

## Pre-Formatted Reports: Benchmark Test Item Analysis - New Format

### Data Selections

**Institution(s):** All School Types, All Schools  
**Benchmark Administration:** 03/02/15, 2014-15 Mid-Semester Earth Science (2sem)  
**Trend Profile:** 2014-2015  
**Subject:** Life and Physical Sciences  
**Test Focus:** All Test Focuses  
**Test Level:** All Benchmark Test Levels  
**Test Category:** District Benchmark  
**Grade:** All Grade Levels  
**Enrollment:** Current

Number of questions: 40  
 Number of test-taking students: 687

### Student Responses

| Question - Type      | Correct |       | Incorrect  | Most Common Mistake |       | Point Value | Points Achieved / Possible | P-Value / Item Mean | Discrimination |
|----------------------|---------|-------|------------|---------------------|-------|-------------|----------------------------|---------------------|----------------|
|                      | Rate    | Value | Total Rate | Rate                | Value |             |                            |                     |                |
| 1 - Multiple Choice  | 44%     | D     | 56%        | 24%                 | A     | 1           | 303 / 687                  | 0.44                | 0.47           |
| 2 - Multiple Choice  | 81%     | C     | 19%        | 10%                 | D     | 1           | 558 / 687                  | 0.81                | 0.29           |
| 3 - Multiple Choice  | 27%     | D     | 73%        | 49%                 | A     | 1           | 188 / 687                  | 0.27                | 0.14           |
| 4 - Multiple Choice  | 30%     | A     | 70%        | 36%                 | C     | 1           | 203 / 687                  | 0.30                | 0.32           |
| 5 - Multiple Choice  | 18%     | B     | 82%        | 59%                 | D     | 1           | 123 / 687                  | 0.18                | 0.05           |
| 6 - Multiple Choice  | 58%     | A     | 42%        | 17%                 | B     | 1           | 400 / 687                  | 0.58                | 0.38           |
| 7 - Multiple Choice  | 60%     | B     | 40%        | 23%                 | D     | 1           | 414 / 687                  | 0.60                | 0.28           |
| 8 - Multiple Choice  | 67%     | D     | 33%        | 24%                 | B     | 1           | 462 / 687                  | 0.67                | 0.38           |
| 9 - Multiple Choice  | 41%     | A     | 59%        | 23%                 | D     | 1           | 281 / 687                  | 0.41                | 0.27           |
| 10 - Multiple Choice | 74%     | B     | 26%        | 11%                 | D     | 1           | 505 / 687                  | 0.74                | 0.42           |
| 11 - Multiple Choice | 87%     | C     | 13%        | 6%                  | A     | 1           | 601 / 687                  | 0.87                | 0.45           |
| 12 - Multiple Choice | 50%     | B     | 50%        | 30%                 | C     | 1           | 341 / 687                  | 0.50                | 0.37           |
| 13 - Multiple Choice | 77%     | D     | 23%        | 13%                 | A     | 1           | 528 / 687                  | 0.77                | 0.38           |
| 14 - Multiple Choice | 34%     | A     | 66%        | 34%                 | C     | 1           | 234 / 687                  | 0.34                | 0.25           |
| 15 - Multiple Choice | 47%     | B     | 53%        | 29%                 | A     | 1           | 326 / 687                  | 0.47                | 0.44           |
| 16 - Multiple Choice | 69%     | C     | 31%        | 12%                 | D     | 1           | 474 / 687                  | 0.69                | 0.57           |
| 17 - Multiple Choice | 39%     | B     | 61%        | 43%                 | C     | 1           | 269 / 687                  | 0.39                | 0.22           |
| 18 - Multiple Choice | 66%     | B     | 34%        | 12%                 | A     | 1           | 456 / 687                  | 0.66                | 0.56           |
| 19 - Multiple Choice | 60%     | D     | 40%        | 16%                 | C     | 1           | 411 / 687                  | 0.60                | 0.54           |
| 20 - Multiple Choice | 55%     | D     | 45%        | 16%                 | A     | 1           | 377 / 687                  | 0.55                | 0.52           |

