RESEARCH

Report on an Educational Program

Department of Research and Accountability

NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS: TRIAL URBAN DISTRICT ASSESSEMENT 2002 AND 2003

Houston Independent School District

HOUSTON INDEPENDENT SCHOOL DISTRICT

Board of Education

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National Assessment of Educational Progress: Trial Urban District Assessment 2002 and 2003

Introduction

In 2002, the Houston Independent School District (HISD) voluntarily participated in the National Assessment of Educational Progress (NAEP) Trial Urban District Assessment (TUDA). NAEP, also known as the Nation's Report Card, is the nation's only federally authorized survey of student achievement in various subject areas. NAEP is administered by the National Center for Education Statistics (NCES), an agency within the U.S. Department of Education's Institute of Education Sciences.

The 2002 TUDA marked the initial benchmark administration of the reading and writing assessments. The following six urban districts participated: Atlanta Public Schools, Chicago Public Schools, Houston Independent School District, Los Angeles Unified School District, New York City Public Schools, and the District of Columbia Public Schools. In 2003, the second administration of the reading assessment and the initial benchmark administration of the mathematics assessment for the TUDA was given to 10 districts. These districts were Atlanta Public Schools, Boston Public Schools, Charlotte-Mecklenburg Schools, Chicago Public Schools, Cleveland Municipal School District, Houston Independent School District, Los Angeles Unified School District, New York City Public Schools, San Diego City Schools, and the District of Columbia Public Schools. In order to be consistent with NAEP reporting practices, districts will be referred to by their city name in this report.

Analysis of TUDA Results

The 2002 and 2003 results from TUDA were analyzed at the districtwide level for the reading, mathematics, and writing assessments for fourth and eighth grades. Due to sampling methods used by NCES, results are only available at the district level and not at the school level. This report also includes results for the nation, Texas, and large central city for comparisons. Large central city includes nationally representative public schools located in large central cities within metropolitan statistical areas of 50,000 or more as defined by the Federal Office of Management and Budget. It is not synonymous with "inner city."

Student performance is reported by using scale scores, which represent equal units on a continuous scale. The reading and mathematics scale scores range from 0 to 500. The writing scale scores range from 0 to 300. In addition, student performance is reported by using the percentage of students who attained the reading achievement levels of Basic, Proficient, and Advanced. The National Assessment Governing Board (NAGB) defines the achievement levels as follows:

- *Basic*: denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade.
- *Proficient*: represents solid academic performance for each grade assessed. Students reaching this level have demonstrated competency over challenging subject matter, including subject matter knowledge, application of such knowledge to real-world situations, and analytical skills appropriate to the subject matter.
- *Advanced*: signifies superior performance.

Through the utilization of scale scores and achievement levels, a comparative analysis of the current 2003 TUDA performance of Houston students on the reading assessment with the results of the 2002 TUDA is included in this report. Also, an analysis of Houston's students performance on the reading, mathematics, and writing assessments compared with students in the other participating districts is presented. Lastly, the results

by ethnicity and eligibility for free/reduced lunch are presented for each assessment. Results by context were only available for the reading and mathematics assessments.

Participation

The process for selecting students to participate in the TUDA involved several procedures. First, NCES randomly selected schools from each of the participating districts, and then requested a roster of all the students from the selected schools. NCES randomly selected students from the school roosters and identified students with disabilities (SD) and limited English proficient students (LEP). Each selected school was asked to complete a student questionnaire for students with disabilities and/or LEP status using NAEP guidelines. According to NAEP guidelines students with disabilities should be included in the NAEP assessment unless:

- The IEP team or equivalent group has determined that the student cannot participate in assessments such as NAEP, or
- The student's cognitive functioning is so severely impaired that he or she cannot participate, or
- The student's IEP requires that the student be tested with an accommodation that NAEP does not permit, and the student cannot demonstrate his or her knowledge of reading or mathematics without that accommodation.

Also, students with LEP status should be included in the NAEP assessment unless:

- The student has received reading or mathematics instruction primarily in English for *less than 3* school years including the current year, and
- The student cannot demonstrate his or her knowledge of reading or mathematics in English even with an accommodation permitted by NAEP.

A total of 89 schools in Houston participated in the 2002 TUDA for the reading and writing assessments. **Table 1** presents the TUDA sample. The Houston sample included 1,326 students in grade four and 1,110 students in grade eight for the 2002 reading test. Also, 1,321 Houston students in grade four and 1,109 students in grade eight participated in the 2002 writing test. A total of 118 schools in Houston participated in the 2003 TUDA for the reading and mathematics assessments. The Houston sample included 1,889 students in grade four and 1,660 students in grade eight for the 2003 reading assessment. In addition, 2,303 students in grade four and 1,684 students in grade eight participated in the 2003 mathematics assessment. The sample also included students with disabilities and Limited English Proficient students from Houston. Testing accommodations were made for eligible students under the NAEP guidelines.

Table 1 also presents the number of identified and excluded HISD special population students. The district's exclusion rate for fourth grade SD and/or LEP students on the reading test increased from 17% in 2002 to 24% in 2003. The LEP exclusion rate increased from 16% to 20%, and the SD exclusion rate increased from 4% to 9%. The reading exclusion rate for eighth grade SD and/or LEP students was 7% in 2002 compared to 10% in 2003. The LEP exclusion rate increased from 4% to 6%, and the SD exclusion rate increased from 5% to 7% for eighth grade students. The SD and/or LEP exclusion rate for fourth grade students for the writing

Table 1: Percentage of Identified and Excluded Students with Disabilities and Limited English Proficient Students: 2002 and 2003 Reading, Mathematics, and Writing Assessments

	Reading				Writing		Mathematics	
	Grade 4		Grade 8		Grade 4	Grade 8	Grade 4	Grade 8
	2002	2003	2002	2003	2002	2002	2003	2003
TUDA Sample	1,326	1, 889	1,110	1,660	1,321	1,109	2,303	1,684
SD/LEP Identified	43%	42%	27%	27%	40%	27%	45%	26%
SD/LEP Excluded	17%	24%	7%	10%	15%	8%	8%	8%
SD Identified	12%	18%	15%	18%	11%	15%	18%	16%
SD Excluded	4%	9%	5%	7%	4%	5%	7%	7%
LEP Identified	36%	33%	16%	16%	33%	18%	35%	16%
LEP Excluded	16%	20%	4%	6%	13%	5%	4%	5%

assessment was 15% and 8% for eighth grade students. The SD and/or LEP exclusion rate on the 2003 mathematics test was 8% for fourth and eighth grade.

Higher exclusion rates on the reading assessments is due to the fact that the reading test is administered in English and a Spanish version is not offered. However, LEP students are allowed to use a mathematics test booklet that is written in Spanish. Therefore, the LEP exclusions dramatically decreased for the mathematics test.

2002 AND 2003 READING

NAEP Reading Framework

The NAEP reading section assessed "reading literacy," which was defined as "developing a general understanding of written text, thinking about text in different ways, and using a variety of text types for different purposes." The NAEP contexts for reading were:

- Reading for literary experience;
- Reading for information; and
- Reading to perform a task (grade 8).

Examples of "reading for literary experience" included students reading excerpts of novels, poems, essays, and plays. Examples of "reading for information" included students reading excerpts of magazine articles, newspapers, and textbook chapters. Eighth grade students were asked to do "reading to perform a task," which included reading schedules, directions, repair manuals, and instruction manuals. The four aspects of reading included:

- Forming a general understanding;
- Developing interpretation;
- Making reader/text connections; and
- Examining content and structure.

Reading was assessed through multiple choice and constructed-response questions (students write their own response). Unique scoring guides were developed for each constructed-response question. Each student took either two 25-minute blocks of questions or one 50-minute block. Blocks included at least one reading passage and a related set of 10-12 comprehension questions which may have included multiple choice and constructed-response questions.

Reading Results: Grade 4

The NAEP Reading Assessment results of fourth-grade students for 2002 and 2003 are presented in **Table 2**. Results are presented by scale scores and the percentage of students at or above the basic and proficient achievement levels. In order to make comparisons, the results for the nation, Texas, large central city, and participating districts are also included in Table 2. Boston, Charlotte, Cleveland, and San Diego did not participate in the 2002 NAEP Reading Assessment.

As mentioned previously, the reading scale scores range from 0 to 500. The average scale score for Texas fourth grade students on the reading assessment was 215, just below the national average of 216 in 2003. Also, the average scale score for the nation slightly decreased from 217 in 2002 to 216 in 2003. The average scale score for Texas decreased from 217 in 2002 to 215 in 2003, while Houston's average scale score increased from 206 to 207. This average reading scale score for Houston fourth-grade students was lower than the nation and Texas, but higher than the large central city average for both years. Of the six participating districts on the 2002 NAEP Reading Assessment, Houston and New York City had the highest average scale scores. In 2003, Houston's average scale score was higher than six other districts with the exception of Charlotte, New York City, and San Diego.

Table 2 : NAEP Fourth-Grade Reading Assessment Results by Scale Scores and Percentage of Students At or Above Basic and Proficient Levels: 2002 and 2003

	Scale Scores (0-500)		At or Above Basic (Percentage of Students)		At or Above Proficient (Percentage of Students)	
	2002	2003	2002	2003	2002	2003
Nation	217	216	62	62	30	30
Texas	217	215	62	59	28	27
Large Central City	202	205	45	48	17	20
Houston	**206**	**207**	**48**	**48**	**18**	**18**
Atlanta	195	197	35	37	12	14
Boston	–	206	–	48	–	16
Charlotte	–	219	–	64	–	31
Chicago	193	198	34	40	11	14
Cleveland	–	195	–	35	–	9
District of Columbia	191	188	31	31	10	10
Los Angeles	191	194	33	35	11	11
New York City	206	210	47	53	19	22
San Diego	–	208	–	51	–	22

–Not Available

The percentage of Texas fourth-grade students who scored at or above the proficient level was 27 percent, compared to 30 percent nationally in 2003. Twenty percent of fourth-grade students scored at or above the proficient level for large central city in 2003. The percent of Houston fourth-grade students who scored at or above the proficient level was 18 percent, which was higher than six other districts in 2003. The percentage of fourth-grade students who scored at or above the basic level in 2003 for the nation was 62 and 59 for Texas. The percentage of large central city fourth-grade students who scored at or above the basic level was 48 percent in 2003. The percentage of Houston fourth-grade students who scored at or above the basic level was 48 percent, which was lower than both Texas and the nation, but the same for large central city in 2003.

Reading Results by Race/Ethnicity

Table 3 presents the average reading scale scores of African American, Hispanic, and White fourth-grade students. The average scale score of African American students in Texas remained the same from 2002 to 2003 at 202. The average scale score of African American students in Houston increased from 200 in 2002 to 201

Table 3: NAEP Average Reading Scale Scores by Race/Ethnicity in Grade 4 : 2002 and 2003

	African American		Hispanic		White	
	2002	2003	2002	2003	2002	2003
Nation	198	197	199	199	227	227
Texas	202	202	208	205	232	227
Large Central City	192	193	197	198	224	226
Houston	**200**	**201**	**203**	**203**	**233**	**235**
Atlanta	192	191	–	–	250	250
Boston	+	202	+	201	+	225
Charlotte	+	205	+	202	+	237
Chicago	185	193	193	196	221	224
Cleveland	+	191	+	201	+	208
District of Columbia	188	184	193	187	248	254
Los Angeles	186	187	185	189	223	217
New York	197	201	201	205	226	231
San Diego	+	196	+	195	+	231

+Did not participate in 2002
–Not Available

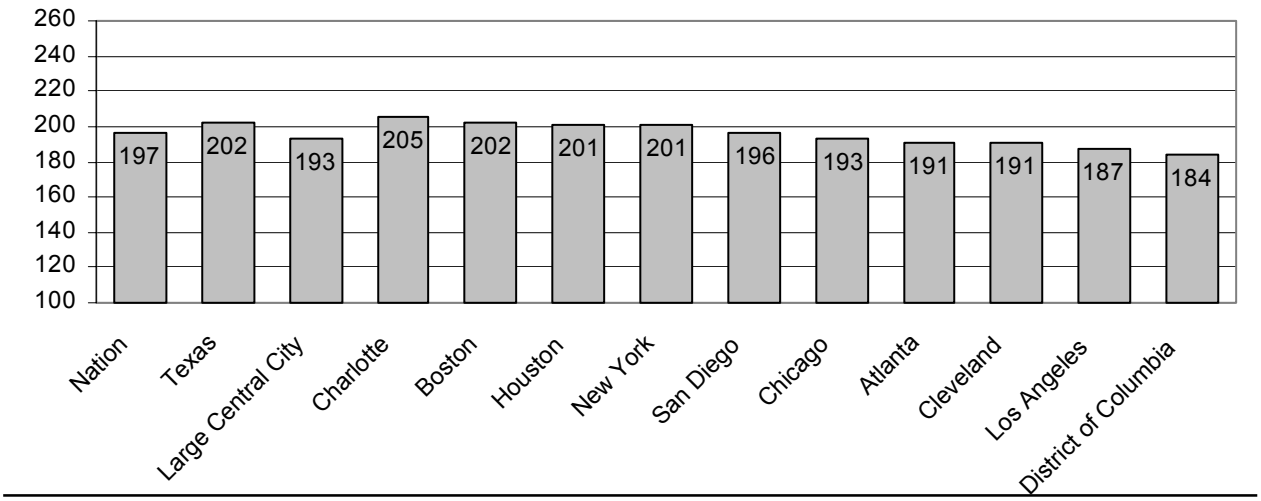

Figure 1: Average Reading Scale Scores for African American Students in Grade 4: 2003

in 2003. Hispanic students in Houston did not experience a change in their average scale score of 203 from 2002 to 2003. The average scale score of White students increased from 233 in 2002 to 235 in 2003.

