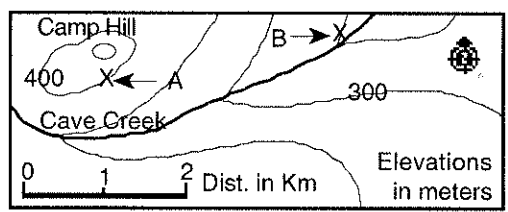


The Earth Science Reference Tables is undoubtedly your most important resource for the Earth Science Regents exam. A knowledge of the information in the ESRT and how to use it will be of critical importance in your performance. Please keep in mind that completing this paper should be a learning activity. If you are unable to answer any of these items, use this an opportunity to pick up new skills.

► **Referemnce Tables; Page 1**

- omit* 1. How wide is this sheet of paper, to the nearest 0.1 cm? _____ ...in meters? _____
2. Which of the radioactive substances listed on this page has the shortest half life? _____
3. Write the half life of Uranium-238 as a standard number. _____
4. If you started with 100 g of K-40, how much would remain k-40 after 3.9×10^9 years? _____
5. What common substance requires the most energy to heat up a unit mass by 10°C ? _____
6. Which uses more energy, melting a 10 g ice cube or evaporating 10 g of water? _____
- omit* 7. If I estimated a rock to have a volume of 20 cm^3 , but careful measurement showed it's true volume to be 25 cm^3 , what would be the percent deviation of my estimate?
 (Please show you work for items 5 ↗ and 6 ↘.)

8. What is the average gradient from A to B?



► **Page 2**

9. In what landscape region do you live? _____
10. What is the landscape region around Old Forge, NY? _____
11. The Catskill Mountains are a part of what larger landscape area? _____

► **Page 3**

12. If you want to drive from Albany to Buffalo, what direction must you travel? _____
13. What are the approximate terrestrial coordinates of Watertown, NY? _____

14. What is the numerical age of the bedrock around Syracuse, NY? _____
15. What is the metric distance from Syracuse to Utica? _____
16. As water flows from Lake Erie into Lake Ontario, most of the change in elevation is at Niagara Falls. What is the total change in elevation? _____
17. Which kind of rocks are most common in the Catskills? _____
18. What New York landscape region has the oldest bedrock? _____

Page 4

19. What ocean current keeps Europe relatively warm? _____
20. How do local ocean currents affect the climate along the western coast of South America? _____
21. What major ocean current can be found at 50°S, 50°W? _____

Page 5

22. With respect to Africa, in what direction is South America drifting? _____
23. What kind of plate boundary is the Mid-Atlantic Ridge? _____
24. What is the major active fault in the Western United States?? _____
25. What has caused the growth of the Himalayan Mountains, north of India? _____
26. Where is the nearest major mantle hot spot/plume? _____

Page 6

27. What is the final step in the formation of sediment? _____
28. What do we call sediment composed of particles 1 cm across? _____
29. How does gabbro differ from basalt? _____
30. What is the most abundant mineral in diorite? _____
31. How fast a stream current is required to transport the smallest boulders? _____
32. What five minerals are common in basalt? _____

Page 7

33. What minerals are most common in sandstone? _____
34. Which clastic (fragmental) rock is composed of the smallest particles? _____
35. What mineral is most abundant in rock salt? (The mineral is not called salt.) _____
36. What mineral family is common in slate, phyllite, schist and gneiss? _____
37. What is the texture of quartzite? _____
38. What metamorphic rock is primarily composed of calcite? _____

Pages 8 & 9

39. When did North America split apart from Africa and Europe? _____
40. How old is the Earth? _____
41. What is the first period of the Paleozoic era? _____
42. What two periods are *not* represented in the bedrock of New York? _____
43. What animal group first evolved about the same time as the dinosaurs? _____

Page 10

44. At what two depths within the Earth is the temperature above the melting point? _____
45. What is Earth's radius in kilometers? _____ What is its diameter? _____
46. What is the composition of Earth's core? _____
47. Which layer of the Earth is the least dense? _____ Most dense; _____
48. In what part of the Earth does the temperature increase fastest with depth? _____

Pages 11

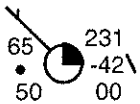
49. What is the two most common element in the oceans? _____
50. How long does it take an S-wave to travel 6000 km? _____ ...a P-wave? _____
51. How far away is the epicenter if the P-wave arrives 5 minutes before the S-wave? _____
52. What element makes up about 6% of crustal rocks by mass, but only 1/2% by volume? _____
53. How far can a P-wave travel in 5 minutes, 40 seconds? _____

Pages 12

54. If the wet bulb reads 4°C and the dry bulb records 12°C, what is the dewpoint? _____
55. What is the relative humidity in the conditions specified above? _____
56. What does a negative dewpoint mean? _____

