

Pennsylvania Curriculum Matrix Summary

Pennsylvania System of School Assessment

The Pennsylvania Department of Education (PDE) uses the assessment anchors as one method to better align curriculum, instruction, and assessment practices. The assessment anchors are the test blueprints for the Pennsylvania System of School Assessment (PSSA).

Curriculum Matrix Priority Designations

English/Language Arts

Assessment anchors in English language arts were developed only for certain reading standards. Speaking and listening are assessed through local assessments. Writing is assessed statewide based on academic standards in grades 5, 8, and 11. Writing is assessed in two reporting categories: composition (standards 1.4A, 1.4 B, & 1.4C), and revising and editing (standards 1.5E and 1.5F). This writing information may be beneficial for educators as they prepare their writing lesson plans. The writing academic standards mentioned above should be considered as High (H) priority in the Curriculum Matrix.

Information necessary to make priority designations relative to reading assessments was obtained from the PDE website. The reading assessment references within these sites provided the number of eligible content items per assessment anchor administered in reading and writing assessments. The number of reading eligible content items for each assessment anchor at each assessed grade level was averaged. Standard deviations (STD) were calculated for each grade level assessed and subtracted from the mean. This number established the cut-off point between Medium (M) priority designations and High (H) priority designations. The reading and writing standards that were not tested were assigned a Low (L) priority designation. The reading designation results can be found in Table 1.

Table 1. Reading Designation Data

Grade	Mean	STD	Mean – STD	Designations		
				L = Low	M = Medium	H = High
3	2.71	1.36*	1.34	0	1	1
4	3.17	2.01*	1.16	0	1	1
5	3.50	2.03*	1.47	0	1	1
6	2.13	1.28*	0.85	0	1	1
7	3.89	1.94*	1.95	0	1-2	>2
8	3.44	2.25*	1.19	0	1	>1
11	3.31	1.74*	1.57	0	1-2	>2

*Outliers deleted in the STD calculation.

Reading summary data are presented in Table 2.

Table 2. Pennsylvania Reading Assessment Anchors Data Summary

English Language Arts				PSSA			NESS**		
Grade	Reporting Categories	Assessment Anchors	Eligible Content	H	M	L	H 1-19	M 20-38	L 39-50
Grade 3	2	5	25	19	4	2	19	6	0
Grade 4	2	5	27	19	6	2	19	8	0
Grade 5	2	5	34	29	3	2	23	11	0
Grade 6	2	5	34	21	10	3	23	11	0
Grade 7	2	5	32	19	7	6	23	9	0
Grade 8	2	5	32	25	6	1	23	9	0
Grade 11	2	5	33	20	9	4	24	9	0
Totals	14	35	217	152	45	20	154	63	0

Mathematics

Information necessary to make priority designations relative to mathematics assessments was obtained from the PDE website. The mathematics assessment references within these sites provided the number or eligible content items per assessment anchor administered in mathematics assessments. The number of mathematics eligible content items for each assessment anchor at each assessed grade level was averaged. Standard deviations (STD) were calculated for each grade level assessed and subtracted from the mean. This number established the cut-off point between Medium (M) priority designations and High (H) priority designations. The mathematics standards that were not tested were assigned a Low (L) priority designation. The mathematics priority designation results can be found in Table 3.

Table 3. Mathematics Priority Designation Data

Grade	Mean	STD	Mean – STD	Designations		
				L = Low	M = Medium	H = High
3	3.53	1.10	2.42	0	1-2	>2
4	3.95	2.04	1.91	0	1-2	>2
5	3.92	1.47	2.45	0	1-2	>2
6	4.53	1.54	2.99	0	1-3	>3
7	4.05	1.93	2.12	0	1-2	>2
8	3.67	2.03	1.64	0	1-2	>2
11	2.67	1.47	1.21	0	1	>1

Mathematics summary data are presented in Table 4.

Table 4. Pennsylvania Mathematics Assessment Anchors Data Summary

Mathematics				PSSA			NESS**		
	Reporting Categories	Assessment Anchors	Eligible Content	H	M	L	H 1-16	M 17-42	L 43-70
Grade 3	5	10	37	30	7	0	27	8	2
Grade 4	5	12	39	28	11	0	25	13	1
Grade 5	5	12	41	34	5	2	26	13	2
Grade 6	5	12	36	26	8	2	17	18	1
Grade 7	5	14	39	28	10	1	27	10	2
Grade 8	5	13	42	27	15	0	22	18	2
Grade 11	5	14	57	47	10	0	21	31	5
Totals	25	87	291	220	66	5	165	111	15

Science

Information necessary to make priority designations relative to science assessments was obtained from the PDE website. The science assessment references within these sites provided the distribution of score points per reporting category at each grade level. It also revealed that the distribution of score points per reporting category at each grade level were consistent. However, the number of assessment anchors per reporting category varied. Therefore, to take the variation in the number of assessment anchors in consideration, the average number of score points per assessment anchor was obtained. The results are presented in Table 5. The number of score points per assessment anchor was averaged. Using this number, standard deviations (STD) were calculated for each grade level assessed and subtracted from the mean. This number established the cut-off point between Medium (M) priority designations and High (H) priority designations. The science standards that were not tested were assigned a Low (L) priority designation. The science priority designation results can be found in Table 6.

