

Mathematics Benchmark Assessment Results

The WDMCS Mathematics and Science Benchmarks were locally developed and are well anchored in standards and benchmark documents authored by the *National Council of Teachers of Mathematics* and the *National Science Teachers Association*. These benchmarks are written as “things we want our students to be able to know and do” as they exit a particular grade level. The assessments for these benchmarks are also locally written and are administered each year during the month of May. Scores represent the percent of correct answers by all students for the questions covering the given benchmark.

Although these mathematics and science benchmarks assist in targeting instruction, there is general consensus that these benchmarks are more rigorous and challenging than many of the objectives and outcomes assessed with ITBS and ITED. Even though the norm-referenced ITBS and ITED assessments are designed to spread scores out, they do limit how well many of our students can perform in certain areas as they have a ceiling of rigor at each grade level. The district’s mathematics and science benchmark assessments are criterion-referenced and in many cases reflect a higher ceiling of rigor than ITBS & ITED. Since our benchmark assessments are administered in eleventh grade, it is very possible that several of the benchmarks have not been experienced by a significant number of VHS students, based on the courses that they have already taken. As a result, trend line data over time indicate that our students generally do not score as well on our benchmark assessments as the ITED assessments, especially in the secondary grade levels.

Grades 1-6

May 2007

Bench mark	Grade 1		Grade 2		Grade 3		Grade 4		Grade 5		Grade 6	
	Topic	Dist % 01-02-03-04-05-06-07	Topic	Dist % 01-02-03-04-05-06-07	Topic	Dist % 01-02-03-04-05-06-07	Topic	Dist % 01-02-03-04-05-06-07	Topic	Dist % 01-02-03-04-05-06-07	Topic	Dist % 01-02-03-04-05-06-07
A	Write number sentence	91-93-92-92-91-88-90	Word problems + and -	93-93-93-80-90-91-91	Problem solving/ word problems	76-76-76-81-88-87-83	Problem solving/ word	80-78-80-83-82-81-80	Problem solve With table	78-79-78-77-82-80-79	Multi-step problems	80-80-77-76-74-76-77
B	Measure to inch	93-93-91-90-92-89-89	Word problems w/pictures	83-87-89-91-84-83-82	Time to minute	89-87-88-83-91-88-87	Length, volume, weight	77-75-79-79-84-83-82	Prob. Solve With extra data	89-89-91-89-90-89-88	Prob. Solve non routine	83-81-81-78-79-80-81
C	Mental Math	78-76-77-78-78-74-75	Time to 5 minutes	90-92-92-82-89-91-90	Weight - estimation	78-79-82-87-86-88-85	Round to 1,000	89-89-91-90-93-92-93	Multi-step problems	65-67-73-69-75-75-75	Area of quadrilateral	56-59-55-53-65-70-72
