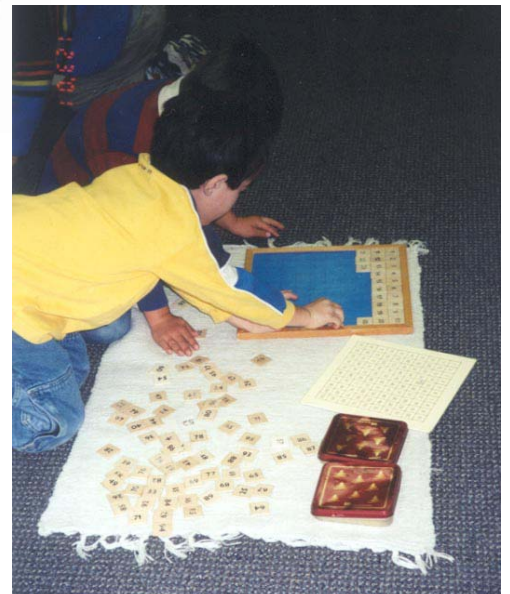


# The Canadian Montessori Teacher Education Institute

Daniel Jutras Ph.D. Master Teacher

## ELEMENTARY MONTESSORI MATH ALBUM



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## ELEMENTARY MONTESSORI MATH ALBUM

### Table of contents

#### WORK to do with 1 to 10

- Snake Game
- Associativity Property
- Dissassociativity Property

#### LINKAGE to the DECIMAL SYSTEM

##### 1. QUANTITIES

- Golden Beads: 1, 10, 100 And 1000
- Counting through-Golden Beads
- Bird's Eye View / Great Display

##### 2. OPERATIONS WITH THE GOLDEN BEADS

- Static Addition
- Static Multiplication
- Static Division
  
- "House-Keeping"
  
- Dynamic Addition
- Dynamic Multiplication
- Dynamic Division

##### 3. SYMBOLS

- Numerals: 1, 10, 100 And 1000
- Symbols: Counting through-Numerals
- Symbols: Bird's Eye View / Great Display

##### 4. COMBINATION: QUANTITIES AND SYMBOLS

- From Quantity to Symbols
- Formation of a Large Number
- From Symbols to Quantity
- Static Addition
- Static Multiplication
- Static Subtraction
- Static Division
- Dynamic Addition
- Dynamic Multiplication
- Dynamic Subtraction
- Dynamic Division

## **5. THE STAMP GAME**

- Static Addition
- Static Multiplication
- Static Subtraction
- Static Division
- Dynamic Addition
- Dynamic Multiplication
- Dynamic Subtraction
- Dynamic Division
- Geometric Multiplication

## **6. PEGS GAME**

- Static Addition
- Static Multiplication
- Static Subtraction
- Static Division
- Dynamic Addition
- Dynamic Multiplication
- Dynamic Subtraction
- Dynamic Division
- Geometric Multiplication

## **7. DOT GAME**

- Static Addition
- Static Multiplication
- Static Subtraction
- Dynamic Addition
- Dynamic Multiplication
- Dynamic Subtraction

## **8. SMALL BEAD FRAME**

- Static Addition
- Static Multiplication
- Static Subtraction
- Static Division
- Dynamic Addition
- Dynamic Multiplication
- Dynamic Subtraction

## **QUANTITIES AND SYMBOLS: 11-99**

### **9. SEGUIN BOARD: 11-19 (Teen Boards)**

Quantities from 11 to 19

Symbols from 11 to 19

Combination Quantities and Symbols from 11 To 19

### **10. SEGUIN BOARDS 10 - 90 (Ten Boards)**

Quantities from 10 to 90

Symbols from 10 to 90

Combination Quantities and Symbols from 10 to 90

Quantities from 11 to 99

Symbols from 11 to 99

Combination Quantities and Symbols from 11 to 99

## **11. SEQUENCE BOARD OF 100**

## **12. SEQUENCE CHAIN OF 100 and 1,000**

## **13. ADDITION TABLES**

Addition Table # 1  
Addition Table # 2  
Addition Tables # 1 and # 2  
Addition Table # 3  
Addition Table # 4  
Addition Table # 5  
Addition Table # 6 (Blind Table)  
Summary of Addition