Figure 1 presents the average reading scale scores of African American fourth-grade students in 2003. African American fourth-grade students in Houston achieved a higher average scale score than their counterparts in the nation, large central city, and six of the participating districts. The widest gap was found among African American fourth-grade students in the District of Columbia who scored 17 points lower than their peers in Houston. The average scale score for Texas was one point higher than the Houston average scale score. Also, Charlotte and Boston had higher average scale scores than Houston. African American students in New York City had the same average scale score as Houston.

Figure 2 presents the average reading scale scores of Hispanic fourth-grade students in 2003. The average scale score for Hispanic fourth-grade students in Houston was higher than the nation, large central city, and seven of the participating districts. The gap between Hispanic students in Houston and Los Angeles was 14 points; however, the District of Columbia had an even wider gap at 16 points. The average scale scores for Texas and New York City were two points higher than Houston's average scale score. Atlanta was not included in Figure 2 because there was not a sufficient number of Hispanic students tested.

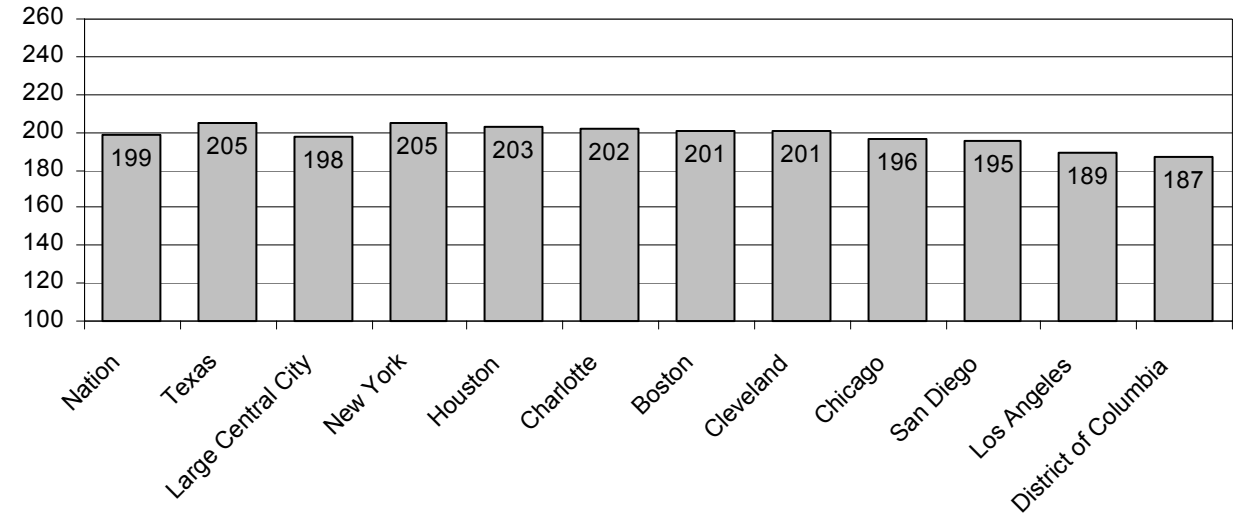

Figure 2: Average Reading Scale Scores for Hispanic Students in Grade 4: 2003

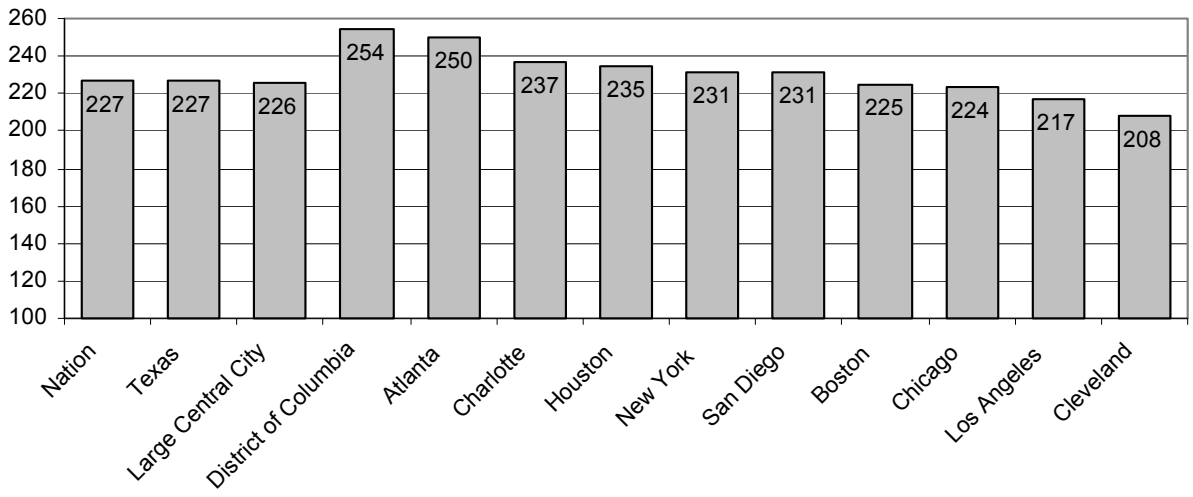

Figure 3: Average Reading Scale Scores for White Students in Grade 4: 2003

Figure 3 presents the average reading scale scores of White fourth grade students in 2003. The average scale score for White fourth-grade students in Houston was 235, which was higher than the nation, Texas, large central city, and six of the participating districts. The widest gap was found among White students in Cleveland, who scored 27 points lower than their counterparts in Houston. The District of Columbia, Atlanta and Charlotte had higher average scale scores than Houston.

Table 4 presents the percentage of fourth-grade students at or above the basic and proficient level by race/ethnicity for 2002 and 2003. The percentage of African American students in Houston who were at or above the basic level increased from 40 in 2002 to 43 percent in 2003, while the percent at or above proficient remained the same at 12 percent. Also, African American students in Houston had a higher percent of students at or above the proficient level than the percent for large central city and seven of the districts in 2003. The percentage of Hispanic students in Houston who were at or above the basic level decreased from 45 in 2002 to 44 percent in

Table 4: Percentage of Students At or Above Basic and Proficient Levels in Reading for Grade 4 by Race/Ethnicity: 2002 and 2003

	African American				Hispanic				White			
	At or Above Basic		At or Above Proficient		At or Above Basic		At or Above Proficient		At or Above Basic		At or Above Proficient	
	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003
Nation	39	39	12	12	43	43	14	14	74	74	39	39
Texas	43	44	14	16	52	48	18	17	80	74	44	39
Large Central City	33	35	9	10	39	41	12	13	70	72	37	39
Houston	**40**	**43**	**12**	**12**	**45**	**44**	**14**	**15**	**79**	**82**	**45**	**48**
Atlanta	32	31	8	8	–	–	–	–	86	91	67	68
Boston	+	43	+	11	+	42	+	12	+	69	+	37
Charlotte	+	48	+	14	+	46	+	15	+	83	+	52
Chicago	25	33	5	10	33	39	9	12	64	70	35	37
Cleveland	+	30	+	7	+	44	+	14	+	51	+	17
District of Columbia	28	27	7	7	34	29	8	8	91	90	66	70
Los Angeles	25	30	6	8	26	30	7	7	70	60	38	28
New York City	37	43	9	13	42	47	15	16	71	77	35	45
San Diego	+	38	+	9	+	37	+	12	+	79	+	43

+Did not participate in 2002
–Not Available

2003, while the percent at or above proficient increased from 14 to 15 percent. Also, Hispanic students in Houston had a higher percent of students at or above the proficient level than the percent for the nation and large central city and six of the participating districts. The percentage of White students in Houston who were at or above the basic level increased from 79 in 2002 to 82 percent in 2003, and the percent at or above the proficient level increased from 45 to 48 percent. Also, White students in Houston had a higher percent of students at or above the proficient level in 2003 than the percent for the nation, Texas, large central city, and six of the participating districts.

Reading Results by Eligibility for Free/Reduced Lunch

Table 5 presents NAEP average reading scale scores of fourth- grade students by eligibility for free/reduced lunch for 2002 and 2003. The average reading scale score for students in Houston who were eligible for free/reduced lunch increased from 199 in 2002 to 201 in 2003. Houston students who were eligible for free/reduced lunch had higher average scale scores than their counterparts in seven of the participating districts in 2003. Boston and New York City were the only districts with a higher average scale score than Houston. The average scale score for students who were eligible for free/reduced lunch in large central cities was lower than Houston by four points. The nation's average scale score of 201 was the same as Houston's. Texas had an average scale score of 205, which was four points higher than Houstons' average scale score. The average scale score of students in Houston who were not eligible for free/reduced lunch decreased from 226 in 2002 to 220 in 2003. In addition, fourth-grade students who were not eligible for free/reduced lunch in the nation, Texas, large central city, and all of the participating districts scored higher, on average, than students who were eligible for free/reduced lunch.

Table 5 also presents the gap between students who were eligible and students who were not eligible for free/reduced lunch in 2002 and 2003. The gap for Houston was narrowed from 27 to 19 points, since the average scale score decreased for students who were not eligible for free/reduced lunch from 2002 to 2003 and the average scale score for students who were eligible for free/reduced lunch slightly increased. Also, the gap for Houston between students who were eligible and students who were not eligible for free/reduced lunch was narrower than the gaps for the nation, Texas, large central city, and seven of the participating districts in 2003. The only school district with a narrower gap than Houston was Boston with a 17-point gap. Atlanta had the widest gap at 41 points in 2003. Data for Cleveland were not available.

Table 5: NAEP Average Reading Scale Scores by Eligibility for Free/Reduced Lunch in Grade 4: 2002 and 2003

	Eligible		Not Eligible		Gap	
	2002	2003	2002	2003	2002	2003
Nation	202	201	229	229	27	28
Texas	210	205	228	226	18	21
Large Central City	195	197	222	223	27	26
Houston	**199**	**201**	**226**	**220**	**27**	**19**
Atlanta	189	189	214	230	25	41
Boston	+	204	+	221	+	17
Charlotte	+	200	+	234	+	34
Chicago	190	194	222	227	32	33
Cleveland	+	195	+	–	+	–
District of Columbia	185	182	210	206	25	24
Los Angeles	186	189	199	213	13	24
New York	201	206	219	241	18	35
San Diego	+	197	+	224	+	27

–Not Available
+Did not participate in 2002

Table 6: Percentage of Students At or Above Basic and Proficient Levels in Reading for Grade 4 by Eligibility for Free/Reduced Lunch: 2002 and 2003

	Eligible				Not Eligible			
	At or Above Basic		At or Above Proficient		At or Above Basic		At or Above Proficient	
	2002	2003	2002	2003	2002	2003	2002	2003
Nation	46	44	16	15	76	75	41	41
Texas	53	48	20	16	76	72	39	39
Large Central City	36	39	11	12	67	68	34	36
Houston	**40**	**42**	**11**	**12**	**72**	**66**	**39**	**31**
Atlanta	29	29	7	7	55	71	27	45
Boston	+	46	+	13	+	65	+	30
Charlotte	+	43	+	12	+	81	+	47
Chicago	30	36	8	11	65	71	33	38
Cleveland	+	35	+	9	+	-	+	-
District of Columbia	25	25	5	6	52	48	23	24
Los Angeles	27	31	7	8	42	57	14	23
New York City	42	49	15	18	62	86	30	54
San Diego	+	39	+	12	+	69	+	37

+Did not participate in 2002
–Not Available

Table 6 presents the percentage of fourth-grade students at or above the basic and proficient levels by eligibility for free/reduced lunch for 2002 and 2003. The percentage of students eligible for free/reduced lunch in Houston who were at or above the basic level increased from 40 in 2002 to 42 percent in 2003, and the percent at or above proficient increased from 11 to 12 percent. Students eligible for free/reduced lunch in Houston had a higher percent of students at or above the proficient level in 2003 than Atlanta, Chicago, Cleveland, the District of Columbia, and Los Angeles. The percent of students eligible for free/reduced lunch at or above the proficient level for Houston was the same for Charlotte and San Diego.

Reading Results by Contexts

As mentioned previously, the NAEP reading framework included assessing fourth-grade students on reading for literary experience and reading for information. **Table 7** presents the average reading scale scores of Houston fourth-grade students by context. The average scale score for the context, "reading for literary experience," slightly decreased from 211 in 2002 to 210 in 2003. The average scale score for the context, "reading for information," increased from 200 in 2002 to 202 in 2003. A comparison of the average scale scores between "reading for literary experience" and "reading for information" reveals that fourth-grade students achieved a higher scale score on "reading for literary experience." The composite average scale score in 2003 was 207.

