

# ARITHMETIC

**COURSE DESCRIPTION:** Instruction in the processes of addition, subtraction, multiplication, and division at an introductory to median level of advancement. Additional instruction on practical application is emphasized.

**TEXTBOOKS:**

*Saxon Math Grade 2*

**GOALS AND OBJECTIVES:**

**Goal 1: To become proficient at recognizing, counting and writing numbers up to and beyond ten thousand**

- 1.1 The student will count orally by 2's
- 1.2 The student will count orally by 3's
- 1.3 The student will count orally by 4's
- 1.4 The student will count orally by 5's
- 1.5 The student will count orally by 10's
- 1.6 The student will count orally by 25's
- 1.7 The student will count orally by 100's
- 1.8 The student will read numbers to 1,000
- 1.9 The student will write numbers to 1,000
- 1.10 The student will compare numbers to 1,000
- 1.11 The student will order 2- and 3-digit numbers
- 1.12 The student will round numbers to the nearest ten
- 1.13 The student will identify place value in numbers to 1,000
- 1.14 The student will represent 2- and 3-digit numbers using concrete materials and pictures
- 1.15 The student will estimate and count large collections
- 1.16 The student will write numbers in expanded form
- 1.17 The student will rename numbers using regrouping
- 1.18 The student will identify ordinal position
- 1.19 The student will identify even and odd numbers
- 1.20 The student will identify dozen and half dozen
- 1.21 The student will identify pairs
- 1.22 The student will identify multiples

**Goal 2: To understand the concepts of whole number operations**

- 2.1 The student will act out, draw pictures of, and write number sentences to show addition and subtraction
- 2.2 The student will identify addends and sums
- 2.3 The student will write addition and subtraction fact families

- 2.4 The student will identify and use the commutative and associative properties
- 2.5 The student will act out, draw pictures of, and write number sentences to show multiplication
- 2.6 The student will make, label and write number sentences for an array
- 2.7 The student will identify the properties of 0 and 1 in multiplication
- 2.8 The student will act out, draw pictures of, and write number sentences to show division

**Goal 3: To become proficient in whole number computation**

- 3.1 The student will master addition facts to 18
- 3.2 The student will identify missing addends
- 3.3 The student will identify one more than one number
- 3.4 The student will identify ten more than a number
- 3.5 The student will estimate a sum
- 3.6 The student will add using mental computation
- 3.7 The student will add three or more single-digit numbers
- 3.8 The student will add two-digit numbers
- 3.9 The student will use estimation to check the reasonableness of calculated results
- 3.10 The student will add three-digit numbers and money amounts (decimals)
- 3.11 The student will solve problems involving addition
- 3.12 The student will master subtraction facts to 18
- 3.13 The student will identify one less than a number
- 3.14 The student will identify ten less than a number
- 3.15 The student will subtract using mental computation
- 3.16 The student will subtract two-digit numbers
- 3.17 The student will subtract three-digit numbers and money amounts (decimals)
- 3.18 The student will check subtraction answers using addition
- 3.19 The student will solve problems involving subtraction
- 3.20 The student will master multiplication facts (0, 10, 2, 3, 4, 5)
- 3.21 The student will multiply by 10 and 100
- 3.22 The student will divide a number
- 3.23 The student will solve problems involving multiplication
- 3.24 The student will divide by two
- 3.25 The student will solve problems involving division

**Goal 4: To become proficient in the use of fractions and decimals**

- 4.1 The student will identify fractional parts of a whole
- 4.2 The student will write a fraction to show a part of a whole
- 4.3 The student will name and compare unit fractions
- 4.4 The student will identify a fractional part of a set
- 4.5 The student will write a fraction to show a part of a set

- 4.6 The student will identify equivalent fractions using concrete objects
- 4.7 The student will find half of a set of objects
- 4.8 The student will represent and write mixed numbers

**Goal 5: To become proficient in understanding the value of pennies, nickels, dimes, and quarters**

- 5.1 The student will count pennies, nickels, dimes, and quarters
- 5.2 The student will write money amounts using the cent and dollar sign
- 5.3 The student will select coins for a given amount
- 5.4 The student will make change from \$1.00

**Goal 6: To increase understanding in geometry and spatial relationships**

- 6.1 The student will identify, describe, and classify polygons
- 6.2 The student will identify and create congruent shapes
- 6.3 The student will identify and create similar shapes
- 6.4 The student will solve spatial problems
- 6.5 The student will identify and sort common geometric shapes by attribute
- 6.6 The student will identify horizontal, vertical; and oblique line segments
- 6.7 The student will identify and draw a line of symmetry
- 6.8 The student will identify parallel lines and line segments
- 6.9 The student will identify intersecting lines
- 6.10 The student will identify perpendicular lines and line segments
- 6.11 The student will identify right angles
- 6.12 The student will identify and show transformations: translations, rotations, and reflections

**Goal 7: To expand understanding in various forms of measurement**

- 7.1 The student will tell and show time to the hour, half hour, quarter hour, five minutes, and minute
- 7.2 The student will find elapsed time
- 7.3 The student will identify a.m. and p.m.; noon and midnight
- 7.4 The student will write the date using digits
- 7.5 The student will identify equivalent units of time
- 7.6 The student will identify weekdays and days of the weekend
- 7.7 The student will solve problems using a calendar
- 7.8 The student will read a Fahrenheit thermometer
- 7.9 The student will identify common temperatures
- 7.10 The student will estimate length
- 7.11 The student will measure length using customary units
- 7.12 The student will measure length using metric units
- 7.13 The student will draw line segments using metric units
- 7.14 The student will identify units of mass: customary or metric units
- 7.15 The student will estimate capacity

- 7.16 The student will order containers by capacity
- 7.17 The student will measure capacity using standard units
- 7.18 The student will follow a recipe and measure
- 7.19 The student will compare and order objects by size (area)
- 7.20 The student will find area using nonstandard units
- 7.21 The student will estimate area
- 7.22 The student will find the area of a rectangle
- 7.23 The student will find the perimeter of a polygon

**Goal 8: To increase understanding in data analysis, statistics, and probability**

- 8.1 The student will draw and read a pictograph
- 8.2 The student will graph data on a bar graph
- 8.3 The student will draw and read a bar graph
- 8.4 The student will draw and read a bar graph with a scale of 2
- 8.5 The student will draw and count tallies
- 8.6 The student will create and read a Venn diagram
- 8.7 The student will write observations about a graph
- 8.8 The student will conduct a survey
- 8.9 The student will describe the likelihood of an event

**Goal 9: To expand understanding of Algebra**

- 9.1 The student will use comparison symbols ( $>$ ,  $<$ , and  $=$ )
- 9.2 The student will locate points on a number line
- 9.3 The student will identify the missing number in a sequence
- 9.4 The student will identify the missing shape or design in a repeating pattern
- 9.5 The student will locate and graph points on a coordinate graph

**TEACHING METHODS:** Traditional explanation, demonstration, recitation, drills, and techniques are utilized. A variety of practice and speed games are used in number computation. Manipulatives are used for reinforcement. Hands-on activities include daily counting, patterning, reading of thermometer, working individual clocks and coins, and creating graphs. Centers are used to enhance the learning experience.