## **14. SUBTRACTION TABLES**

Subtraction Table # 1  
Subtraction Table # 2  
Subtraction Table # 3 (Blind Table)  
Summary of Subtraction

## **15. MULTIPLICATION TABLES**

Multiplication Table # 1  
Multiplication Table # 2  
Multiplication Tables # 3  
Multiplication Table # 4  
Multiplication Table # 5 (Blind Table)  
Summary of Multiplication

## **16. DIVISION TABLES**

Division Table # 1  
Division Table # 2 (Blind Table)  
Summary of Division

## **17. QUANTITY: HIERACHICAL MATERIAL**

Quantities  
Symbols  
Combination Symbols & Quantities

## **18. LONG MULTIPLICATION with the CHECKER BOARD**

## **19. LARGE BEAD FRAME**

Getting acquainted with quantity  
Forming complex numbers which are dictated orally  
Notation of numbers excluding zeros  
Notation of numbers including zeros  
Notating complex numbers with no zeros

## **20. LONG MULTIPLICATION WITH THE LARGE BEAD FRAME**

Multiplication and notation of the partial products as well as the final product  
Multiplying with a zero in the multiplier

## **21. LONG MULTIPLICATION as in a REAL BANK**

## **22. FLAT BEAD FRAME**

## **23. RACKS AND TUBES**

## **24. FRACTIONS**

Presentation of addition of fractions with the same denominator

Presentation of subtraction of fractions with the same denominator

Presentation of division of fractions by a whole number

## **25. PROPER, IMPROPER, MIXED AND APPARENT FRACTIONS**

Apparent Fractions

Improper Fractions

Mixed Fractions

## **26. COINAGE**

## **27. ROMAN NUMERALS**

## **28. BINOMIAL CUBE**

Presentation # 1 (sensorial)

Presentation #2 (mathematical)

## **29. TRINOMIAL CUBE**

Presentation # 1 (sensorial)

Presentation #2 (mathematical)

Story of the Three Kings

## **30. DECANOMIAL SQUARE**

Presentation of the formation of the ten tables of multiplication of the numbers 1 to 10

Vertical Presentation

Horizontal Presentation

Presentation alternating Rows and Columns (“angular” or “diagonal”)

Commutated Presentation

Numerical presentation

## **31. SQUARING**

Presentation of the transformation of the square into a binomial

Presentation of the transformation of the square into a trinomial

## **32. MULTIPLES**

Forming multiples

Exploring common multiples

Finding common multiples

## **33. LEAST COMMON MULTIPLE**

## **34. FACTORS**

## **35. PRIME FACTORS**

## **36. REDUCTION OF NUMBERS TO THEIR PRIME FACTORS**

### **37. DIVISIBILITY**

Divisibility by 2

Divisibility by 5

### **38. LONG GROUP DIVISION**

Presentation with two-digit divisor

Presentation with three digit divisor

Presentation with first digit of the divisor greater than the first digit of the dividend

Presentation with zero in the quotient

Presentation with zero in the divisor

Presentation with zero in the units of the divisor

### **39. DECIMAL FRACTIONS**

Presentation of quantities

Presentation of symbols

Presentation of combination of symbols and quantities

Presentation of reading quantities

Presentation of operations with decimal fractions / addition

Presentation of operations with decimal fractions / subtraction

Presentation of operations with decimal fractions / multiplication

Presentation of operations with decimal fractions / multiplication of a fraction by a fraction

Presentation of operations with decimal fractions / division

### **40. BEAD CHAINS - SKIP COUNTING**