

Math GLE's - Grade K

Number and Operations

1. Understanding numbers, ways of representing numbers, relationships among numbers and number systems

A. Read, write and compare numbers MA 5, 1.10 DOK 1

- Rote count to 100 and recognize numbers up to 31

B Represent and use rational numbers: MA 5, 1.10 DOK 1

* Recognize $\frac{1}{2}$ of a shape

C. Compose and Decompose Numbers MA 1, 1.6 DOK 2

- * Use concrete objects to compose and decompose values up to 10

D. Classify and describe numeric relationships: None

2. Understand meanings of operations and how they relate to one another

A. Represent operations: None

B. Describe effects of operations: None

C. Apply properties of operations: None

D. Apply operations on real and complex numbers: None

3. Compute fluently and make reasonable estimates

A. Describe or represent mental strategies: * none

B. Develop and demonstrate fluency: MA 1, 1.10 DOK 1

* connect number words (orally) and quantities they represent

C. Compute problems: None

D. Estimate and justify solutions: None

E. Use proportional reasoning: None

Algebraic Relationships

1. Understand patterns, relations and functions
 - A. **Recognize and extend patterns** MA 4, 1.6 DOK 2
 - recognize or repeat sequences of sounds or shapes
 - B. **Create and analyze patterns** MA 4, 1.6 DOK 2
 - create and continue patterns
 - C. **Classify objects and representations:** * none
 - D. **Identify and compare functions:** None
 - E. **Describe the effects of parameter changes:** None
2. Represent and analyze mathematical situations and structures using algebraic symbols
 - A. **Represent mathematical situations:** None
 - B. **Describe and use mathematical manipulation:** None
 - C. **Utilize equivalent forms:** None
 - D. **Utilize systems:** None
3. Use mathematical models to represent and understand quantitative relationships
 - A. **Use mathematical models** MA 1, 1.6 DOK 2
 - model situations that involve whole numbers, using pictures, objects or symbols
4. Analyze change in various contexts.
 - A. **Analyze change:** None

Geometric and Spatial Relationships

1. Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships.

A. Describe and use geometric relationships MA 2, 1.10 DOK 2

- * identify and describe 2- and 3-dimensional shapes using physical models (circle, rhombus, rectangle, triangle, sphere, rectangular prism, cylinder, and pyramid) that represent shapes in their environment (stop sign, number cube, ball, etc.)

B. Apply geometric relationships: None

C. Compose and decompose shapes: None

2. Specify locations and describe spatial relationships using coordinate geometry and other representational systems.

A. Use coordinate systems MA 2, 1.10 DOK 2

- describe, name and interpret positions in space (above, below, front, behind)

3. Apply transformations and use symmetry to analyze mathematical situations

A. Use transformations on objects: MA 2, 1.6 DOK 2

- * use manipulatives to recognize from different perspectives and orientations models of slides and turns

B. Use transformations on functions: None

C. Use symmetry: None

4. Use visualizations, spatial reasoning and geometric modeling to solve problems

A. Recognize and draw three dimensional representations: *none

B. Draw and use visual models: None

Measurement

1. Understand measurable attributes of objects and the units, systems and processes of measurement.

A. **Determine unit of measurement** MA 2, 1.8 DOK 2

- compare and order objects according to their size or weight

B. **Identify equivalent measures:** None

C. **Tell and use units of time** MA 2, 3.1 DOK 2

- describe passage of time using terms such as today, tomorrow and yesterday

D. **Count and compute money** MA 1 1.10 DOK 2

- * identify and know the value of a penny, nickel, dime, and quarter

2. Apply appropriate techniques, tools and formulas to determine measurements

A. **Use standard or non standard measurement** MA 2, 1.6 DOK 1

- * measure objects by comparison of lengths (shorter, same, longer)

B. **Use angle measurement:** None

C. **Apply geometric measurements:** None

D. **Analyze precision:** None

E. **Use relationships within a measurement system:** None

Data and Probability

1. Formulate questions that can be addresses with data and collect, organize and display relevant data to answer them.

A. **Formulate questions**

- * none

B. **Classify and organize data** MA 2, 1.8 DOK 2

- sort items according to their attributes

C. **Represent and interpret data** MA 3, 1.8 DOK 2

- * create graphs using physical objects

2. Select and use appropriate statistical methods to analyze data

A. **Describe and analyze data:** None

B. **Compare data representations:** None

C. **Represent data algebraically:** None

3. Develop and evaluate inferences and predictions that are based on data.

A. **Develop and evaluate inferences:** None

B. **Analyze basic statistical techniques:** None

4. Understand and apply basic concepts of probability

A. **Apply basic concepts of probability:** None

B. **Use and describe compound events:** None