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ABSTRACT

This document contains the results of a standard setting conducted in January 2002 on the Delaware Student Testing Program (DSTP) Science and Social Studies tests at grades 4 and 6. Each standard setting process entailed convening four groups, one for each grade level and content area, and each group met for 2 days. At the standard setting judges were asked to recommend only the cut point between Below the Standard and Meets the Standard, and the cut point between Meets the Standard and Exceeds the Standard. Judges were asked only to recommend two of the necessary four cut points because the cognitive overload of setting four distinct cuts was too much to accomplish in 2 days. The Department of Education used the results to calculate the remaining two cut points using the cuts established by the judges and the standard error measure to do so. Judges were asked to think of the cut point between Meets the Standard and Below the Standard as the line that delineates students whose performance is good enough from those who might need additional help. This distinction is important because it differs from a cut point that might distinguish failing from passing students. Five appendixes contain information about the judges, a data comparison with the previous year, disaggregations of data, and a survey of standard setting participants. (Contains 6 figures and 13 tables.) (SLD)

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Report and Recommendations to the Delaware State Board of Education for:

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Establishing Proficiency Levels for the Delaware Student Testing Program in Science and Social Studies – Grades 4 & 6

Presented February 21, 2002

**Prepared by the Assessment and Analysis Group
Assessment and Accountability Branch
Delaware Department of Education**

TM034207



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Note about the test data included in this document:

All test data included in this document indicated as being from 2000 are from the 2000 fall administration of the Delaware Student Testing Program. The data from 2000 are complete and may be considered final.

All test data in this document indicated as being from 2001 are from the 2001 fall administration of the Delaware Student Testing Program. The data are to be considered preliminary in that the final quality control procedures have not yet been applied. Thus all 2001 data herein are subject to change prior to final release. However, it is highly unlikely that any significant changes will occur. Furthermore, it is unlikely that the percentage of students falling into a particular proficiency level will differ from what is indicated here.

Finally, many of the numbers (from both 2000 and 2001 data) have been rounded to make the document more user-friendly. This should be noted when dealing with percentages, since not all of them will total 100% as a result of rounding anomalies. Also, the number of students may be affected as well.

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1. Overview

This document contains the results of a Standard Setting conducted between January 14, 2002 and January 17, 2002, on the Delaware Student Testing Program (DSTP) Science and Social Studies tests at grades 4 and 6.

The standard setting process entailed convening four groups—one for each grade level and content area. Each group met for two days. Invitations for nominations to serve on the standard setting committees were sent to all district superintendents and charter school administrators; the Delaware Congress of Parents and Teachers; Delaware Association of School Administrators; Delaware State Parent Advisory Council; Delaware State Education Association; Delaware School Boards Association; Governor’s Advisory Council for Exceptional Citizens; Parent Information Center of Delaware, Inc.; Governor’s Council on Hispanic Affairs; Business/Public Education Council; Business/Industry/Education (BIE) Alliance; Delaware State Chamber of Commerce; NAACP; and the Metropolitan Wilmington Urban League. Appendix B, page 19, contains copies of the invitations, nomination form and a summary of demographic information on the judges as well as a listing of who participated in the standard setting sessions.

Delaware statute requires that the State produce an assessment in each of these content areas and establish five levels of proficiency for each test. The proficiency levels are described as follows:

Table 1: DSTP Proficiency Levels

Level	Category	Description
5	Distinguished	Excellent performance
4	Exceeds the Standard	Very good performance
3	Meets the Standard	Good performance
2	Below the Standard	Needs improvement
1	Well Below the Standard	Needs lots of improvement

At the Standard Setting, judges were asked to recommend only the cut point between Below the Standard and Meets the Standard, and the cut point between Meets the Standard and Exceeds the

Standard. These two cut points are deemed to be the most important since they define the range of scores students can achieve in order to Meet the Standard. It was determined to have the judges recommend only two of the necessary four cut points since the cognitive overload of setting four distinct cuts was simply too much for judges to accomplish in a two-day session. The Department of Education then used the results to calculate the remaining two cut points using the cuts established by the judges and the standard error measure to do so.

Also at the Standard Setting, judges were specifically told to think of the cut point between Meets the Standard and Below the Standard as the line that delineates students whose performance is “good enough” from those students who might need some additional instruction and/or time to do so. This distinction is important because it differs dramatically from what a cut point that delineates “failing” students from “passing” students might look like. Had we asked the judges for a pass/fail cut point it is our sense that the standard setting would have produced a different result.

Next Steps

Once the State Board of Education approves a set of cut points for the Science and Social Studies tests at grades 4 and 6, the results will be applied to the fall 2001 test scores which will then be released to students and schools. In addition, the cut points will be traced back on to the fall 2000 data.

Beginning in 2003, the resulting cut points for science and social studies will be used in the calculation of the baseline School Composite Scores along with scores for reading, writing, and mathematics.

2. Science and Social Studies

The methodology utilized by the judges for setting the initial two cut points in science and social studies is often referred to as “Item Mapping,” or, as CTB-McGraw Hill has named a similar procedure, “Bookmarking.” This approach requires groups of judges to examine a book of items arranged from the easiest to the most difficult¹ and insert “bookmarks” at the items they feel most strongly define where a cut should be placed. Each group of judges worked with a single test at a single grade. There were approximately 20 judges for each grade level and content area.

The Item Mapping procedure requires approximately a half-day for training on the instrument, and a half-day for each of three rounds of judgments. Discussion occurs before and after each round, using the judge’s individual recommendations as the focus for the discussion. Impact data are shown to judges, usually after the second round, so that judges understand the impact of their decisions on actual students.² The Item Mapping procedure results in a cadre

¹ Short answer items are included in the book one time for each possible score point to account for the fact that a low score on a short answer item may be very “easy” to achieve while a high score may be very “difficult.” Judges were given access to sample responses at each score point.

² Judges worked with data from the 2001 DSTP administration.

of judges with an excellent understanding of the tests and what they assess.

Following the third round of judgments, judges were excused and the results tabulated. The results of each round are included in **Appendix A—Judge by Judge Recommendations** which begins on page 13. In compiling the final recommendation from the judges, the median score of round three was used. The scores of each judge who participated in the full process are included in the final calculation.

Following the calculation of the judges’ recommendations, the Department of Education made minor adjustments to two of the eight recommendations in Science and Social Studies—these adjustments are reflected in the Secretary of Education’s final recommendations. Each adjustment was made utilizing a standard error calculation as the maximum threshold for adjustments. Each adjustment was carefully discussed and deemed necessary in order to provide consistency to the system across grade levels. All adjustments were based upon consistency in terms of the percentage of students in each category as opposed to the score points.

Once the judges’ recommendations had been finalized, the Department of Education calculated the cut point between Well Below and Below the Standard using a standard

error calculation that ensured the Well Below/Below cut was placed about two standard errors from the Meets/Below cut. Then, the Department of Education calculated the cut point between Exceeds and Distinguished using a standard error calculation that ensured the cut was

established at least one standard error ahead of the Meets/Exceeds cut. These calculations are reflected in the Secretary of Education's final recommendations. See **Table 2: Rules for Cut Points in Science and Social Studies** for the rules underlying the process.

Table 2: Rules for Cut Points in Science and Social Studies

Level	Recommended by	Criteria for establishing the cut point	Criteria for Adjustments
Distinguished	Secretary	Establish the cut at least 1 SEM ³ for the test + 1 SE for the judges above the Exceeds cut, but at an achievable score. ⁴	If the criteria conflict, precedence should be given to placing the cut using the SEM result. ⁵
Exceeds the Standard AND Meets the Standard	Judges	Establish thresholds (benchmarks) at the lowest possible score a judge would accept from a student who could be said to meet and/or exceed the standard; thresholds should be rechecked twice, at least one time with impact data. ⁶	If an adjustment is necessary to create a coherent system, the adjustment cannot be greater than 1 SEM for the test + 1 SE for the judges.
Below the Standard	Secretary	Establish the cut for Below at 2 standard errors below the Meets cut, but at a score at least 1 SEM above chance. ⁷	If the criteria conflict, preference should be given to placing the cut at least 1 SEM above chance. ⁸

³ Standard error of measurement.

