Kindergarten Math in Focus

Chapter 1: Numbers To 5 Key Learning Objectives		
Count, Read, and Write Numbers 1 to 5	**All About 0**	**Order Numbers**
In Sections 1 to 3, students learn to count numbers to 5 through sensory activities using concrete manipulatives and pictorial representations. Next, students will learn to read and write the numerals and recognize number words.	In Section 4, students will learn about “0” through hands-on activities before moving on to read and write the numeral, and recognize the number word.	In Section 5, students will learn to order numbers to 5 in both increasing and decreasing order. They will use concrete manipulatives and pictorial representations to help them order the numbers before moving on to abstract representations.

Chapter 2: Numbers to 10 Key Learning Objectives	
Count, Read, and Write Numbers from 6 to 10	**Order Numbers to 10**
In Sections 1 to 3, students will gradually learn to count numbers to 10 through the use of concrete manipulative and pictorial representations. Students will also learn to read and write the numerals and recognize number words.	In Section 4, students will learn to order numbers to 10 in both increasing and decreasing order. They will use pictorial representations to help them order the numbers before moving on to abstract representations.
Make Number Pairs to 10	**Ordinal Numbers**
In Section 5, students will learn how numbers work together, and take numbers apart through purposeful activities from concrete to pictorial, and finally to abstract representation.	In Section 6, students will learn to use ordinals to tell order. They will learn how to name the relative position of objects in a small ordered collection.

Chapter 3: Measurement Key Learning Objectives	
Compare and Measure Lengths and Heights	**Compare Lengths, Heights, and Weights**
In Sections 1 and 2, students will learn to describe items using the measurable attributes, length and height. They will also learn to compare objects using appropriate descriptive mathematical language such as “as long as,” “the same length as,” “longer than,” “as tall as,” “taller than,” and “shorter than” through exploration. Students will learn conservation of length and height through meaningful activities. They will also learn the importance of aligning objects when making comparison in length and height, and explore how to make comparison between the lengths of two items when direct comparison is not possible.	In Section 3, through exploration, students will learn to describe items using one of the measurable attributes, weight. They will also learn to compare items using appropriate descriptive mathematical language such as “as heavy as,” “heavier than,” and “lighter than” through exploration. Students will also learn to describe and compare items using two of the three measurable attributes, length, height, and weight.

Chapter 4: Compare Numbers to 10 Key Learning Objectives		
More Than and Fewer Than	**Same**	**Compare Two Numbers**
In Sections 1 and 2, students are presented with two groups of different quantities to compare. Students will compare two groups by matching the objects in each group and identify which group has more or fewer. Concrete manipulatives and pictures help students visualize the one-to-one matching process.	In Section 3, students are presented with two groups which they need to count and compare. Students will develop their awareness of conservation of quantity, that is, to recognize that when a group of objects is spaced out further or closer together than another group of objects of the same number, both groups are the same.	In Section 4, students will compare two numbers and determine if the numbers are greater than, less than, or the same. Students will also learn that when numbers are counted in increasing order, there is “1 more” each time. This concept forms the basic foundation for addition. When numbers are counted in decreasing order, there is “1 less” each time, a concept that forms the basic foundation for subtraction.

Chapter 5: Flat and Solid Shapes

Key Learning Objectives

Flat and Solid Shapes	Positions	Make New Shapes
In Sections 1 and 2, students will learn to name and identify flat and solid shapes by their specific attributes. Students will be encouraged to explore the classroom environment in search of objects that are similar to the flat and solid shapes they have learned. Students will also be engaged in hands-on activities to determine the ways different solid shapes can be manipulated.	In Section 3, students will learn to use position words such as “above” and “below” to name the relative positions of shapes.	In Section 4, students will be given attribute blocks to create new shapes and pictures using flat shapes. Geometric solid shapes will be used by students to create three-dimensional objects.
Compare Flat and Solid Shapes	**Shape Patterns**	
In Section 5, the individual attributes and characteristics of flat shapes and solids learned previously, will enable students to compare the similarities and differences between flat shapes and solid shapes	In Section 6, students will learn how to identify a sequence of shapes that form a pattern. Students will be able to determine the similarities and differences when observing patterns formed using flat shapes and solid shapes.	