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|                      |            |   |            |     |   |   |                  |      |      |
|----------------------|------------|---|------------|-----|---|---|------------------|------|------|
| 21 - Multiple Choice | 52%        | A | 48%        | 20% | B | 1 | 360 / 687        | 0.52 | 0.21 |
| 22 - Multiple Choice | 87%        | C | 13%        | 7%  | B | 1 | 597 / 687        | 0.87 | 0.39 |
| 23 - Multiple Choice | 63%        | D | 37%        | 13% | B | 1 | 431 / 687        | 0.63 | 0.64 |
| 24 - Multiple Choice | 33%        | A | 67%        | 44% | B | 1 | 224 / 687        | 0.33 | 0.29 |
| 25 - Multiple Choice | 56%        | D | 44%        | 15% | B | 1 | 387 / 687        | 0.56 | 0.54 |
| 26 - Multiple Choice | 84%        | A | 16%        | 7%  | B | 1 | 575 / 687        | 0.84 | 0.43 |
| 27 - Multiple Choice | 62%        | B | 38%        | 18% | A | 1 | 429 / 687        | 0.62 | 0.51 |
| 28 - Multiple Choice | 58%        | D | 42%        | 19% | B | 1 | 397 / 687        | 0.58 | 0.41 |
| 29 - Multiple Choice | 55%        | B | 45%        | 27% | A | 1 | 380 / 687        | 0.55 | 0.20 |
| 30 - Multiple Choice | 69%        | C | 31%        | 15% | B | 1 | 477 / 687        | 0.69 | 0.51 |
| 31 - Multiple Choice | 60%        | B | 40%        | 15% | A | 1 | 412 / 687        | 0.60 | 0.41 |
| 32 - Multiple Choice | 32%        | C | 68%        | 36% | A | 1 | 220 / 687        | 0.32 | 0.14 |
| 33 - Multiple Choice | 61%        | D | 39%        | 15% | A | 1 | 420 / 687        | 0.61 | 0.49 |
| 34 - Multiple Choice | 33%        | A | 67%        | 32% | C | 1 | 226 / 687        | 0.33 | 0.26 |
| 35 - Multiple Choice | 60%        | B | 40%        | 17% | C | 1 | 415 / 687        | 0.60 | 0.49 |
| 36 - Multiple Choice | 47%        | C | 53%        | 32% | D | 1 | 320 / 687        | 0.47 | 0.38 |
| 37 - Multiple Choice | 58%        | A | 42%        | 19% | B | 1 | 401 / 687        | 0.58 | 0.55 |
| 38 - Multiple Choice | 66%        | A | 34%        | 26% | D | 1 | 456 / 687        | 0.66 | 0.36 |
| 39 - Multiple Choice | 38%        | D | 62%        | 51% | B | 1 | 263 / 687        | 0.38 | 0.44 |
| 40 - Multiple Choice | 73%        | B | 27%        | 18% | A | 1 | 503 / 687        | 0.73 | 0.53 |
| <b>Summary</b>       | <b>56%</b> |   | <b>44%</b> |     |   |   | <b>384 / 687</b> |      |      |

P-value represents an item's difficulty as evaluated by dividing the total number of correct responses by the total number of students tested. P-value is calculated for true/false, multiple choice, gridded or hot spot-single response items.

Item Mean is the average score for student responses to an open response question or to a multi-part question. Item Mean is calculated for inline response, matching or hot spot-multiple selections items.

Discrimination or Item Total Score Correlation is the correlation between the question score and the overall test score and indicates the extent to which success on an item corresponds to success on the test.

## Standards Alignment to NC Essential Standards

| Question                   | ID                    | Standard Description   |
|----------------------------|-----------------------|--|
| <b>1 - Multiple Choice</b> | <b>NCES.EEn.1.1.3</b> | Explain how the sun produces energy which is transferred to the Earth by radiation.                              |
| <b>2 - Multiple Choice</b> | <b>NCES.EEn.2.1.1</b> | Explain how the rock cycle, plate tectonics, volcanoes, and earthquakes impact the lithosphere.                  |
| <b>3 - Multiple Choice</b> |                       | Earth and Environmental  |
| <b>4 - Multiple Choice</b> |                       | Earth and Environmental  |
| <b>5 - Multiple Choice</b> | <b>NCES.EEn.2.1.2</b> | Predict the locations of volcanoes, earthquakes, and faults based on information contained in a variety of maps. |

