KENTUCKY

Sciences & Life Sciences Achievement

STUDENT ACHIEVEMENT

NAEP Grade 8	KY	U.S. Avg.	State Rank
Science Average, 2005	152.8	147.1	21
Science, 2005 (% at or above "proficient")	30.5%	27.3%	22
Life Sciences Average, 2005	153.8	148.2	20

ACT	KY	U.S. Avg.	State Rank
Science Average, 2008	20.7	20.8	35
Biology, 2008 (% of students ready for college level)	25%	28%	36

AP	KY	U.S. Avg.	State Rank
Science Scores, 2008 (% with a score of 3 or higher)	38.7%	55.4%	46
Science Exams, 2008 (Exams as % of all H.S. grads)	7.0%	10.5%	35
Biology Scores, 2008 (% with a score of 3 or higher)	34.9%	49.8%	43
Biology Exams, 2008 (Exams as % of all H.S. grads)	3.5%	4.6%	31

SCIENCE TEACHER QUALITY and PROFESSIONAL DEVELOPMENT	KY	U.S. Avg.	State Rank
Science Teachers with Major in Assigned Field, 2003–04 (%, Grades 7–12)	70%	77%	37
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.

Key Organization(s) Promoting Bioscience Education

The Kentucky BioAlliance includes developing resources for K-12 teachers for Life Science Day as one of the initiatives in its workforce thrust.

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KY STATE SCIENCE STANDARDS & REQUIREMENTS

STANDARDS PROFILE

- Most recent update of K-12 Science Standards: **2006** (Combined Curriculum Document)

BIOSCIENCE-RELATED GRADUATION REQUIREMENTS:

One unit of biology is required

Examples of Bioscience Education Activities

Teacher Preparation and Professional Development

The **Gatton Academy of Mathematics and Science**, housed at Western Kentucky University, is a residential program for high school students who are high achievers in math and science. The Academy provides 2 years of academic coursework at WKU, earning 60 college credit hours in addition to completing high school.

Basic Skills Achievement and Other Summary Metrics

STUDENT ACHIEVEMENT

NAEP Grade 8	KY	U.S. Avg.	State Rank
Math Average, 2007	278.7	280.2	34
Math, 2007 (% at or above "proficient")	27.3%	31.0%	37
Reading Average, 2007	262.0	261.0	30
Reading, 2007 (% at or above "proficient")	27.7%	29.2%	33
Writing Average, 2007	151.4	154.3	32
Writing, 2007 (% at or above "proficient")	26.1%	30.6%	35

ACT	KY	U.S. Avg.	State Rank
Percentage of Graduates Tested	72%	43%	13
Math Average, 2008	20.2	21.0	39
Reading Average, 2008	21.5	21.4	35
English Average, 2008	20.5	20.6	35

SAT	KY	U.S. Avg.	State Rank
Percentage of Graduates Tested	10%	48%	34
Math Average, 2008	570	515	13
Critical Reading Average, 2008	568	502	15
Writing Average, 2008	554	494	16

AP	KY	U.S. Avg.	State Rank
Math Scores, 2008 (% with a score of 3 or higher)	57.2%	65.2%	42
Math Exams, 2008 (Exams as % of all H.S. grads)	6.5%	8.7%	33
English Scores, 2008 (% with a score of 3 or higher)	55.9%	59.2%	38
English Exams, 2008 (Exams as % of all H.S. grads)	16.6%	18.9%	23

SUMMARY STATE EDUCATION METRICS

Selected Indicators	KY	U.S. Avg.	State Rank
High School Graduation Rate, 2005–06	77.2%	73.4%	24
Student/Teacher Ratio, 2006–07	15.8	15.5	36*
Low-income Students, 2006–07 (% of all students)	51.3%	41.6%	–
Expenditure per Student ($), 2005–06	$7,668	$9,154	42

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).