An Introduction to UEB Math/Science for Pre-Kindergarten – 1st Grade Students and Strategies for Supporting Math Learning

Lesson 6: Supporting the Student in Learning UEB Math/Science and Math Concepts

University of South Carolina Upstate, Fall 2023

Lesson 6 Objectives

Participants will be able to:

1. Describe the importance of pre-teaching UEB Math/Science symbols
2. Locate and use resources for teaching math concepts
3. Identify and use hands-on materials and manipulatives to support student learning
Pre-Teach UEB Math/Science Symbols and Formatting

• New symbols for example:
  • Visible space
  • Tally marks
  • Signs of comparison

• New formats for example:
  • Spatially aligned problems
  • Centered headings
  • Format of multiple choice problems

Teaching New Symbols

• Use a 3-cell line of dots 2-5 and a space before and after the symbol.

• This method identifies the position of the symbol in the braille cell.
Correct Finger Placement

• Teach correct finger positioning.
• Have students use the thumb for spacing.
• Develop individual memory cues.

Pre-Teach Abstract Concepts and Use of Manipulatives – APH Products

DRAFTSMAN: Tactile Drawing Board
Tactile Doodle
Five and Ten Frames
Individual Calendar Kit
Teach Organization

• Sorting trays
• Storage boxes
• Baskets
• Labels
• Nonslip surface such as rubber shelf liner

Building Understanding of Number Relationships

APH Hundreds chart  Base 10 blocks  Counting to 120 chart
HANDS ON Kit: Functional Activities for Visually Impaired Preschoolers (APH)

- Montessori based activities
- Guidebook for teachers

“Helps children develop skills such as concentration, hand and visual coordination, ability to complete a cycle of activity, and socialization skills. Also helps develop a sense of order and a positive self-image.”

FOCUS in Mathematics Kit, Second Edition (APH)

Topics:
- Numbers and Operations
- Geometry
- Algebra
- Measurement
- Data Analysis

Includes:
- Small Work-Play Tray with Dividers
- Base Ten Blocks: Units
- Base Ten Blocks: Rods
- Base Ten Blocks: Flats
- Teacher materials

The kit includes great materials, but worksheets and flashcards are in Nemeth!
Numbers and Algebraic Reasoning Products from APH

- Feel 'n Peel Stickers: UEB Braille-Print Numbers 0-100
- Hundreds Board and Manipulatives, UEB Edition
- Consumable Hundreds Chart
- MathBuilders Unit 1: Matching, Sorting, and Patterning

Geometry and Graphing Products from APH

- MathBuilders, Unit 6: Geometry Kit
- Feel 'n Peel Point Symbols or Stars
- Feel 'n Peel Sheets: Carousel of Textures
- Shape Board
- Textured Sorting Circles and Shapes
- Embossed Graph Sheets: 1 inch Squares, 10 x 10 Grid
- Picture Maker Wheatley Tactile Diagramming Kit
Addition and Subtraction Products from APH

- Math Drill Cards in Braille and Large Print: Addition Facts in UEB
- Math Drill Cards in Braille and Large Print: Subtraction Facts in UEB

More APH Products

- Game Kit: Materials Bag with 4 Dice, 6 Game Tokens
- Graphic Art Tape
- Puzzle Form Board Kit
- Fractional Parts of Wholes: Circles
- Tactile Tangrams Kit
Even More APH Products

- MathBuilders, Unit 7: Fractions, Mixed Numbers, and Decimals Kit

MathBuilders Unit 7 is currently only available in Nemeth, but you could make your own UEB labels for the manipulatives.

Hands-on Materials and Manipulatives for Math and Science

- Wikki Stix®
  https://www.wikkistix.com/

- Digi-Block Store
  https://www.digiblock.com
  - Classic Block-of-100
  - Power Block-of-100
Hands-on Materials and Manipulatives for Math and Science (continued)

• Math Window
  [https://mathwindow.com/](https://mathwindow.com/)
    o Braille Basic Math Kit - UEB

• Didax
    o Teddy Bear Counters
    o Unifix cubes

• E.A.S.Y. LLC.
  [www.easytactilegraphics.com/intact-products/](http://www.easytactilegraphics.com/intact-products/)
    o inTACT Sketchpad

Pre-Kindergarten – Building a Train

Materials
- Foam stickers
- Craft sticks
- Flash cards labeled 1-7

Steps
- Student shuffles flash cards
- Student draws a card and reads the numeral on the card
- Student uses stickers to “build” the train

If you add print numbers to the flash cards, your student can do the activity with a friend.
Kindergarten – Tens and Ones

Materials

- Place Value Chart
- Flash cards labeled 1-99
- Digi-Blocks or Base Ten rods and unit cubes

Steps

- Student shuffles flash cards
- Student draws a card and reads the number
- Student builds the number using the Place Value Chart

Kindergarten - Rebuild a Hundreds Chart
First Grade – Maze

Download this maze!