

Curriculum Profiles 8th Grade Math (as of 6/7/05)

1. Short Review of Fractions/Decimals/Percents

- a. Convert between fractions, decimals, percents
- b. Simplify fractions (by GCF)
- c. Perform basic operations with fractions (with LCM) and decimals
- d. Solve is/of/% problems

(reference Chapter 3.1-3.5 and Chapter 8.1-8.3 and p.671-672 Skills Bank)
(State Goals: 6A, 6B, 6C)

2. Solving Algebraic Equations

- a. Evaluate and writing algebraic expressions
- b. Solve one and two step equations
- c. Solve simple inequalities
- d. Combine like terms
- e. Graph on the coordinate plane

(reference Chapter 1.1-1.8)
(State Goals: 8A, 8C, 8D)

3. Integers and Exponents

- a. Perform basic operations with integers
- b. Solve equations and inequalities with integers
- c. Evaluate expressions with exponents
- d. Express numbers in scientific notation
- e. Find square roots
- f. Solve problems using square roots
- g. Classify numbers as rational or irrational
- h. Identify and apply the associative, commutative, distributive, identity and inverse properties
- i. Apply order of operations including absolute value

(reference Chapter 2 and Chapter 3.8-3.10 and p.676-679 Skills Bank)
(State Goals: 6A, 6B, 6C, 8A, 8C, 8D)

4. Short Review of Ratios and Proportions

- a. Find equivalent ratios
- b. Solve problems using unit rates
- c. Solve rate problems using conversion factors
- d. Solve proportions

(reference Chapter 7.1-7.4)
(State Goals: 6D)

5. Short Review of Plane Geometry

- a. Classify and name figures
- b. Identify angles formed by transversals with parallel and perpendicular lines
- c. Apply angle sum theorem to all polygons

(reference Chapter 5.1-5.4)
(State Goals: 7A, 7B, 9A, 9B)

6. Perimeter, Area and Volume Geometry

- a. Find perimeter and area of triangles, parallelograms, trapezoids and circles
- b. Apply the Pythagorean theorem
- c. Find volume of prisms, cylinders, pyramids, cones and spheres
- d. Find surface area of prisms, cylinders, pyramids, cones and spheres

(reference Chapter 6)

(State Goals: 9B, 9C, 9D)

7. Probability

- a. Find theoretical probability
- b. Apply the fundamental counting principle
- c. Find permutations and combinations
- d. Find probability using independent and dependent events
- e. Convert between probability and odds

(reference Chapter 9.4-9.8)

(State Goals: 10A, 10C)

8. Equations and Inequalities

- a. Solve multi-step equations and inequalities
- b. Solve systems of equations

(reference Chapter 10)

(State Goals: 8A)

9. Graphing Lines

- a. Graph linear equations
- b. Use slope and intercepts to graph linear equations

(reference Chapter 11.1-11.4)

(State Goals: 8B, 9A)

10. Collecting and Displaying Data

- a. Determine mean, median, mode and range
- b. Create and analyze bar graphs, line graphs, circle graphs, histograms, Venn diagrams and scatter plots

(reference Chapter 4)

(State Goals: 8A, 8B, 8C, 8D, 10A, 10B)

11. Sequences and Functions

- a. Analyze, extend and create sequences and linear functions

(reference Chapter 12)

(State Goals: 8B)

12. Trigonometry for Rocket Math

- a. Determine height using tangent
- b. Determine speed given altitude and time

(no reference)

(State Goals: 7A, 7B, 7C, 9D)