Table 7: NAEP Average Reading Scale Scores by Context for Houston Fourth-Grade Students: 2002 and 2003

	Average Scale Score	
	2002	2003
Reading for Literary Experience	211	210
Reading for Information	200	202
Reading Composite Score	**206**	**207**

Reading Results: Grade 8

The NAEP Reading Assessment results of eighth-grade students for 2002 and 2003 are presented in **Table 8**. Results are presented by scale scores and the percentage of students at or above the basic and proficient achievement levels. In order to make comparisons, the results for the nation, Texas, large central city, and participating districts are also included in Table 8. Boston, Charlotte, Cleveland, and San Diego did not participate in the 2002 NAEP Reading Assessment; therefore, there are no 2002 reading results for these districts. In addition, data for eighth-grade students in New York City were not available in 2002 because the district did not meet the required 70 percent school participation rate.

As mentioned previously, the reading scale scores range from 0 to 500. The average scale score for Texas eighth-grade students on the reading assessment was 259, lower than the national average of 261 in 2003. The average scale score for the nation slightly decreased from 263 in 2002 to 261 in 2003. Also, the average scale score for Texas decreased from 262 in 2002 to 259 in 2003, and Houston's average scale score decreased from 248 in 2002 to 246 in 2003. The average reading scale score for Houston eighth-grade students was lower than the nation, Texas, and large central city average in 2003. Of the five participating districts on the 2002 NAEP Reading Assessment, Chicago had the highest average scale score followed by Houston. Houston's average scale score in 2003 was higher than the average scale score for Atlanta, Cleveland, the District of Columbia, and Los Angeles.

The percentage of Texas eighth-grade students who scored at or above the proficient level was 26 percent, compared to 30 percent nationally in 2003. Nineteen percent of eighth-grade students scored at or above the proficient level for large central city in 2003. Eighth-grade students in Houston experienced a decrease in the percent of students at or above the proficient level from 17 percent in 2002 to 14 percent in 2003. Although Houston experienced a decrease in 2003, Houston's 14 percent was higher than the percent of eighth-grade students who scored at or above the proficient level in Atlanta, Cleveland, the District of Columbia, and Los Angeles . The percentage of eighth-grade students who scored at or above the basic level for the nation was 72 percent and 71 percent for Texas in 2003. In addition, the percentage of large central city eighth-grade students who scored at or above the basic level in 2003 was 59 percent. The percentage of Houston eighth-grade students who scored at or above the basic level was 55 percent, which was lower than the nation, Texas, and large central city.

Table 8 : NAEP Eighth-Grade Reading Assessment Results by Scale Scores and Percentage of Students At or Above Basic and Proficient Levels: 2002 and 2003

	Scale Scores (0-500)		At or Above Basic (Percentage of Students)		At or Above Proficient (Percentage of Students)	
	2002	2003	2002	2003	2002	2003
Nation	263	261	74	72	31	30
Texas	262	259	73	71	31	26
Large Central City	251	249	60	59	20	19
Houston	**248**	**246**	**59**	**55**	**17**	**14**
Atlanta	236	240	42	47	8	11
Boston	+	252	+	61	+	22
Charlotte	+	262	+	71	+	30
Chicago	249	248	62	59	15	15
Cleveland	+	240	+	48	+	10
District of Columbia	240	239	48	47	10	10
Los Angeles	237	234	44	43	10	11
New York	–	252	+	62	+	22
San Diego	+	250	+	60	+	20

+Did not participate in 2002
–Not Available

Reading Results by Race/Ethnicity

Table 9 presents the average reading scale scores of African American, Hispanic, and White eighth-grade students. The average scale score of African American students in Texas remained the same from 2002 to 2003 at 247. The average scale score of Houston African American students decreased from 247 in 2002 to 244 in 2003. Hispanic students in Houston experienced a slight decrease in their average scale score from 243 in 2002 to 242 in 2003. The average scale score of White students decreased from 279 in 2002 to 270 in 2003.

Table 9: NAEP Average Reading Scale Scores by Race/Ethnicity in Reading for Grade 8: 2002 and 2003

	African American		Hispanic		White	
	2002	2003	2002	2003	2002	2003
Nation	244	244	245	244	271	270
Texas	247	247	250	247	276	272
Large Central City	241	241	243	241	270	268
Houston	**247**	**244**	**243**	**242**	**279**	**270**
Atlanta	233	237	–	–	275	–
Boston	+	245	+	245	+	273
Charlotte	+	247	+	244	+	278
Chicago	245	243	248	249	266	265
Cleveland	+	238	+	–	+	250
District of Columbia	238	236	240	240	–	–
Los Angeles	236	233	230	228	264	266
New York	–	245	–	247	–	270
San Diego	+	236	+	238	+	269

+Did not participate in 2002
–Not Available

Figure 4 presents the average reading scale scores of African American eighth-grade students in 2003. The average scale score for African American eighth-grade students in Houston was 244, which was the same as the nation. The average scale score for Houston was higher than the large central city and six of the participating districts. The average scale for Texas was 247, which was three points higher than Houston's average scale score. The widest gap was found among African American students in Los Angeles, who scored 11 points lower than their counterparts in Houston. Charlotte, Boston, and New York City achieved higher average scale scores than Houston.

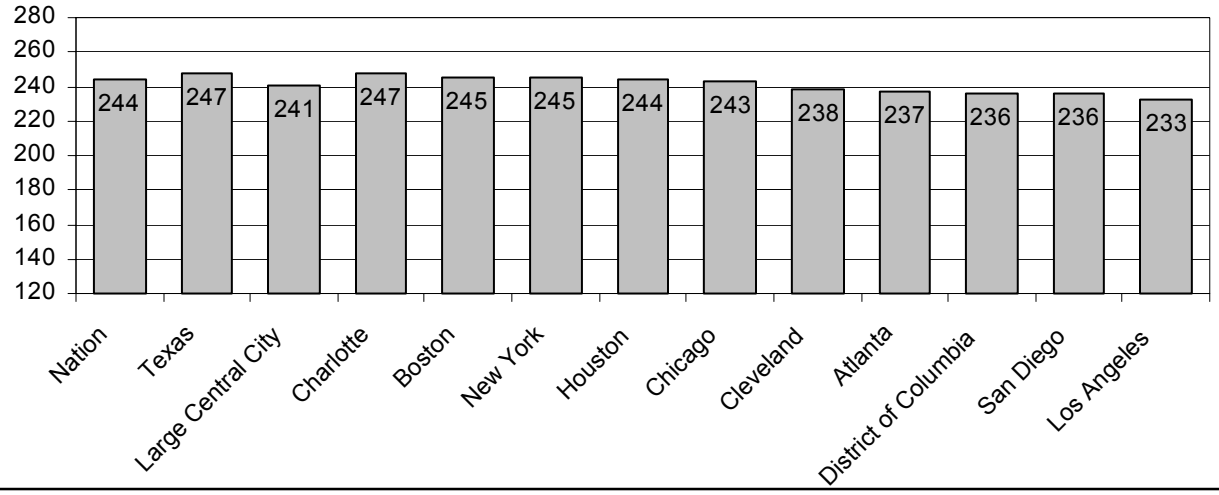

Figure 4: Average Reading Scale Scores for African American Students in Grade 8: 2003

Figure 5 presents the average reading scale scores of Hispanic eighth- grade students in 2003. The average scale score for Hispanic eighth- grade students in Houston was lower than the average scale score for the nation, Texas, and four of the participating districts. However, Hispanic eighth-grade students in Houston achieved higher average scale scores than the large central city, the District of Columbia, San Diego, and Los Angeles. The gap between Hispanic students in Houston and San Diego was 4 points compared to Los Angeles with an even wider gap at 14 points. Atlanta was not included in Figure 5 because there was not a sufficient number of Hispanic students tested.

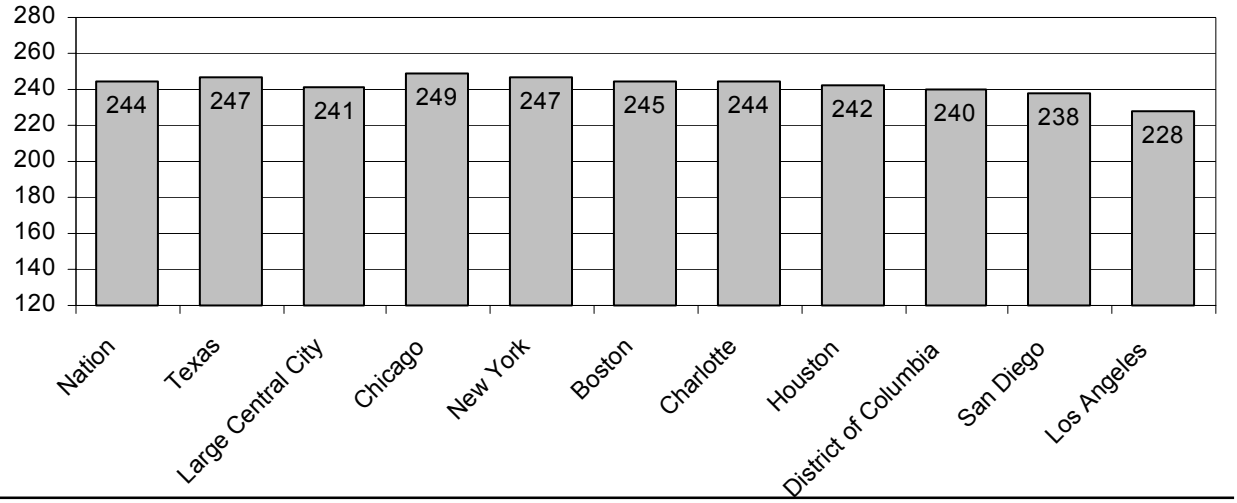

Figure 5: Average Reading Scale Scores for Hispanic Students in Grade 8: 2003

Figure 6 presents the average reading scale scores of White eighth-grade students in 2003. The average scale score for White eighth-grade students in Houston was 270, which was higher than the large central city average scale score. White students in Houston also experienced higher average scale scores than four of the participating districts. Houston and New York City had the same average scale score. The widest gap was found among White students in Cleveland, who scored 20 points lower than their counterparts in Houston. White eighth-grade students in Charlotte and Boston achieved higher average scale scores than Houston. Atlanta and the District of Columbia were not included in Figure 6 because there was not a sufficient number of White students tested.

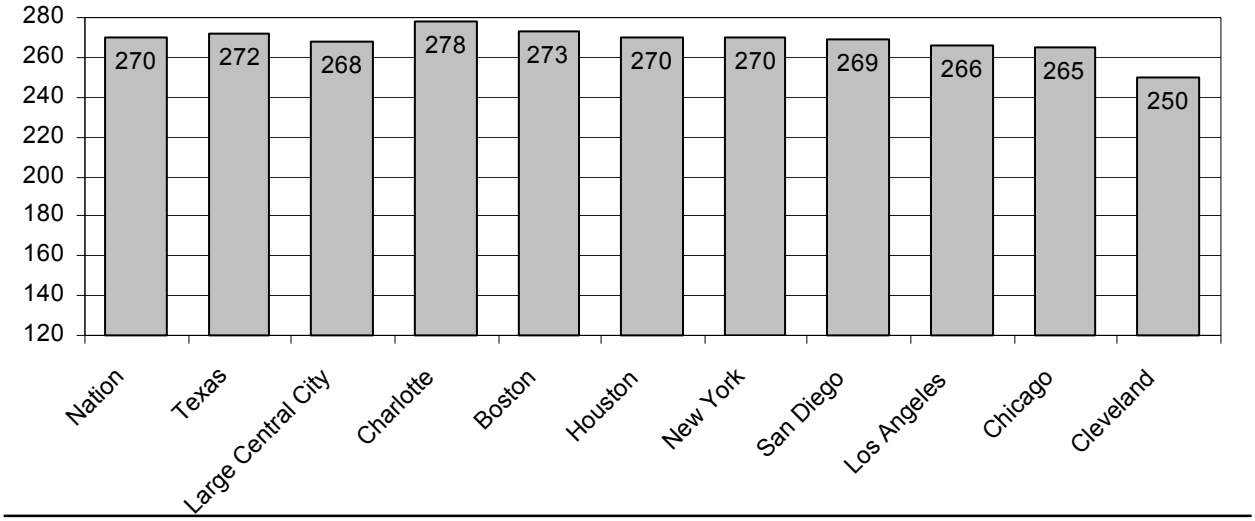

Figure 6: Average Reading Scale Scores for White Students in Grade 8: 2003

Table 10 presents the percentage of eighth-grade students at or above the basic and proficient level by race/ethnicity for 2002 and 2003. The percentage of African American students in Houston who were at or above the basic level decreased from 60 percent in 2002 to 53 percent in 2003, and the percent at or above proficient decreased from 15 to 12 percent. Also, African American students in Houston had a higher percent of students at or above the proficient level than the percent for large central city and six of the districts in 2003. The percentage of Hispanic students in Houston who were at or above the basic level decreased from 52 in 2002 to 51 percent in 2003, and the percent at or above proficient decreased from 13 to 10 percent. Hispanic students in Houston had a higher percent of students at or above the proficient level than the percent for Los Angeles and San Diego. The percentage of White students in Houston who were at or above the basic level decreased from 87 in 2002 to 80 percent in 2003, and the percent at or above the proficient level decreased from 47 percent to 40 percent. Also, White students in Houston had a higher percent of students at or above the proficient level than the percent for the nation, Texas, large central city, and four of the participating districts.