⁴ i.e., at least 50 students should have achieved that score.

⁵ This is to create a goal for students that are substantially different than the Exceeds level.

⁶ All impact data seen by judges was from the 2001 administration.

⁷ "Chance" refers to the score a typical student might earn if a "guess" is made on each multiple-choice item. For example, if a student selected the third option on every multiple choice item, the student, by chance, would answer approximately ¼ of the items correctly, since the correct answers are randomized among the four possible options.

⁸ This conflict did not occur.

Science — Cut Point Recommendations

The cut point recommendations as a result of the Standard Setting in science are summarized below.

Table 3: Cut Point Recommendations for Science

Grade 4	Below	Meets	Exceeds	Disting- uished
Judges	-	33	51	-
Secretary	23	33	51	57
Grade 6	Below	Meets	Exceeds	Disting- uished
Judges	-	27	47	-
Secretary	20	30	47	53

Each number in **Table 3** indicates the lowest raw score on the DSTP Science test a student could earn and still achieve the indicated level. The raw score to scale score conversion

tables will be developed so that the cut points for Meets the Standard and Exceeds the Standards are set at 300 and 325, respectively, for both grades 4 and 6.

For more information on what the recommended cut points mean, the following three pages contain charts that detail the results of the standard setting for science.

Figure 1 (page 6) contains the 2001 impact data from the judges' cut points.

Figure 2 (page 7) contains the adjustments from the judges' cut points that the Secretary of Education felt were necessary in order to create a consistent system across grades. All adjustments were based upon consistency in terms of the percentages of students in each category as opposed to the score points. One adjustment was deemed necessary--the "Meets the Standard" cut point was adjusted up at grade 6 to create consistency across grades.

Figure 3 (page 8) shows the impact of the adjusted cuts points as well as the impact of the additional two proficiency levels ("Distinguished" and "Well Below"). The rules for establishing the additional cut points are in **Table 2: Rules for Cut Points in Science and Social Studies** on page 4.

Figure 1. 2001 Impact Data for Science - Judges' Recommended Cut Points

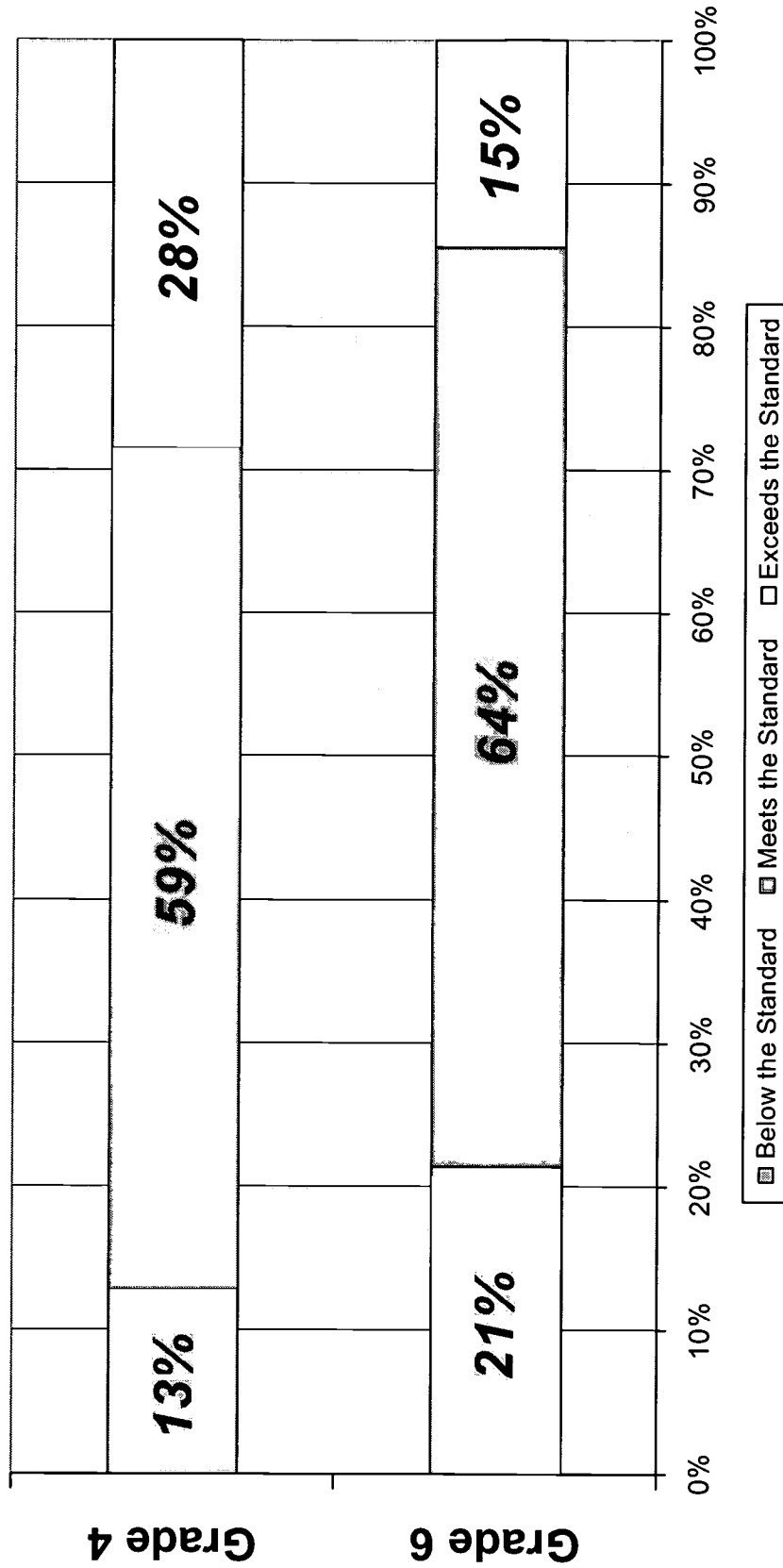


Figure 2. 2001 Impact Data for Science - Secretary of Education's Recommended Cut Points

