

**Content Standards & Benchmarks: Mathematics  
Grades K-12  
West Des Moines Community School District**

- Standard #1: Students will use mathematics to solve problems, communicate, and work with others.
- Standard #2: Students will use measurement skills.
- Standard #3: Students will use reasoning skills, mental mathematics, and estimation skills.
- Standard #4: Students will perform mathematical operations and see relationships among numbers.
- Standard #5: Students will demonstrate a development of spatial sense.
- Standard #6: Students will collect and analyze data.
- Standard #7: Students will use patterns and relationships to solve problems.

**Content Standards & Benchmarks: Mathematics**  
**Grade K**  
**West Des Moines Community School District**

- Standard #1: Students will use mathematics to solve problems, communicate, and work with others.
- k.1.a use strategies and manipulatives to accurately find the answer when told a number story (ordinal, +, -, counting, etc.).
  - k.1.b verbally describe how they solve problems in a variety of situations (think aloud).
- Standard #2: Students will use measurement skills.
- k.2.c use calendar terms to measure time (days, weeks, months, seasons).
  - k.2.d demonstrate an understanding of the comparison terms more, less, equal to.
- Standard #3: Students will use reasoning skills, mental mathematics, and estimation skills.
- k.3.e recognize when an estimation is accurate.
- Standard #4: Students will perform mathematical operations and see relationships among numbers.
- k.4.f demonstrate number sense through counting with 1:1 correspondence, and number seriation.
  - k.4.g demonstrate operation sense at the concept level by using role play/manipulatives to solve single digit addition and subtraction problems in a variety of situations (number stories, interpreting graphs, calendar activities).
- Standard #5: Students will demonstrate a development of spatial sense.
- k.5.h name the shapes circle, oval, rectangle, square, diamond and triangle.
  - k.5.i copy a 2-dimensional form from a 3-dimensional form.
- Standard #6: Students will collect and analyze data.
- k.6.j interpret data from a graph.
  - k.6.k demonstrate the ability to sort and classify objects by a variety of attributes.
- Standard #7: Students will use patterns and relationships to solve problems.
- k.7.l count by 1s to 100.
  - k.7.m skip count by 10s to 100.
  - k.7.n recognize, describe, extend, and create a wide variety of patterns.

**Content Standards & Benchmarks: Mathematics**  
**Grade 1**  
**West Des Moines Community School District**

- Standard #1: Students will use mathematics to solve problems, communicate, and work with others.  
1.1.a write the correct number sentence to solve a problem.
- Standard #2: Students will use measurement skills.  
1.2.b measure an object to the nearest inch using a ruler.  
1.2.c tell time accurately to the hour and half-hour.
- Standard #3: Students will use reasoning skills, mental mathematics, and estimation skills.  
1.3.d use mental math skills (subtraction, addition, sequences, etc.) to accurately solve a problem presented.
- Standard #4: Students will perform mathematical operations and see relationships among numbers.  
1.4.e add numbers to 12.  
1.4.f subtract numbers to 12.
- Standard #5: Students will demonstrate a development of spatial sense.  
1.5.g draw 2-dimensional shapes.
- Standard #6: Students will collect and analyze data.  
1.6.h complete and analyze a simple bar graph.
- Standard #7: Students will use patterns and relationships to solve problems.  
1.7.i skip count by 2s and 5s.  
1.7.j identify place value in numbers between 0 and 99.

