

Optimum Resource Inc. Educational Software and Print Resources

	Math Word Problems
Illinois Standards - Eighth Grade Mathematics	
Demonstrate and apply a knowledge & sense of numbers, including numeration & operations	
(addition, subtraction, multiplication, division), patterns, ratios & proportions.	
Represent fractions, decimals, percentages, exponents & scientific notation in equivalent forms	
Solve practical computation problems involving whole numbers, integers & rational numbers	
Apply primes, factors, divisors, multiples, common factors and common multiples in solving problems	✓
Identify & apply properties of real numbers including pi, squares, & square roots	
Select computational procedures & solve problems with whole numbers, fractions decimals, percents and proportions	✓
Show evidence that computational results using whole numbers, fractions, decimals,	✓
percents & proportions are correct and/or that estimates are reasonable	
Apply ratios and proportions to solve practical problems	
Estimate, make & use measurements of objects, quantities & relationships	
& determine acceptable levels of accuracy.	
Measure length, capacity, weight/mass and angles using sophisticated instruments	
Apply the concepts & attributes of length, capacity, weight/mass, perimeter, area, angle measures in practical situations	
Select & apply instruments including rulers & protractors & units of measure to the degree of accuracy required	
Construct a simple scale drawing for a given situation	✓
Use concrete & graphic models & appropriate formulas to find perimeters, areas,	✓
surface areas & volumes of two- and three-dimensional regions	

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Use algebraic & analytical methods to identify & describe patterns relationships in data, solve problems and predict results.	✓
Apply the basic properties of commutative, associative, distributive, transitive, inverse, problems identity, zero, equality & order of operations to solve	✓
Solve problems using linear expressions, equations and inequalities	
Use graphing technology & algebraic methods to analyze & predict linear relationships & make generalizations from linear patterns	
Apply the properties of numbers & operations including inverses in algebraic settings derived from economics, business and the sciences	✓
Solve problems using numeric, graphic or symbolic representations of variables, expressions, equations & inequalities	
Propose & solve problems using proportions, formulas and linear functions	
Apply properties of powers, perfect squares & square roots	
Use geometric methods to analyze, categorize and draw conclusions about points, lines, planes and space.	
Draw or construct two- & three-dimensional geometric figures including prisms, pyramids, cylinders & cones	
Draw transformation images of figures, with & without the use the technology	
Use concepts of symmetry, congruency, similarity, scale, perspective, and angles to describe & analyze two- & three-dimensional shapes found in practical applications	
Identify, describe, classify & compare two- & three-dimensional geometric figures & models according to their properties	

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Construct, develop & communicate logical arguments about geometric figures & patterns	
Develop & solve problems using geometric relationships & models, with and without the use of technology	
Compute distances, lengths & measures of angles using proportions, the Pythagorean theorem & its converse	
Collect, organize & analyze data using statistical methods; predict results;	
and interpret uncertainty using concepts of probability.	
Construct, read & interpret tables, graphs and charts to organize & represent data	
Compare the mean, median, mode & range, with & without the use of technology	
Test the reasonableness of an argument based on data and communicate their findings	
Formulate questions devise and conduct experiments or simulations, gather data, draw conclusions	
& communicate results to an audience using traditional methods & contemporary technologies	
Determine the probability & odds of events using fundamental counting principles	
Analyze problem situations and make predictions about results	