|                             |                       |   |
|-----------------------------|-----------------------|---|
| <b>6 - Multiple Choice</b>  | <b>NCES.EEn.2.1.4</b> | Explain the probability of and preparation for geohazards such as landslides, avalanches, earthquakes and volcanoes in a particular area based on available data.       |
| <b>7 - Multiple Choice</b>  | <b>NCES.EEn.2.1.1</b> | Explain how the rock cycle, plate tectonics, volcanoes, and earthquakes impact the lithosphere.   |
| <b>8 - Multiple Choice</b>  | <b>NCES.EEn.2.1.1</b> | Explain how the rock cycle, plate tectonics, volcanoes, and earthquakes impact the lithosphere.   |
| <b>9 - Multiple Choice</b>  | <b>NCES.EEn.2.1.2</b> | Predict the locations of volcanoes, earthquakes, and faults based on information contained in a variety of maps.  |
| <b>10 - Multiple Choice</b> | <b>NCES.EEn.2.1.3</b> | Explain how natural actions such as weathering, erosion (wind, water and gravity), and soil formation affect Earth's surface.   |
| <b>11 - Multiple Choice</b> | <b>NCES.EEn.2.1.4</b> | Explain the probability of and preparation for geohazards such as landslides, avalanches, earthquakes and volcanoes in a particular area based on available data.       |
| <b>12 - Multiple Choice</b> | <b>NCES.EEn.2.1.4</b> | Explain the probability of and preparation for geohazards such as landslides, avalanches, earthquakes and volcanoes in a particular area based on available data.       |
| <b>13 - Multiple Choice</b> | <b>NCES.EEn.2.1.4</b> | Explain the probability of and preparation for geohazards such as landslides, avalanches, earthquakes and volcanoes in a particular area based on available data.       |
| <b>14 - Multiple Choice</b> | <b>NCES.EEn.2.2.1</b> | Explain the consequences of human activities on the lithosphere (such as mining, deforestation, agriculture, overgrazing, urbanization, and land use) past and present. |
| <b>15 - Multiple Choice</b> | <b>NCES.EEn.2.2.1</b> | Explain the consequences of human activities on the lithosphere (such as mining, deforestation, agriculture, overgrazing, urbanization, and land use) past and present. |
| <b>16 - Multiple Choice</b> | <b>NCES.EEn.2.2.1</b> | Explain the consequences of human activities on the lithosphere (such as mining, deforestation, agriculture, overgrazing, urbanization, and land use) past and present. |
| <b>17 - Multiple Choice</b> | <b>NCES.EEn.2.2.2</b> | Compare the various methods humans use to acquire traditional energy sources (such as peat, coal, oil, natural gas, nuclear fission, and wood).                         |
| <b>18 - Multiple Choice</b> | <b>NCES.EEn.2.2.2</b> | Compare the various methods humans use to acquire traditional energy sources (such as peat, coal, oil, natural gas, nuclear fission, and wood).                         |
| <b>19 - Multiple Choice</b> | <b>NCES.EEn.2.2.2</b> | Compare the various methods humans use to acquire traditional energy sources (such as peat, coal, oil, natural gas, nuclear fission, and wood).                         |
| <b>20 - Multiple Choice</b> | <b>NCES.EEn.2.3.2</b> | Explain how ground water and surface water interact.  |
| <b>21 - Multiple Choice</b> | <b>NCES.EEn.2.3.2</b> | Explain how ground water and surface water interact.  |
| <b>22 - Multiple Choice</b> | <b>NCES.EEn.2.3.2</b> | Explain how ground water and surface water interact.  |
| <b>23 - Multiple Choice</b> | <b>NCES.EEn.2.4.1</b> | Evaluate human influences on freshwater availability.   |
| <b>24 - Multiple Choice</b> | <b>NCES.EEn.2.4.1</b> | Evaluate human influences on freshwater availability.   |
| <b>25 - Multiple Choice</b> | <b>NCES.EEn.2.4.1</b> | Evaluate human influences on freshwater availability.   |
| <b>26 - Multiple Choice</b> | <b>NCES.EEn.2.4.2</b> | Evaluate human influences on water quality in North Carolina's river basins, wetlands and tidal environments.   |
| <b>27 - Multiple Choice</b> | <b>NCES.EEn.2.4.2</b> | Evaluate human influences on water quality in North Carolina's river basins, wetlands and tidal environments.   |
| <b>28 - Multiple Choice</b> | <b>NCES.EEn.2.4.2</b> | Evaluate human influences on water quality in North Carolina's river basins, wetlands and tidal environments.   |
| <b>29 - Multiple Choice</b> | <b>NCES.EEn.2.8.1</b> | Evaluate alternative energy technologies for use in North Carolina.   |
| <b>30 - Multiple Choice</b> | <b>NCES.EEn.2.8.1</b> | Evaluate alternative energy technologies for use in North Carolina.   |
| <b>31 - Multiple Choice</b> | <b>NCES.EEn.2.8.2</b> | Critique conventional and sustainable agriculture and aquaculture practices in terms of their environmental impacts.  |
| <b>32 - Multiple Choice</b> | <b>NCES.EEn.2.8.2</b> | Critique conventional and sustainable agriculture and aquaculture practices in terms of their environmental impacts.  |

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| <b>33 - Multiple Choice NCES.EEn.2.8.2</b> | Critique conventional and sustainable agriculture and aquaculture practices in terms of their environmental impacts. |
| <b>34 - Multiple Choice NCES.EEn.2.8.3</b> | Explain the effects of uncontrolled population growth on the Earth's resources.                                      |
| <b>35 - Multiple Choice NCES.EEn.2.8.3</b> | Explain the effects of uncontrolled population growth on the Earth's resources.                                      |
| <b>36 - Multiple Choice NCES.EEn.2.8.3</b> | Explain the effects of uncontrolled population growth on the Earth's resources.                                      |
| <b>37 - Multiple Choice NCES.EEn.2.8.4</b> | Evaluate the concept of "reduce, reuse, recycle" in terms of impact on natural resources.                            |
| <b>38 - Multiple Choice NCES.EEn.2.8.4</b> | Evaluate the concept of "reduce, reuse, recycle" in terms of impact on natural resources.                            |
| <b>39 - Multiple Choice NCES.EEn.2.8.4</b> | Evaluate the concept of "reduce, reuse, recycle" in terms of impact on natural resources.                            |
| <b>40 - Multiple Choice NCES.EEn.2.8.4</b> | Evaluate the concept of "reduce, reuse, recycle" in terms of impact on natural resources.                            |

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