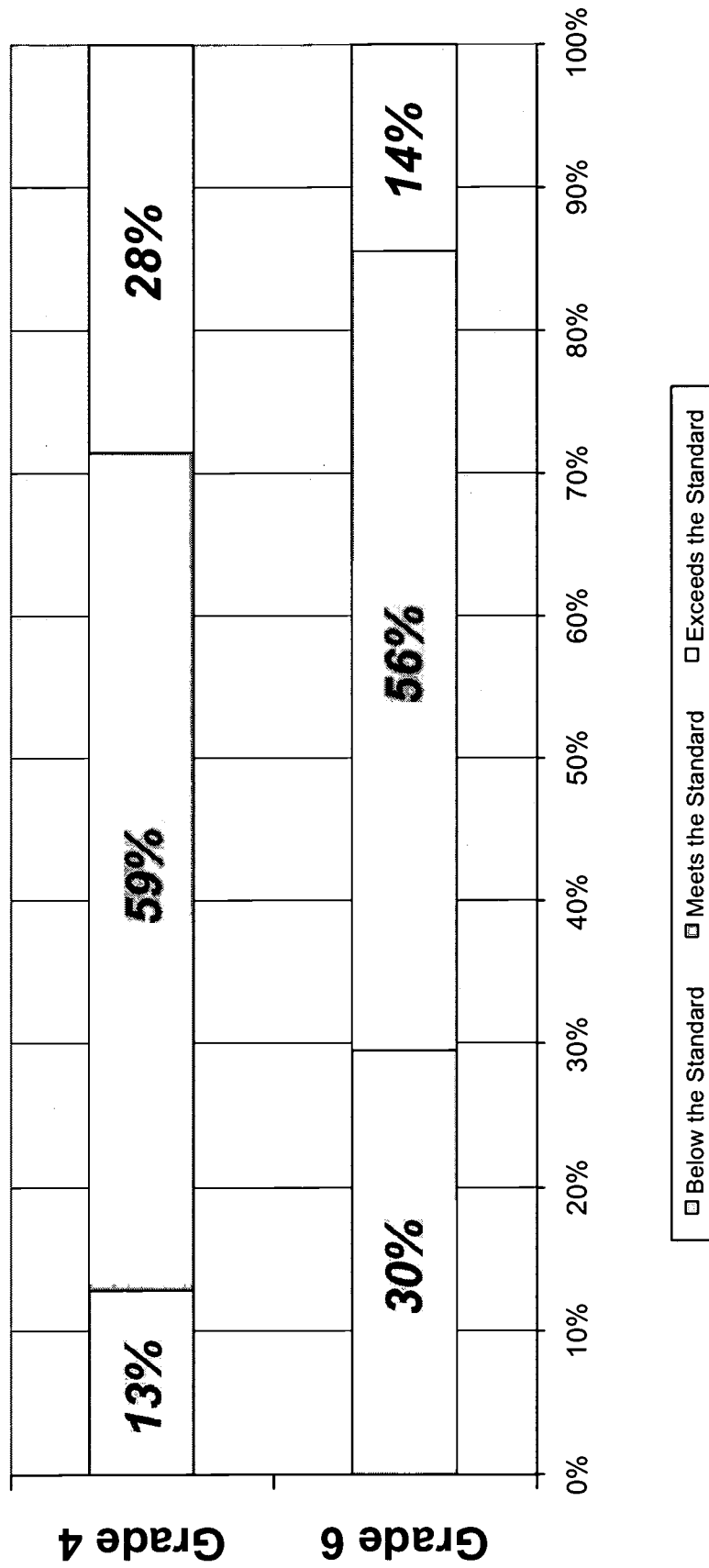
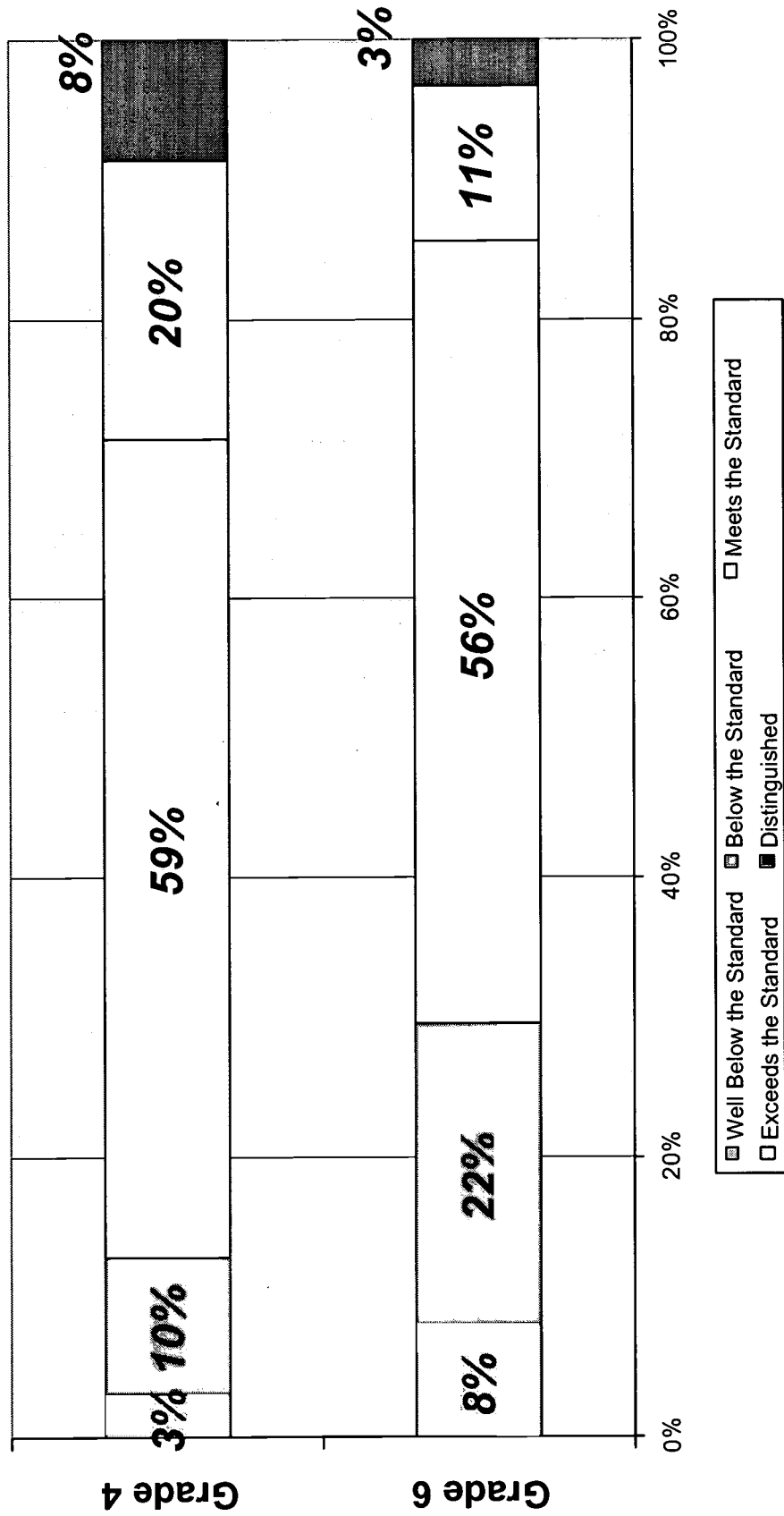


Figure 3. 2001 Impact Data for Science - Secretary of Education's Recommended Cut Points (All Levels)



Social Studies— Cut Point Recommendations

The cut point recommendations as a result of the Standard Setting in social studies are summarized below.

Table 4: Cut Point Recommendations for Social Studies

Grade 4	Below	Meets	Exceeds	Disting- uished
Judges	-	35	53	-
Secretary	25	35	51	57
Grade 6	Below	Meets	Exceeds	Disting- uished
Judges	-	31	49	-
Secretary	21	31	49	55

Each number in **Table 4** indicates the lowest raw score on the DSTP Social Studies test a student could earn and still achieve the indicated level. The raw score to scale score conversion tables will be developed so that

the cut points for Meets the Standard and Exceeds the Standard are set at 300 and 325, respectively, for both grades 4 and 6.