Table 10: Percentage of Students At or Above Basic and Proficient Levels in Reading for Grade 8 by Race/ Ethnicity: 2002 and 2003

	African American				Hispanic				White			
	At or Above Basic		At or Above Proficient		At or Above Basic		At or Above Proficient		At or Above Basic		At or Above Proficient	
	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003
Nation	54	53	13	12	56	54	14	14	83	82	39	39
Texas	57	56	15	14	62	59	17	14	88	84	47	39
Large Central City	49	49	11	10	53	51	13	12	80	79	40	36
Houston	**60**	**53**	**15**	**12**	**52**	**51**	**13**	**10**	**87**	**80**	**47**	**40**
Atlanta	39	44	5	8	–	–	–	–	84	–	47	–
Boston	+	53	+	14	+	54	+	14	+	79	+	44
Charlotte	+	55	+	14	+	52	+	14	+	88	+	49
Chicago	57	52	10	10	61	61	12	15	75	79	31	30
Cleveland	+	45	+	8	+	–	+	–	+	62	+	14
District of Columbia	46	45	8	8	53	51	11	11	–	–	–	–
Los Angeles	43	41	8	7	36	37	5	6	73	76	33	36
New York City	–	56	–	13	–	57	–	17	–	79	–	42
San Diego	+	46	+	7	+	46	+	9	+	79	+	37

+Did not participate in 2002
–Not Available

Reading Results by Eligibility for Free/Reduced Lunch

Table 11 presents NAEP average reading scale scores of eighth-grade students by eligibility for free/ reduced lunch for 2002 and 2003. The average reading scale score for students in Houston who were eligible for free/reduced lunch decreased from 243 in 2002 to 241 in 2003. Houston students who were eligible for free/ reduced lunch had higher average scale scores than students in five of the participating districts in 2003. The average scale score for students who were eligible for free/reduced lunch in large central city was the same as Houston's average. The nation's and Texas' average scale score of 246 was higher than Houston's average. The average scale score of students in Houston who were not eligible for free/reduced lunch decreased from 261 in 2002 to 256 in 2003. In addition, eighth-grade students who were not eligible for free/reduced lunch in the nation, Texas, large central city, and all participating districts scored higher, on average, than students who were eligible for free/reduced lunch.

Table 11 also presents the gap between students who were eligible and students who were not eligible for free/reduced lunch in 2002 and 2003. The gap for Houston was narrowed from 18 to 15 points, since the average scale score decreased more for students who were not eligible for free/reduced lunch than for students who were eligible for free/reduced lunch. Also, the gap for Houston between students who were eligible and students who

were not eligible for free/reduced lunch was narrower than the gaps for the nation, Texas, large central city, and all of the participating districts in 2003.

Table 11: NAEP Average Reading Scale Scores by Eligibility for Free/Reduced Lunch in Grade 8: 2002 and 2003

	Eligible		Not Eligible		Gap	
	2002	2003	2002	2003	2002	2003
Nation	249	246	271	271	22	25
Texas	248	246	275	269	27	23
Large Central City	242	241	268	263	26	22
Houston	**243**	**241**	**261**	**256**	**18**	**15**
Atlanta	233	235	244	256	11	21
Boston	+	247	+	265	+	18
Charlotte	+	244	+	273	+	29
Chicago	246	246	267	267	21	21
Cleveland	+	240	+	–	+	–
District of Columbia	235	232	251	248	16	16
Los Angeles	–	230	–	247	–	17
New York	–	248	–	278	–	30
San Diego	+	240	+	262	+	22

–Not Available
+Did not participate in 2002

Table 12 presents the percentage of eighth-grade students at or above the basic and proficient levels by eligibility for free/reduced lunch for 2002 and 2003. Eighth-grade students eligible for free/reduced lunch in the nation, Texas, and large central city all experienced a decrease in the percent at or above the basic and proficient level from 2002 to 2003. Houston students who were eligible for free/reduced lunch also experienced decreases in the percent at or above the basic and proficient level. Specifically, the percent at or above the basic level decreased from 52 in 2002 to 49 percent in 2003, and the percent at or above the proficient level decreased from 13 to 10 percent. Students eligible for free/reduced lunch in Houston had a higher percent of students at or above the proficient level in 2003 than Atlanta, the District of Columbia, and Los Angeles. The percent of students eligible for free/reduced lunch at or above the proficient level for Houston was the same for Cleveland in 2003.

Table 12: Percentage of Students At or Above Basic and Proficient Levels in Reading for Grade 8 by Eligibility for Free/Reduced Lunch: 2002 and 2003

	Eligible				Not Eligible			
	At or Above Basic		At or Above Proficient		At or Above Basic		At or Above Proficient	
	2002	2003	2002	2003	2002	2003	2002	2003
Nation	60	56	17	15	83	82	40	39
Texas	60	57	16	12	86	81	44	37
Large Central City	51	50	11	12	78	74	37	31
Houston	**52**	**49**	**13**	**10**	**75**	**67**	**26**	**23**
Atlanta	38	42	6	7	53	68	12	26
Boston	+	56	+	16	+	74	+	34
Charlotte	+	51	+	13	+	83	+	41
Chicago	59	56	11	13	76	78	36	32
Cleveland	+	48	+	10	+	–	+	–
District of Columbia	43	39	6	6	61	56	18	17
Los Angeles	–	37	–	7	–	58	–	18
New York City	–	58	–	18	–	87	–	48
San Diego	+	48	+	11	+	74	+	30

+Did not participate in 2002
–Not Available

Reading Results by Contexts

As mentioned previously, the NAEP reading framework included assessing eighth-grade students on reading for literary experience, reading for information, and reading to perform a task. **Table 13** presents the average reading scale scores of Houston eighth-grade students by context. The average scale score for the context, "reading for literary experience," decreased from 249 in 2002 to 247 in 2003. Also, the average scale score for the context, "reading for information," decreased by one point from 248 in 2002 to 247 in 2003. The average scale score for the context, "reading to perform a task," decreased from 245 in 2002 to 242 in 2003. A comparison of the average scale scores between the three contexts within the NAEP reading framework reveals that eighth-grade students achieved higher scale scores for "reading for literary experience" and "reading for information" with a scale score of 247, each. The composite average scale score in 2003 was 246.

Table 13: NAEP Average Reading Scale Scores by Context for Houston Eighth-Grade Students: 2002 and 2003

	Average Scale Score	
	2002	2003
Reading for Literary Experience	249	247
Reading for Information	248	247
Reading to Perform a Task	245	242
Reading Composite Score	**248**	**246**

2003 MATHEMATICS

NAEP Mathematics Framework

The NAEP mathematics section assessed five content strands. These content strands were:

- number sense, properties, and operations;
- measurement;
- geometry and spatial sense;
- data analysis, statistics, and probability; and
- algebra and functions.

The NAEP mathematics framework also describes two process dimensions. The first dimension was mathematical abilities which included:

- Conceptual understanding—"knowing that," "knowing about";
- Procedural knowledge—"knowing how"; and
- Problem solving—both conceptual understanding and procedural knowledge.

The second dimension was mathematical power which included:

- Reasoning—demonstrating and communicating the reasoning used to solve problems;
- Connections—making connections across content strands and connecting mathematical ideas from one context to another context or to another discipline; and
- Communications—communicating mathematical ideas and explaining reasoning underlying solutions to problems.

Mathematics was assessed through multiple choice, short constructed-response questions and extended-constructed response. The short constructed-response questions required students to give either a numerical result or the correct name or classification for a group of mathematical objects, draw an example of a given concept, or write a brief explanation for a given result. Extended constructed-response questions required students to plan an approach, solve the problem, and interpret their solution. In addition, students were required to show evidence of their work and communicate their decision-making process in solving the problem. Unique scoring guides were developed for each constructed-response question. Each student took a two 25-minute block of questions.

Mathematics Results: Grade 4

The NAEP Mathematics Assessment results of fourth-grade students for 2003 are presented in **Table 14**. The administration of the 2003 mathematics sets the initial benchmark for the TUDA. Results are presented by scale scores and the percentage of students at or above the basic and proficient achievement levels. In order to make comparisons, the results for the nation, Texas, large central city, and participating districts are also included in Table 14.

As mentioned previously, the mathematics scale scores range from 0 to 500. The average scale score for Texas fourth-grade students on the mathematics assessment was 237, higher than the national average of 234. Houston fourth-grade students achieved an average scale score of 227, which was higher than the large central city average of 224. Also, fourth-grade students in Houston outperformed their counterparts in eight of the participating districts. The widest gap found was among fourth-grade students in the District of Columbia, where students scored 22 points lower that their peers in Houston. Charlotte was the only district that had a higher average scale score than Houston.

The percentage of Texas fourth-grade students who scored at or above the proficient level was 33 percent compared to 31 percent nationally. Also, the percentage of fourth-grade students in large central city who scored at or above the proficient level was 21 percent, lower than the nation and Texas. The percent of fourth-grade students in Houston who scored at or above the proficient level was 18 percent, higher than six other districts. Charlotte, New York City, and San Diego had a higher percent of students who scored at or above the proficient level than Houston. The percentage of Texas fourth-grade students who scored at or above the basic level was 82 percent compared to 76 percent nationally. The percentage of large central city fourth-grade students who scored at or above the basic level was 63 percent, compared to 70 percent in Houston. Also, there was a higher percent of fourth-grade students in Houston at or above the basic level than eight of the participating districts. Charlotte had a higher percent of fourth-grade students who scored at or above the basic level than Houston.

Table 14: NAEP Fourth-Grade Mathematics Assessment Results by Scale Scores and Percentage of Students At or Above Basic and Proficient Levels: 2003

	Scale Scores (0-500)	At or Above Basic (Percentage of Students)	At or Above Proficient (Percentage of Students)
Nation	234	76	31
Texas	237	82	33
Large Central City	224	63	21
Houston	**227**	**70**	**18**
Atlanta	216	50	13
Boston	220	59	12
Charlotte	242	84	41
Chicago	214	50	10
Cleveland	215	51	10
District of Columbia	205	36	7
Los Angeles	216	52	13
New York City	226	67	21
San Diego	226	66	20

Mathematics Results by Race/Ethnicity

Table 15 presents the average mathematics scale scores of African American, Hispanic, and White fourth-grade students. The average scale score of African American students in Texas was 226 and in Houston was 221, both higher than the nation and large central city. The average scale score of Houston's Hispanic students was 226, higher than the nation and large central city. The average scale score of White students was 254, higher than the nation, Texas, and large central city.

Table 15: NAEP Average Mathematics Scale Scores by Race/Ethnicity in Grade 4 : 2003

	African American	Hispanic	White
Nation	216	221	243
Texas	226	230	248
Large Central City	212	220	243
Houston	**221**	**226**	**254**
Atlanta	211	–	258
Boston	216	215	234
Charlotte	229	233	257
Chicago	207	217	235
Cleveland	210	220	233
District of Columbia	202	205	262
Los Angeles	208	211	241
New York City	219	220	244
San Diego	216	216	243

–Not Available

Figure 7 presents the average mathematics scale scores of African American fourth-grade students in 2003. The average scale score for African American fourth-grade students in Houston was higher than the nation, large central city, New York City, Boston, San Diego, Atlanta, Cleveland, Los Angeles, Chicago, and the District of Columbia. The widest gap was found among African American students in the District of Columbia, who scored 19 points lower than their counterparts in Houston. Charlotte was the only district with a higher average scale score than Houston.

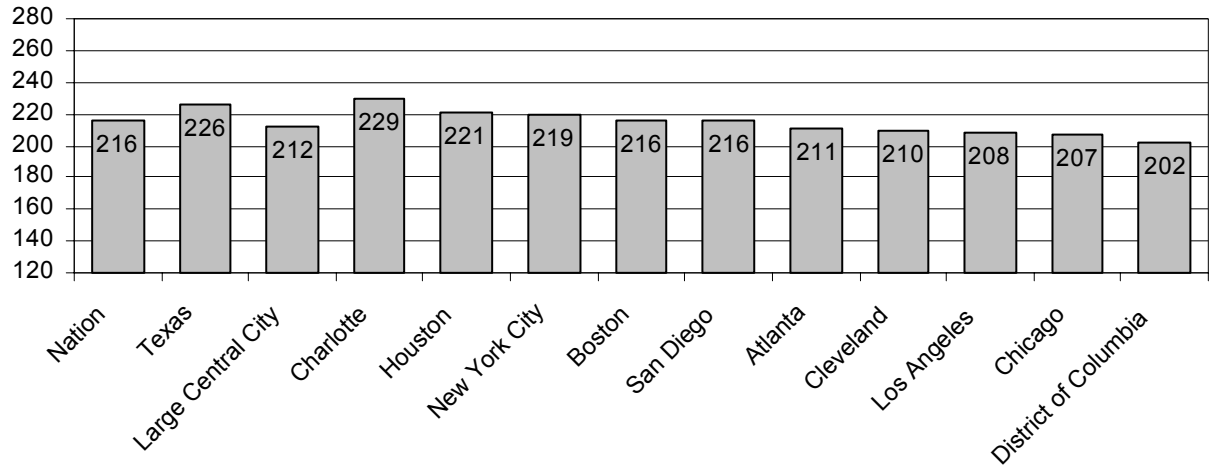

Figure 7: Average Mathematics Scale Scores for African American Students in Grade 4: 2003

Figure 8 presents the average mathematics scale scores of Hispanic fourth-grade students in 2003. The average scale score for Hispanic fourth-grade students in Houston was 226, higher than the nation, large central city, Cleveland, New York City, Chicago, San Diego, Boston, Los Angeles, and the District of Columbia. Charlotte was the only district with a higher average scale score than Houston. Atlanta was not included in Figure 8 because there was not a sufficient number of Hispanic students tested.

