



# ALASKA

## Sciences & Life Sciences Achievement

### STUDENT ACHIEVEMENT

NAEP Grade 8	AK	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	AK	U.S. Avg.	State Rank
Science Average, 2008	20.8	20.8	33
Biology, 2008 (% of students ready for college level)	31%	28%	24

AP	AK	U.S. Avg.	State Rank
Science Scores, 2008 (% with a score of 3 or higher)	66.4%	55.4%	4
Science Exams, 2008 (Exams as % of all H.S. grads)	6.4%	10.5%	37
Biology Scores, 2008 (% with a score of 3 or higher)	56.2%	49.8%	12
Biology Exams, 2008 (Exams as % of all H.S. grads)	2.2%	4.6%	45

### SCIENCE TEACHER QUALITY and PROFESSIONAL DEVELOPMENT

	AK	U.S. Avg.	State Rank
Science Teachers with Major in Assigned Field, 2003–04 (% , Grades 7–12)	86%	77%	5
Science Teachers Certified, 2006 (% , Grades 7–8)	45%	N/A%	25
Biology Teachers Certified, 2006 (% , Grades 9–12)	75%	88%	26

**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

The **Alaska Transition to Teaching (AKT2)** program, funded through a grant from the U.S. Department of Education, is a partnership between the Alaska Department of Education and Early Development and participating

## AK STATE SCIENCE STANDARDS & REQUIREMENTS

### STANDARDS PROFILE

- Most recent update of K-12 Science Standards: **2006**; no future update currently scheduled

### BIOSCIENCE-RELATED GRADUATION REQUIREMENTS:

Biology is not required for graduation



districts. AKT2 addresses the need for highly qualified secondary core content teachers in Alaska school districts by offering an expedited process through which candidates complete their teacher preparation and are ready to enter the classroom.

#### **Experiential Learning and Outreach**

**Alaska BioPREP** is a program designed to engage 7th through 12th grade students and teachers, with emphasis on rural students of Alaska Native ethnicity, in biomedical research

projects that lead toward health careers. This program incorporates the intellectual rigor of scientific inquiry and then addresses the attitudes and social values conducive to learning science. Pilot projects have proved that students from rural Alaska high schools who participate in the program are more likely to go on to major in science in college. Students in 7th to 12th grades use molecular biology within the Grade Level Expectations (GLEs) to address scientific questions that are locally relevant.

## Basic Skills Achievement and Other Summary Metrics

### STUDENT ACHIEVEMENT

NAEP Grade 8	AK	U.S. Avg.	State Rank
Math Average, 2007	282.6	280.2	27
Math, 2007 (% at or above “proficient”)	32.2%	31.0%	28
Reading Average, 2007	258.8	261.0	37
Reading, 2007 (% at or above “proficient”)	27.1%	29.2%	36
Writing Average, 2007	N/A	154.3	–
Writing, 2007 (% at or above “proficient”)	N/A%	30.6%	–

ACT	AK	U.S. Avg.	State Rank
Percentage of Graduates Tested	25%	43%	34
Math Average, 2008	21.2	21.0	31
Reading Average, 2008	21.8	21.4	28
English Average, 2008	20.3	20.6	40

SAT	AK	U.S. Avg.	State Rank
Percentage of Graduates Tested	48%	48%	24
Math Average, 2008	520	515	31
Critical Reading Average, 2008	520	502	28
Writing Average, 2008	493	494	37

AP	AK	U.S. Avg.	State Rank
Math Scores, 2008 (% with a score of 3 or higher)	72.3%	65.2%	8
Math Exams, 2008 (Exams as % of all H.S. grads)	7.9%	8.7%	27
English Scores, 2008 (% with a score of 3 or higher)	60.8%	59.2%	30
English Exams, 2008 (Exams as % of all H.S. grads)	15.0%	18.9%	28

### SUMMARY STATE EDUCATION METRICS

Selected Indicators	AK	U.S. Avg.	State Rank
High School Graduation Rate, 2005–06	66.5%	73.4%	43
Student/Teacher Ratio, 2006–07	16.8	15.5	41*
Low-income Students, 2006–07 (% of all students)	38.6%	41.6%	–
Expenditure per Student (\$), 2005–06	\$11,476	\$9,154	9

**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).