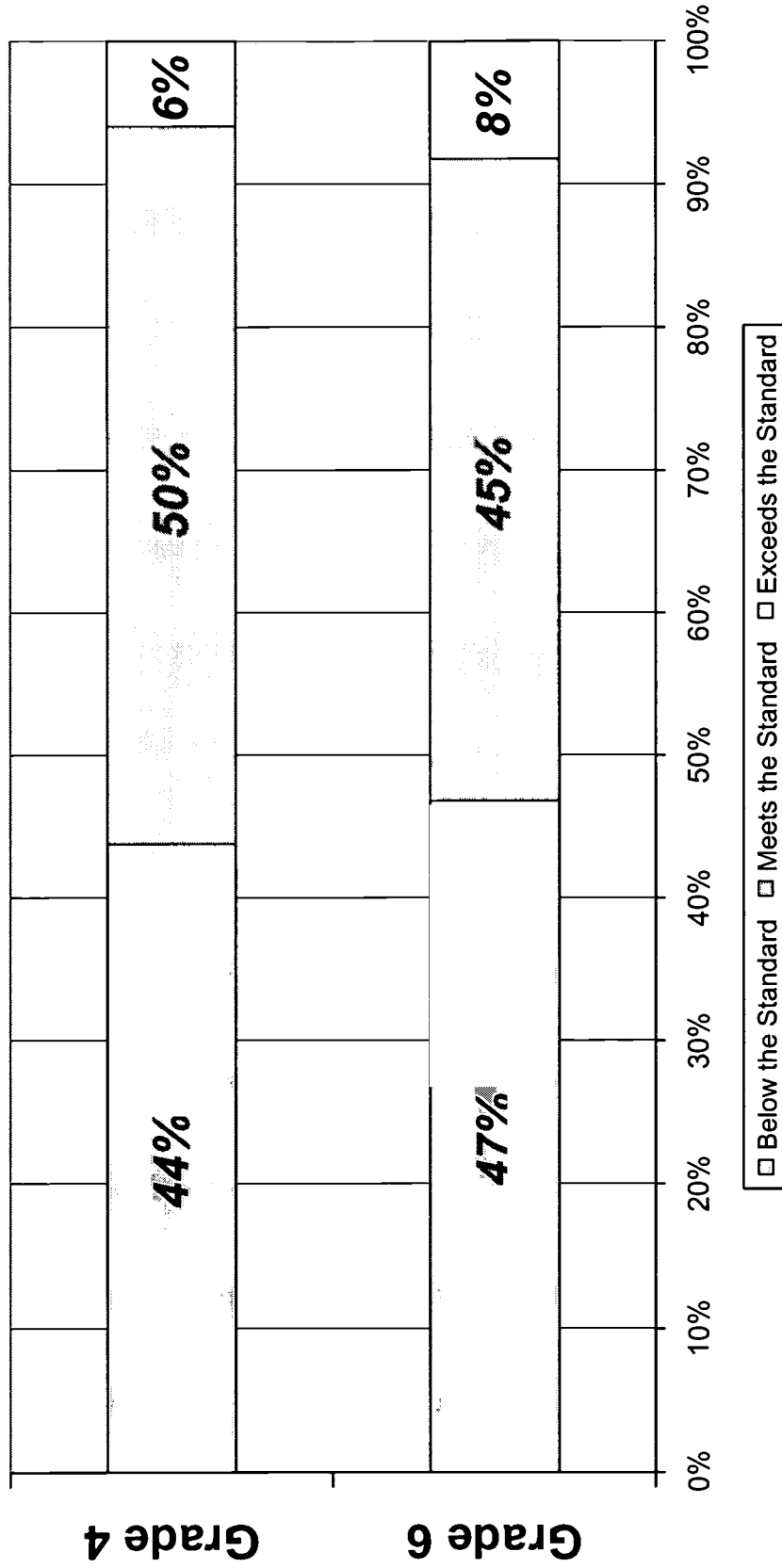
For more information on what the recommended cut points mean, the following three pages contain charts that detail the results of the Social Studies Standard Setting.

Figure 4 (page 10) contains the 2001 impact data from the judges' cut points.

Figure 5 (page 11) contains the adjustments from the judges' cut points that the Secretary of Education felt were necessary in order to create a consistent system across grades. All adjustments were based upon consistency in terms of the percentages of students in each category as opposed to the score points. One adjustment was deemed necessary - the "Exceeds the Standard" cut was adjusted down at grade 4 to create consistency with the other "Exceeds" cut points.

Figure 6 (page 12) shows the impact of the adjusted cuts points as well as the impact of the additional two proficiency levels ("Distinguished" and "Well Below"). The rules for establishing the additional cut points are in **Table 2: Rules for Cut Points in Science and Social Studies** on page 4.

Figure 4. 2001 Impact Data for Social Studies - Judges' Recommended Cut Points



**Figure 5. 2001 Impact Data for Social Studies -
Secretary of Education's Recommended Cut Points**

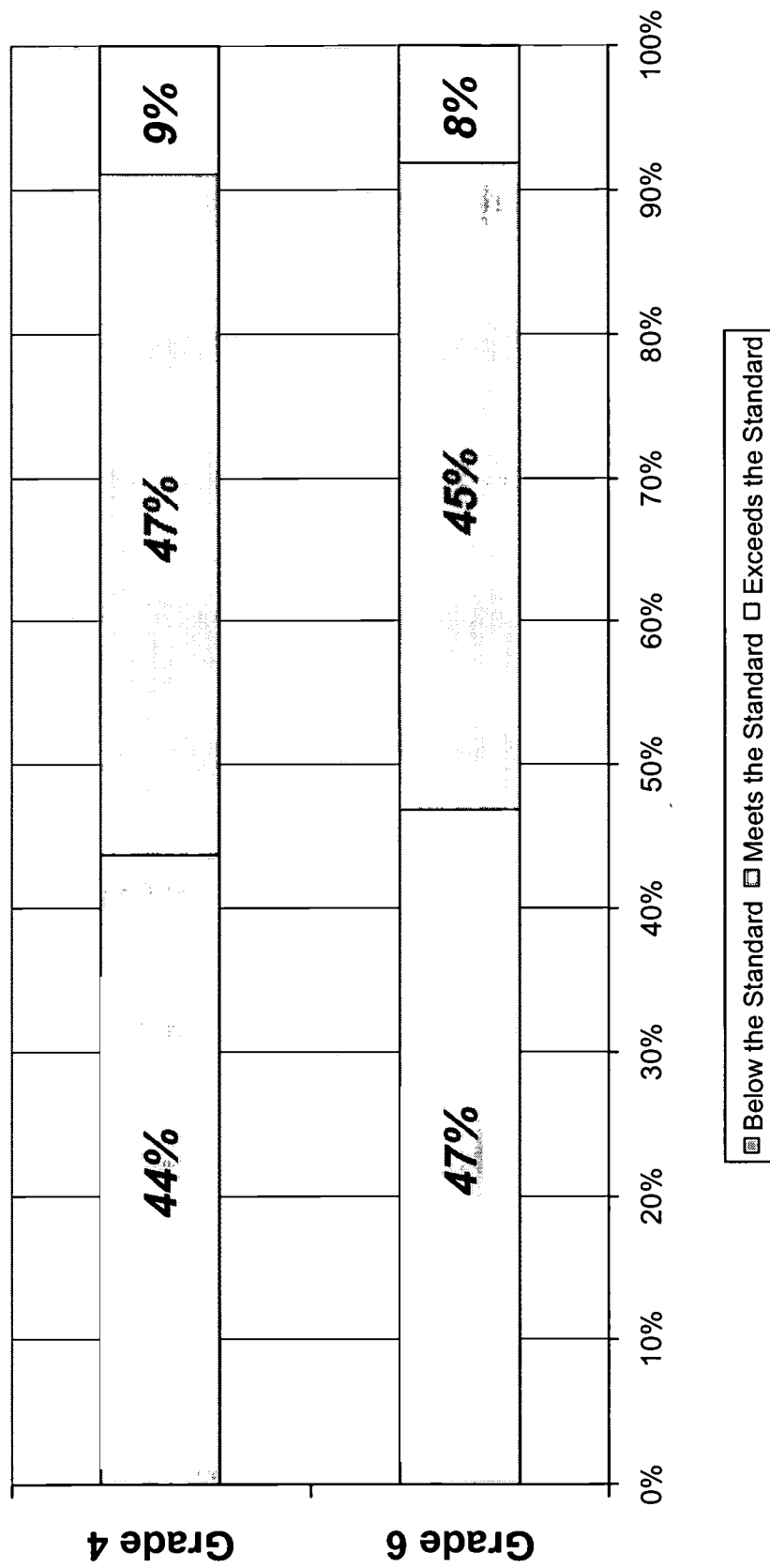
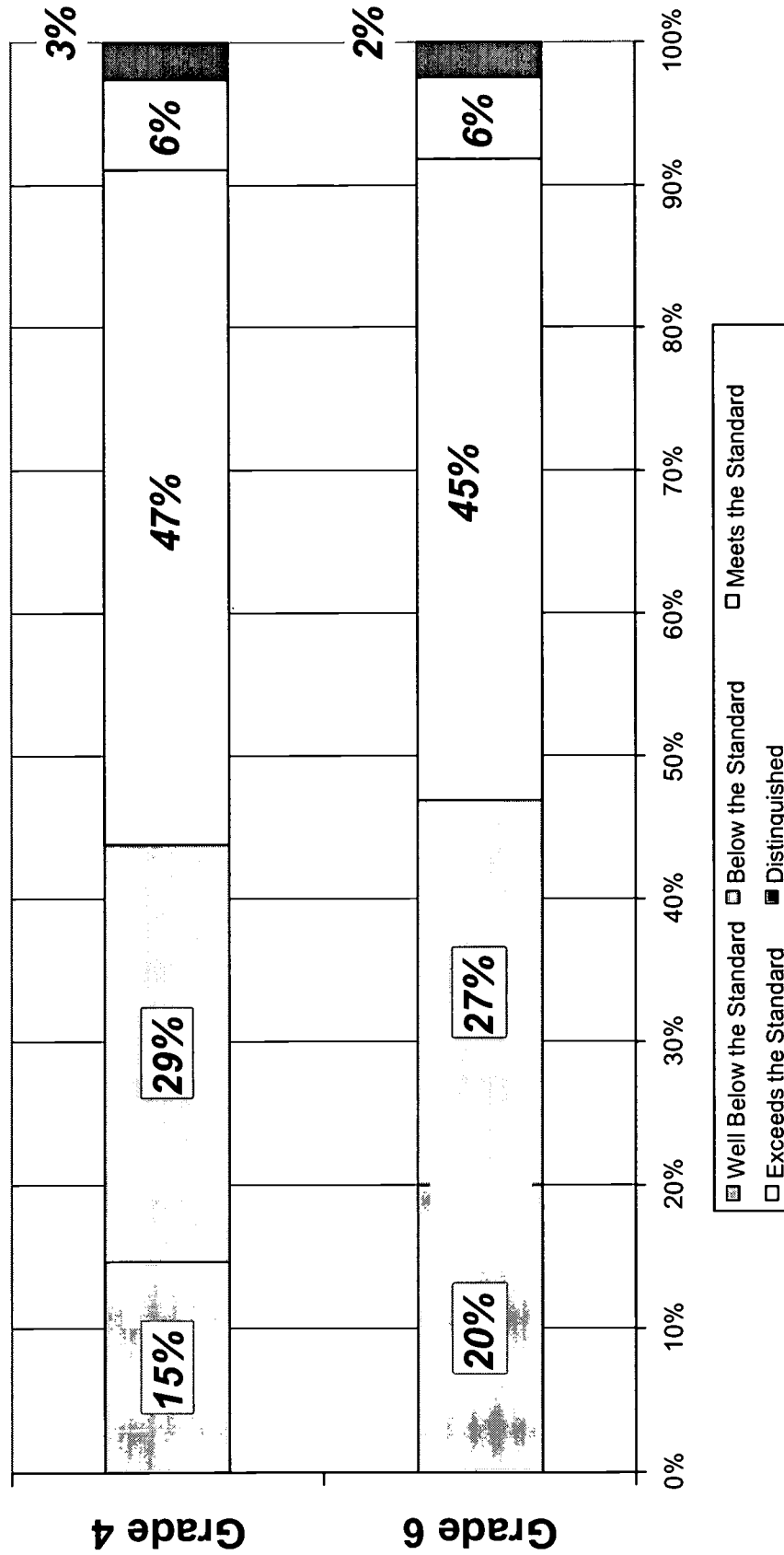


