .... 27.....
- 28 A river which is cutting downward actively is in the ... stage of development. 28.....
- 29 Most of the large deserts of the world lie in the ... wind belt. 29.....
- 30 The date on which the vertical rays of the sun strike the earth farthest south is .... 30.....
- 31 Upfolds of rock are called .... 31.....
- 32 Slate is formed from .... 32.....
- 33 River basins are separated by ridges called .... 33.....
- 34 The earth is at perihelion about the first day of the month of .... 34.....
- 35 In space, the nearest neighbor of the moon is .... 35.....
- 36 An example of a natural rock composed of cemented sand and gravel is .... 36.....
- 37 Our sun is located in the galaxy named the .... 37.....
- 38 Winds which reverse direction with the changing seasons are called .... 38.....

EARTH SCIENCE — *continued*

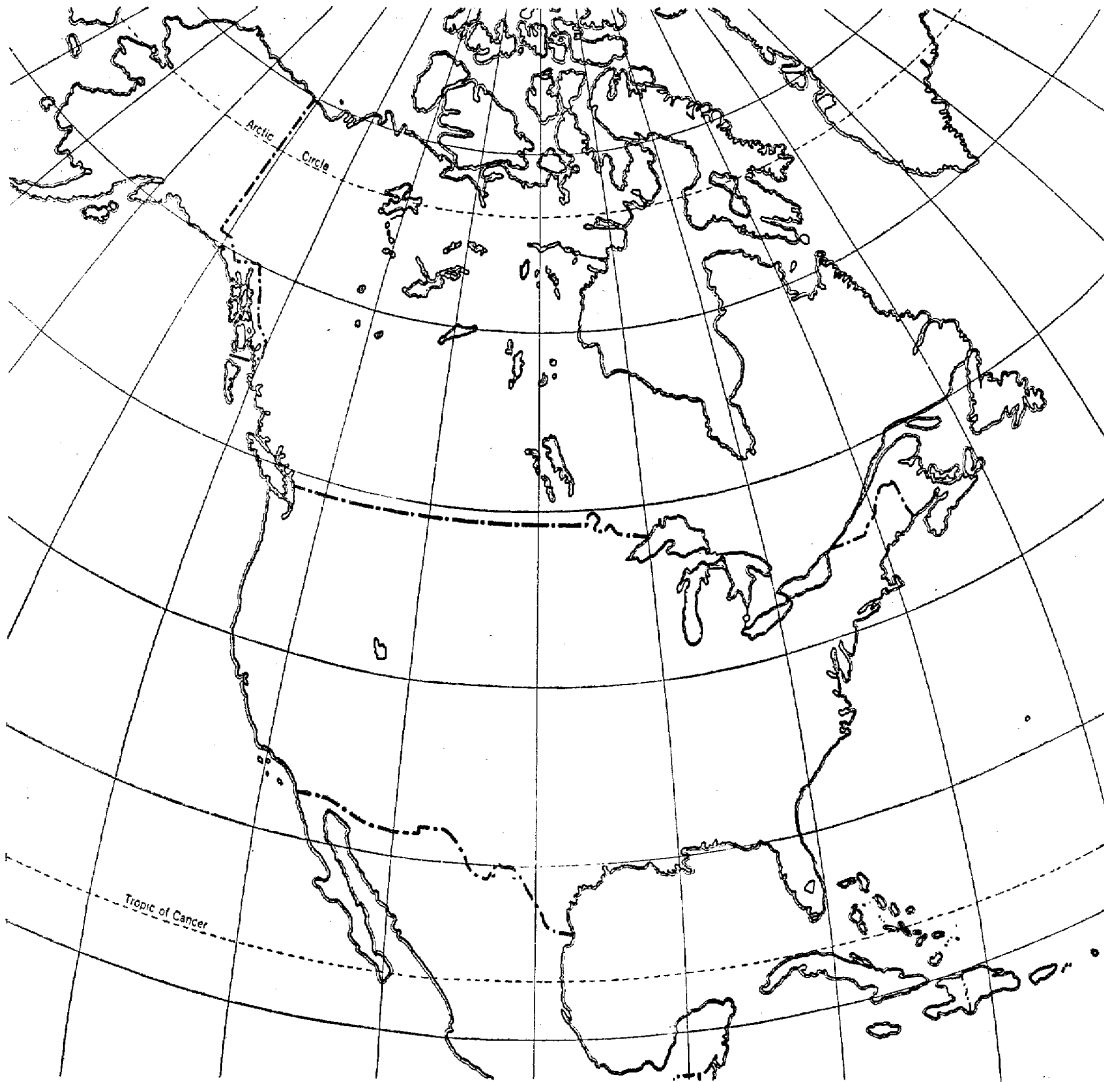
In *some* of the following statements the italicized term makes the statement incorrect. For each *incorrect* statement, write on the line at the right the term that must be substituted for the italicized term to make the statement correct. For each *correct* statement, write the word *true* on the line at the right. [12]

