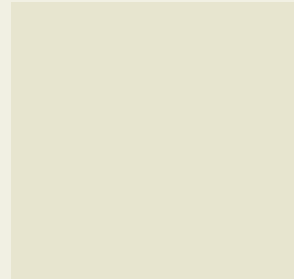




The   
Nation's  
Report Card



# AMERICA'S HIGH SCHOOL GRADUATES

RESULTS FROM THE 2005 NAEP HIGH SCHOOL TRANSCRIPT STUDY

## **WHAT IS THE HIGH SCHOOL TRANSCRIPT STUDY?**

The High School Transcript Study (HSTS) collects and analyzes transcripts from a representative sample of America's public and private high school graduates. The study is designed to inform the public about the types of courses that graduates take during high school, how many credits they earn, and their grade point averages. The HSTS also explores the relationship between coursetaking patterns and student achievement, as measured by the National Assessment of Educational Progress (NAEP). High school transcript studies have been conducted periodically for nearly two decades, permitting the reporting of trends in coursetaking and GPA as well as providing information about recent high school graduates. In addition to collecting transcripts, the HSTS collects student information such as gender, graduation status, and race/ethnicity and information about the schools studied.

## **WHAT IS THE NATION'S REPORT CARD™?**

The Nation's Report Card™ informs the public about the academic achievement of elementary and secondary students in the United States. Report cards communicate the findings of the National Assessment of Educational Progress (NAEP), a continuing and nationally representative measure of achievement in various subjects over time. The Nation's Report Card™ compares performance among states, urban districts, public and private schools, and student demographic groups.

For over three decades, NAEP assessments have been conducted periodically in reading, mathematics, science, writing, history, geography, and other subjects. By making objective information available on student performance at the national, state, and local levels, NAEP is an integral part of our nation's evaluation of the condition and progress of education. Only information related to academic achievement and related variables is collected. The privacy of individual students is protected, and the identities of participating schools are not released. NAEP is a congressionally mandated project of the National Center for Education Statistics (NCES) within the Institute for Education Sciences of the U.S. Department of Education. The Commissioner of Education Statistics is responsible for carrying out the NAEP project. The National Assessment Governing Board oversees and sets policy for NAEP.



## CONTENTS

2	Executive Summary
4	Understanding the Results
6	Records
14	NAEP
20	Gender
26	Racial/Ethnic
35	Technical Notes

## EXECUTIVE SUMMARY

This report presents information about the types of courses 2005 high school graduates took during high school, how many credits they earned, and the grades they received. Information on the relationships between high school records and performance in mathematics and science on the National Assessment of Educational Progress (NAEP) is also included. Transcripts were collected from about 640 public schools and 80 private schools for the 2005 High School Transcript Study (HSTS). These transcripts constituted a nationally representative sample of 26,000 high school graduates, representing approximately 2.7 million 2005 high school graduates. The 2005 results are compared to the results of earlier transcript studies, and differences among graduates by race/ethnicity, gender, and parent education are examined. Because the study is restricted to high school graduates, it contains no information about dropouts, who may differ from graduates. Graduates who receive a special education diploma or certificate of completion are also excluded from analyses in this report unless noted otherwise.



### Graduates earn more credits and achieve higher GPAs

- In 2005, graduates earned about three credits more than their 1990 counterparts, or about 360 additional hours of instruction during their high school careers.
- In 2005, the overall grade point average (GPA) was approximately a third of a letter grade higher than in 1990. There are many possible reasons for this apparent increase, including “grade inflation,” changes in grading standards and practices, and growth in student performance.

### Graduates with stronger academic records obtain higher NAEP scores

- Graduates whose highest mathematics course was geometry or below had average NAEP mathematics scores below the *Basic* achievement level. Graduates who took calculus had average NAEP scores at the *Proficient* level.
- Graduates whose highest science course was chemistry or below had average NAEP science scores below the *Basic* achievement level; those who had completed physics or other advanced science courses had

## Defining curriculum levels

Curriculum levels in this report are defined by the number of course credits earned by graduates in specified types of courses during high school, as follows:

**STANDARD:** At least four credits of English and three each in social studies, mathematics, and science.

**MIDLEVEL:** In addition to standard, geometry and algebra I or II must be completed; at least two courses in biology, chemistry, and physics; and at least one credit of a foreign language.