Figure 6. 2001 Impact Data for Social Studies - Secretary of Education's Recommended Cut Points (All Levels)



Appendix A—Judge by Judge Recommendations

This Appendix contains the judge by judge recommendations through each of the three rounds of the Standard Setting process.

The judges in science and social studies worked from the books that included each of the live items from the test administered in the fall of 2001. To ensure that the judges understood the true impact of their cut points, the judges were shown the 2001 impact data.

Each of the books contained short answer items as well as multiple-choice items. Each short answer item appeared one time for each possible score point to account for the fact that a lower score on a short answer item may be very “easy” to achieve while a higher score may be very “difficult.”

The cut points (ratings) the judges set were discussed in terms of the items in their books before and after a cut point. These numbers are not raw scores or percent correct values. The raw score equivalents of the judges’ median ratings are shown in each of the following four tables.

Trends are easily observable throughout the rounds, most specifically that judges—in virtually every case—moved towards a sort of consensus throughout the rounds even though that was never a requirement of the process.

The results of the standard setting sessions for science are on pages 14 - 15 and the results of the Social Studies Standard Setting sessions are on pages 16 - 17.

Table 5
Judges' Ratings for Grade 4 Science

Judge	Round 1		Round 2		Round 3	
	Meets	Exceed	Meets	Exceed	Meets	Exceed
1	15	47	32	49	33	49
2	21	60	29	53	34	57
3	11	49	36	56	40	56
4	38	47	34	55	38	55
5	21	53	35	60	35	60
6	13	53	16	53	24	53
7	32	55	32	55	32	55
8	34	57	34	57	34	60
9	14	36	25	47	35	55
10	21	59	18	52	25	53
11	28	40	34	49	36	58
12	35	54	36	53	36	54
13	30	56	36	60	38	58
14	19	48	29	56	36	56
15	43	62	29	51	36	54
16	36	54	33	54	36	53
17	36	49	36	54	40	54
18	33	55	37	54	42	54
19	19	54	33	54	36	58
20	44	58	37	55	37	55
21	48	62	44	58	47	59
22	20	54	33	57	38	60
23	46	59	36	53	35	59
24	50	62	32	54	37	54
25	35	62	37	62	37	59
26	17	58	23	54	35	57
Mean	29.19	53.96	32.15	54.42	35.85	55.96
S.D.	11.72	6.62	6.10	3.42	4.50	2.75
Median	31	55	34	54	36	56
Raw Score	29	51	32	50	33	51
2001 Impact Data	Meets the Standard	Exceeds the Standard	Meets the Standard	Exceeds the Standard	Meets the Standard	Exceeds the Standard
%	64	28	56	33	59	28

Table 6
Judges' Ratings for Grade 6 Science

Judge	Round 1		Round 2		Round 3	
	Meets	Exceed	Meets	Exceed	Meets	Exceed
1	16	48	16	48	26	48
2	18	59	17	66	21	52
3	35	64	31	53	34	58
4	42	59	32	53	32	55
5	10	39	20	40	26	48
6	17	52	24	52	24	52
7	34	63	17	42	26	51
8	22	56	24	53	26	52
9	45	55	35	55	32	52
10	28	52	39	50	33	52
11	22	53	25	58	35	55
12	18	50	44	60	33	50
13	18	49	25	50	29	53
14	36	58	30	55	31	54
15	19	29	10	45	23	52
16	16	49	18	47	27	51
17	17	37	25	40	24	40
18	17	56	20	32	22	34
19	19	53	27	48	27	54
Mean	23.63	51.63	25.21	49.84	27.95	50.68
S.D.	9.95	8.82	8.52	7.93	4.33	5.46
Median	19	53	25	50	27	52
Raw Score	24	47	27	41	27	47
2001 Impact Data	Meets the Standard	Exceeds the Standard	Meets the Standard	Exceeds the Standard	Meets the Standard	Exceeds the Standard
%	71	14	46	33	64	14

