

Independent School District of Boise City

Mathematics - Math in the Workplace 1

District Course #0841

Course Description

Open to: 10, 11, 12 One Year Course

Prerequisite: Instructor/Counselor Approval

Content: Students will review fundamental arithmetic: addition, subtraction, multiplication and division of fractions to show the properties of the number system. Elementary algebraic concepts will be reinforced, problem solving strategies and applications will be reviewed, and primary concepts of probability and statistics will be introduced. Emphasis will be on the ability to understand and apply traditional mathematics concepts to solve problems experienced in a world of work impacted by increasing technology.

Adopted Materials

Title: AGS PreAlgebra

Author: Siegfried Haenisch

Edition: 2nd., 2004

Publisher AGS Publishing

ISBN: 0-7854-1451-7

Resource Materials:

Taylor, Harold and Loretta. *Developing Skills in Algebra I Book A*. Palo Alto, Ca. Dale Seymour. 1984. (DS-A)

Taylor, Harold and Loretta. *Developing Skills in Algebra I Book B*. Palo Alto, Ca. Dale Seymour. 1984. (DS-B)

Taylor, Harold and Loretta. *Developing Skills in Algebra I Book C*. Palo Alto, Ca. Dale Seymour. 1984. (DS-C)

Taylor, Harold and Loretta. *Developing Skills in Algebra I Book D*. Palo Alto, Ca. Dale Seymour. 1984. (DS-D)

Course Scope for Semester 1

Unit 1 Whole Numbers

Unit 2 Decimals and Algebra

Unit 3 Factors and Multiples

Unit 4 Fractions and Mixed Numbers

Unit 5 Ratio, Proportion and Percent

Course Scope for Semester 2

Unit 6 Integers

Unit 7 The Coordinate Plane

Unit 8 Geometry

Unit 9 Data Analysis, Probability and Statistics

Math in the Workplace I		0841
Unit 1	Whole Numbers	Time Frame

Instructional Objective		Standard Reference	
0841.01 Understand and use positive and negative numbers, fractions, decimals, percentages, and scientific notation.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Identify the place value of a given digit in whole numbers from 0 to 100,000.	Text Ch.2	TMA, EOC
02	Round whole numbers of up to 1,000,000	Text Ch.2	TMA, EOC
03	Find the sum of two or more whole numbers between 0 and 1,000,000 with or without regrouping	Text Ch. 1	TMA, EOC
04	Find the difference of two whole numbers between 0 and 1,000,000 with or without regrouping	Text Ch. 1	TMA, EOC
05	Find the product of a whole number of up to six digits and a two-digit whole number.	Text Ch. 1	TMA, EOC
06	Find the quotient, with or without a remainder, of a dividend of up to six digits and a two-digit divisor.	Text Ch. 1	TMA, EOC
07	Estimate a reasonable sum, difference, product, or quotient for a problem using whole numbers.	Text Ch. 1	TMA, EOC
Instructional Objective		Standard Reference	
0841.02 Understand and use positive and negative numbers, fractions, decimals, percentages, and scientific notation.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Use the order of operations to simplify numerical expressions	Text Ch.5	TMA, EOC
02	Explain and use the commutative, associative, distributive, identity, and zero properties to simplify numerical expressions.	Text Ch. 3	TMA, EOC
Instructional Objective		Standard Reference	
0841.03 Evaluate algebraic expressions.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Simplify algebraic expressions by combining like terms	Text Ch. 5	TMA, EOC
02	Evaluate algebraic expressions by substituting	Text Ch. 1	TMA, EOC
03	Use addition or subtraction to solve linear equations with positive integers.	Text Ch. 5	TMA, EOC
04	Use multiplication or division to solve linear equations with positive integers.	Text Ch. 5	TMA, EOC
05	Solve linear equations with more than one step	Text Ch. 5	TMA, EOC

Math in the Workplace 1		District Reference 0841
Unit 2	Decimals and Algebra	Time Frame

Instructional Objective		Standard Reference	
0841.04 Understand and use positive and negative numbers, fractions, decimals, percentages, and scientific notation.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Round a decimal to the nearest tenth, hundredth, thousandth, or ten thousandth place.	Text Ch. 2	TMA, EOC
02	Find the sum or difference of decimal numbers	Text Ch. 2	TMA, EOC
03	Find the product or quotient of decimal numbers.	Text Ch. 2	TMA, EOC
04	Convert a number to scientific notation and visa versa.	Text Ch. 3	TMA, EOC
Instructional Objective		Standard Reference	
0841.05 Understand and use procedures for operating on algebraic expressions.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Simplify and evaluate algebraic expressions with decimals	Text Ch. 2	TMA, EOC
Instructional Objective		Standard Reference	
0841.06 Understand and use appropriate procedures to solve polynomial equations.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Solve simple algebraic equations with decimals	Text Ch. 2	TMA, EOC

Math in the Workplace 1		District Reference
Unit 3	Factors and Multiples	Time Frame

Instructional Objective		Standard Reference	
0841.07 Use number theory concepts (divisibility rules, factors, multiples, primes) to solve problems.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Find the common factors and greatest common factor of a group of whole numbers	Text Ch. 3	TMA, EOC
02	Find the common multiples and least common multiple of a group of whole numbers	Text Ch. 3	TMA, EOC
03	Write the prime factorization of a standard numeral using exponents.	Text Ch. 3	TMA, EOC

Math in the Workplace 1		District Reference 0841
Unit 4	Fractions and Mixed Numbers	Time Frame