**Content Standards & Benchmarks: Mathematics**  
**Grade 2**  
**West Des Moines Community School District**

- Standard #1: Students will use mathematics to solve problems, communicate, and work with others.  
2.1.a use addition or subtraction to solve word problems.  
2.1.b draw or use a picture to solve word problems.
- Standard #2: Students will use measurement skills.  
2.2.c tell time to the nearest 5 minutes.  
2.2.d recognize and count groups of coins (pennies, nickels, dimes, quarters) up to 99¢.
- Standard #3: Students will use reasoning skills, mental mathematics, and estimation skills.  
2.3.e use reasoning skills to solve a problem.
- Standard #4: Students will perform mathematical operations and see relationships among numbers.  
2.4.f solve addition facts to 18.  
2.4.g solve subtraction facts to 18.  
2.4.h solve 2-digit addition with trading in the 1s place.  
2.4.i solve 2-digit subtraction with trading in the 1s place.
- Standard #5: Students will demonstrate a development of spatial sense.  
2.5.j correctly draw various plane shapes (circle, square, triangle, rectangle).
- Standard #6: Students will collect and analyze data.  
2.6.k gather and organize information to construct a graph (picture, pie, bar) to solve a problem.  
2.6.l analyze graphs and tables in order to solve a problem.
- Standard #7: Students will use patterns and relationships to solve problems.  
2.7.m identify the numeral in the ones, tens, hundreds place.  
2.7.n skip count by 2s, 5s, and 10s.

**Content Standards & Benchmarks: Mathematics**  
**Grade 3**  
**West Des Moines Community School District**

- Standard #1: Students will use mathematics to solve problems, communicate, and work with others.  
3.1.a apply an appropriate strategy to solve a word problem.
- Standard #2: Students will use measurement skills.  
3.2.b tell time to the minute.  
3.2.c select appropriate estimate measurement for weight of a given object using customary measurement.  
3.2.d use customary measurement to determine length to the nearest half inch.  
3.2.e determine total value of a set of coins and bills (\$1.00 - \$10.00)
- Standard #3: Students will use reasoning skills, mental mathematics, and estimation skills.  
3.3.f use mental math to add and subtract numbers.  
3.3.g use estimation skills to round whole numbers to the nearest tens and hundreds.
- Standard #4: Students will perform mathematical operations and see relationships among numbers.  
3.4.h add 4-digit problems with regrouping.  
3.4.i subtract 4-digit problems with regrouping.  
3.4.j multiply single-digit numbers.  
3.4k divide a 2-digit number by a 1-digit number without a remainder  
3.4.l using place value, put a group of numbers through hundred-thousands in order from least to greatest.  
3.4.m be able to identify and write a fraction within a whole.
- Standard #5: Students will demonstrate a development of spatial sense.  
3.5.n name angles and lines.
- Standard #6: Students will collect and analyze data.  
3.6.o analyze a bar graph.
- Standard #7: Students will use patterns and relationships to solve problems.  
3.7.p extend a given number pattern.

**Content Standards & Benchmarks: Mathematics**  
**Grade 4**  
**West Des Moines Community School District**

- Standard #1: Students will use mathematics to solve problems, communicate, and work with others.  
4.1.a use correct mathematical operations to solve a word problem.
- Standard #2: Students will use measurement skills.  
4.2.b identify and convert measures of length, volume and weight.
- Standard #3: Students will use reasoning skills, mental mathematics, and estimation skills.  
4.3.c use estimation skills to round to the nearest thousand.  
4.3.d use mental math skills to accurately solve a problem presented.
- Standard #4: Students will perform mathematical operations and see relationships among numbers.  
4.4.e show the value of fractions with pictures.  
4.4.f solve 1 digit times 4-digit multiplication.  
4.4.g know basic division facts.  
4.4.h know place value through millions.  
4.4.i multiply a 2-digit number times a 2-digit number
- Standard #5: Students will demonstrate a development of spatial sense.  
4.5.j identify acute, obtuse and right angles.
- Standard #6: Students will collect and analyze data.  
4.6.k use graphs and tables to solve problems.
- Standard #7: Students will use patterns and relationships to solve problems.  
4.7.l extend a given number pattern.