**RIGOROUS:** In addition to midlevel, an additional credit in mathematics including precalculus or higher; biology, chemistry, and physics; and at least three foreign language credits.

average scores at the *Basic* level. Advanced science courses are courses that contain advanced content (like AP biology, IB chemistry, AP physics, etc.) or are considered second-year courses (chemistry II, advanced biology, etc.)

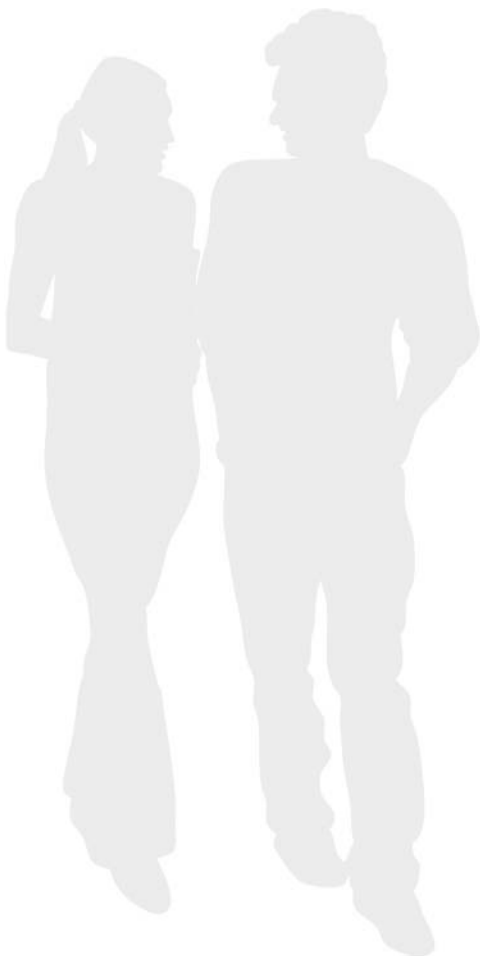
- Graduates who had completed a rigorous curriculum or had GPAs placing them in the top 25 percent of graduates had higher average NAEP scores than other graduates.

### Comparisons by gender

- Male and female graduates' GPAs overall and in mathematics and science have increased since 1990. Female graduates' GPAs overall and in mathematics and science were higher than the GPAs of male graduates during each year the HSTS was conducted.
- In 2005, a higher percentage of female than male graduates completed a rigorous or midlevel curriculum, compared to 1990 when there was no significant difference in the percentages of males and females completing at least a midlevel curriculum.
- Among those who have taken higher level mathematics and science courses, male graduates had higher NAEP scores than female graduates. There was no significant difference in scores between males and females who had not taken these higher level courses.

### Comparisons by race/ethnicity

- Increased percentages of White, Black, Hispanic, and Asian/Pacific Islander graduates completed at least a midlevel curriculum in 2005 compared with 1990. The GPAs of all four racial/ethnic groups also increased during this time.
- Since 1990, Black graduates have closed a 6 percentage point gap with White graduates in the percentage completing at least a midlevel curriculum; however, the corresponding White-Hispanic gap in 2005 was not significantly different from that in 1990.
- In 2005, both Black and Hispanic graduates were less likely than White graduates to have completed calculus or advanced science courses and to have higher GPAs.





## UNDERSTANDING THE RESULTS

### Overview of the High School Transcript Study

This report presents information about the types of courses that graduates took during a 4-year high school curriculum, how many credits they earned, and the grades they received. Information on the relationships between high school records and performance in mathematics and science on the National Assessment of Educational Progress (NAEP) is also included. Transcripts were collected from about 640 public schools and 80 private schools for the 2005 High School Transcript Study (HSTS). These transcripts constituted a nationally representative sample of 26,000 public and private high school graduates, representing approximately 2.7 million 2005 high school graduates. The 2005 results are compared to the results of the 1990, 1994, 1998, and 2000 NAEP HSTSs, and differences among graduates by gender, race/ethnicity, and parent education are examined. The sample size was insufficient to permit reliable estimates for American Indian/Alaska Native graduates in 2005.

