## Kindergarten Math Unit of Study

### Critical Area 1: Chapters 1-8 - Representing, relating, and operating on whole numbers, initially with sets of objects

<table>
<thead>
<tr>
<th>Suggested number of days:</th>
<th>Days: 86</th>
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#### Meaning

**Understandings (U)**

Students will understand that...

- Quantity is described using numbers.
- Numbers are symbols, words and expressions.
- Numbers can also be used to identify and order.

**Essential Question (Q)**

Students will keep considering...

- How can you describe how many there are in a set?
- How can you represent numbers?
- How can you compare quantities?

#### Acquisition

**Students will know (Knowledge)**

- One to one correspondence
- Represent numerals from 0 to 20
- Understand the last number said, is the number of objects in the set (cardinality)
- Quantity is the same regardless of arrangement or order
- Numbers are related to each other ($7 = 5 + 2$, $6 = 1 + 5$)

**Students will be skilled and be able to (Demonstrate)**

- One to one correspondence/practice with manipulative
- Identify and represent numerals from 0 – 20 with hundreds charts
- Practice cardinality with 5 and 10 frames, substituting, patterns on a hundreds chart, and number lines
- Create expressions within a given context
### Critical Area 2: Chapters 9-10- Describing shapes and space

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<tr>
<th>Suggested number of days:</th>
<th>Days: 28</th>
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#### Meaning

**Understandings (U)**

Students will understand...

- Shapes have names.
- Size and orientation do not change the shape.
- Combinations of shapes can make new shapes.
- A location is described using position words.
- Shapes have parts that can be compared (corners, sides, lengths).

**Essential Question(Q)**

Students will keep considering...

- How can you describe shapes?
- How can you identify shapes?
- How can you create shapes?
- How do you describe a location?

#### Acquisition

**Students will know (Knowledge)**

- Correct name shapes.
- How to identify and describe shapes.
- How to compare shapes.
- How to create shapes.

**Students will be skilled and be able to (Demonstrate)**

- Identify and describe shapes orally and with manipulatives
- Draw shapes
- Compare shapes using tables
- Create shapes with pattern blocks, geoboards, realia, and virtual tools
Critical Area 3: Chapters 11-12  
Representing, relating, and operating on whole numbers, initially with sets of objects

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<thead>
<tr>
<th>Suggested number of days:</th>
<th>Days: 16</th>
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**Meaning**

**Understandings (U)**
Students will understand that...
- Objects have attributes.
- Differences can be described.
- Similarities can be grouped.

**Essential Question (Q)**
Students will keep considering...
- How do you classify objects?
- How do you describe objects?
- How do you compare objects?

**Acquisition**

**Students will know (Knowledge)**
- The vocabulary of more and less.
- How to describe an attribute (i.e., such as length and weight)
- How to sort groups by attribute.
- How to count the quantity in each group.
- How to compare the quantities of groups.

**Students will be skilled and be able to (Demonstrate)**
- Verbalize which group has more or less using realia, manipulatives, pictures, and virtual tools.
- Discuss and describe color, size, weight, length, and shape.
- Sort and defend chosen sorting by attribute.
- Graph and compare the quantities between groups.

**Standard for Mathematical Practice (SMP)**

MP.1 Make sense of problems and persevere in solving them.

MP.2 Reason abstractly and quantitatively.

MP.3 Construct viable arguments and critique the reasoning of others.

MP.4 Model with mathematics.

MP.5 Use appropriate tools strategically.

MP.6 Attend to precision.
MP.7 Look for and make use of structure.

MP.8 Look for and express regularity in repeated reasoning