- 39 An igneous rock formed on or near the surface of the earth is *obsidian*. 39.....
- 40 On topographic maps of *plains*, a contour interval of 100 feet is often used. 40.....
- 41 Deep water near peninsulas and bays indicates *emergence* of the coast. 41.....
- 42 Ground or radiation fog is most likely to form when the sky is *overcast*. 42.....
- 43 Rising air cools chiefly as a result of *expansion*. 43.....
- 44 The motion of sunspots shows that the sun *revolves*. 44.....
- 45 The small bodies revolving around the sun between the orbits of Mars and Jupiter are *planetoids*. 45.....
- 46 The color of the coolest stars is *white*. 46.....
- 47 On a map, the fraction  $\frac{1}{250,000}$  indicates that a distance of 1 inch on this map is equal to a distance of 250,000 feet on the surface of the earth. 47.....
- 48 Kettle holes are likely to be found in *lake* plains. 48.....
- 49 A feature characteristic of a very old mountain region is a (an) *peneplane*. 49.....
- 50 The planet that is seldom seen because it is so close to the sun is *Mercury*. 50.....

Part II

Answer five questions from this part. Answers should be numbered and lettered to correspond with questions.

- 1 a On the map of North America below label the source regions of the following air masses: *cP*, *mP*, *mT*. [3]
- b On the map indicate with a series of arrows the general path of each of these air masses as it moves from its source region. [3]
- c Explain what takes place as *mP* air moves up the windward slopes of the mountains near the coast. [2]
- d List two changes that occur in the *cP* air mass as it moves across the Great Lakes in the winter. [2]



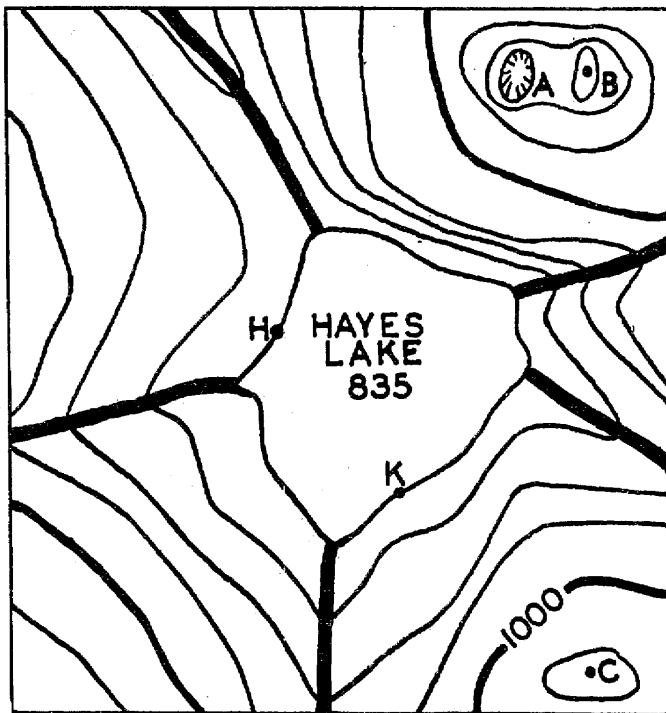
- 2 a State the agent responsible for each of the following types of lake basins: crater, kettle, oxbow, tarn. [4]
- b Explain how each of the following lakes will probably be destroyed: Lake Erie, Great Salt Lake, Lake Meade (behind Hoover Dam). [6]