### Standardizing transcript information

Not all high schools have the same standards for course titles, assigning credits, and grade scales. To allow comparisons, HSTS standardizes the transcript information. To control for the variation in course titles, a coding system called the Classification of Secondary School Courses (CSSC) is used for classifying courses on the basis of information available in school catalogs and other information sources. (For more information, see <http://nces.ed.gov/surveys/hst/courses.asp>.)

Course credits are converted to standardized Carnegie units of credits (or Carnegie credits), in which a single unit is equal to 120 hours of classroom time over the course of a year. Schools provided information on how many course credits represent a Carnegie credit at their school. The course credits recorded on the transcript were then converted (standardized) into Carnegie credits for the data analysis for this report.

Points are assigned to each letter grade as shown in figure 1. The points are weighted by the number of Carnegie credits earned, so that a course with 60 hours of instruction counts half as much as one with 120 hours. The average of the points earned for all the courses taken is the grade point average (GPA). Courses in which a graduate did not receive a grade, such as pass/fail and audited courses, do not factor into the GPA calculation. No additional grade points were assigned for Advanced Placement (AP), International Baccalaureate (IB), and other honors classes. This process does not standardize for differences in grading practices among schools and teachers.

FIGURE 1  
Grade point average

in a standard four point scale...	
A	4 points
B	3 points
C	2 points
D	1 point
F	0 points

### Defining curriculum levels

In this report, three curriculum levels are used to report on the coursetaking patterns of graduates: standard, midlevel, and rigorous. The curriculum levels are based on the number of credits and the types of courses graduates completed. For example, a standard curriculum level consists of four credits of English; three credits each of social studies, mathematics, and science; and no foreign language credits. Figure 2 describes the course credits graduates need to complete to be classified at each curriculum level.

FIGURE 2 Course credit requirements to attain specified curriculum levels

	STANDARD	MIDLEVEL	RIGOROUS
ENGLISH	4	4	4
SOCIAL STUDIES	3	3	3
MATHEMATICS	3	3 (including geometry and algebra I or II)	4 (including precalculus or higher)
SCIENCE	3	3 (including at least two of biology, chemistry, and physics)	3 (including biology, chemistry, and physics)
FOREIGN LANGUAGE	0	1	3

NOTE: This is a modified version of curriculum levels used by Laura Horn and Lawrence K. Kojaku (*High School Academic Curriculum and the Persistence Path Through College*, National Center for Education Statistics, NCES 2001–163, U.S. Department of Education, Washington, DC: 2001). The standard curriculum level is equivalent to what Horn and Kojaku refer to as a core curriculum; the nomenclature used in this report is different to avoid confusion with core credits also discussed in this report. One difference between this report and the classification by Horn and Kojaku is that to be considered as having completed a rigorous curriculum, this report does not require graduates to have taken an AP or honors course. This modification was made to ensure that HSTS data for earlier years are consistent with data for 2005.

### The NAEP connection

Approximately 17,400 of the graduates included in the transcript study also participated in the NAEP twelfth-grade mathematics or science assessments in 2005. Thus, findings of the HSTS can be linked with NAEP results, allowing a comparison of coursetaking patterns and educational achievement as measured by NAEP.

### Caution in interpreting results

The results presented in this report describe information from the collected transcripts and cannot be used to determine the reasons behind these findings. NCES uses widely accepted statistical standards in analyzing data. Unless otherwise noted, the text of this report discusses only findings that are significant at the .05 level. In the tables and charts of this report, the symbol (\*) is used to indicate findings that are significantly different from one another. The results in this report are estimates based on samples of students and schools and are therefore subject to sampling and measurement errors.