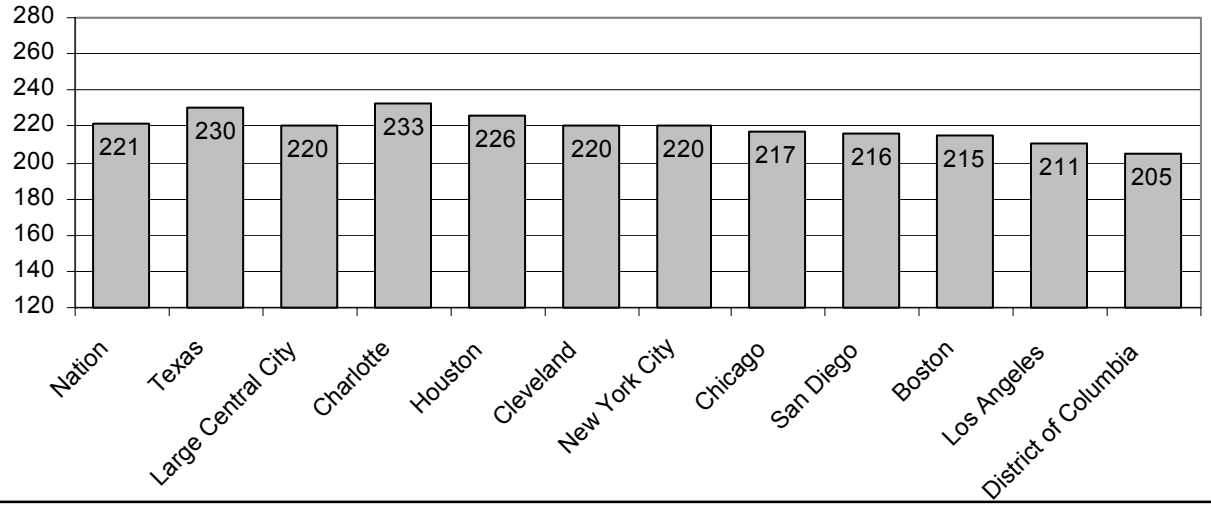

Figure 8: Average Mathematics Scale Scores for Hispanic Students in Grade 4: 2003

Figure 9 presents the average mathematics scale scores of White fourth-grade students in 2003. The average scale score for White fourth-grade students in Houston was 254, which was higher than the nation, Texas, and large central city averages. White students in Houston had a higher average scale score than six of the participating districts. The widest gap was found among White students in Cleveland, who scored 21 points lower than their counterparts in Houston. The District of Columbia, Atlanta, and Charlotte had higher average scale scores than Houston.

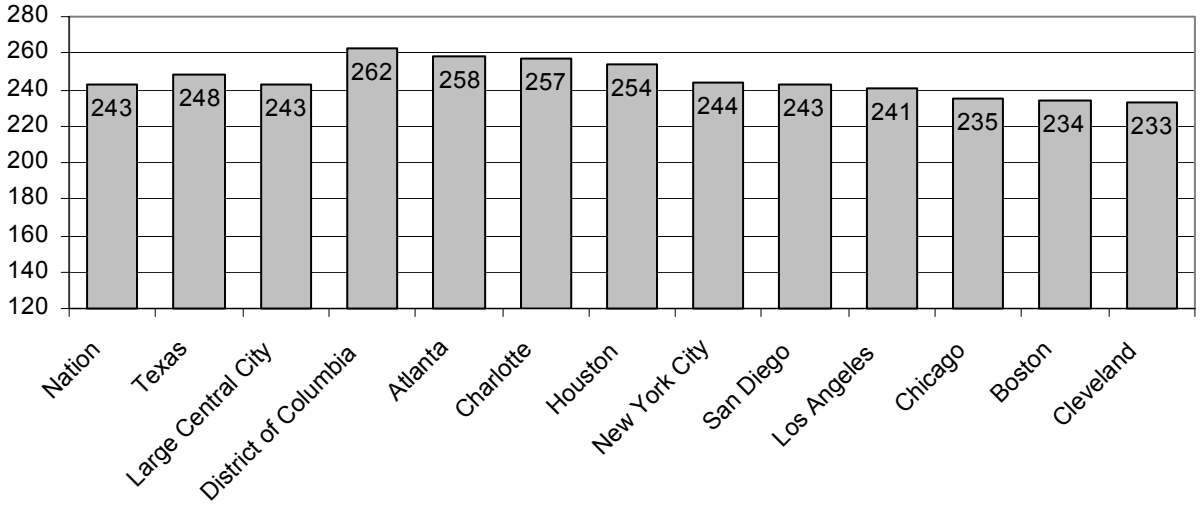

Figure 9: Average Mathematics Scale Scores for White Students in Grade 4: 2003

Table 16 presents the percentage of fourth-grade students at or above the basic and proficient level by race/ethnicity for the 2003 mathematics assessment. The percentage of African American students in Houston who were at or above the basic level was 62 percent in 2003, while the percent at or above proficient was 12 percent. Also, African American students in Houston had a higher percent of students at or above the proficient level than the percent for the nation, large central city, and seven of the districts in 2003. The percentage of Hispanic students in Houston who were at or above the basic level was 70 percent in 2003, while the percent at or above proficient was 15 percent. Also, Hispanic students in Houston had a higher percent of students at or above the proficient level than the percent for large central city and seven of the participating districts. The percentage

of White students in Houston who were at or above the basic level was 96 percent in 2003, and the percent at or above the proficient level was 63 percent. Also, White students in Houston had a higher percent of students at or above the proficient level than the percent for the nation, Texas, large central city, and six of the participating districts.

Table 16: Percentage of Students At or Above Basic and Proficient Levels in Grade 4 by Race/Ethnicity: 2003

	African American		Hispanic		White	
	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient
Nation	54	10	62	15	87	42
Texas	71	15	76	21	92	49
Large Central City	47	8	60	13	85	42
Houston	**62**	**12**	**70**	**15**	**96**	**63**
Atlanta	45	7	–	–	89	70
Boston	55	6	51	7	77	32
Charlotte	73	20	80	26	96	66
Chicago	39	4	55	10	82	31
Cleveland	44	5	58	14	80	27
District of Columbia	33	4	39	7	97	71
Los Angeles	42	6	46	7	83	44
New York City	58	12	60	13	88	42
San Diego	54	8	53	9	87	41

–Not Available

Mathematics Results by Eligibility for Free/Reduced Lunch

Table 17 presents NAEP average mathematics scale scores of fourth-grade students by eligibility for free/reduced lunch in 2003. The average mathematics scale score for students in Houston who were eligible for free/reduced lunch was 223 in 2003. Houston students who were eligible for free/reduced lunch had higher average scale scores than students in seven of the participating districts in 2003. Also, Houston students had a higher average scale score than students who were eligible for free/reduced lunch in the nation and large central city. The average scale score of students in Houston who were not eligible for free/reduced lunch was 239 in 2003. In addition, fourth-grade students who were not eligible for free/reduced lunch in the nation, Texas, large central city, and all participating districts scored higher, on average, than students who were eligible for free/reduced lunch. Data for Cleveland were not available.

Table 17: NAEP Average Mathematics Scale Scores by Eligibility for Free/Reduced Lunch in Grade 4 : 2003

	Eligible	Not Eligible	Gap
Nation	222	244	22
Texas	229	247	18
Large Central City	217	240	23
Houston	**223**	**239**	16
Atlanta	209	244	35
Boston	218	233	15
Charlotte	229	252	23
Chicago	212	230	18
Cleveland	215	–	–
District of Columbia	200	221	21
Los Angeles	212	229	17
New York	224	248	24
San Diego	217	239	22

–Not Available

Table 17 presents the gap between students who were eligible and students who were not eligible for free/reduced lunch in 2003. The gap for Houston was 16 points, which was narrower than the gap for seven of the participating districts. Also, the gap for Houston between students who were eligible and students who were not eligible for free/reduced lunch was narrower than the gaps for the nation, Texas, and large central city.

Table 18 presents the percentage of fourth-grade students at or above the basic and proficient levels by eligibility for free/reduced lunch in 2003. The percentage of students eligible for free/reduced lunch in Houston who were at or above the basic level was 66 percent, and the percent at or above the proficient level was 13 percent. Students eligible for free/reduced lunch in Houston had a higher percent of students at or above the proficient level than seven districts.

Table 18: Percentage of Students At or Above Basic and Proficient Levels in Mathematics for Grade 4 by Eligibility for Free/Reduced Lunch: 2003

	Eligible		Not Eligible	
	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient
Nation	62	15	88	45
Texas	75	20	91	48
Large Central City	55	12	81	40
Houston	**66**	**13**	**82**	**37**
Atlanta	43	5	79	50
Boston	57	10	76	31
Charlotte	74	19	92	59
Chicago	47	8	72	24
Cleveland	51	10	–	–
District of Columbia	29	3	57	20
Los Angeles	47	8	70	25
New York City	64	18	89	49
San Diego	56	10	82	35

–Not Available

Mathematics Results by Content Strands

As mentioned previously, the NAEP mathematics framework included assessing fourth-grade students on five content strands: number sense, properties, and operations; measurement; geometry and spatial sense; data analysis, statistics, and probability; and algebra and functions. **Table 19** presents the average mathematics scale scores of Houston fourth-grade students by each of the mathematics content strands tested. The average scale score for the content strand, "number sense, properties, and operations," was 227 in 2003. Also, the average scale score for the strand, "measurement," was 222 in 2003. The average scale score for the strand, "statistics, and probability," was 229 in 2003. A comparison of the average scale scores between the five content strands within the NAEP mathematics framework reveals that fourth-grade students achieved the highest scale score for "algebra and functions." The composite average scale score in 2003 was 227.

Table 19: NAEP Average Mathematics Scale Scores by Content Strands for Houston Fourth-Grade Students: 2003

	Average Scale Score
Number Sense, Properties, and Operations	227
Measurement	222
Geometry and Spatial Sense	227
Data Analysis, Statistics and Probability	229
Algebra and Functions	231
Mathematics Composite Score	**227**

Mathematics Results: Grade 8

The NAEP Mathematics Assessment results of eighth-grade students for 2003 are presented in **Table 20**. The administration of the 2003 mathematics sets the initial benchmark for the TUDA. Results are presented by scale scores and the percentage of students at or above the basic and proficient achievement levels. In order to make comparisons, the results for the nation, Texas, large central city, and participating districts are also included in Table 20.

As mentioned previously, the mathematics scale scores range from 0 to 500. The average scale score for Texas eighth-grade students on the mathematics assessment was 277, one point higher than the national average of 276. Houston eighth-grade students achieved an average scale score of 264, which was slightly higher than the large central city average of 262. However, Houston's average scale score was lower than the nation and Texas. Also, eighth-grade students in Houston outperformed their counterparts in six of the participating districts. Charlotte and New York City were the only districts that had a higher average scale score than Houston. San Diego had the same average scale score as Houston.

The percentage of Texas eighth-grade students who scored at or above the proficient level was 25 percent compared to 27 percent nationally. Also, the percentage of eighth-grade students in large central city who scored at or above the proficient level was 17 percent, lower than the nation and Texas. The percent of eighth-grade students in Houston who scored at or above the proficient level was 12 percent, higher than five other districts. Boston, Charlotte, New York City, and San Diego had a higher percent of students who scored at or above the proficient level than Houston. The percentage of Texas eighth-grade students who scored at or above the basic level was 69 percent compared to 67 percent nationally. The percentage of large central city eighth-grade students who scored at or above the basic level was 51 percent, compared to 52 percent in Houston.

Table 20: NAEP Eighth-Grade Mathematics Assessment Results by Scale Scores and Percentage of Students At or Above Basic and Proficient Levels: 2003

	Scale Scores (0-500)	At or Above Basic (Percentage of Students)	At or Above Proficient (Percentage of Students)
Nation	276	67	27
Texas	277	69	25
Large Central City	262	51	17
Houston	**264**	**52**	**12**
Atlanta	244	30	6
Boston	262	48	17
Charlotte	279	67	32
Chicago	254	42	9
Cleveland	253	38	6
District of Columbia	243	29	6
Los Angeles	245	32	7
New York City	266	54	20
San Diego	264	53	18

Mathematics Results by Race/Ethnicity

Table 21 presents the average mathematics scale scores of African American, Hispanic, and White eighth-grade students. The average scale score of African American students in Texas was 260 and in Houston was 259, both higher than the nation and large central city. The average scale score of Hispanic students in Houston was 261, higher than the nation and large central city. The average scale score of White students in Houston was 293, higher than the nation, Texas, and large central city.