Pages 13

57. What is the Kelvin temperature of 0° C? _____ What is this temperature in Fahrenheit? _____
58. What is the normal atmospheric pressure in inches of mercury? _____
59. What is the Fahrenheit temperature at this weather station? _____ Celsius? _____
60. What is the atmospheric pressure? _____ Is it rising or falling? _____
61. Wind speed? _____ Wind direction? _____ Cloud Cover? _____



62. A maritime tropical air mass is _____ and _____. (You should know this.)

Pages 14

63. How does the air temperature change as you go higher within the mesosphere? _____
64. What name has been given to the boundary at the bottom of the atmosphere? _____
65. What form of electromagnetic energy has a wavelength just too long to be visible to us? _____
66. What is the approximate wavelength of visible light? _____

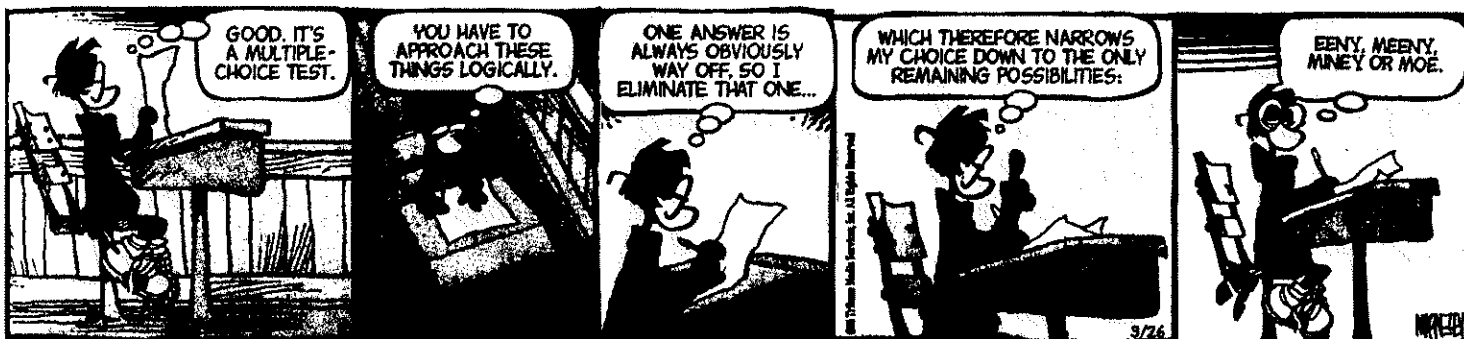
67. What is the prevailing wind direction 45° south of the equator? _____
68. Why is precipitation so abundant near the equator? _____

Pages 15

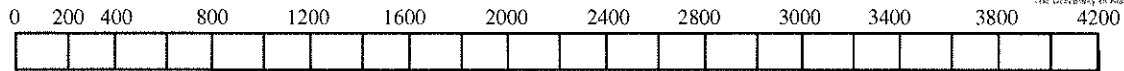
69. Although Barnard's Star is relatively close to us, it is hard to see?
Compared to the sun, how much light does Barnard's Star give off? _____
70. The North Star is similar to the sun in _____ and _____.
How is it very different? _____
71. Rigel and Betelgeuse are two of the brightest stars in the prominent winter constellation Orion.
How does Betelgeuse appear different from Rigel to us? _____
72. Of the nine planets, which one spins the fastest on its axis? _____
73. Which planet has the most out of round (flattened) orbit? _____
74. Which planet is closest to the Earth in size? _____
75. Approximately how much larger is the sun's diameter than the diameter of the Earth? _____

Pages 16

76. What mineral has a nonmetallic luster, scratches glass and is often pink? _____
77. Name two common minerals that are chemical elements _____ and _____
78. What is the most obvious difference between amphibole and pyroxene? _____
79. What other minerals form crystals similar in shape to pyrite? _____



Station Name	P-Wave Arrival Time (00:00:00)	S-Wave Arrival Time (00:00:00)	S - P Time (00:00:00)	Distance to Epicenter (Km)	P-Wave Travel Time (00:00:00)	Origin Time (00:00:00)
Atlanta, Ga	06:12:27	06:14:37				
Boise, Idaho	06:13:57	06:17:27				
Oklahoma City, Ok	06:10:57	06:12:07				



Station 2 Fill in the chart and locate the earthquake epicenter on the map.

Station Name	P-Wave Arrival Time (00:00:00)	S-Wave Arrival Time (00:00:00)	S - P Time (00:00:00)	Distance to Epicenter (Km)	P-Wave Travel Time (00:00:00)	Origin Time (00:00:00)
Seattle	13:08:10	13:10:50	00:02:40	1600	00:03:20	13:04:50
Denver	13:07:35	13:09:50				
Anchorage	13:11:50	13:17:15				

Put an X where the epicenter is located.

