



LOUISIANA

LA STATE SCIENCE STANDARDS & REQUIREMENTS

Sciences & Life Sciences Achievement

STUDENT ACHIEVEMENT

NAEP Grade 8	LA	U.S. Avg.	State Rank
Science Average, 2005	138.4	147.1	38
Science, 2005 (% at or above "proficient")	19.3%	27.3%	39
Life Sciences Average, 2005	139.8	148.2	39

ACT	LA	U.S. Avg.	State Rank
Science Average, 2008	20.0	20.8	46
Biology, 2008 (% of students ready for college level)	20%	28%	48

AP	LA	U.S. Avg.	State Rank
Science Scores, 2008 (% with a score of 3 or higher)	46.3%	55.4%	40
Science Exams, 2008 (Exams as % of all H.S. grads)	2.8%	10.5%	51
Biology Scores, 2008 (% with a score of 3 or higher)	43.6%	49.8%	38
Biology Exams, 2008 (Exams as % of all H.S. grads)	1.4%	4.6%	51

SCIENCE TEACHER QUALITY and PROFESSIONAL DEVELOPMENT	LA	U.S. Avg.	State Rank
Science Teachers with Major in Assigned Field, 2003–04 (% , Grades 7–12)	63%	77%	41
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.

STANDARDS PROFILE

- Most recent update of K-12 Science Standards: **2008**
- Science standards specifically mention applied laboratory or other tools for biotechnology or biosciences

BIOSCIENCE-RELATED GRADUATION REQUIREMENTS:

One unit of biology is required

Examples of Bioscience Education Activities

Teacher Preparation and Professional Development

The Biomedical Research Foundation of Northwest Louisiana partnered with Caddo Parish to form the **Consortium for Education, Research, and Technology of North Louisiana**, which developed model math, science, and



technology curricula and provides professional development.

Experiential Learning and Outreach

The Louisiana State University (LSU) maintains a wide range of PK-12 outreach programming including in bioscience fields, including the **Science and Medicine Academic Research Training (SMART)** year-long research program at LSU Health Sciences Center in Shreveport for 12 talented high school seniors with an interest in bioscience careers.

Xavier University of Louisiana offers a **Summer Science Academy** for high school students, including a BioStar unit intended as an introduction to high school biology.

The **University of New Orleans (UNO) Metropolitan College Summer Kids Programs** offer a “Curious Science Investigator” unit based in UNO’s Crime Lab and covering DNA fingerprinting and other life science topics.

Tulane University’s outreach unit offers the **Tulane Science Scholars Program**, a selective program for high school students offering noncredit courses across a range of science, technology, engineering, and mathematics (STEM) disciplines including biological sciences.

Bioscience-focused Schools and Programs

Southwood High School in Shreveport has a **Biotechnology Magnet Academy** that has been equipped with \$100,000 in state-of-the-art laboratory equipment purchased through a fund-raising campaign coordinated by the Biomedical Research Foundation of Northwest Louisiana.

Bossier High School includes a **Biotechnology Technical Training Program** also developed in partnership with the Biomedical Research Foundation.



Basic Skills Achievement and Other Summary Metrics

STUDENT ACHIEVEMENT

NAEP Grade 8	LA	U.S. Avg.	State Rank
Math Average, 2007	272.4	280.2	43
Math, 2007 (% at or above “proficient”)	19.0%	31.0%	46
Reading Average, 2007	253.2	261.0	44
Reading, 2007 (% at or above “proficient”)	19.4%	29.2%	48
Writing Average, 2007	146.7	154.3	40
Writing, 2007 (% at or above “proficient”)	17.4%	30.6%	43

ACT	LA	U.S. Avg.	State Rank
Percentage of Graduates Tested	88%	43%	5
Math Average, 2008	19.7	21.0	46
Reading Average, 2008	20.3	21.4	46
English Average, 2008	20.5	20.6	35

SAT	LA	U.S. Avg.	State Rank
Percentage of Graduates Tested	7%	48%	41
Math Average, 2008	564	515	17
Critical Reading Average, 2008	566	502	16
Writing Average, 2008	558	494	14

AP	LA	U.S. Avg.	State Rank
Math Scores, 2008 (% with a score of 3 or higher)	51.2%	65.2%	47
Math Exams, 2008 (Exams as % of all H.S. grads)	3.0%	8.7%	51
English Scores, 2008 (% with a score of 3 or higher)	51.8%	59.2%	42
English Exams, 2008 (Exams as % of all H.S. grads)	8.3%	18.9%	47

SUMMARY STATE EDUCATION METRICS

Selected Indicators	LA	U.S. Avg.	State Rank
High School Graduation Rate, 2005–06	59.5%	73.4%	50
Student/Teacher Ratio, 2006–07	14.7	15.5	25*
Low-income Students, 2006–07 (% of all students)	61.7%	41.6%	–
Expenditure per Student (\$), 2005–06	\$8,486	\$9,154	30

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).

