

Mathematics Curriculum



Topic A Compositions and Decompositions of 2, 3, 4, and 5

K.OA.1, K.OA.3, K.OA.5

Focus Stand	lards:	K.OA.1	Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. (Drawings need not show details, but should show the mathematics in the problem. This applies wherever drawings are mentioned in the Standards.)
		K.OA.3	Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., $5 = 2 + 3$ and $5 = 4 + 1$).
		K.OA.5	Fluently add and subtract within 5.
Instructional Days:		6	
Coherence	-Links from:	GPK–M5	Addition and Subtraction Stories and Counting to 20
	-Links to:	G1-M1	Sums and Differences to 10

In Module 1, students found embedded numbers and experienced decomposition by finding hidden partners. Topic A formally teaches composition and decomposition using number bonds as students explore the relationships between numbers to set the foundation for addition and subtraction.

In the first two lessons, students play with composition (3 and 2 make 5) by talking about the number of birds, fingers, and cubes together and decomposition (5 is 3 and 2) by finding embedded numbers in a group. They learn to record the relationships between quantities by drawing pictures in the number bond model.

In Lesson 3, students explore composing number pairs and record their findings using drawings and numerals in the number bond model.

Lesson 4 then has students consider decomposition as a whole separated into number pairs and record their findings using drawings and numerals in the number bond model.





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Lesson 5 allows students to use the number bond model as a tool to help them model composition and decomposition. The end goal of this topic is for students to be flexible with the number bond model oriented in various ways and to be able to understand the part–part–whole components. By the end of the module, students understand the number bond's relationship to the accompanying expression or equation.



The final lesson of the topic gives students opportunities to move from the abstract to the concrete by acting out and creating stories based on a given number bond. Throughout Topic A, a fluid movement between composition and decomposition provides a firm foundation for understanding the relationship between addition and subtraction.

A Teaching Sequence Toward Mastery of Compositions and Decompositions of 2, 3, 4, and 5				
Objective 1:	Model composition and decomposition of numbers to 5 using actions, objects, and drawings. (Lesson 1)			
Objective 2:	Model composition and decomposition of numbers to 5 using fingers and linking cube sticks. (Lesson 2)			
Objective 3:	Represent composition story situations with drawings using numeric number bonds. (Lesson 3)			
Objective 4:	Represent decomposition story situations with drawings using numeric number bonds. (Lesson 4)			
Objective 5:	Represent composition and decomposition of numbers to 5 using pictorial and numeric number bonds. (Lesson 5)			
Objective 6:	Represent number bonds with composition and decomposition story situations. (Lesson 6)			



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