**Content Standards & Benchmarks: Mathematics**  
**Grade 5**  
**West Des Moines Community School District**

- Standard #1: Students will use mathematics to solve problems, communicate, and work with others.  
5.1.a solve problems using the “make a table” strategy.  
5.1.b solve problems using the “extra data” strategy.  
5.1.c solve multiple step problems.
- Standard #2: Students will use measurement skills.  
5.2.d measure length to the nearest  $\frac{1}{4}$  inch.  
5.2.e change customary units of capacity from pints to gallons.
- Standard #3: Students will use reasoning skills, mental mathematics, and estimation skills.  
5.3.f round whole numbers up to the millions place.  
5.3.g solve problems using the “make an organized list” strategy.
- Standard #4: Students will perform mathematical operations and see relationships among numbers.  
5.4.h add fractions with like denominators.  
5.4.i subtract fractions with like denominators.  
5.4.j reduce fractions to simplest form.  
5.4.k add decimals with four digits.  
5.4.l subtract decimals with four digits.  
5.4.m multiply decimals with 2- and 3-digit factors.  
5.4.n divide a 3-digit number by a 1-digit number with and without remainder
- Standard #5: Students will demonstrate a development of spatial sense.  
5.5.o draw or construct a(n) acute, obtuse and right angle.
- Standard #6: Students will collect and analyze data.  
5.6.p analyze a double bar graph.  
5.6.q analyze a line graph.
- Standard #7: Students will use patterns and relationships to solve problems.  
5.7.r demonstrate an understanding of place value through millions.

**Content Standards & Benchmarks: Mathematics**  
**Grade 6**  
**West Des Moines Community School District**

- Standard #1: Students will use mathematics to solve problems, communicate, and work with others.
- 6.1.a use correct operations to solve multiple-step problems.
  - 6.1.b use strategies (draw a picture, make a table, etc.) to solve nonroutine problems.
- Standard #2: Students will use measurement skills.
- 6.2.c find area of quadrilateral.
  - 6.2.d find perimeter of quadrilateral.
  - 6.2.e find volume of rectangular prism.
- Standard #3: Students will use reasoning skills, mental mathematics, and estimation skills.
- 6.3.f use estimation to solve decimal problems.
- Standard #4: Students will perform mathematical operations and see relationships among numbers.
- 6.4.g convert simple fractions to percents.
  - 6.4.h convert simple fractions to decimals.
  - 6.4.i convert exponents to equivalent whole number standard form.
  - 6.4.j divide with decimals in divisors.
  - 6.4.k add and subtract with fractions (unlike denominators).
  - 6.4.l multiply fractions
- Standard #5: Students will demonstrate a development of spatial sense.
- 6.5.m identify number of faces on 3-D space figures.
  - 6.5.n identify 2-D shapes as similar or congruent.
- Standard #6: Students will collect and analyze data.
- 6.6.o analyze circle graphs.
  - 6.6.p analyze tables.
- Standard #7: Students will use patterns and relationships to solve problems.
- 6.7.q identify and complete number patterns (functions—function rules).

**Content Standards & Benchmarks: Mathematics**  
**Grade 7**  
**West Des Moines Community School District**

- Standard #1: Students will use mathematics to solve problems, communicate, and work with others.  
7.1.a write algebraic expressions.  
7.1.b solve 1-step equations.
- Standard #2: Students will use measurement skills.  
7.2.c classify types of angles.  
7.2.d find the perimeter and area of polygons.  
7.2.e find the area and circumference of circles.
- Standard #3: Students will use reasoning skills, mental mathematics, and estimation skills.  
7.3.f use the divisibility rules of 2, 5, and 10.  
7.3.g multiply and divide powers of 10.  
7.3.h round to a given place value.
- Standard #4: Students will perform mathematical operations and see relationships among numbers.  
7.4.i identify the commutative, associative, and identity properties.  
7.4.j solve problems using the order of operations.  
7.4.k multiply and divide fractions.  
7.4.l add, subtract, multiply, and divide integers.  
7.4.m find percent of a number.  
7.4.n convert percents, fractions, and decimals.  
7.4.o calculate LCM and GCF of a given set of numbers.
- Standard #5: Students will demonstrate a development of spatial sense.  
7.5.p identify polygons having 5-10 sides.  
7.5.q graph ordered pairs.  
7.5.r classify triangles by sides and angles.  
7.5.s classify quadrilaterals.
- Standard #6: Students will collect and analyze data.  
7.6.t calculate mean, median, mode, and range.  
7.6.u analyze a circle, bar, and line graph.
- Standard #7: Students will use patterns and relationships to solve problems.  
7.7.v evaluate a number in exponential form.  
7.7.w use a proportion to solve a word problem.

