



IDAHO

Sciences & Life Sciences Achievement

STUDENT ACHIEVEMENT

| NAEP Grade 8 | ID | U.S. Avg. | State Rank |
|--|-------|-----------|------------|
| Science Average, 2005 | 157.6 | 147.1 | 10 |
| Science, 2005 (% at or above "proficient") | 36.5% | 27.3% | 10 |
| Life Sciences Average, 2005 | 158.5 | 148.2 | 11 |

| ACT | ID | U.S. Avg. | State Rank |
|---|------|-----------|------------|
| Science Average, 2008 | 21.3 | 20.8 | 24 |
| Biology, 2008 (% of students ready for college level) | 29% | 28% | 30 |

| AP | ID | U.S. Avg. | State Rank |
|--|-------|-----------|------------|
| Science Scores, 2008 (% with a score of 3 or higher) | 58.6% | 55.4% | 15 |
| Science Exams, 2008 (Exams as % of all H.S. grads) | 5.2% | 10.5% | 44 |
| Biology Scores, 2008 (% with a score of 3 or higher) | 59.0% | 49.8% | 6 |
| Biology Exams, 2008 (Exams as % of all H.S. grads) | 2.4% | 4.6% | 42 |

| SCIENCE TEACHER QUALITY and PROFESSIONAL DEVELOPMENT | ID | U.S. Avg. | State Rank |
|--|------|-----------|------------|
| Science Teachers with Major in Assigned Field, 2003–04 (% , Grades 7–12) | 74% | 77% | 28 |
| Science Teachers Certified, 2006 (% , Grades 7–8) | 100% | N/A% | 1 |
| Biology Teachers Certified, 2006 (% , Grades 9–12) | 99% | 88% | 6 |

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

Examples of Bioscience Education Activities

Teacher Preparation and Professional Development

Boise State University (BSU) offers a degree in **biology, secondary education** that enables graduates to obtain a teaching certificate.

Graduate Students in K-12 Education is a partnership between Idaho State University (ISU), local industry, and local K-12 schools to

ID STATE SCIENCE STANDARDS & REQUIREMENTS

STANDARDS PROFILE

- Most recent update of K-12 Science Standards: **2006**
- Next scheduled update: **2010**
- Research scientists provided input in developing standards

BIOSCIENCE-RELATED GRADUATION REQUIREMENTS:

One unit of biology is required for graduation



improve science education by engaging students in relevant science and engineering activities.

ISU has programs that allow high-school science teachers to conduct research under the mentorship of university researchers during the summer.

Idaho National Laboratory (INL) offers two programs that provide financial support to improve science, technology, engineering, and mathematics (STEM) education in Idaho:

- The 2009 **INL STEM Mini Grant** provides funds to enhance public and private elementary, middle school, and high school STEM programs. Teachers can apply for up to \$2,000 to fund technology or lab equipment, material for special projects, or professional development. This grant cycle has \$70,000 available for teachers.
- The 2009 **INL Science Laboratory Grant Program**, new this year, is designed to provide a teacher/school with funding to start a new science lab program or project or to update and enhance existing equipment or programs specifically in the areas of physical science or chemistry. These grants will be awarded to the schools rather than to individual teachers, and the equipment will become and remain school property. Two grants will be awarded in the amount of \$10,000 each, and an individual school is eligible for only one grant each year.

INL offers a professional development opportunity for teachers to team up with scientific and technical experts at the laboratory. During an 8-week summer program, participants are immersed in a discipline-compatible project for research or application. Teachers are given

opportunities to apply science, mathematics, and technology concepts that are linked to courses taught in typical teacher education curricula. Participants receive an hourly wage commensurate with their academic credentials and experience for their participation in the program.

Idaho offers an **alternative authorization** to expedite the teacher certification process for individuals who are highly and uniquely qualified in a subject area to allow them to teach in a district with an identified need for teachers in that area. Alternative authorization is valid for 3 years and is not renewable.