Table 5. Average Distribution of Score Points per Reporting Category at Each Grade Level

Reporting Category	# Assessment Anchors			Points/Reporting Category			Average # Points/Reporting Category		
	4	8	11	4	8	11	4	8	11
The Nature of Science	21	31	28	33	33	36	1.57	1.07	1.28
Biological Sciences	18	21	21	11	11	12	0.61	0.52	0.57
Physical Sciences	9	12	19	11	11	12	1.22	0.92	0.63
Earth and Space Sciences	16	16	15	11	11	12	0.68	0.68	0.80

Science summary data are presented in Table 6.

Table 6. Science Priority Designation Data

Grade	Mean	STD	Mean – STD	Designations		
				L = Low	M = Medium	H = High
4	1.02	0.35	0.67	0	0.1-0.67	>0.67
8	0.80	0.19	0.61	0	0.1-0.61	>0.61
11	0.82	0.25	0.57	0	0.1-0.57	>0.57

The science assessment anchors have also been crosswalked to the National Survey of Essential Skills with the national ranking. This information will provide Pennsylvania educators information on how the science assessment anchors match the essential skills necessary in the workplace. A summary of the results can be found in Table 7.

Table 7. Pennsylvania Science Assessment Anchors Data Summary

Science				PSSA			NESS**		
Grade	Reporting Categories	Assessment Anchors	Eligible Content	H	M	L	H 1-32	M 33-50	L 51-85
4	4	12	64	46	18	0	43	10	11
8	4	12	80	59	21	0	56	13	11
11	4	12	83	62	21	0	61	10	12
Totals	12	36	227	167	60	0	160	33	34

Totals for English Language Arts, Mathematics, and Science

Table 8 provides data in English language arts, mathematics, and science for the number of eligible content anchors compared to the number of eligible content anchors tested.

Table 8. Percentage of Assessment Anchors Tested

	Eligible Content	Eligible Content Tested	Percent of Eligible Content Tested
Reading	217	197	91
Mathematics	291	286	98
Science	227	227	100
TOTALS	735	710	97

Resources

Pre K-12 Education

<http://www.pde.state.pa.us/k12/site/default.asp?g=0>

Curriculum and Instruction in Pennsylvania

http://www.pde.state.pa.us/c_and_i/site/default.asp?g=0&c_and_iNav=|1142|&k12Nav=|1141|

Pennsylvania Accountability System

<http://www.pde.state.pa.us/pas/site/default.asp?g=0&k12Nav=1141>

Assessment

http://www.pde.state.pa.us/a_and_t/site/default.asp?g=0&a_and_tNav=630&k12Nav=1141
http://www.pde.state.pa.us/a_and_t/lib/a_and_t/2006-07_Science_Assessment_Handbook.pdf

Assessment Anchors

http://www.pde.state.pa.us/a_and_t/cwp/view.asp?a=108&q=103127&a_and_tNav=6309&a_and_tNav=

Academic Standards

http://www.pde.state.pa.us/stateboard_ed/cwp/view.asp?a=3&Q=76716&stateboard_edNav=5467&pde_internetNav=&a_and_tNav=

****NESS (National Essential Skills Study)** in the preceding subject summary charts refers to the *International Center for Leadership in Education's* 2007-08 national survey, a forced-ranking by approximately 13,000 adults of the proficiencies deemed most important for high school graduates in each of English Language Arts, Math, and Science.

- English Language Arts proficiencies ranked 1-19 were assigned a High (H) rating; items ranked 20-38 were assigned a Medium (M) rating; and items ranked 39-50 were assigned a Low (L) rating.
- Math proficiencies ranked 1-16 were assigned a High (H) rating; items ranked 17-42 were assigned a Medium (M) rating; and items ranked 43-70 were assigned a Low (L) rating.
- Science proficiencies ranked 1-32 were assigned a High (H) rating; items marked 33-50 were assigned a Medium (M) rating; and items ranked 51-85 were assigned a Low (L) rating.

Where English Language Arts, Math, and Science proficiencies overlapped across indicators in other subjects (for example an English Language Arts proficiency within a Science indicator), the rating of H, M, or L was designated to the proficiency in the subject of focus. A complete description of the *National Essential Skills Study* is provided elsewhere in this resource kit.