Table 21: NAEP Average Mathematics Scale Scores by Race/Ethnicity in Grade 8: 2003

	African American	Hispanic	White
Nation	252	258	287
Texas	260	267	290
Large Central City	247	257	285
Houston	**259**	**261**	**293**
Atlanta	241	–	298
Boston	251	252	289
Charlotte	258	262	301
Chicago	245	259	276
Cleveland	249	249	269
District of Columbia	240	246	–
Los Angeles	234	240	277
New York City	253	260	289
San Diego	252	248	284

–Not Available

Figure 10 presents the average mathematics scale scores of African American eighth-grade students in 2003. The average scale score for African American eighth-grade students in Houston was higher than all nine of the participating districts, the nation, and large central city. The gap between African American students in Houston and the District of Columbia was 19 points; however, Los Angeles had an even wider gap at 25 points.

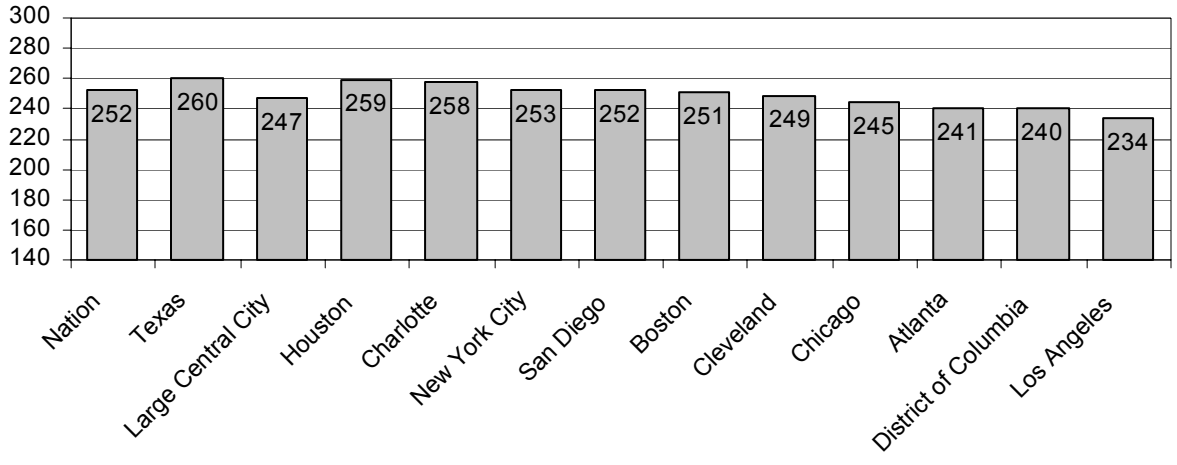

Figure 10: Average Mathematics Scale Scores for African American Students in Grade 8: 2003

Figure 11 presents the average mathematics scale scores of Hispanic eighth-grade students in 2003. The average scale score for Hispanic eighth-grade students in Houston was 261, which was higher than the nation, large central city, New York, Chicago, Boston, Cleveland, San Diego, the District of Columbia, and Los Angeles. The widest gap was found among Hispanic eighth-grade students in Los Angeles, who scored 21 points lower than Houston. Hispanic eighth-grade students in Charlotte were the only ones who had a higher average scale score than their counterparts in Houston, by one point. Atlanta was not included in Figure 11 because there was not a sufficient number of Hispanic students tested.

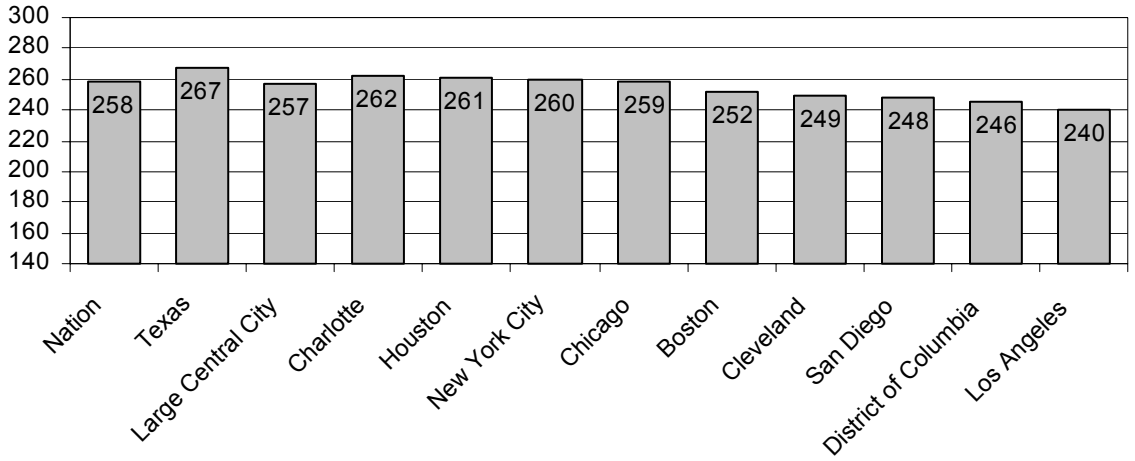

Figure 11: Average Mathematics Scale Scores for Hispanic Students in Grade 8: 2003

Figure 12 presents the average mathematics scale scores of White eighth-grade students in 2003. The average scale score for White eighth-grade students in Houston was 293, which was higher than the nation, Texas, and large central city averages. White students in Houston had higher average scale scores than six of the participating districts. The widest gap was found among White eighth-grade students in Cleveland, who scored 24 points lower than Houston. Charlotte and Atlanta had higher average scale scores than Houston. The District of Columbia was not included in Figure 12 because there was not a sufficient number of White students tested.

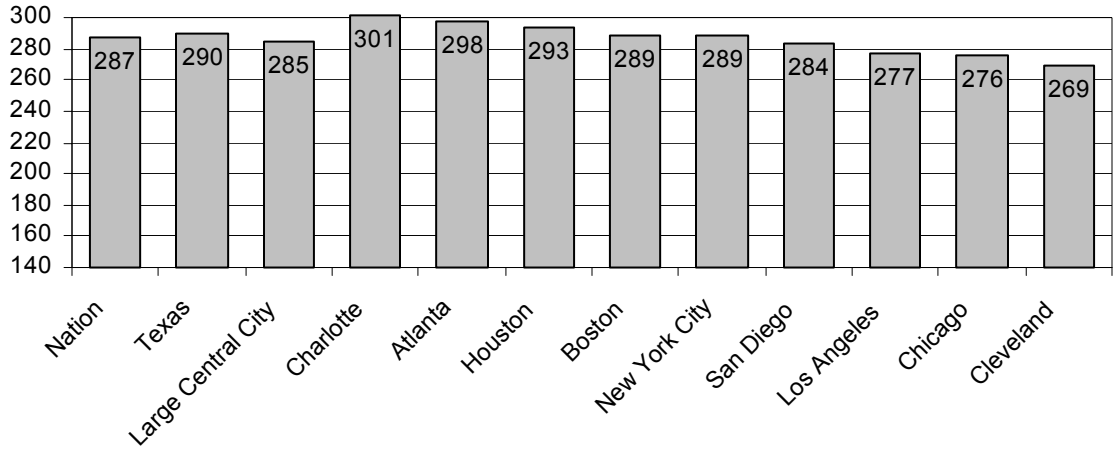

Figure 12: Average Mathematics Scale Scores for White Students in Grade 8: 2003

Table 22 presents the percentage of eighth-grade students at or above the basic and proficient level by race/ethnicity for the 2003 mathematics assessment. The percentage of African American students in Houston who were at or above the basic level was 47 percent in 2003, while the percent at or above proficient was 7 percent. Also, African American students in Houston had a higher percent of students at or above the proficient level than the percent for large central city and six of the districts in 2003. The percentage of Hispanic students in Houston who were at or above the basic level was 49 percent in 2003, while the percent at or above proficient was 9 percent. Also, Hispanic students in Houston had a higher percent of students at or above the proficient level

than the percent for six of the participating districts. The percentage of White students in Houston who were at or above the basic level was 80 percent in 2003, and the percent at or above the proficient level was 47 percent. Also, White students in Houston had a higher percent of students at or above the proficient level than the percent for the nation, Texas, large central city, and five of the participating districts.

Table 22: Percentage of Students At or Above Basic and Proficient Levels in Mathematics for Grade 8 by Race/ Ethnicity: 2003

	African American		Hispanic		White	
	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient
Nation	39	7	47	11	79	36
Texas	47	8	58	14	84	38
Large Central City	34	5	44	10	77	36
Houston	**47**	**7**	**49**	**9**	**80**	**47**
Atlanta	26	3	–	–	83	54
Boston	36	6	38	7	77	48
Charlotte	47	11	46	18	91	55
Chicago	29	4	48	8	68	25
Cleveland	32	5	35	2	63	14
District of Columbia	26	3	33	3	–	–
Los Angeles	21	2	26	3	67	29
New York City	40	9	48	15	79	40
San Diego	39	7	34	6	76	35

–Not Available

Mathematics Results by Eligibility for Free/Reduced Lunch

Table 23 presents NAEP average mathematics scale scores of eighth-grade students by eligibility for free/ reduced lunch in 2003. The average mathematics scale score for students in Houston who were eligible for free/ reduced lunch was 259 in 2003. Houston students who were eligible for free/reduced lunch had higher average scale scores than students in eight of the participating districts in 2003. Also, Houston students had a higher average scale score than students who were eligible for free/reduced lunch in the nation and large central city. The average scale score of students in Houston who were not eligible for free/reduced lunch was 276 in 2003. In addition, eighth-grade students who were not eligible for free/reduced lunch in the nation, Texas, large central city, and participating districts scored higher, on average, than students who were eligible for free/reduced lunch.

Table 23: NAEP Average Mathematics Scale Scores by Eligibility for Free/Reduced Lunch in Grade 8: 2003

	Eligible	Not Eligible	Gap
Nation	258	287	29
Texas	264	288	24
Large Central City	253	279	26
Houston	**259**	**276**	17
Atlanta	239	265	26
Boston	256	282	26
Charlotte	256	292	36
Chicago	252	279	27
Cleveland	253	–	–
District of Columbia	235	254	19
Los Angeles	240	245	5
New York	261	295	34
San Diego	252	278	26

–Not Available

Table 23 presents the gap between students who were eligible and students who were not eligible for free/reduced lunch in 2003. The gap for Houston was 17 points, which was narrower than the gap for seven of the participating districts. Also, the gap for Houston between students who were eligible and students who were not eligible for free/reduced lunch was narrower than the gaps for the nation, Texas, and large central city.

Table 24 presents the percentage of eighth-grade students at or above the basic and proficient levels by eligibility for free/reduced lunch in 2003. The percentage of students eligible for free/reduced lunch in Houston who were at or above the basic level was 46 percent, and the percent at or above the proficient level was 7 percent. Students eligible for free/reduced lunch in Houston had a higher percent of students at or above the proficient level than four districts and the same as Chicago.

Table 24: Percentage of Students At or Above Basic and Proficient Levels in Mathematics for Grade 8 by Eligibility for Free/Reduced Lunch: 2003

	Eligible		Not Eligible	
	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient
Nation	47	11	78	37
Texas	54	12	81	36
Large Central City	40	9	69	31
Houston	**46**	**7**	**65**	**25**
Atlanta	24	2	52	19
Boston	43	11	68	35
Charlotte	44	10	81	44
Chicago	39	7	70	30
Cleveland	38	6	–	–
District of Columbia	21	2	40	12
Los Angeles	28	4	33	7
New York City	49	15	82	49
San Diego	39	9	69	29

–Not Available

Mathematics Results by Content Strands

As mentioned previously, the NAEP mathematics framework included assessing eighth-grade students on five content strands: number sense, properties, and operations; measurement; geometry and spatial sense; data analysis, statistics, and probability; and algebra and functions. **Table 25** presents the average mathematics scale scores of Houston eighth-grade students by each of the mathematics content strands tested. The average scale score for the strand, "number sense, properties, and operations," was 268 in 2003. Also, the average scale score for the strand, "measurement," was 258 in 2003. The average scale score for the strand, "geometry and spatial sense," was 263 in 2003. A comparison of the average scale scores between the five content strands within the NAEP mathematics framework reveals that eighth-grade students achieved the highest scale score for "number sense, properties, and operations." The composite average scale score in 2003 was 264.

Table 25: NAEP Average Mathematics Scale Scores by Content Strands for Houston Eighth-Grade Students: 2003

	Average Scale Score
Number Sense, Properties, and Operations	268
Measurement	258
Geometry and Spatial Sense	263
Data Analysis, Statistics and Probability	264
Algebra and Functions	265
Mathematics Composite Score	**264**

2002 WRITING

NAEP Writing Framework

The NAEP writing framework addressed three purposes. The three purposes were:

- narrative;
- informative; and
- persuasive.

