Elementary Math CD 1

GraspMath. *Elementary Math Series* was developed to teach students Pre-K through 5th Grade math concepts in a fun, non-threatening way. The series is fully animated with bright colors and illustrations so students can easily follow and understand the material presented. Each CD has printable workbook pages that follow along with the video and includes additional pencil and paper practice problems that help document and reinforce lessons.

Segments Covered:

- **Patterns** - Covers identifying, describing simple patterns (such as geometric shapes and objects) by referring to their color, identifying sorting and classifying objects that do not belong, recognizing, describing and extending patterns and determining the next term in a linear pattern and solving problems involving simple number patterns.
- **Addition**- Introduces meaning of addition symbols, showing the meaning of addition. Using concrete objects to determine the answer to addition problems and representing equivalent forms of the same number through the use of physical models are also covered.
- **Subtraction**- Introduces the meaning of subtraction symbols, Using concrete objects to determine the answer to subtraction problems is also covered.
- **Greater Than & Less Than** - Introduces the concept of greater than and less than including their symbols.
- **Money** - Introduces value of coins (pennies, dimes). Combining coins to equal purchase amounts and calculating change are also covered.
- **Time** - Introduces concepts of time and tools that measure time (Clock, calendar, week).
- **Measurement** - Covers comparing the length, weight and capacity of objects by making direct comparisons with reference to objects (shorter, longer, heavier, lighter). Standards of measurement are introduced and covered.
- **Counting** - Covers counting from 0 to 100.

Recommended Order of Study:
- Print the workbook pages.
- Begin the video lesson.
- Work through the lesson. Use the workbook as a means to take notes, follow along with worked examples, and work additional practice problems.

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Patterns

Objectives

1. Identifying and describing simple patterns (such as geometric shapes and objects) by referring to their color
2. Identifying, sorting and classifying objects that do not belong,
3. Recognizing, describing and extending patterns
4. Determining the next term in a linear pattern
5. solving problems involving simple number patterns.

Key Terms:
Classification
Sorting
Extending Pattern
Linear Pattern

Addition

Objectives

1. Introduces meaning of addition symbols, showing the meaning of addition.
2. Using concrete objects to determine the answer to addition problems
3. Representing equivalent forms of the same number through the use of physical models

Key Terms:
Plus sign
Sum
Equal sign

Subtraction

Objectives

1. Meaning of subtraction symbols
2. Using concrete objects to determine the answer to subtraction problems

Key Terms:
Minus sign
Difference
Subtraction

Greater Than & Less Than

Objectives

1. Concept of greater than and less than including their symbols.

Key Terms:
greater than symbol
less than symbol

Money

Objectives

1. Value of coins (pennies, dimes)
2. Combining coins to equal purchase amounts
3. Calculating change

Key Terms:
Penny   Nickel
Dime   Quarter
Money   Change

Elementary Math CD 1

Time

Objectives

1. Concepts of time and tools that measure time (clock, calendar, week).

Key Terms:

Clock	Hour
Minute	Hour hand
Minute hand	On the hour
Half hour	Calendar
Week	

Measurement

Objectives

1. Comparing the length, weight and capacity of objects by making direct comparisons with reference to objects (shorter, longer, heavier, lighter).
2. Standards of measurement

Key Terms:

Length	Weight
Shorter	Longer
Heavier	Lighter
Inch	Foot
Pound	Greater Than
Less Than	Capacity

Counting

Objectives

1. Counting from 0 to 100.

Key Terms:

Counting

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Segments Covered:

- **Addition & Subtraction -** Covers using inverse relationships between addition and subtraction to solve problems, writing and solving number sentences from problem situations and finding missing numbers in a number sentence.
- **Calendar -** Covers the days of the week and months of the year.
- **Sums to 18 -** Covers sums to 18 and finding the sum of three one digit numbers
- **Odd & Even -** Introduces the concept of odd and even, counting by odd and even numbers, adding even and odd numbers and results are also covered.
- **Subtraction Facts -** Uses concrete objects to introduce subtraction facts including counting back. Adding back to check subtraction results, and solving simple word problems are also covered.
- **Place Value -** Uses pictures to introduce place value.
- **2 & 3 Digit Addition -** Covers finding the sum of two whole numbers up to three digits long.
- **2 & 3 Digit Subtraction -** Covers finding the difference of two whole numbers up to three digits long.