Chapter 6: Numbers to 20

Key Learning Objectives

Numbers 11 to 20	Take Apart Numbers to 20
In Sections 1, 2, and 3, students are presented with concrete materials and pictorial representation of objects in sets of 11, 12, 13, …, 20. Students will learn to group up to 20 objects by making a 10 and ones. Students will learn that numbers are composed of tens and ones, which is a fundamental concept when dealing with larger numbers. The composition of numbers in tens and ones is a prerequisite for the learning and understanding of place value and calculations. In Section 4, students will extend their knowledge to order numbers within 20. They will learn to find missing numbers by counting on and back.	In Section 5, students will extend their knowledge of decomposing numbers to 10 for numbers up to 20. Breaking down numbers into tens and ones helps students see the groupings, relationships, and patterns in numbers. It acts as a foundation to place value and operations with regrouping in later grades. Learning how to decompose numbers to 20 helps students understand teen numbers visually and why numbers 11 to 19 are made up of a ten and some ones.

Chapter 7: Addition Key Learning Objectives		
Addition Stories	**Put Together and Add To**	**Add Fluently Within 5**
In Section 1, students will learn to make simple addition stories with familiar scenarios. Students are encouraged to see addition situations in the real world by focusing on the mathematical aspects of those situations.	In Section 2, students will understand addition as putting together and adding to.	In Section 3, students will learn to add fluently within 5. They will begin to symbolize operations with the use of the "+" and "=" signs. They are also encouraged to use their fingers, objects, and drawings to add numbers within 5.
Add Within 10	**Addition Sentences**	
In Section 4, students will learn two simple strategies to add within 10. They will learn to add by counting all through pointing and counting and by counting on from the greater number.	In Section 5, students will learn to solve addition problems. The use of pictorial representations help students constructs addition sentences. They will then apply the addition strategies learned in Sections 3 and 4 to help them solve the problems.	

Chapter 8: Subtraction Key Learning Objectives		
Subtraction Stories	**Take From and Take Apart**	**Subtract Fluently Within 5**
In Section 1, students will learn to make simple subtraction stories with familiar scenarios. Students are encouraged to see subtraction situations in the real world by focusing on the mathematical aspects of those situations.	In Section 2, students will understand subtraction as taking a group of objects apart and taking some objects from a group.	In Section 3, students will learn to subtract fluently within 5. They will begin to symbolize operations with the use of the "–" and "=" signs. They are encouraged to use their fingers, objects, and drawings to subtract numbers within 5.
Subtract Within 10	**Subtraction Sentences**	
In Section 4, students will learn two simple strategies to subtract within 10.They will learn to subtract using a ten frame and by counting back.	In Section 5, students will learn to solve subtraction problems. The use of pictorial representations help students construct Subtraction sentences. They will then apply the subtraction strategies learned in Sections 3 and 4 to help them solve the problems.	

Chapter 9: Numbers to 100 Key Learning Objectives		
Numbers 21 to 100	**Count on by 10s to 100**	**Number Patterns**
In Sections 1 and 3, students will learn to count numbers from 21 to 50 through the use of concrete manipulatives and pictorial representations. They will learn to make a ten and count on. Students will continue to rote count to 100 using the hundred chart.	In Section 2, students will learn to count on by 10s to 100s.	In Section 4, students will learn to identify number patterns, find the missing numbers in number patterns, and create their own number patterns

Chapter 10: Sorting Key Learning Objectives	
Same and Different	**Sort Objects by Attributes**
In Section 1, students will learn to look for and identify similarities and differences between objects. They will also identify objects that share a common characteristic and justify why one object fits into or does not fit into a set.	In Section 2, students will learn how to sort objects by attributes. They will first sort objects by one attribute; color, counting, shape, and size. Then, students will explore sorting objects by two attributes. Once the objects are sorted, students are required to count the number of objects there are in each set. They are also required to justify and explain their choices for sorting in the manner chosen.