Table 7
Judges' Ratings for Grade 4 Social Studies

Judge	Round 1		Round 2		Round 3	
	Meets	Exceed	Meets	Exceed	Meets	Exceed
1	57	65	42	57	39	55
2	33	68	37	57	37	56
3	41	58	37	54	37	54
4	42	57	40	55	40	55
5	43	56	41	56	39	52
6	44	65	36	61	37	54
7	56	66	42	60	42	56
8	39	56	37	56	37	56
9	44	65	42	62	42	60
10	37	52	30	51	30	54
11	29	59	30	59	30	58
12	51	54	46	49	35	52
13	44	62	41	51	39	52
14	29	45	30	50	30	50
15	33	48	47	60	42	52
16	44	53	38	46	46	57
17	30	58	37	58	37	54
18	38	52	34	52	38	52
Mean	40.78	57.72	38.17	55.22	37.61	54.39
S.D.	8.36	6.50	5.03	4.56	4.35	2.52
Median	42	58	38	56	38	54
Raw Score	38	56	35	54	35	53
2001 Impact Data	Meets the Standard	Exceeds the Standard	Meets the Standard	Exceeds the Standard	Meets the Standard	Exceeds the Standard
%	42	3	51	5	50	6

Table 8
Judges' Ratings for Grade 6 Social Studies

Judge	Round 1		Round 2		Round 3	
	Meets	Exceed	Meets	Exceed	Meets	Exceed
1	41	52	44	52	43	52
2	47	64	40	52	36	52
3	45	59	45	53	43	54
4	52	62	52	62	52	62
5	29	43	29	55	38	54
6	49	55	43	52	35	50
7	50	60	39	47	34	47
8	43	64	47	65	43	63
9	51	56	42	51	38	51
10	46	63	N/A	N/A	N/A	N/A
11	N/A	N/A	38	53	36	52
12	51	66	36	51	36	51
13	53	66	36	52	36	52
14	50	57	36	47	32	47
15	50	54	27	47	27	47
16	21	52	27	52	27	52
17	60	63	40	55	40	55
18	20	36	29	53	29	53
19	36	47	41	52	41	52
Mean	44.00	56.24	38.41	52.82	37.06	52.59
S.D.	11.31	8.39	7.22	4.71	6.45	4.43
Median	48	58	40	52	36	52
Raw Score	42	55	36	49	31	49
2001 Impact Data	Meets the Standard	Exceeds the Standard	Meets the Standard	Exceeds the Standard	Meets the Standard	Exceeds the Standard
%	18	3	29	8	45	8

If a Judge did not participate in all three rounds, his or her ratings were not used in the calculations.

Appendix B— Invitations and Information on the Judges

Nominations for judges were solicited from each of the School Districts and Charter Schools as well as from constituency groups from throughout the state who have a vested interest in Delaware's efforts to improve student achievement (See invitations). In addition, community members who indicated an interest to participate were also invited to nominate themselves. In the end, each and every individual who was nominated received an invitation to participate as a judge for standard setting. A total of 83

actually participated, but some judges on the committee did not participate in all three rounds, so their ratings were not used for calculations. A member of the Item Development Committee and Department of Education staff attended the standard setting sessions as a reference source.

Two tables are included in this Appendix. Table 9 on page 24, details the demographics of the participants; Table 10 on pages 25 - 26, lists the committee members by test and grade.

November 13, 2001

«Title» «FirstName» «LastName»
«JobTitle»
«Company»
«Address1»
«Address2»
«City», «State» «PostalCode»

Dear «Title» «LastName»:

The Department of Education is seeking qualified educators and other interested individuals to participate in standard setting for the Delaware Student Testing Program (DSTP) in January 2002. At that time, representative committees of about 25 members each will be convened to recommend standards for the science and social studies test administered to students in the fall of grades 4 and 6. As you are aware, standard setting determines the test scores needed to achieve each performance level in a standards-based assessment.

The majority of committee members will be science and social studies teachers with rich classroom teaching experience and expertise in the content areas represented. Since the grade 4 test measures K-3 Content Standards and the grade 6 test measures 4-5 Content Standards, we are seeking teachers who are teaching grades 3 and 5. The committees will meet at the Terry Campus of Delaware Technical and Community College in Dover from 8:30 a.m. to 4:30 p.m. on January 14-17, 2002. Each session will last fifteen hours (over two consecutive days) and include training. Funds for substitutes will be provided upon request for the January sessions. Non-state employees only will receive an honorarium of \$270 for their two-day participation. Those who do not participate in the full two-day session will not be compensated and their input will not be considered.

To set fair and meaningful performance standards, it is crucial to have committees of experts and community representatives for each grade and content area assessed. Thus, I am requesting that you nominate, from your district, **FOUR** science teachers and **FOUR** social studies teachers from your third and fifth grade classrooms. Additionally, please nominate **ONE** district administrator and **ONE** interested parent to participate as committee members. Please ask each nominee to complete the enclosed Nomination Form and return it by **Wednesday, December 5, 2001**. The Assessment and Analysis Office will communicate directly with the nominees, informing them of their selection status and providing details of the process by Thursday, December 20, 2001.

Thank you for your assistance. I appreciate your support of the important task of standard setting for the DSTP and anticipate that the experience will be an informative and rewarding one. If you have questions or concerns, please contact me at (302) 739-6700 or via e-mail, wroberts@state.de.us.

Sincerely,

Wendy B. Roberts
Director, Assessment and Analysis

WBR/kkr
cc: District Test Coordinators
Curriculum Cadre
Principals

November 13, 2001

«Title» «FirstName» «LastName»
«JobTitle»
«Company»
«Address1»
«Address2»
«City», «State» «PostalCode»

Dear «Title» «LastName»:

The Department of Education is seeking qualified educators and other interested individuals to participate in standard setting for the Delaware Student Testing Program (DSTP) in January 2002. At that time, representative committees of about 25 members each will be convened to recommend standards for the science and social studies test administered to students in the fall of grades 4 and 6. As you are aware, standard setting determines the test scores needed to achieve each performance level in a standards-based assessment.

The majority of committee members will be science and social studies teachers with rich classroom teaching experience and expertise in the content areas represented. Since the grade 4 test measures K-3 Content Standards and the grade 6 test measures 4-5 Content Standards, we are seeking teachers who are teaching grades 3 and 5. The committees will meet at the Terry Campus of Delaware Technical and Community College in Dover from 8:30 a.m. to 4:30 p.m. on January 14-17, 2002. Each session will last fifteen hours (over two consecutive days) and include training. Funds for substitutes will be provided upon request for the January sessions. Non-state employees only will receive an honorarium of \$270 for their two-day participation. Those who do not participate in the full two-day session will not be compensated and their input will not be considered.

To set fair and meaningful performance standards, it is crucial to have committees of experts and community representatives for each grade and content area assessed. Thus, I am requesting that you nominate an interested individual from your organization to participate as a committee member. Please ask your nominee to complete the enclosed Nomination Form and return it to me by **Wednesday, December 5, 2001**. The Assessment and Analysis Office will communicate directly with the nominee, informing them of their selection status and providing details of the process by Thursday, December 20, 2001.

Thank you for your assistance. I appreciate your support of the important task of standard setting for the DSTP and anticipate that the experience will be an informative and rewarding one. If you have questions or concerns, please contact me at (302) 739-6700 or via e-mail, wroberts@state.de.us.

Sincerely,

Wendy B. Roberts
Director, Assessment and Analysis

WBR/kkr

November 13, 2001

Dear Parent or Educator:

In January 2002 the Department of Education and the citizens and teachers of Delaware will work together to set the standards for the Delaware Student Testing Program for the science and social studies tests administered to students in the fall for grades 4 and 6. This step in our statewide testing program is tremendously important, since it will be the process that will advise the State Board and the Secretary of Education as to where the standards should be set. We are accepting nominations for participation through Wednesday, December 5, 2001.

The committees will meet at the Terry Campus of Delaware Technical and Community College in Dover from 8:30 a.m. to 4:30 p.m. on January 14-17, 2002. Each session will last fifteen hours (over two consecutive days) and include training. Non-state employees will receive an honorarium of \$270 for their two-day participation. Those who do not participate in a complete session will not be compensated and their input will not be considered.