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Elementary Math CD 2

Addition & Subtraction
Objectives

1. Using inverse relationships between addition and subtraction to solve problems,
2. Writing and solving number sentences from problem situations
3. Finding missing numbers in a number sentence.

Key Terms:
Addend
Sum
Addition Sentences
Subtraction Sentences
Inverse Relationships
Plus sign
Minus sign

Calendar
Objectives

1. The days of the week and months of the year.

Sums to 18
Objectives

1. Sums to 18 and finding the sum of three one digit numbers

Key Terms:
Week	Monday
Tuesday	Wednesday
Thursday	Friday
Saturday	Sunday
January	February
March	April
May	June
July	August
September	October
November	December

Odd & Even
Objectives

1. Concept of odd and even,
2. Counting by odd and even numbers,
3. Adding even and odd numbers
4. Results

Key Terms:
Even Numbers
Odd Numbers
Skip Counting
Talley Marks
Patterns

Subtraction Facts
Objectives

1. Uses concrete objects to introduce subtraction facts including counting back.
2. Adding back to check subtraction results,
3. Solving simple word problems

Key Terms:
Count Back
Adding Back
Greater Than
Less Than

Elementary Math CD 2

Place Value
Objectives
1. Uses pictures to introduce place value

Key Terms:
Tens place
Ones place
Place Value

2 & 3 Digit Addition
Objectives
1. Covers finding the sum of two whole numbers up to three digits long.

Key Terms:
Place value
Addition

2 & 3 Digit Subtraction
Objectives
1. Covers finding the difference of two whole numbers up to three digits long.

Key Terms:
Place value
Subtraction

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Elementary Math CD 3

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Segments Covered:

- **Understanding Multiplication -** Introduces multiplication and symbols including using repeated addition, arrays and counting by multiples to do multiplication.
- **2 & 5 as Factors -** Covers multiplication tables of 2 and 5 including using repeated addition, arrays and counting by multiples to do multiplication.
- **9, 1, & 0 as Factors -** Covers multiplication tables of 9, 1 and 0 including the special properties of 0 and 1 in multiplication.
- **3 & 4 as Factors -** Covers multiplication tables of 3 and 4 including using repeated addition, arrays and counting by multiples to do multiplication.
- **Multiplication Review -** Reviews multiplication including using repeated addition
- **Understanding Division -** Introduces division and related symbols including using repeated subtraction, equal sharing and forming equal groups to do division. Introduces the inverse relationship between division and multiplication.
- **Dividing by 2 & 3 -** Covers dividing by 2&3.including using repeated subtraction, equal sharing and forming equal groups to do division. Using the inverse relationship of multiplication to check results is also covered.
- **Dividing by 4 & 5 -** Covers dividing by 4&5 including using repeated subtraction, equal sharing and forming equal groups to do division. . Using the inverse relationship of multiplication to check results is also covered.
- **Division Review -** Reviews division including the special properties of dividing by 0 and 1
- **Multiplication Tables -** Reviews multiplication using the multiplication table

Recommended Order of Study:
- Print the workbook pages.
- Begin the video lesson.
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Elementary Math CD 3

Understanding Multiplication
Objectives
1. Introduces multiplication and symbols including using repeated addition, arrays and counting by multiples to do multiplication.

Key Terms:
Multiplication Sign
Factors
Mutiplier
Muliplicand
Product
Equation

2 & 5 as Factors
Objectives
1. Covers multiplication tables of 2 and 5 including using repeated addition, arrays and counting by multiples to do multiplication.

Key Terms:
Multiplication terms
2 and 5 as factors

9, 1, & 0 as Factors
Objectives
1. Covers multiplication tables of 9, 1 and 0
2. Special properties of 0 and 1 in multiplication.