Instructional Objective 0841.08 Understand and use positive and negative numbers, fractions, decimals, percentages, and scientific notation.			Standard Reference
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Write equivalent fractions and fractions in lowest terms.	Text Ch.4	TMA, EOC
02	Convert decimals and fractions interchangeably.	Text Ch. 6	TMA, EOC
03	Add and subtract fractions and mixed numbers with like denominators.	Text Ch.4	TMA, EOC
04	Add and subtract fractions and mixed numbers with unlike denominators	Text Ch. 4	TMA, EOC
05	Multiply and divide fractions and mixed numbers.	Text Ch. 4	TMA, EOC
Instructional Objective 0841.09 Understand and use procedures for operating on algebraic expressions.			Standard Reference
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Evaluate algebraic expressions with fractions and mixed numbers	Text Ch. 5	TMA, EOC
Instructional Objective 0841.10 Understand and use appropriate procedures to solve linear equations			Standard Reference
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Solve equations with fractions and mixed numbers as coefficients.	Text Ch. 5	TMA, EOC
Instructional Objective 0841.11 Understand basic statistical concepts including mean, median, mode, and range.			Standard Reference
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Find mean, median, mode, minimum, maximum, and range from a set of data.	Text Ch. 12	TMA, EOC

Math in the Workplace		District Reference
Unit 5	Ratio, Proportion, and Percent	Time Frame

Instructional Objective 0841.12 Understand and use proportions, ratios, and scaling			Standard Reference
No.	Performance Objective	Resource Reference	Assessment

			Correlation
01	Write a ratio	Text Ch.6	TMA, EOC
02	Solve a proportion	Text Ch. 6	TMA, EOC
03	Convert decimals, fractions, or percents interchangeably.	Text Ch. 6	TMA, EOC
04	Find the percent of a number	Text Ch. 6	TMA, EOC
05	Find what percent one number is of another.	Text Ch. 6	TMA, EOC
06	Find a number when a percent of it is known.	Text Ch. 6	TMA, EOC
07	Find a percent increase or decrease.	Text Ch. 6	TMA, EOC

Math in the Workplace		District Reference
Unit 6	Integers	Time Frame

Instructional Objective			Standard Reference
0841.13 Understand and use positive and negative numbers, fractions, decimals, percentages, and scientific notation.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Add and subtract integers.	Text Ch. 7	TMA, EOC
02	Multiply and divide integers	Text Ch. 7	TMA, EOC
Instructional Objective			Standard Reference
0841.14 Understand and use procedures for operating on algebraic expressions.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Simplify and evaluate algebraic expressions with integers.	Text Ch.5?	TMA, EOC
Instructional Objective			Standard Reference
0841.15 Understand and use appropriate procedures to solve linear equations and inequalities.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Solve linear equations with integers as coefficients.	Text Ch.11	TMA, EOC
02	Solve inequalities by using addition or subtraction.	Text Ch. 11	TMA, EOC
03	Solve inequalities by using multiplication or division.	Text Ch. 11	TMA, EOC

Math in the Workplace		District Reference
Unit 7	The Coordinate Plane	Time Frame

Instructional Objective			Standard Reference
0841.16 Understand concepts of the Cartesian coordinate system.			
No.	Performance Objective	Resource Reference	Assessment

			Correlation
01	Graph an ordered pair on the Cartesian coordinate plane	Text Ch. 12	TMA, EOC
02	Graph linear equations with two variables	Text Ch. 12	TMA, EOC
03	Find a slope of a line given two points	Text Ch. 12	TMA, EOC

Math in the Workplace		District Reference
Unit 8	Geometry	Time Frame

Instructional Objective			Standard Reference
0841.17 Apply concepts of size, shape and special relationship.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Use appropriate vocabulary and symbols	Text Ch. 9	TMA, EOC
02	Describe and classify relationships between one-, two-, three- dimensional figures, using their defining properties	Text Ch. 9	TMA, EOC
03	Identify congruence, similarities, and line symmetry of shapes	Text Ch. 11	TMA, EOC
Instructional Objective			Standard Reference
0841.18 Apply the geometry of right triangles.			
No objectives at this grade level			

Math in the Workplace		District Reference
Unit 9	Data Analysis, Probability and Statistics	Time Frame

Instructional Objective			Standard Reference
0841.19 Understand Data Analysis.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Use appropriate vocabulary and notations	Text Ch.12	TMA, EOC
02	Analyze and interpret tables, charts, and graphs, including frequency tables, scatter plots, broken line graphs, line plots, bar graphs, histograms, circle graphs and stem and leaf plots.	Text Ch. 12	TMA, EOC
03	Explain and justify conclusions drawn from tables, charts and graphs.	Text Ch. 12	TMA, EOC
Instructional Objective			Standard Reference
0841.20 Collect, Organize and Display Data			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Collect organize and display data with appropriate notation in tables, charts, and graphs, including scatter plots, broken line graphs, line plots, bar	Text Ch.12	TMA, EOC

	graphs, histograms, and stem and leaf plots		
Instructional Objective		Standard Reference	
0841.21 Understand Data Analysis.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Use appropriate vocabulary and notations	Text Ch.12	TMA, EOC
02	Analyze and interpret tables, charts, and graphs, including frequency tables, scatter plots, broken line graphs, line plots, bar graphs, histograms, circle graphs and stem and leaf plots.	Text Ch. 12	TMA, EOC
03	Explain and justify conclusions drawn from tables, charts and graphs.	Text Ch. 12	TMA, EOC
Instructional Objective		Standard Reference	
0841.22 Understand basic concepts of probability.			
No.	Performance Objective	Resource Reference	Assessment Correlation
01	Recognize equally likely outcomes.	Text Ch.12	TMA, EOC
02	Use the language of probability.	Text Ch. 12	TMA, EOC
03	Use appropriate vocabulary and notations.	Text Ch. 12	TMA, EOC