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

Data Selections

Institution(s): All School Types,All Schools
Benchmark Administration: 09/03/14, 2014-2015 Baseline Chemistry
Trend Profile: 2014-2015
Subject: Life and Physical Sciences
Test Focus: All Test Focuses
Test Level: 09
Test Category: District Benchmark
Grade: 09
Enrollment: Any year

Number of questions: 50
Number of test-taking students: 335

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	95%	A	5%	2%	B	1	317 / 335		
2 - Multiple Choice	22%	A	78%	63%	D	1	74 / 335		
3 - Multiple Choice	66%	B	34%	27%	C	1	220 / 335		
4 - Multiple Choice	61%	C	39%	24%	A	1	204 / 335		
5 - Multiple Choice	48%	A	52%	20%	C	1	162 / 335		
6 - Multiple Choice	77%	B	23%	16%	C	1	259 / 335		
7 - Multiple Choice	66%	C	34%	26%	D	1	220 / 335		
8 - Multiple Choice	33%	B	67%	41%	A	1	111 / 335		
9 - Multiple Choice	59%	D	41%	17%	C	1	197 / 335		
10 - Multiple Choice	77%	D	23%	13%	C	1	258 / 335		
11 - Multiple Choice	47%	C	53%	21%	B	1	157 / 335		
12 - Multiple Choice	56%	C	44%	27%	B	1	187 / 335		
13 - Multiple Choice	24%	C	76%	56%	D	1	81 / 335		
14 - Multiple Choice	62%	D	38%	18%	B	1	208 / 335		
15 - Multiple Choice	42%	D	58%	47%	C	1	140 / 335		
16 - Multiple Choice	88%	C	12%	6%	B	1	295 / 335		
17 - Multiple Choice	61%	D	39%	19%	C	1	204 / 335		
18 - Multiple Choice	55%	A	45%	24%	B	1	184 / 335		
19 - Multiple Choice	43%	C	57%	22%	B	1	143 / 335		
20 - Multiple Choice	43%	B	57%	24%	C	1	144 / 335		

21 - Multiple Choice	57%	B	43%	23%	A	1	190 / 335		
22 - Multiple Choice	36%	A	64%	47%	C	1	120 / 335		
23 - Multiple Choice	50%	A	50%	26%	C	1	169 / 335		
24 - Multiple Choice	44%	C	56%	36%	A	1	149 / 335		
25 - Multiple Choice	70%	C	30%	13%	B	1	235 / 335		
26 - Multiple Choice	50%	D	50%	27%	B	1	169 / 335		
27 - Multiple Choice	18%	A	82%	34%	C	1	59 / 335		
28 - Multiple Choice	27%	C	73%	28%	B	1	89 / 335		
29 - Multiple Choice	50%	C	50%	34%	A	1	168 / 335		
30 - Multiple Choice	34%	A	66%	29%	B	1	114 / 335		
31 - Multiple Choice	56%	C	44%	16%	D	1	186 / 335		
32 - Multiple Choice	67%	A	33%	13%	B	1	224 / 335		
33 - Multiple Choice	90%	B	10%	4%	A	1	302 / 335		
34 - Multiple Choice	44%	C	56%	20%	A	1	146 / 335		
35 - Multiple Choice	30%	B	70%	50%	A	1	99 / 335		
36 - Multiple Choice	48%	D	52%	25%	C	1	161 / 335		
37 - Multiple Choice	32%	B	68%	31%	A	1	107 / 335		
38 - Multiple Choice	47%	D	53%	26%	C	1	158 / 335		
39 - Multiple Choice	56%	B	44%	17%	C	1	187 / 335		
40 - Multiple Choice	42%	D	58%	34%	B	1	142 / 335		
41 - Multiple Choice	70%	A	30%	23%	B	1	234 / 335		
42 - Multiple Choice	59%	C	41%	28%	A	1	199 / 335		
43 - Multiple Choice	47%	B	53%	33%	A	1	157 / 335		
44 - Multiple Choice	55%	C	45%	29%	B	1	184 / 335		
45 - Multiple Choice	90%	A	10%	4%	C	1	300 / 335		
46 - Multiple Choice	67%	D	33%	26%	C	1	225 / 335		
47 - Multiple Choice	61%	B	39%	20%	C	1	205 / 335		
48 - Multiple Choice	74%	C	26%	11%	A	1	247 / 335		
49 - Multiple Choice	37%	C	63%	24%	B	1	125 / 335		
50 - Multiple Choice	59%	D	41%	19%	B	1	198 / 335		
Summary	54%		46%				**180 / 335**		

