



Arkansas Comprehensive Testing, Assessment, and Accountability Program

**Arkansas Augmented Benchmark Examinations
Raw To Scale Score Conversion Tables
April 2008 Administration
SCIENCE**

Introduction

The *Raw to Scale Score Conversion Tables* provide information on raw scores attained by students for Science on the Arkansas Augmented Benchmark Examinations, and how those scores correspond with student scale scores.

The attached *Raw to Scale Score Conversion Tables* are specific to the April 2008 administration of the Augmented Benchmark Examinations 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 Arkansas Augmented Benchmark Examinations were constructed so that a specific score for Science 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.

April 2008 Scale Scores

The attached *Raw to Scale Score Conversion Tables* list the total number of raw score points available for Science, as well as the associated scale scores. It should be noted that there are important differences in the range of the scale scores between Science and Mathematics and Literacy (provided in an earlier report). The maximum scale scores for Mathematics and Literacy are higher than the maximum scale score for Science. While the raw scores for Science are similar to the raw scores of Mathematics, it is important to understand that the scale scores for the two content areas are not connected and should not be considered equivalent in any sense. In addition, the Mathematics and Literacy assessments are on a vertical scale across grades, meaning the scale score associated with a particular performance level increases as the grade increases, whereas the Science assessments are not. 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 Arkansas Augmented Benchmark Examinations.

2008 Augmented Benchmark Examinations Scale Score Ranges

Grade	Science			
	Below Basic	Basic	Proficient	Advanced
5	0-153	154-199	200-249	250 and above
7	0-151	152-199	200-249	250 and above

The Arkansas Augmented Benchmark Examinations *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 Grade 5 Arkansas Augmented Benchmark Examination Raw to Scale Score Conversion Tables for Science

BELOW BASIC	
Raw Score	Scale Score
0	0
1	12
2	19
3	23
4	37
5	48
6	57
7	65
8	72
9	78
10	83
11	89
12	93
13	98
14	102
15	106
16	110
17	113
18	117
19	120
20	123
21	127
22	130
23	133
24	135
25	138
26	141
27	144
28	146
29	149
30	152

BASIC	
Raw Score	Scale Score
31	154
32	157
33	159
34	162
35	164
36	167
37	169
38	172
39	174
40	177
41	179
42	182
43	184
44	187
45	190
46	192
47	195
48	197

PROFICIENT	
Raw Score	Scale Score
49	200
50	203
51	205
52	208
53	211
54	214
55	217
56	219
57	222
58	226
59	229
60	232
61	235
62	239
63	242
64	246

ADVANCED	
Raw Score	Scale Score
65	250
66	254
67	259
68	263
69	268
70	274
71	280
72	287
73	294
74	303
75	313
76	325
77	340
78	361
79	394
80	449

2008 Grade 7 Arkansas Augmented Benchmark Examination Raw to Scale Score Conversion Tables for Science

BELOW BASIC	
Raw Score	Scale Score
0	0
1	5
2	7
3	9
4	10
5	11
6	12
7	22
8	32
9	40
10	48
11	55
12	62
13	68
14	74
15	80
16	85
17	91
18	95
19	100
20	105
21	109
22	114
23	118
24	122
25	126
26	130
27	134
28	137
29	141
30	145
31	148

BASIC	
Raw Score	Scale Score
32	152
33	155
34	159
35	162
36	165
37	169
38	172
39	175
40	178
41	181
42	185
43	188
44	191
45	194
46	197

PROFICIENT	
Raw Score	Scale Score
47	200
48	203
49	206
50	209
51	212
52	215
53	219
54	222
55	225
56	228
57	232
58	235
59	239
60	242
61	246

ADVANCED	
Raw Score	Scale Score
62	250
63	254
64	258
65	263
66	267
67	272
68	278
69	283
70	289
71	296
72	303
73	311
74	320
75	330
76	343
77	358
78	380
79	416
80	478