Key Terms:
Multiplication table
0
1

3 & 4 as Factors
Objectives
1. Covers multiplication tables of 3 and 4 including using repeated addition, arrays and counting by multiples to do multiplication

Key Terms:
Multiplication table
3 and 4 as factors

Multiplication Review
Objectives
1. Reviews multiplication including using repeated addition

Key Terms:
Multiplication
Factors

Understanding Division
Objectives
1. Introduces division and related symbols including using repeated subtraction, equal sharing and forming equal groups to do division.
2. Introduces the inverse relationship between division and multiplication.

Key Terms:
Division
Quotient
Divisor
Dividend

Elementary Math CD 3

Dividing by 2 & 3
Objectives
1. Covers dividing by 2 & 3 including using repeated subtraction, equal sharing and forming equal groups to do division.
2. Using the inverse relationship of multiplication to check results

Key Terms:
Division
Quotient
Dividend
Divisor

Dividing by 4 & 5
Objectives
1. Covers dividing by 4 & 5 including using repeated subtraction, equal sharing and forming equal groups to do division.
2. Using the inverse relationship of multiplication to check results

Key Terms:
Division
Quotient
Dividend
Factor

Division Review
Objectives
1. Reviews division including the special properties of dividing by 0 and 1

Key Terms:
Zero as quotient
Division
Dividend
Divisor

Multiplication Tables
Objectives
1. Reviews multiplication using the multiplication table

Key Terms:
Multiplication
Factors

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Segments Covered:

- **Multiplying with 2 Digit Factors -** Covers solving simple problems involving multiplication of multi-digit numbers by one digit numbers.
- **Finding 2 Digit Quotients -** Covers solving division problems in which a multi-digit number is evenly divided by a one-digit number. Forming equal groups with remainders to do division is also covered.
- **Understanding Fractions -** Covers dividing a whole into equal parts to introduce fractions. Recognizing and comparing unit fractions, fractions of a whole and parts of a group, and lowest terms are also covered.
- **Adding & Subtracting Fractions -** Covers adding and subtracting fractions including converting fractions from simplest terms to add and subtract.
- **Understanding Decimals -** Introduces decimals. Covers the concept of fractions and decimals are two different representations of the same concept.
- **Adding & Subtracting Decimals -** Covers adding and subtracting decimals.
- **Metric Measurement -** Introduces metric measurement including the relationship of the place value to metric measurement. Common metric measurement examples are given

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Multiplying with 2 Digit Factors
Objectives
1. Covers solving simple problems involving multiplication of multi-digit numbers by one digit numbers.

Finding 2 Digit Quotients
Objectives
1. Covers solving division problems in which a multi-digit number is evenly divided by a one-digit number.
2. Forming equal groups with remainders to do division

Key Terms:
Remainder
Division
Two-digit division

Understanding Fractions
Objectives
1. Covers dividing a whole into equal parts to introduce fractions.
2. Recognizing and comparing unit fractions, fractions of a whole and parts of a group, and
3. Lowest terms are also covered.

Key Terms:
Fraction
Denominator
Numerator
Equivalent Fractions
Lowest Terms

Adding & Subtracting Fractions
Objectives
1. Covers adding and subtracting fractions including converting fractions from simplest terms to add and subtract.

Key Terms:
Simplest term
Fraction
Numerator
Denominator
Improper Fraction
Mixed Number

Understanding Decimals
Objectives
1. Introduces decimals.
2. Covers the concept of fractions and decimals as two different representations of the same concept.

Key Terms:
Decimals
Tenths
Decimal Point
Hundredths

Adding & Subtracting Decimals
Objectives
1. Covers adding and subtracting decimals.

Key Terms:
Decimals
Place Value
Tens place
Hundredths place

Metric Measurement
Objectives
1. Introduces metric measurement including the relationship of the place value to metric measurement.
2. Common metric measurement examples are given

Key Terms:

Metric System	Milliliter
Meter	Centimeter
Decimeter	Decameter
Hectometer	Kilometer
Liter	Milliliter
Centiliter	Deciliter
Decaliter	Hectoliter
Kiloloter	Gram
Milligram	Centigram
Decigram	Hectogram
Kilogram	