



Arkansas Comprehensive Testing, Assessment, and Accountability Program

*Biology Mid-Year End-of-Course Examination*  
**Raw To Scale Score Conversion Tables**  
**January 2008 Administration**

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## **Introduction**

The *Raw to Scale Score Conversion Tables* provide information on raw scores attained by students for the *Biology Mid-Year End-of-Course Examination*, and how those scores correspond with student scale scores.

**The attached *Raw to Scale Score Conversion Tables* are specific to the January 2008 administration of the *Biology Mid-Year End-of-Course Examination* and do NOT apply to any other administration.**

## **What are Scale Scores?**

Scale Scores are transformed raw scores. For every possible raw score on a test form, there is a corresponding scale score, although a scale score may represent more than one raw score depending on the distribution of the results. When multiple forms of a test are used, or when results are compared from year to year, scale scores are needed to adjust for possible differences in test form length or difficulty. For example, it would not be possible to interpret a raw score of 50 items correct or points earned without knowing how many items are on the test and how difficult those items are.

## **Why Use Scale Scores?**

Scale scores provide a useful measurement tool for many assessment programs. They are used in numerous national testing programs, including the ACT and SAT examinations, which are typically part of the admissions process for colleges and universities. Scale scores are also routinely used in many other statewide testing programs, providing the basis for long-term, meaningful comparisons of student results across different test administrations.

Educators have always adjusted for differences in test length by changing from “number correct” scores to “percent correct” scores. The next step is to remove differences in item difficulty by moving to “scale scores.” To illustrate the value of this step, consider an examination with just two forms: Form A and Form B. If the items on Form A happen to be slightly more difficult than the items on Form B, one would expect a student to answer a higher percentage of items correctly if Form B were administered rather than Form A. However, a student should receive the same scale score for either form.

Scale scores are intended to make scores more meaningful by defining a scale of measurement that is not tied to a particular form of a test. However, to be meaningful, the scale must be tied to a benchmark that is meaningful to the user. The *Biology Mid-Year End-of-Course Examination* was constructed so that a specific score for Biology corresponds to the Advanced, Proficient, Basic, and Below Basic performance levels. In the future, these values may correspond to different raw scores, but they will have the same meaning in terms of student performance.

## January 2008 Scale Scores

The attached *Raw to Scale Score Conversion Tables* list the total number of raw score points available for Biology as well as the associated scale scores. It is important to understand that the scale scores for Biology are not connected and should not be considered equivalent in any sense to the scale scores in Algebra I or Geometry. These scores differ due to the uniqueness of the content areas and the student results relative to Biology, Algebra I and Geometry. The overall distribution of student performance results for Biology differs from the results for Algebra I or Geometry, and this difference in the distribution of results, relative to the unique content areas, accounts for the differences in the scale scores. Given the differences between the three content areas and the differences in student performance results, it is not appropriate to compare the three sets of scale scores.

The table below lists the performance levels and associated scale scores ranges for the *Biology Mid-Year End-of-Course Examination*. **Again, the scale score information listed in these tables is specific to the January 2008 administration of the *Biology Mid-Year End-of-Course Examination* and does NOT apply to any other administration.**

### 2008 *Biology Mid-Year End-of-Course Examination* Scale Score Ranges

Performance Levels	EOC Algebra I Scale Scores
Below Basic	0–145
Basic	146–199
Proficient	200–249
Advanced	250–514

The *Biology End-of-Course Examination Report Interpretation Guide* contains more information on the development of the performance levels. For additional information about the results and information on student performance, please contact:

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## 2008 Mid-Year Biology End-of-Course Examination Raw to Scale Score Conversion Tables

BELOW BASIC	
Raw Score	Scale Score
0	0
1	4
2	8
3	13
4	17
5	30
6	40
7	48
8	56
9	63
10	69
11	75
12	80
13	85
14	90
15	94
16	98
17	102
18	106
19	110
20	113
21	117
22	120
23	123
24	126
25	129
26	132
27	135
28	137
29	140
30	142
31	145

BASIC	
Raw Score	Scale Score
32	147
33	150
34	152
35	155
36	157
37	159
38	162
39	164
40	166
41	168
42	170
43	172
44	174
45	177
46	179
47	181
48	183
49	185
50	187
51	189
52	191
53	193
54	195
55	197

PROFICIENT	
Raw Score	Scale Score
56	200
57	201
58	203
59	206
60	208
61	210
62	212
63	214
64	217
65	219
66	221
67	224
68	226
69	228
70	231
71	234
72	236
73	239
74	242
75	245
76	248

ADVANCED	
Raw Score	Scale Score
77	251
78	254
79	258
80	261
81	265
82	269
83	273
84	277
85	282
86	287
87	292
88	297
89	303
90	310
91	317
92	325
93	334
94	344
95	355
96	369
97	387
98	411
99	450
100	514