Narrative writing allowed students to write a story by using their imagination. Students were asked to write in response to prompts such as photographs, drawings, cartoons, poems, or stories. Informative writing had the writer provide the reader with information. Students were asked to write on specified subjects using prompts such as newspaper articles, charts, or photographs. Persuasive writing allowed the student to persuade the reader to take action or to bring about change. Prompts used for persuasive writing asked students to write letters to the editor or to friends, to refute arguments, or to take sides in a debate.

Writing was assessed by having students respond to two prompts. At the time the writing assessment was administered, students received a brochure "How to Plan for Writing." Also, students were encouraged to edit and revise their writing. Six performance levels were used to evaluate student responses. The performance levels were unsatisfactory, insufficient, uneven, sufficient, skillful, and excellent. For each grade level, scoring guides were developed and specific notes describing various student approaches to each prompt were given to the scorers. Each student responded to two 25-minute prompts.

Writing Results: Grade 4

The NAEP Writing Assessment results of fourth-grade students for 2002 are presented in **Table 26**. The administration of the 2002 writing sets the initial benchmark for the TUDA. Results are presented by scale scores and the percentage of students at or above the basic and proficient achievement levels. Atlanta, Chicago, Los Angeles, New York City, and Houston were the only districts that participated in the 2002 Writing Assessment. Also, scores for large central city were not available for the 2002 Writing Assessment.

The writing scale scores range from 0 to 300. The average scale score for Texas fourth-grade students on the writing assessment was 154, one point higher than the national average of 153. Houston fourth-grade students achieved an average scale score of 148, which was lower than the nation and Texas. Also, fourth-grade students in Houston outperformed their counterparts in four of the participating districts. New York City was the only district that had a higher average scale score than Houston.

The percentage of Texas fourth-grade students who scored at or above the proficient level was 29 percent compared to 27 percent nationally. The percent of fourth-grade students in Houston who scored at or above the proficient level was 23 percent, higher than four of the participating districts. The percentage of Texas fourth-grade students who scored at or above the basic level was 84 percent compared to 85 percent nationally. The percentage of Houston fourth-grade students who scored at or above the basic level was 81 percent.

Table 26: NAEP Fourth-Grade Writing Assessment Results by Scale Scores and Percentage of Students At or Above Basic and Proficient Levels: 2002

	Scale Scores (0-300)	At or Above Basic (Percentage of Students)	At or Above Proficient (Percentage of Students)
National	153	85	27
Texas	154	84	29
Houston	**148**	**81**	**23**
Atlanta	140	77	13
Chicago	138	76	12
District of Columbia	135	73	11
Los Angles	141	77	16
New York City	153	85	27

Writing Results by Race/Ethnicity

Table 27 presents the average writing scale scores of African American, Hispanic, and White fourth-grade students. The average scale score of African American students in Texas was 142, compared to the national average of 139. The average scale score of African American students in Houston was 147, higher than the average for the nation and Texas. The average scale score of Hispanic students in Houston was 141, higher than the national average. Also, the average scale score of White students in Houston was 169, higher than the average for the nation and Texas.

Table 27: NAEP Average Writing Scale Scores by Race/Ethnicity in Grade 4: 2002

	African American	Hispanic	White
Nation	139	140	159
Texas	142	145	168
Houston	**147**	**141**	**169**
Atlanta	136	–	194
Chicago	132	136	161
District of Columbia	132	137	183
Los Angeles	140	135	164
New York City	147	146	171

–Not Available

Figure 13 presents the average writing scale scores of African American fourth-grade students in 2002. The average scale score for African American fourth-grade students in Houston was higher than Los Angeles, Atlanta, the District of Columbia, and Chicago. Houston and New York City had the same average scale score. African American fourth-grade students in the District of Columbia and Chicago scored lower than Houston and New York City by 15 points.

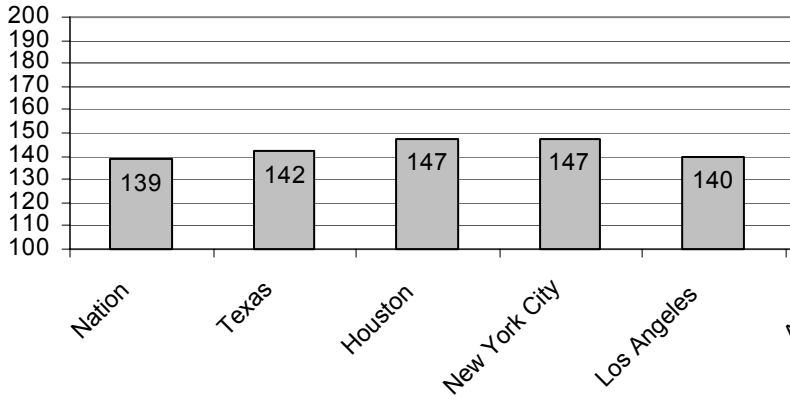

Figure 13: Average Writing Scale Scores for African American Students in Grade 4: 2002

Figure 14 presents the average writing scale scores of Hispanic fourth-grade students in 2002. The average scale score for Hispanic fourth-grade students in Houston was higher than the District of Columbia, Chicago, and Los Angeles. The widest gap was found among Hispanic fourth-grade students in Los Angeles, who scored six points lower than their counterparts in Houston. New York City had a higher average scale score than Houston. Atlanta was not included in Figure 14 because there was not a sufficient number of Hispanic students tested.

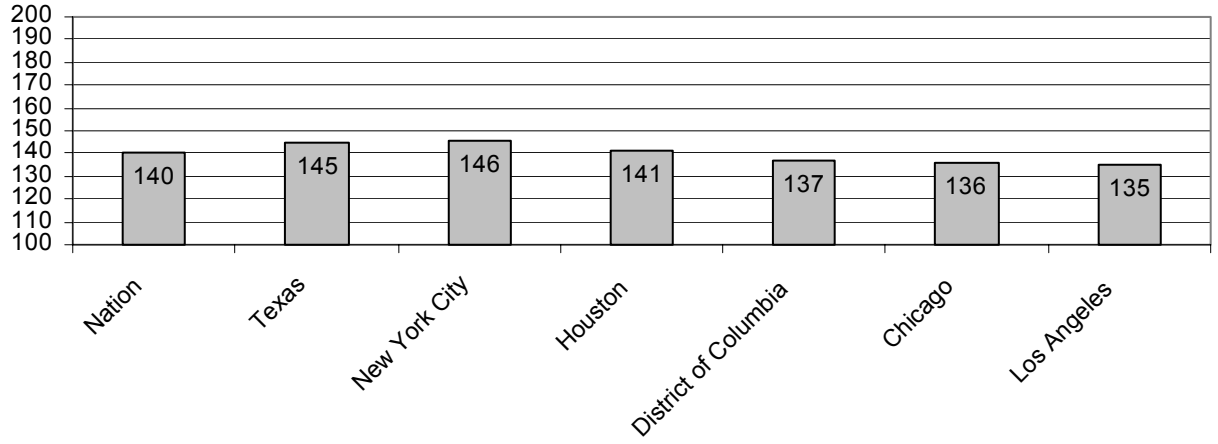

Figure 14: Average Writing Scale Scores for Hispanic Students in Grade 4: 2002

Figure 15 presents the average writing scale scores of White fourth-grade students in 2002. The average scale score for White fourth-grade students in Houston was higher than the average scale scores for Los Angeles and Chicago. The widest gap was found among White fourth-grade students in Chicago, who scored eight points lower than Houston. Atlanta, the District of Columbia, and Atlanta had higher average scale scores than Houston.

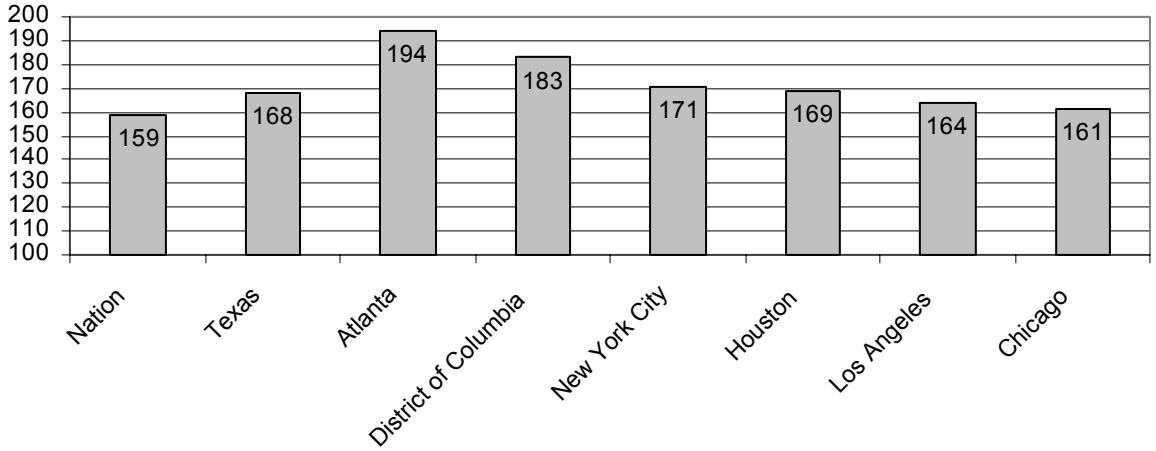

Figure 15: Average Writing Scale Scores for White Students in Grade 4: 2002

Table 28 presents the percentage of fourth-grade students at or above the basic and proficient level by race/ethnicity for the 2002 writing assessment. The percentage of African American students in Houston who were at or above the basic level was 83 percent, while the percent at or above proficient was 19 percent. Also, African American students in Houston had a higher percent of students at or above the proficient level than the percent for the nation, Texas, and four of the districts. The percentage of Hispanic students in Houston who were at or above the basic level was 76 percent, while the percent at or above proficient was 19 percent. Also, Hispanic students in Houston had a higher percent of students at or above the proficient level than the nation and three of the participating districts. The percentage of White students in Houston who were at or above the basic level

was 91 percent, and the percent at or above the proficient level was 44 percent. Also, White students in Houston had a higher percent of students at or above the proficient level than the percent for the nation, Texas, and two of the participating districts.

Table 28: Percentage of Students At or Above Basic and Proficient Levels in Grade 4 by Race/Ethnicity: 2002

	African American		Hispanic		White	
	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient
Nation	77	14	76	17	90	32
Texas	78	17	78	20	92	42
Houston	**83**	**19**	**76**	**19**	**91**	**44**
Atlanta	76	10	–	–	98	70
Chicago	71	7	75	10	94	32
District of Columbia	71	8	76	10	95	64
Los Angeles	78	12	73	11	93	37
New York City	82	20	82	21	94	45

–Not Available

Writing Results by Eligibility for Free/Reduced Lunch

Table 29 presents NAEP average writing scale scores of fourth-grade students by eligibility for free/reduced lunch in 2002. The average mathematics scale score for students in Houston who were eligible for free/reduced lunch was 142. Houston students who were eligible for free/reduced lunch had higher average scale scores than students in four of the participating districts. Also, Houston students had a slightly higher average scale score than students who were eligible for free/reduced lunch in the nation. The average scale score of students in Houston who were not eligible for free/reduced lunch was 164. In addition, fourth-grade students in the nation, Texas, and participating districts who were not eligible for free/reduced lunch scored higher, on average, than students who were eligible for free/reduced lunch.

Table 29: NAEP Average Writing Scale Scores by Eligibility for Free/Reduced Lunch in Grade 4: 2002

	Eligible	Not Eligible	Gap
Nation	141	163	22
Texas	147	164	17
Houston	**142**	**164**	22
Atlanta	135	158	23
Chicago	134	169	35
District of Columbia	131	150	19
Los Angeles	137	147	10
New York City	147	161	14

Table 29 also presents the gap between students who were eligible and students who were not eligible for free/reduced lunch in 2002. The gap for Houston was 22 points, which was narrower than the gap for two of the participating districts. Also, the gap for Houston between students who were eligible and students who were not eligible for free/reduced lunch was wider than the gap for Texas and the same for the nation.

Table 30 presents the percentage of fourth-grade students at or above the basic and proficient levels by eligibility for free/reduced lunch in 2002. The percentage of students eligible for free/reduced lunch in Houston who were at or above the basic level in writing was 77 percent, and the percent at or above the proficient level was 18 percent. Students eligible for free/reduced lunch in Houston had a higher percent of students at or above the proficient level than the nation and four districts.

Table 30: Percentage of Students At or Above Basic and Proficient Levels in Writing for Grade 4 by Eligibility for Free/Reduced Lunch: 2002

	Eligible		Not Eligible	
	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient
Nation	77	15	92	36
Texas	80	22	89	38
Houston	**77**	**18**	**91**	**38**
Atlanta	74	9	86	32
Chicago	74	9	95	43
District of Columbia	70	7	82	27
Los Angeles	75	12	81	22
New York City	82	21	91	37

Writing Results: Grade 8

The NAEP Writing Assessment results of eighth-grade students for 2002 are presented in **Table 31**. The administration of the 2002 writing sets the initial benchmark for the TUDA. Results are presented by scale scores and the percentage of students at or above the basic and proficient achievement levels. Atlanta, Chicago, Los Angeles, New York City, and Houston were the only districts that participated in the 2002 Writing Assessment. However, there was an insufficient sample size of eighth-grade students for New York City, therefore, results were not available. Also, scores for large central city were also not available for eighth-grade students for the 2002 Writing Assessment.

