

ZAST TEACHER TRAINING BOOKLET



MATHEMATICS – KINDERGARTEN 1

(Teacher-Made Materials + Montessori Materials Guide)

OVERALL GOALS

By the end of KG1, children should be able to:

- Recognize numbers 1-20
 - Count with one-to-one correspondence
 - Understand quantity clearly
 - Perform simple addition using objects
 - Identify basic shapes
 - Recognize simple patterns
-

TEACHING APPROACH

Concrete → ~~Visual~~ Abstract

- Start with real objects
 - Move to visual representation
 - Then connect to numbers
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MATERIAL TYPES

1. Montessori Materials

- Number rods • Sandpaper numbers • Spindle box • Golden beads (basic exposure)

2. Teacher-Made Materials

- Bottle caps • Ice cream sticks • Beads and buttons • Ten frames (paper) • Number cards



STAGE 1: NUMBER SENSE (1-10)



Objective

Understand number and quantity



Montessori Material

Number Rods

Teacher Guidance

- Show rods from small to big • Count each section slowly • Let child touch while counting



Teacher-Made Material

Bottle Cap Counting

How to Use

- Give number card (e.g., 4)
- Child counts 4 caps
- Places them in a row

Activities

- *Count and place*
- *Clap counting* •
- Finger counting*

Teacher Notes

- *Ensure one-to-one counting* •
- No rushing* • *Repeat daily*

STAGE 2: NUMBER RECOGNITION (1-20)

Objective

Recognize numbers visually

Montessori Material

SandpaperNumbers

Teacher Guidance

- *Trace number with finger* •
- Say number aloud*

Teacher-Made Material

Number Cards

Activities

- *Number hunt* •
- Missing numbers* •
- Matching numbers*



Teacher Notes

- Mix numbers to check understanding
 - Avoid rote memorization
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STAGE 3: ONE-TO-ONE CORRESPONDENCE



Objective

Match one object to one number



Montessori Material

Spindle Box

Teacher Guidance

- Count and place objects in correct box
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Teacher-Made Material

Object Counting Tray

Activities

- Move and count • Match dots to numbers
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Teacher Notes

Watch for:

- Skipping numbers
 - Double counting
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STAGE 4: ADDITION (CONCRETE)

Objective

Understand combining quantities

Montessori Material

Golden Beads (basic)

Teacher-Made Material

Addition Tray

How to Use

- *Put 2 beads in one bowl •*
 - *Put 1 bead in another •*
 - *Combine and count total*
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Activities

- *Story-based addition*
 - *Combine objects*
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Teacher Notes

- *Do not introduce symbols yet*
 - *Focus on understanding*
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STAGE 5: SHAPES

Objective

Identify shapes

Montessori Material

Geometric Insets

Teacher-Made Material

Shape Cut-Outs

Activities

- *Shape hunt* •
 - Shape sorting*
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Teacher Notes

- *Link shapes with real objects*
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STAGE 6: COMPARISON

Objective

Understand differences

Teacher-Made Activities

- *Big vs small sorting*
 - *More vs less comparison*
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Teacher Notes

- *Use clear visible differences first*
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STAGE 7: PATTERNS

Objective

Recognize and create patterns

Materials

- *Beads*
 - *Colored caps*
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Activities

- *Red, blue, red, blue*
 - *Continue pattern*
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Teacher Notes

- *Start simple (AB pattern)*
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CLASSROOM IMPLEMENTATION

Daily Flow

1. *Introduction*
 2. *Demonstration*
 3. *Child Practice*
 4. *Review*
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Classroom Setup

- *Materials on low shelves*
 - *Organized trays*
 - *Easy child access*
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ASSESSMENT

• Can count correctly • Can match numbers • Can compare quantities • Can perform simple addition



COMMON MISTAKES

• Teaching without materials • Too much talking • No hands-on practice • Introducing abstract too early



FINAL NOTE

• Let children explore • Use real materials daily • Learning must be active

Children understand best when they touch, count, and see.