You should indicate your availability on the attached nomination form. Please note that each session runs two full days and that in order to participate you must commit to attend both of the days for the grade and content area in which you are assigned.

If you have any questions please call me at (302) 739-6700.

Sincerely,

Wendy B. Roberts
Director, Assessment and Analysis

WBR/kkr
attachment

**Delaware Student Testing Program
Standard Setting Process
Science and Social Studies (Grades 4 & 6)**

Nomination Form (January 2002)

Please return a completed and signed form for each nominee to *Kimberly Rodriguez, Department of Education, Assessment and Analysis Office, P.O. Box 1402, Townsend Building, Dover, DE 19903, (302) 739-3092 (fax)*, on or before **Wednesday, December 5, 2001**

Name of Nominee: _____ Social Security #: _____

Current Position: _____

Home Address: _____

Work Address: _____

Phone Number(s) Home: _____ Work: _____

Gender: Male Female

Race: African-American Asian Caucasian Hispanic
 Native American/Alaskan Other

Which group will you represent for the standard setting process?

Teacher Administrator Business & Community Parent

Please indicate the highest educational level attained.

Doctorate Degree Bachelors Degree Some College
 Masters Degree Associates Degree High School

Please answer the following questions if you are a teacher/administrator.

District: _____
School: _____
Subject Area(s) Taught: _____
Grade(s) Taught: _____
Years of Teaching Experience: _____

Please indicate the grade/content area the nominee will attend. The sessions are from 8:30 a.m. to 4:30 p.m. on the following dates:

Grade 4 Science (January 14-15, 2002) Grade 4 Social Studies (January 14-15, 2002)
 Grade 6 Science (January 16-17, 2002) Grade 6 Social Studies (January 16-17, 2002)

Nominated by: _____
Print Signature

Table 9: Demographics of Standard Setting Committee Members

Grade		Science	Social Studies
4	Total	26	19
	Male	1	1
	Female	25	18
	Minority	3	4
	Majority	23	15
	Parent	1	3
	Administrator	1	1
	Teacher	23	14
	Organization	1	1
6	Total	19	19
	Male	3	5
	Female	16	14
	Minority	4	2
	Majority	15	17
	Parent	0	1
	Administrator	1	2
	Teacher	17	15
		Organization	1

Table 10: List of Standard Setting Committee Members

Grade 4 Science							
FN	LN	District/Association	School	Grade	Gender	Race	Position
Joanne	Christian	Appoquinimink School District	Board Member	4	F	C	Board Member
Dawn	Buckworth	Appoquinimink School District	Cedar Lane Elementary	4	F	C	Teacher
Suzanne	Hammerer	Brandywine School District	Brandywood Elementary	4	F	C	Teacher
Karen	Wallace	Caesar Rodney School District	District Office	4	F	C	Teacher
Linda	Gregory	Cape Henlopen School District	District Office	4	F	C	Teacher
Charmaine	Herrera	Capital School District	South Dover Elementary	4	F	H	Teacher
Kathryn	Rozumalski	Capital School District	District Office	4	F	C	Teacher
Myra	Blockston	Capital School District	East Dover Elementary	4	F	C	Teacher
Carol	Antes	Christina School District	Downes Elementary	4	F	C	Teacher
Rebecca	Fair	Christina School District	Keene Elementary	4	F	C	Teacher
Cheramy	Farina	Christina School District	McVey Elementary	4	F	C	Teacher
Valerie	Hickman	Colonial School District	McCullough Elementary	4	F	AA	Teacher
John	Collette	Delaware Foundation for Math and Science		4	M	C	Business & Community
Annie	Carn	Delaware State Parent Advisory Committee		4	F	AA	Parent
Tanya	McNamara	Indian River School District	East Millsboro Elementary	4	F	C	Teacher
Colleen	Fannin	Indian River School District	IR Educational Complex	4	F	C	Teacher
Patricia	Huff	Indian River School District	Long Neck Elementary	4	F	C	Teacher
Georgina	Zee	Indian River School District	Long Neck Elementary	4	F	C	Teacher
Diane	Davis	Lake Forest School District	Lake Forest North Elementary	4	F	C	Teacher
Jamie	Smith	Laurel School District	North Laurel Elementary	4	F	C	Teacher
Emily	Bankert	Red Clay School District	Anna P. Mote Elementary	4	F	C	Teacher
Diana	Zlock	Seaford School District	West Seaford Elementary	4	F	C	Teacher
Marcia	Johnson	Smyrna School District	North Smyrna Elementary	4	F	C	Teacher
Therese	Hurlock	Smyrna School District	Smyrna Elementary	4	F	C	Teacher
Crystal	Graham	Smyrna School District	Smyrna Elementary	4	F	C	Teacher
Lynn	Brown	Woodbridge School District	Woodbridge Elementary	4	F	C	Teacher

DSTP Proficiency Levels

Grade 6 Science									
FN	LN	District/Association	School	Grade	Gender	Race	Position		
Michelle	Gerbrick	Appoquinimink School District	District Office	6	F	C	Teacher		
K. David	Brown	Brandywine School District	P. S. duPont Elementary	6	F	C	Teacher		
Debra	Forest	Capital School District	District Office	6	F	C	Teacher		
Debbie	Crowell	Christina School District	Bayard Elementary	6	F	C	Teacher		
Grace	Gatson	Colonial School District	District Office	6	F	AA	Administrator		
Donna	Costa	Colonial School District	George Read Elementary	6	F	C	Teacher		
Carolyn	LaFazia	Colonial School District	Wallace Wallin	6	F	C	Teacher		
Judith	Thompson	Indian River School District	North Georgetown Elementary	6	F	C	Teacher		
Prisana	Rennie	Lake Forest School District	Central Elementary	6	F	A	Teacher		
Deborah	Emery	Lake Forest School District	Lake Forest Central Elementary	6	F	H	Teacher		
Craig	Moyer	Laurel School District	Laurel Intermediate School	6	M	C	Teacher		
Diane	Dolan	Laurel School District	Laurel Intermediate School	6	F	C	Teacher		
Heather	Pikalow	Marion T. Academy		6	F	C	Teacher		
Joe	Lingo	Milford School District	Milford Middle	6	M	C	Teacher		
Cecilia	Conway	Red Clay School District	Brandywine Springs Elementary	6	F	C	Teacher		
Michael	Watkins	Red Clay School District	Richardson Park Elementary	6	M	C	Teacher		
Catherine	Wilson	Smyrna School District	North Smyrna Elementary	6	F	C	Teacher		
Louise	Henry	State Conference Br NAACP	Lower Sussex NAACP	6	F	AA	Business & Community		
Jill	Krause	Woodbridge School District	Woodbridge Elementary	6	F	C	Teacher		

Grade 4 Social Studies									
FN	LN	District/Association	School	Grade	Gender	Race	Position		
Cindy	Grant	Brandywine School District	Mt. Pleasant Elementary	4	F	C	Teacher		
Virginia	Rulon	Brandywine School District	Darley Road Elementary	4	F	C	Teacher		
Julie	Machtinger	Capital School District	Fairview Elementary	4	F	C	Teacher		
Jeanette	McDougall	Capital School District	Hartly Elementary	4	F	C	Teacher		
Sherry	Kijowski	Capital School District	South Dover Elementary	4	F	C	Teacher		
Janice	Trainer	Christina School District	Etta J. Wilson Elementary	4	F	C	Teacher		
Anne	Deinert	Christina School District	Brader Elementary	4	F	C	Teacher		
Kathryn	Lyons	Christina School District	Jennie E. Smith Elementary	4	F	C	Teacher		
Amy	Carlson	Christina School District	Keene Elementary	4	F	C	Teacher		
Barbara	Koston	Colonial School District	Eisenberg Elementary	4	F	C	Teacher		
Susan	Miller	Colonial School District	Southern Elementary	4	F	C	Teacher		
Dee	Sewell	Delaware State Parent Advisory Council		4	F	AA	Parent		
Myra Neal	Sampson	Delaware State Parent Advisory Council		4	F	AA	Parent		
Thea	Becton	Governor's Council		4	F	AA	Business & Community		
J. Glenn	Davidson	Lake Forest School District	Lake Forest District Office	4	M	C	Administrator		
Virginia	Herweh	Laurel School District	North Laurel Elementary	4	F	C	Teacher		
Earlene	Jackson	Parent Information Center of DE		4	F	AA	Parent		
Edith	Mahoney	Red Clay School District	Anna P. Mote Elementary	4	F	C	Teacher		
Karen	Sheets	Woodbridge School District	Woodbridge Elementary	4	F	C	Teacher		