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
1 - Multiple Choice	**NCES.Chm.1.3.1**	Classify the components of a periodic table (period, group, metal, metalloid, nonmetal, transition).
2 - Multiple Choice	**NCES.Chm.1.2.5**	Compare the properties of ionic, covalent, metallic, and network compounds.
3 - Multiple Choice	**NCES.Chm.2.1.2**	Explain heating and cooling curves (heat of fusion, heat of vaporization, heat, melting point, and boiling point).
4 - Multiple Choice	**NCES.Chm.1.3.2**	Infer the physical properties (atomic radius, metallic and nonmetallic characteristics) of an element based on its position on the Periodic Table.
5 - Multiple Choice	**NCES.Chm.2.2.3**	Analyze the law of conservation of matter and how it applies to various types of chemical equations (synthesis, decomposition, single replacement, double replacement, and combustion).
6 - Multiple Choice	**NCES.Chm.1.1.1**	Analyze the structure of atoms, isotopes, and ions.
7 - Multiple Choice	**NCES.Chm.2.2.2**	Analyze the evidence of chemical change.
8 - Multiple Choice	**NCES.Chm.2.1.4**	Infer simple calorimetric calculations based on the concepts of heat lost equals heat gained and specific heat.
9 - Multiple Choice	**NCES.Chm.1.1.1**	Analyze the structure of atoms, isotopes, and ions.
10 - Multiple Choice	**NCES.Chm.2.1.1**	Explain the energetic nature of phase changes.
11 - Multiple Choice		Chemistry
12 - Multiple Choice	**NCES.Chm.1.3.1**	Classify the components of a periodic table (period, group, metal, metalloid, nonmetal, transition).
13 - Multiple Choice	**NCES.Chm.2.1.2**	Explain heating and cooling curves (heat of fusion, heat of vaporization, heat, melting point, and boiling point).
14 - Multiple Choice		Chemistry
15 - Multiple Choice	**NCES.Chm.1.3.2**	Infer the physical properties (atomic radius, metallic and nonmetallic characteristics) of an element based on its position on the Periodic Table.
16 - Multiple Choice		Chemistry
17 - Multiple Choice		Chemistry
18 - Multiple Choice	**NCES.Chm.3.2.1**	Classify substances using the hydronium and hydroxide ion concentrations.
19 - Multiple Choice	**NCES.Chm.1.1.4**	Explain the process of radioactive decay by the use of nuclear equations and half-life.
20 - Multiple Choice	**NCES.Chm.1.1.4**	Explain the process of radioactive decay by the use of nuclear equations and half-life.
21 - Multiple Choice	**NCES.Chm.1.2.4**	Interpret the name and formula of compounds using IUPAC convention.
22 - Multiple Choice	**NCES.Chm.2.2.2**	Analyze the evidence of chemical change.
23 - Multiple Choice	**NCES.Chm.2.2.5**	Analyze quantitatively the composition of a substance (empirical formula, molecular formula, percent composition, and hydrates).
24 - Multiple Choice	**NCES.Chm.2.1.1**	Explain the energetic nature of phase changes.
25 - Multiple Choice	**NCES.Chm.3.1.3**	Infer the shift in equilibrium when a stress is applied to a chemical system (Le Chatelier's Principle).
26 - Multiple Choice	**NCES.Chm.3.1.1**	Explain the factors that affect the rate of a reaction (temperature, concentration, particle size and presence of a catalyst).
27 - Multiple Choice	**NCES.Chm.3.2.2**	Summarize the properties of acids and bases.

28 - Multiple Choice	**NCES.Chm.1.3.1**	Classify the components of a periodic table (period, group, metal, metalloid, nonmetal, transition).
29 - Multiple Choice	**NCES.Chm.1.1.1**	Analyze the structure of atoms, isotopes, and ions.
30 - Multiple Choice	**NCES.Chm.2.1.5**	Explain the relationships between pressure, temperature, volume, and quantity of gas both qualitative and quantitative.
31 - Multiple Choice	**NCES.Chm.1.1.1**	Analyze the structure of atoms, isotopes, and ions.
32 - Multiple Choice	**NCES.Chm.1.1.1**	Analyze the structure of atoms, isotopes, and ions.
33 - Multiple Choice	**NCES.Chm.1.1.1**	Analyze the structure of atoms, isotopes, and ions.
34 - Multiple Choice	**NCES.Chm.1.2.2**	Infer the type of bond and chemical formula formed between atoms.
35 - Multiple Choice	**NCES.Chm.1.2.2**	Infer the type of bond and chemical formula formed between atoms.
36 - Multiple Choice	**NCES.Chm.3.2.5**	Interpret solubility diagrams.
37 - Multiple Choice	**NCES.Chm.3.2.5**	Interpret solubility diagrams.
38 - Multiple Choice	**NCES.Chm.3.2.5**	Interpret solubility diagrams.
39 - Multiple Choice		Chemistry
40 - Multiple Choice	**NCES.Chm.1.2.4**	Interpret the name and formula of compounds using IUPAC convention.
41 - Multiple Choice		Chemistry
42 - Multiple Choice		Chemistry
43 - Multiple Choice		Chemistry
44 - Multiple Choice		Chemistry
45 - Multiple Choice		Chemistry
46 - Multiple Choice		Chemistry
47 - Multiple Choice		Chemistry
48 - Multiple Choice	**NCES.Chm.1.1.1**	Analyze the structure of atoms, isotopes, and ions.
49 - Multiple Choice	**NCES.Chm.1.3.3**	Infer the atomic size, reactivity, electronegativity, and ionization energy of an element from its position in the Periodic Table.
50 - Multiple Choice	**NCES.Chm.1.1.3**	Explain the emission of electromagnetic radiation in spectral form in terms of the Bohr model.