D	Add to 12	94-94-94-95-95-95-94	Coins to 99¢	83-83-84-90-82-81-81	Measure to ½ inch	73-74-73-79-89-81-85	Mental Math	84-84-84-92-83-82-83	Measure to ¼ inch	77-75-76-76-80-78-77	Perimeter of quadrilateral	69-68-65-64-63-65-68
E	Subtract to 12	93-92-92-80-91-90-91	Reasoning	92-91-92-89-88-90-88	Coins \$1.00- \$10.00	76-77-77	Fractions	88-86-87-87-89-87-87	Measure to gallons	90-90-91-92-92-91-89	Volume Rectangular prism	69-72-71-66-66-68-70
F	Draw Shapes	98-98-99-99-98-98-99	Add to 18	97-96-98-98-96-98-96	Mental Math	84-82-82-73-83-81-77	Multiplication 1 by 4 digits	82-83-84-83-87-86-86	Round to millions	95-94-96-95-88-83-82	Estimation With decimals	79-82-80-80-78-78-80
G	Bar Graph	98-97-98-97-97-96-96	Subtract to 18	94-94-94-95-93-94-94	Round to 10 & 100	94-92-92-90-93-93-91	Division - basic facts	90-90-91-90-92-94-92	Prob. solve organized list	86-87-90-87-88-84-80	Fractions to percents	83-84-84-83-83-84-85
H	Count By 5's & 10'S	82-83-81-82-94-90-91	2 digit addition w/trading	86-86-86-83-83-86-81	4 digit + with regroup	87-84-86-84-87-87-86	Place value to millions	84-84-91-91-89-91-91	Fractions +	97-98-97-98-96-96-94	Fractions to decimals	63-63-69-64-70-72-73
I	Place value to 99	86-87-86-87-84-78-80	2 digit subtraction w/trading	74-80-80-76-84-80-78	4 digit - with regroup	69-61-68-67-78-69-67	Multiplication 2 digit x 2 digit	85-77-76	Fractions -	85-92-91-91-96-92-92	Exponents	77-76-86-85-91-84-86
J			Draw: λ v σ	99-99-100-99-92-93-93	Single digit multiplication	92-90-91-88-90-91-90	Angles	93-94-96	Fractions reduce	85-84-86-85-87-87-87	Division with decimals	73-70-75-74-71-68-73
K			Graphs - construct	95-95-97-98-91-91-93	Division 2 digit/1 digit	90-89-89	Graphs and tables	79-79-81-80-85-81-79	Decimals 4 digit +	90-91-93-92-93-93-90	Fractions + and -	71-73-80-78-78-81-79
L			Graphs - analyze	89-91-92-89-94-95-90	Ordering to 100,000	91-91-94-91-80-94-76	Number patterns	81-82-80-77-80-81-79	Decimals 4 digit -	82-81-85-84-87-84-83	Multiply Fractions	60-57-59
M			Place value through 100's	93-92-93-92-90-91-95	Fractions of whole	75-77-77-74-94-76-92			Decimals multiply 3 digits	68-66-73-72-75-72-68	3-D figures - number of faces	85-85-86-85-82-83-83
N			Count by 2's, 5's, 10's	97-97-97-97-97-97-96	Angles & lines	91-90-92-90-93-92-92			Division 3 digit/1digit	88-83-82	Similar/Congruent	71-72-70-70-68-71-74
O					Bar graphs - analyze	80-77-81-79-82-80-80			Angles	94-94-95-93-93-93-92	Circle graphs - analyze	95-95-94-95-94-95-94
P					Number patterns	73-74-75-74-74-77-73			Bar graph - analyze	84-83-84-81-84-83-79	Tables - analyze	59-61-64-59-60-61-61
Q									Line graph - analyze	87-84-85-84-85-83-82	Functions & Number patterns	86-87-85-85-82-85-85
R									Place value to millions	87-88-91-91-90-88-87		