Experiential Learning and Outreach

The University of Idaho holds **Junior Engineering, Math, and Science (JEMS) summer workshops** for high school students.

The INL offers a career development opportunity for high school students to team up with scientific and technical experts at the lab. During an 8-week summer program, students are immersed in a research or applied project. Students are given opportunities to learn and apply STEM concepts that reinforce as well as complement and go beyond a typical high school curriculum. Students work in teams that conduct research, carry out work-based projects, and solve real-world problems. A team may consist of junior and/or senior high school students, a pre-service or practicing teacher, and a technical mentor from the laboratory. The **Student Action Team (SAT)** program is open to students who are 16 years or older and enrolled in an educational program as defined by the State of Idaho. Students will receive an hourly wage for their participation in the program.

Helping Orient Indian Students and Teachers (HOIST) is an educational program initiated by Idaho EPSCoR (Experimental Program to



Stimulate Competitive Research) to encourage Native American youth to complete high school and to pursue science and technology–related post-secondary studies. Activities are currently coordinated through the University of Idaho Upward Bound program.

Bioscience-focused Schools and Programs

The Treasure Valley Mathematics and Science Center, a high school that opened in 2004, offers curricula for students with a strong desire to excel in math and sciences.

Galileo Math and Science Magnet School includes elementary, middle, and junior high students.





Basic Skills Achievement and Other Summary Metrics

STUDENT ACHIEVEMENT

| NAEP Grade 8 | ID | U.S. Avg. | State Rank |
|--|-------|-----------|------------|
| Math Average, 2007 | 283.5 | 280.2 | 25 |
| Math, 2007 (% at or above "proficient") | 34.1% | 31.0% | 26 |
| Reading Average, 2007 | 264.9 | 261.0 | 22 |
| Reading, 2007 (% at or above "proficient") | 31.6% | 29.2% | 24 |
| Writing Average, 2007 | 154.2 | 154.3 | 23 |
| Writing, 2007 (% at or above "proficient") | 29.3% | 30.6% | 26 |

| ACT | ID | U.S. Avg. | State Rank |
|--------------------------------|------|-----------|------------|
| Percentage of Graduates Tested | 58% | 43% | 24 |
| Math Average, 2008 | 21.4 | 21.0 | 28 |
| Reading Average, 2008 | 22.2 | 21.4 | 24 |
| English Average, 2008 | 20.7 | 20.6 | 30 |

| SAT | ID | U.S. Avg. | State Rank |
|--------------------------------|-----|-----------|------------|
| Percentage of Graduates Tested | 19% | 48% | 31 |
| Math Average, 2008 | 540 | 515 | 24 |
| Critical Reading Average, 2008 | 540 | 502 | 23 |
| Writing Average, 2008 | 517 | 494 | 24 |

| AP | ID | U.S. Avg. | State Rank |
|--|-------|-----------|------------|
| Math Scores, 2008 (% with a score of 3 or higher) | 71.7% | 65.2% | 9 |
| Math Exams, 2008 (Exams as % of all H.S. grads) | 4.6% | 8.7% | 40 |
| English Scores, 2008 (% with a score of 3 or higher) | 66.9% | 59.2% | 16 |
| English Exams, 2008 (Exams as % of all H.S. grads) | 10.5% | 18.9% | 43 |

SUMMARY STATE EDUCATION METRICS

| Selected Indicators | ID | U.S. Avg. | State Rank |
|--|---------|-----------|------------|
| High School Graduation Rate, 2005–06 | 80.5% | 73.4% | 14 |
| Student/Teacher Ratio, 2006–07 | 18.1 | 15.5 | 45* |
| Low-income Students, 2006–07 (% of all students) | 37.6% | 41.6% | – |
| Expenditure per Student (\$), 2005–06 | \$6,469 | \$9,154 | 50 |

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).