**Content Standards & Benchmarks: Mathematics**  
**Grade 8**  
**West Des Moines Community School District**

- Standard #1: Students will use mathematics to solve problems, communicate, and work with others.
- 8.1.a write open number phrases and sentences.
  - 8.1.b write one variable equations for story problems with one or more unknowns (age, integer, coin, mixture problems).
  - 8.1.c solve transformations.
- Standard #2: Students will use measurement skills.
- 8.2.d calculate perimeter and area of irregular polygons.
  - 8.2.e convert within metric units and standard units.
- Standard #3: Students will use reasoning skills, mental mathematics, and estimation skills.
- 8.3.f use the divisibility rules of 2,3,4,5,6,9,10.
  - 8.3.g apply distributive property.
  - 8.3.h estimate (multiple choice).
- Standard #4: Students will perform mathematical operations and see relationships among numbers.
- 8.4.i simplify order of operations problems with integers.
  - 8.4.j solve problems with rational number.
  - 8.4.k solve word problems using percents.
- Standard #5: Students will demonstrate a development of spatial sense.
- 8.5.l identify and compute the angle relationships of parallel lines.
  - 8.5.m determine angle measurement using complementary, supplementary, and vertical angles.
- Standard #6: Students will analyze data.
- 8.6.n analyze histograms and scatter plots.
  - 8.6.o find the measure of central tendency using a stem-and-leaf plot.
- Standard #7: Students will use patterns and relationships to solve problems.
- 8.7.p select and use a formula to find volume and surface area.
  - 8.7.q solve function problems.
  - 8.7.r express numbers in scientific notation and standard form.
  - 8.7.s determine square roots.

**Content Standards & Benchmarks: Mathematics**  
**Grade 9-12**  
**West Des Moines Community School District**

- Standard #1: Students will use mathematics to solve problems, communicate, and work with others.
- 11.1.a write algebraic expressions.
  - 11.1.b evaluate algebraic expressions.
  - 11.1.c solve for the given variable.
- Standard #2: Students will use measurement skills.
- 11.2.d use a formula to determine the area of a plane figure.
  - 11.2.e use a formula to determine the volume of a solid figure.
  - 11.2.f use a formula to determine the lateral area and total surface area of a figure.
- Standard #3: Students will use reasoning skills, mental mathematics, and estimation skills.
- 11.3.g use deductive reasoning to make a valid conclusion.
  - 11.3.h use divisibility rules and the ability to multiply and divide by powers of 10.
  - 11.3.i use rounding and estimation.
- Standard #4: Students will perform mathematical operations and see relationships among numbers.
- 11.4.j solve linear equations and inequalities.
  - 11.4.k solve proportions.
  - 11.4.l simplify rational expressions.
  - 11.4.m simplify problems using order of operations.
- Standard #5: Students will demonstrate a development of spatial sense.
- 11.5.n identify plane geometric figures by name.
  - 11.5.o classify triangles by sides or angles.
  - 11.5.p identify and compute the angle relationships of parallel lines.
- Standard #6: Students will collect and analyze data.
- 11.6.q collect and apply information from a graph.
  - 11.6.r calculate the mean, median, and range.
  - 11.6.s analyze bar graphs.
- Standard #7: Students will use patterns and relationships to solve problems.
- 11.7.t use the Pythagorean relationship to solve problems.
  - 11.7.u use a proportion to solve a problem.
  - 11.7.v select and use a formula to find area, surface area and volume.
  - 11.7.w understand functional notation.