Mathematics Benchmark Assessment Results

Grades 7 & 8

May 2007

Benchmark	Grade 7		Grade 8	
	Topic	District % 00-01-02-03-04-05-06-07	Topic	District % 00-01-02-03-04-05-06-07
A	Write algebraic expressions	76-76-76-72-78-86-74-72	Write number phrases & sentences	67-67-69-69-74-66-67-66
B	Solve 1-step equations	83-83-85-84-90-87-87-85	Write one variable equations for 1+ unknowns	48-48-58-56-68-60-55-48
C	Classify types of angles	91-97-99-97-98-98-97-98	Solve transformations	65-65-68-61-67-61-59-58
D	Perimeter and area of polygons	73-70-72-73-74-70-68-71	Perimeter & area of irregular polygons	34-36-41-42-48-42-43-39
E	Area and circumference of circles	45-43-43-51-55-57-50-53	Metric unit & standard unit conversions	66-73-77-75-79-73-74-71
F	Divisibility rules of 2, 5, 10	88-91-94-92-97-94-95-95	Divisibility rules of 2, 3, 4, 5, 6, 9, 10	67-71-74-71-68-69-72-66
G	Multiply & divide by powers of 10	73-76-78-74-82-83-77-77	Apply distributive property	63-67-65-71-73-66-72-66
H	Round to given place value	81-82-83-81-80-78-78-82	Estimation	88-92-91-90-93-87-90-88
I	Commutative, associative, identity property	66-69-68-68-74-74-72-74	Simplify order of operations with integers	59-63-64-61-68-60-64-61
J	Order of operations	65-65-64-73-81-84-81-80	Solve problems with rational number	53-56-60-61-63-53-58-53
K	Multiply & divide fractions	67-63-61-60-69-66-70-69	Solve word problems using percents	54-69-72-66-74-65-68-60
L	Add, subtract, multiply, divide integers	73-74-69-78-81-76-77-75	Angle relationships of parallel lines	61-73-73-71-75-71-70-69
M	Percent of a number	52-55-58-55-59-57-56-51	Complementary, supplementary, vertical angles	55-70-71-71-73-71-72-70
N	Convert percents, fractions, decimals	77-82-81-81-85-82-83-83	Histograms and scatter plots	64-73-72-75-80-73-73-70
O	Calculate LCM and GCF of set of numbers	61-53-62-63-70-64-65-63	Measure central tendency/stem-and-leaf plot	63-71-73-74-76-71-72-66
P	Identify polygons having 5-10 sides	80-78-85-84-93-85-84-87	Use formula for volume and surface area	40-46-46-53-64-55-60-51
Q	Graph ordered pairs	68-72-73-76-72-77-70-70	Solve function problems	65-72-74-73-79-74-76-68
R	Classify triangles by sides and angles	82-85-87-86-90-86-85-88	Numbers in scientific notation & standard form	61-71-71-80-82-70-77-73
S	Classify quadrilaterals	71-66-68-76-80-77-71-74	Square roots	73-76-81-84-85-79-84-82
T	Calculate mean, median, mode, range	71-76-71-72-81-76-68-65		
U	Analyze circle, bar, line graphs	56-56-55-56-58-55-55-53		
V	Evaluate number in exponential form	80-76-78-82-87-85-85-85		
W	Use proportion to solve word problem	79-80-80-80-85-80-79-79		

Scores are shown for 1999-2000 through 2005-2006 school years, in that order.

Mathematics Benchmark Assessment Results

Grade 11: Valley High School

May 2007

Benchmark	Topic	May 2000	May 2001	May 2002	May 2003	May 2004	May 2005	May 2006	May 2007
A	Write algebraic expressions	84	84	85	90	82	82	93	89
B	Evaluate algebraic expressions	86	84	81	77	90	89	75	77
C	Solve for given variable	85	84	84	79	92	85	74	81
D	Use formula to determine area of plane figure	33	64	50	73	51	54	63	59
E	Use formula to determine volume of solid figure	81	84	66	88	79	73	75	75
F	Use formula to determine lateral area & total surface area of figure	40	59	52	69	48	56	58	61
G	Use deductive reasoning to make a valid conclusion	46	51	51	37	62	62	41	38
H	Divisibility rules & multiplication/division by powers of 10	87	85	84	91	84	76	88	88
I	Rounding and estimation	73	71	78	64	85	85	64	64
J	Solve linear equations and inequalities	56	57	58	49	69	48	48	53
K	Solve proportions	77	75	79	89	78	62	87	86
L	Simply rational expressions	69	64	61	52	82	83	41	52
M	Simplify problems using order of operations	76	76	76	86	72	80	82	78
N	Identification of plane geometric figures by name	81	82	82	76	82	76	80	75
O	Classify triangles by sides/angles	93	94	92	91	99	93	87	90
P	Identify & compute angle relationships of parallel lines	49	54	43	69	50	47	61	54
Q	Collect and apply information from a graph	57	50	45	64	34	42	51	51
R	Calculate mean, median, range	59	66	71	53	79	69	58	60
S	Analyze bar graphs	51	75	66	78	67	69	71	68
T	Use Pythagorean relationship to solve problems	68	77	67	50	92	74	56	65
U	Use proportion to solve a problem	85	85	83	92	77	66	91	87
V	Select and use formula to find area, surface area and volume	76	73	72	53	85	86	58	61
W	Understand functional notation	41	46	52	70	55	60	63	55