As mentioned previously, the writing scale scores range from 0 to 300. The average scale score for Texas eighth-grade students on the writing assessment was 152, which was the same scale score as the nation. Houston eighth-grade students achieved an average scale score of 138, which was lower than the nation and Texas. However, eighth grade students in Houston outperformed their counterparts in all of the participating districts.

The percentage of Texas eighth-grade students who scored at or above the proficient level was 31 percent compared to 30 percent nationally. The percent of eighth-grade students in Houston who scored at or above the proficient level was 19 percent, higher than all of the participating districts. The percentage of Texas eighth-grade students who scored at or above the basic level was 83 percent slightly lower than the national average of 84 percent. The percentage of Houston eighth-grade students who scored at or above the basic level was 74 percent.

Table 31: NAEP Eighth-Grade Writing Assessment Results by Scale Scores and Percentage of Students At or Above Basic and Proficient Levels: 2002

	Scale Scores (0-300)	At or Above Basic (Percentage of Students)	At or Above Proficient (Percentage of Students)
National	152	84	30
Texas	152	83	31
Houston	**138**	**74**	**19**
Atlanta	130	68	10
Chicago	136	72	16
District of Columbia	128	66	10
Los Angles	128	64	11

Writing Results by Race/Ethnicity

Table 32 presents the average writing scale scores of African American, Hispanic, and White fourth-grade students. The average scale score of African American students in Texas was 140, compared to the national average of 134. The average scale score of African American students in Houston was 136, higher than the average for the nation, but lower than Texas. The average scale score of Hispanic students in Houston was 132, lower than Texas and the nation. The average scale score of White students in Houston was 176, higher than the average for the nation and Texas.

Table 32: NAEP Average Writing Scale Scores by Race/Ethnicity in Grade 8: 2002

	African American	Hispanic	White
Nation	134	135	159
Texas	140	137	168
Houston	**136**	**132**	**176**
Atlanta	128	–	168
Chicago	128	135	165
District of Columbia	126	130	–
Los Angeles	126	122	146

–Not Available

Figure 16 presents the average writing scale scores of African American eighth-grade students in 2002. African American eighth-grade students in Houston outperformed their counterparts in Atlanta, Chicago, the District of Columbia, and Los Angeles. African American students in Atlanta and Chicago scored eight points lower than their counterparts in Houston, while African American students in the District of Columbia and Los Angeles scored 10 points lower than their counterparts in Houston.

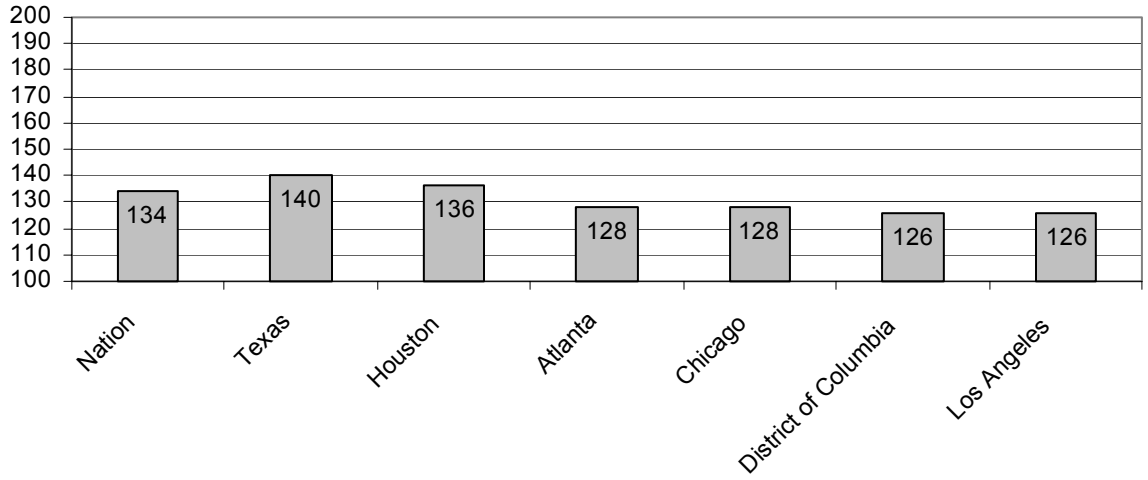

Figure 16: Average Writing Scale Scores for African American Students in Grade 8: 2002

Figure 17 presents the average writing scale scores of Hispanic eighth-grade students in 2002. The average scale score for Hispanic eighth-grade students in Houston was higher than the District of Columbia and Los Angeles. The gap between Hispanic students in Houston and Los Angeles was 10 points. Hispanic students in the District of Columbia fell two points behind their counterparts in Houston. Hispanic students in Chicago performed three points higher on their average scale score than Hispanic students in Houston. Atlanta was not included in Figure 17 because there was not a sufficient number of Hispanic students tested.

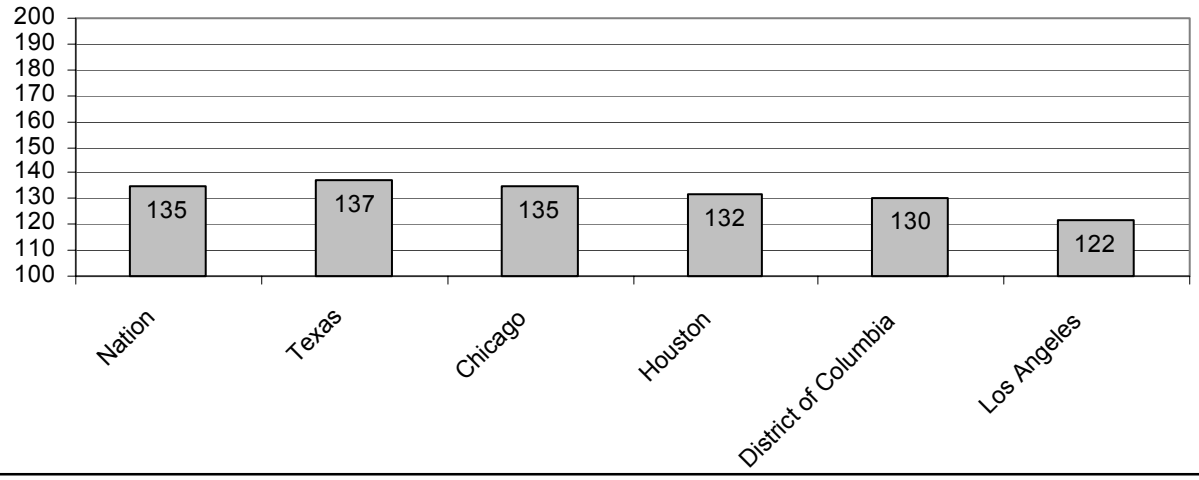

Figure 17: Average Writing Scale Scores for Hispanic Students in Grade 8: 2002

Figure 18 presents the average writing scale scores of White eighth-grade students in 2002. The average scale score for White eighth-grade students in Houston was higher than the average scale scores for Atlanta, Chicago, and Los Angeles. White students in Atlanta scored eight points lower than their counterparts in Houston, while White students in Chicago scored 11 points lower. The gap between White students in Los Angeles and Houston was even wider at 20 points. The District of Columbia was not included in Figure 18 because there was not a sufficient number of White students tested.

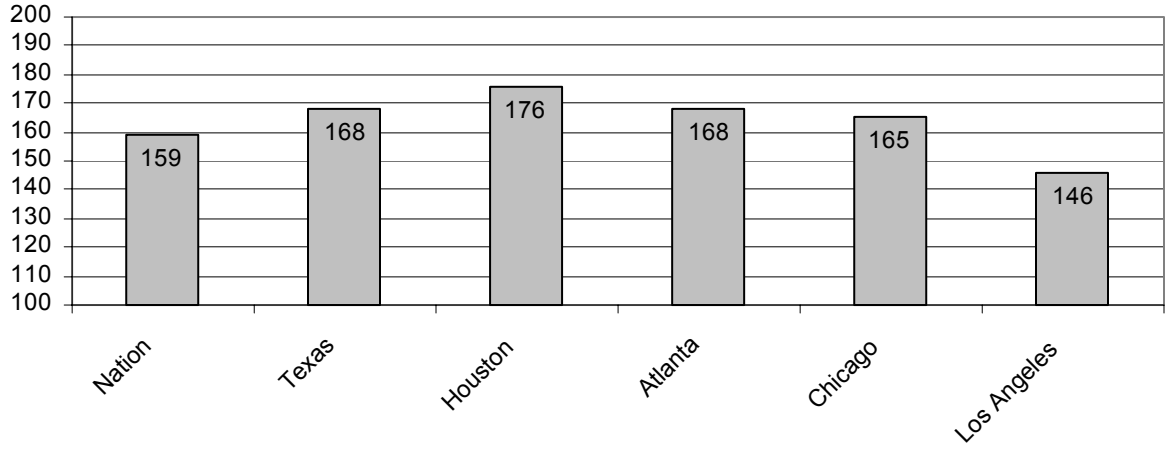

Figure 18: Average Writing Scale Scores for White Students in Grade 8: 2002

Table 33 presents the percentage of eighth-grade students at or above the basic and proficient level by race/ethnicity for the 2002 writing assessment. The percentage of African American students in Houston who were at or above the basic level was 75 percent, while the percent at or above proficient was 15 percent. Also, African American students in Houston had a higher percent of students at or above the proficient level than the percent for the nation and all of the participating districts. The percentage of Hispanic students in Houston who were at or above the basic level was 70 percent, while the percent at or above proficient was 14 percent. Also, Hispanic students in Houston had a higher percent of students at or above the proficient level than two of the participating

districts. The percentage of White students in Houston who were at or above the basic level was 95 percent, and the percent at or above the proficient level was 63 percent. Also, White students in Houston had a higher percent of students at or above the proficient level than the percent for the nation, Texas, and three of the participating districts.

Table 33: Percentage of Students At or Above Basic and Proficient Levels in Writing for Grade 8 by Race/Ethnicity: 2002

	African American		Hispanic		White	
	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient
Nation	73	13	72	15	89	37
Texas	77	20	74	17	93	47
Houston	**75**	**15**	**70**	**14**	**95**	**63**
Atlanta	67	7	–	–	90	49
Chicago	68	8	73	14	88	44
District of Columbia	64	8	67	11	–	–
Los Angeles	66	6	59	7	81	24

–Not Available

Writing Results by Eligibility for Free/Reduced Lunch

Table 34 presents NAEP average writing scale scores of eighth-grade students by eligibility for free/reduced lunch in 2002. The average mathematics scale score for students in Houston who were eligible for free/reduced lunch was 130. Houston students who were eligible for free/reduced lunch had higher average scale scores than students in two of the participating districts. However, students who were eligible for free/reduced lunch in the nation and Texas achieved higher scale scores than Houston. The average scale score of students in Houston who were not eligible for free/reduced lunch was 155. In addition, eighth-grade students in the nation, Texas, and participating districts who were not eligible for free/reduced lunch scored higher, on average, than students who were eligible for free/reduced lunch.

Table 34: NAEP Average Writing Scale Scores by Eligibility for Free/Reduced Lunch in Grade 8: 2002

	Eligible	Not Eligible	Gap
Nation	136	161	25
Texas	137	166	29
Houston	**130**	**155**	**25**
Atlanta	126	140	14
Chicago	131	152	21
District of Columbia	123	140	17
Los Angeles	–	–	–

–Not Available

Table 34 also presents the gap between students who were eligible and students who were not eligible for free/reduced lunch in 2002. The gap for Houston was 25 points, which was narrower than the gap for Texas. The gap for Houston between students who were eligible and students who were not eligible for free/reduced lunch was wider than the gaps for the participating districts.

Table 35 presents the percentage of eighth-grade students at or above the basic and proficient levels by eligibility for free/reduced lunch in 2002. The percentage of students eligible for free/reduced lunch in Houston who were at or above the basic level was 69 percent, and the percent at or above the proficient level was 12 percent. Students eligible for free/reduced lunch in Houston had a higher percent of students at or above the proficient level than three of the participating districts.

Table 35: Percentage of Students At or Above Basic and Proficient Levels in Writing for Grade 8 by Eligibility for Free/Reduced Lunch: 2002

	Eligible		Not Eligible	
	At or Above Basic	At or Above Proficient	At or Above Basic	At or Above Proficient
Nation	73	15	90	38
Texas	75	16	91	45
Houston	**69**	**12**	**85**	**35**
Atlanta	65	7	79	16
Chicago	70	11	80	32
District of Columbia	61	6	77	17
Los Angeles	–	–	–	–

–Not Available

CONCLUSION

Through discussions among the National Assessment Governing Board (NAGB), the National Center for Education Statistics, and the Council of the Great City Schools, NAGB passed a resolution approving the selection of large urban districts for participation in the Trial Urban District Assessement (TUDA), which is part of the National Assessment of Educational Progress (NAEP). Also, the TUDA was supported by federal appropriations authorized for the No Child Left Behind Act. Houston Independent School District's voluntary participation in TUDA has allowed the district to make district-level comparisons with other large urban districts in other states. The next TUDA testing is scheduled for 2005 pending legislative approval.