



DISTRICT of COLUMBIA

Sciences & Life Sciences Achievement

STUDENT ACHIEVEMENT

NAEP Grade 8	DC	U.S. Avg.	State Rank
Science Average, 2005	N/A	147.1	–
Science, 2005 (% at or above “proficient”)	N/A%	27.3%	–
Life Sciences Average, 2005	N/A	148.2	–

ACT	DC	U.S. Avg.	State Rank
Science Average, 2008	18.6	20.8	51
Biology, 2008 (% of students ready for college level)	21%	28%	46

AP	DC	U.S. Avg.	State Rank
Science Scores, 2008 (% with a score of 3 or higher)	59.7%	55.4%	14
Science Exams, 2008 (Exams as % of all H.S. grads)	20.8%	10.5%	1
Biology Scores, 2008 (% with a score of 3 or higher)	53.2%	49.8%	18
Biology Exams, 2008 (Exams as % of all H.S. grads)	9.6%	4.6%	1

SCIENCE TEACHER QUALITY and PROFESSIONAL DEVELOPMENT	DC	U.S. Avg.	State Rank
Science Teachers with Major in Assigned Field, 2003–04 (% , Grades 7–12)	N/A%	77%	–
Science Teachers Certified, 2006 (% , Grades 7–8)	N/A%	N/A%	–
Biology Teachers Certified, 2006 (% , Grades 9–12)	N/A%	88%	–

Note: NAEP = National Assessment of Educational Progress, AP = Advanced Placement
N/A = Data not available.

DC STATE SCIENCE STANDARDS & REQUIREMENTS

STANDARDS PROFILE

- Most recent update of K-12 Science Standards: **2007**
- Next scheduled update: None currently planned
- Science standards do not specifically mention applied laboratory or other tools for biotechnology or biosciences

BIOSCIENCE-RELATED GRADUATION REQUIREMENTS:

Currently, three units of science, with one lab science, are required

Beginning with class of 2010, four units of science, with two lab sciences, will be required

Biology is not specifically required

Examples of Bioscience Education Activities

Teacher Preparation and Professional Development

The **University of the District of Columbia (UDC)** offers a **bachelor of science degree in biology education** for the elementary and secondary levels.

The **Carnegie Academy for Science Education (CASE)** **First Light** program is designed to



increase District of Columbia (DC) public school teachers' knowledge of science and to present new methods of bringing science to their students.

The DC issues **Provisional Teaching Licenses:** Applies to individuals who have successfully completed the Praxis I PreProfessional Skills test and the content portion(s) of the Praxis II subject assessment; have enrolled in a state-approved teacher education program; and have been hired or contracted as a newly hired teacher in a DC public, private, or charter school.

Experiential Learning and Outreach

First Light invites children from elementary schools near the Carnegie Institution to a Saturday Science School.

Bioscience-focused Schools and Programs

Two DC public high schools, **McKinley Technology High School** and **Ballou Senior High School**, offer a 3-year biotechnology training and research program designed to transform traditional secondary molecular biology studies into an applications-based program that helps students experience the power of newly developed research tools associated with DNA technologies.



Basic Skills Achievement and Other Summary Metrics

STUDENT ACHIEVEMENT

NAEP Grade 8	DC	U.S. Avg.	State Rank
Math Average, 2007	248.2	280.2	51
Math, 2007 (% at or above "proficient")	8.0%	31.0%	51
Reading Average, 2007	240.8	261.0	51
Reading, 2007 (% at or above "proficient")	12.1%	29.2%	51
Writing Average, 2007	N/A	154.3	–
Writing, 2007 (% at or above "proficient")	N/A%	30.6%	–

ACT	DC	U.S. Avg.	State Rank
Percentage of Graduates Tested	30%	43%	29
Math Average, 2008	19.2	21.0	50
Reading Average, 2008	19.6	21.4	50
English Average, 2008	18.6	20.6	51

SAT	DC	U.S. Avg.	State Rank
Percentage of Graduates Tested	78%	48%	7
Math Average, 2008	455	515	51
Critical Reading Average, 2008	470	502	50
Writing Average, 2008	465	494	50

AP	DC	U.S. Avg.	State Rank
Math Scores, 2008 (% with a score of 3 or higher)	61.4%	65.2%	35
Math Exams, 2008 (Exams as % of all H.S. grads)	12.8%	8.7%	2
English Scores, 2008 (% with a score of 3 or higher)	32.5%	59.2%	50
English Exams, 2008 (Exams as % of all H.S. grads)	44.6%	18.9%	1

SUMMARY STATE EDUCATION METRICS

Selected Indicators	DC	U.S. Avg.	State Rank
High School Graduation Rate, 2005–06	65.4%	73.4%	45
Student/Teacher Ratio, 2006–07	13.5	15.5	15*
Low-income Students, 2006–07 (% of all students)	62.1%	41.6%	–
Expenditure per Student (\$), 2005–06	\$13,752	\$9,154	3

Note: NAEP = National Assessment of Educational Progress, AP = Advanced Placement
N/A = Data not available. * Lowest value receives highest ranking.

TABLE SOURCE NOTES:

NAEP Assessments, grade 8: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics (NCES), National Assessment of Educational Progress (NAEP), 2005; **ACT Exam:** ACT, Inc., 2008; **SAT Reasoning Test:** The College Board, 2008.

Advanced Placement (AP): Battelle analysis of data from the College Board, 2008; AP test takers as a share of high school graduates includes graduate data from U.S. Department of Education, NCES for both public (Common Core of Data) and private high schools (Private School Survey).

Science Teacher Indicators: Council of Chief State School Officers (CCSSO) analysis of State Departments of Education data on public schools, 2007; U.S. Department of Education, NCES Schools and Staffing Survey, 2003–04 as reported by CCSSO, 2007.

Summary State Education Metrics: U.S. Department of Education, National Center for Education Statistics (NCES), Common Core of Data (CCD) on public elementary and secondary education.

Note: High school graduation rates are averaged freshman graduation rates—the rate is the number of graduates divided by the estimated count of freshmen 4 years earlier. U.S. figure for share of students eligible for free or reduced-price school lunch ("low-income" students) is available for 2005–06 only (state data are for 2006–07).