EARTH SCIENCE — *continued*

- 3 a Explain why the North Star does *not* appear to change its position during the night. [2]  
 b Why does a constellation appear in different parts of the sky during a given year? [2]  
 c Explain why a degree of longitude is longest at the equator. [2]  
 d The distance to the earth from Proxima Centauri is about 4 light years. What does this statement mean? [2]  
 e Why is it *never* possible to see Venus at midnight? [2]

- 4 a Draw a diagram of a low pressure area using at least *three* isobars. Show the following:  
 (1) the location of the cold and the warm fronts with the proper *symbols* [2]  
 (2) *by arrows* the wind direction within the low pressure area [2]  
 (3) the air pressure on *each* isobar when one is 1,008 mb. [2]  
 b Explain how an occluded front is formed. [2]  
 c A pilot flies into a low pressure area without changing his altimeter setting. How does the true height of the airplane above sea level compare with the reading of the altimeter? Explain. [1, 1]

5 The following questions refer to the map below:



- a What is the contour interval? [2]  
 b Name the features labeled *A* and *B*. [2]  
 c *On the map* label the stream which is the outlet of Hayes Lake. [2]  
 d *B* is northeast of *C*. *On the map* indicate north by means of an arrow. [2]  
 e It is two miles from *H* to *K*. How far is it from *B* to *C*? [2]

EARTH SCIENCE — *concluded*

- 6 a (1) Explain *two* ways in which new bedrock may be formed. [2, 2]  
(2) For *each* way mentioned, name a rock formed in that manner. [2]  
b Give *two specific* ways in which a crystal of calcite differs from a crystal of quartz. [2]  
c Explain why some igneous rocks are glassy and others are coarse in texture. [2]
- 7 a Describe a method used to determine latitude. [2]  
b When it is noon on June 21 in New York City (75° W.), what is the *date* and *time* at  
(1) 120° E., (2) 15° E., (3) 120° W.? [6]  
c A sundial is located in Philadelphia (75° W.). Why does the sundial indicate time which is different from the clock? [2]
- 8 Select *five* of the following groups of terms. *On your answer paper* write the word or phrase which includes all the other terms in the group. [10]  
a exfoliation, frost action, oxidation, solution, weathering  
b deltas, deposits, loess, offshore bars, stalactites  
c cirque, erosion, hanging valley, pothole, V-shaped valley  
d diastrophism, earthquake, faulting, folding, vulcanism  
e batholith, cinder cone, geyser, obsidian, vulcanism  
f decay of radioactive elements, estimate of age of the earth, index fossil, salt content of oceans, thickness of sediments

# FOR TEACHERS ONLY

# ESc

## INSTRUCTIONS FOR RATING EARTH SCIENCE

Tuesday, June 18, 1957 — 1:15 to 4:15 p.m., only

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

### Part I

Allow a total of 50 credits on part I, 1 credit for each correct answer. For questions 27–50, a variation will be accepted if the answer is scientifically correct. However, in questions 39, 43, 45 and 49–50 for which *true* is the correct answer, no variations will be allowed.

(1) 3	(26) 2
(2) 2	(27) cleavage
(3) 4	(28) young
(4) 3	(29) trade
(5) 2	(30) Dec. 20–23
(6) 4	(31) anticlines
(7) 3	(32) shale
(8) 3	(33) divides
(9) 4	(34) January
(10) 1	(35) earth
(11) 4	(36) conglomerate
(12) 2	(37) Milky Way
(13) 2	(38) monsoons
(14) 2	(39) true
(15) 4	(40) mountains
(16) 3	(41) submergence
(17) 3	(42) clear
(18) 2	(43) true
(19) 2	(44) rotates
(20) 4	(45) true
(21) 4	(46) red
(22) 2	(47) inches
(23) 2	(48) outwash
(24) 2	(49) true
(25) 3	(50) true