



RHODE ISLAND

Sciences & Life Sciences Achievement

STUDENT ACHIEVEMENT

NAEP Grade 8	RI	U.S. Avg.	State Rank
Science Average, 2005	146.4	147.1	28
Science, 2005 (% at or above "proficient")	25.9%	27.3%	26
Life Sciences Average, 2005	147.7	148.2	26

ACT

	RI	U.S. Avg.	State Rank
Science Average, 2008	21.0	20.8	29
Biology, 2008 (% of students ready for college level)	31%	28%	24

AP

	RI	U.S. Avg.	State Rank
Science Scores, 2008 (% with a score of 3 or higher)	55.5%	55.4%	27
Science Exams, 2008 (Exams as % of all H.S. grads)	9.5%	10.5%	23
Biology Scores, 2008 (% with a score of 3 or higher)	54.1%	49.8%	16
Biology Exams, 2008 (Exams as % of all H.S. grads)	4.7%	4.6%	20

SCIENCE TEACHER QUALITY and PROFESSIONAL DEVELOPMENT

	RI	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.

RI STATE SCIENCE STANDARDS & REQUIREMENTS

STANDARDS PROFILE

- Most recent update of K-12 Science Standards: **2006**
- Research scientists provided input in development of standards

BIOSCIENCE-RELATED GRADUATION REQUIREMENTS:

Local requirements are set district by district

18% of 6th–9th graders and 17% of 10th–12th graders met the “proficient” level under No Child Left Behind Adequate Yearly Progress test

Key Organization(s) Promoting Bioscience Education

The **BioGroup of the Rhode Island Tech Collective** maintains a workforce development focus area.



Examples of Bioscience Education Activities

Teacher Preparation and Professional Development

Project ARISE (Advancing Rhode Island Science Education) at Brown University is a professional development program, funded by the National Institutes of Health, for high-school biology teachers, designed to help them integrate high-level concepts into the classroom.

The **Rhode Island Teacher Education Renewal project** at the University of Rhode Island connects the eight approved teacher preparation programs with the arts and science faculties at these institutions.

Experiential Learning and Outreach

The University of Rhode Island and Rhode Island Community College are grantees from the Amgen Foundation to operate the **Amgen-Bruce Wallace Biotechnology Lab Program**. The program provides high school teachers and students with hands-on experience in biotechnology techniques using kits that can be shared among classrooms.

The University of Rhode Island **Providence Biotechnology Center** offers high school students access to a course on Issues in Biotechnology, which carries three college credits, and a course on Plant Genetics offered on an after-school basis that can provide either three or six college credits.

Bioscience is one major focus of workshops offered by the **GRRL (Girls Reaching Remarkable Levels) program** offered by the Tech Collective and Roger Williams University (RWU). Local high school girls are matched with RWU faculty and female professionals from in-state companies and then offered workshops and opportunities to compete in a Tech Expo.

Bioscience-focused Schools and Programs

Under the **Biotechnology Academies program** of the Rhode Island Department of Elementary and Secondary Education, five Rhode Island high schools have developed comprehensive biotechnology programs.

Basic Skills Achievement and Other Summary Metrics

STUDENT ACHIEVEMENT

NAEP Grade 8	RI	U.S. Avg.	State Rank
Math Average, 2007	275.4	280.2	38
Math, 2007 (% at or above “proficient”)	27.7%	31.0%	35
Reading Average, 2007	258.3	261.0	39
Reading, 2007 (% at or above “proficient”)	27.2%	29.2%	35
Writing Average, 2007	153.8	154.3	26
Writing, 2007 (% at or above “proficient”)	32.3%	30.6%	17

ACT	RI	U.S. Avg.	State Rank
Percentage of Graduates Tested	10%	43%	50
Math Average, 2008	21.9	21.0	19
Reading Average, 2008	22.3	21.4	20
English Average, 2008	21.7	20.6	15

SAT	RI	U.S. Avg.	State Rank
Percentage of Graduates Tested	68%	48%	14
Math Average, 2008	498	515	45
Critical Reading Average, 2008	495	502	42
Writing Average, 2008	493	494	37

AP	RI	U.S. Avg.	State Rank
Math Scores, 2008 (% with a score of 3 or higher)	69.5%	65.2%	17
Math Exams, 2008 (Exams as % of all H.S. grads)	7.1%	8.7%	31
English Scores, 2008 (% with a score of 3 or higher)	79.7%	59.2%	1
English Exams, 2008 (Exams as % of all H.S. grads)	12.5%	18.9%	37

SUMMARY STATE EDUCATION METRICS

Selected Indicators	RI	U.S. Avg.	State Rank
High School Graduation Rate, 2005–06	77.8%	73.4%	21
Student/Teacher Ratio, 2006–07	13.3	15.5	11*
Low-income Students, 2006–07 (% of all students)	33.2%	41.6%	–
Expenditure per Student (\$), 2005–06	\$12,609	\$9,154	6

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).