Grade 6 Social Studies							
F/N	LN	District/Association	School	Grade	Gender	Race	Position
Paula	Bell	Brandywine School District	Claymont Elementary	6	F	C	Teacher
Sarah	Todorow	Brandywine School District	Harlan Elementary	6	F	C	Teacher
Doriel	Moorman	Christina School District	Bancroft Elementary	6	F	AA	Teacher
Ann E.	Fleckenstein	Christina School District	Eden Center	6	F	C	Teacher
Donald	Ames	Colonial School District	District Office	6	M	C	Administrator
Fran	O'Malley	DE Social Studies Education Project	University of DE	6	M	C	Administrator
Colleen	McDowell	Delmar School District	Delmar Middle	6	F	C	Teacher
Kathy	Hudson	Indian River School District	Lord Baltimore Elementary	6	F	C	Teacher
Trenie	Latchum	Indian River School District	Selbyville Middle	6	F	C	Teacher
Ray	Butler	Indian River School District	Sussex Central Middle	6	M	C	Teacher
Noah	Newcomer	Lake Forest School District	Central Elementary	6	M	C	Teacher
Michelle	Moyer	Laurel School District	Laurel Intermediate School	6	F	C	Teacher
Kim	Parker	Laurel School District	Laurel Intermediate School	6	F	C	Teacher
Wanda	Corder	Milford School District	Milford Middle	6	F	C	Teacher
Deanna	McKee	Milford School District	Milford Middle	6	F	C	Teacher
Sharon	Young	NCCVT	Del Castle	6	F	AA	Parent
Stephanie	Clark	Rodel Charitable Foundation		6	F	C	Business & Community
James	McGuigan	Smyrna School District	North Smyrna Elementary	6	M	C	Teacher
Wendy	Kupcha	Woodbridge School District	Woodbridge Elementary	6	F	C	Teacher

Appendix C—Data Comparison: 2000 and 2001

The judges who participated in standard setting saw only 2001 preliminary data as part of their decision-making process.

The following tables show the percentages of students in each year and at each grade level, based on the Secretary of Education's recommended cut points, who fell above and below the Meets the Standard cut points. Meets the Standard includes all students in the Meets, Exceeds, and Distinguished proficiency levels; Below the Standard includes all students in the Below and Well Below proficiency levels.

Table 11: Science Impact Data—2000 vs. 2001

	Meets the Standard	Below the Standard
Grade 4		
2000	85%	15%
2001	87%	13%
Grade 6		
2000	63%	37%
2001	70%	30%

Table 12: Social Studies Impact Data—2000 vs. 2001

	Meets the Standard	Below the Standard
Grade 4		
2000	51%	49%
2001	56%	44%
Grade 6		
2000	50%	50%
2001	53%	47%

Appendix D— Disaggregations

This Appendix contains disaggregated data from the 2001 DSTP administration. Note that the analyses were based on the preliminary data.

Table 13a
Disaggregated Impact Data in Science

Grade 4		Meets the Standard		Below the Standard	
		N.	%	N.	%
Gender	<i>Female</i>	3754	87	545	13
	<i>Male</i>	3864	86	615	14
Race	<i>African American</i>	2135	75	698	25
	<i>Asian</i>	210	93	15	7
	<i>Hispanic</i>	414	74	146	26
	<i>Caucasian</i>	4841	94	300	6
Students with Disabilities		509	56	407	44
Students with no Disabilities		7109	90	753	10
Low-Income*		2671	77	816	23
Not Low-Income		4947	94	344	7

Grade 6		Meets the Standard		Below the Standard	
		N.	%	N.	%
Gender	<i>Female</i>	2955	70	1273	30
	<i>Male</i>	3265	70	1387	30
Race	<i>African American</i>	1335	48	1430	52
	<i>Asian</i>	152	84	29	16
	<i>Hispanic</i>	270	51	259	49
	<i>Caucasian</i>	4445	83	938	17
Students with Disabilities		271	26	760	74
Students with no Disabilities		5949	76	1900	24
Low-Income*		1655	50	1645	50
Not Low-Income		4565	82	1015	18

* The eligibility of free/reduced price lunch.

Table 13b
Disaggregated Impact Data in Social Studies

Grade 4		Meets the Standard		Below the Standard	
		N.	%	N.	%
Gender	<i>Female</i>	2579	60	1714	40
	<i>Male</i>	2317	52	2160	48
Race	<i>African American</i>	1016	36	1811	64
	<i>Asian</i>	166	74	58	26
	<i>Hispanic</i>	201	36	359	64
	<i>Caucasian</i>	3505	68	1635	32
Students with Disabilities		187	21	726	79
Students with no Disabilities		4709	60	3148	40
Low-Income*		1296	37	2184	63
Not Low-Income		3600	68	1690	32
Grade 6		Meets the Standard		Below the Standard	
		N.	%	N.	%
Gender	<i>Female</i>	2335	55	1887	45
	<i>Male</i>	2339	51	2296	49
Race	<i>African American</i>	844	31	1910	69
	<i>Asian</i>	131	72	50	28
	<i>Hispanic</i>	172	33	357	67
	<i>Caucasian</i>	3512	65	1859	35
Students with Disabilities		114	11	912	89
Students with no Disabilities		4560	58	3271	42
Low-Income*		1022	31	2267	69
Not Low-Income		3652	66	1916	34

* The eligibility of free/reduced price lunch.

Appendix E— Survey of Standard Setting Participants

A survey was administered to the participants at the conclusion of the standard setting event. The results of the survey are summarized below.

Summary of Evaluation of Standard Setting for Delaware Student Testing Program

January 14-17, 2002

1. How adequate was the training in preparing you to make judgments about the level of student performance required by the standard setting procedure?

	Adequate Level 5	4	3	2	Inadequate 1	No Response
N.	47	27	7	0	0	0
%	58	33	9	0	0	
Mean	4.49					
SD	0.65					

The participants who did not respond to the question were not used for the calculation of that question.

2. In applying the standard setting method, your committee was asked to set cut points for student performance. How confident do you feel that the descriptions of the cut points are reasonable for each student performance level?

2a. Exceeds/Meets cut point:

	High Level 5	4	3	2	Low 1	No Response
N.	25	40	13	2	0	1
%	31	50	16	3	0	
Mean	4.10					
SD	0.76					

2b. Meets/Below cut point:

	High Level 5	4	3	2	Low 1	No Response
N.	21	35	19	4	0	2
%	27	44	24	5	0	
Mean	3.92					
SD	0.84					

3. Did you have adequate opportunities to address your professional opinions about student performance levels during the standard setting sessions?

	High Level 5	4	3	2	Low 1	No Response
N.	59	14	7	1	0	0
%	73	17	9	1	0	
Mean	4.62					
SD	0.70					

4. How confident do you feel that the student performance levels are set based on professional judgments of the committee members rather than outside influences?

	High Level	5	4	3	2	Low 1	No Response
N.		31	29	15	3	2	1
%		39	36	19	3	3	
Mean		4.01					
SD		0.98					



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