

Mini-Map for M.EE.7.EE.1

Subject: Mathematics Expressions and Equations (EE) Grade: 7

Learning Outcome

DLM Essential Element	Grade-Level Standard
M.EE.7.EE.1 Use the properties of operations as strategies to demonstrate that expressions are equivalent.	M.7.EE.1 Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients.

Linkage Level Descriptions

Initial Precursor	Distal Precursor	Proximal Precursor	Target	Successor
Combine two or more	Demonstrate	Apply commutative	Recognize an expression	Write two equivalent
sets of objects or	understanding that the	(e.g., 3 + 4 = 4 + 3) and	equivalent to a given	expressions that
numbers to form a new	sum or product of two	associative [e.g., (2 +	expression involving	represent a given real-
set. Divide a set of 10 or	numbers remains the	3) + 5 = 2 + (3 + 5)]	addition and	world problem. For
fewer objects into two	same regardless of the	properties of addition	subtraction operations	example, "Joe has 5
or more distinct subsets	order in which numerals	to add two or more	by using commutative	books, John has 7 books,
(e.g., dividing a set	are written (e.g., 3 + 4 =	numbers. Apply	and associative	and Kayla has 8 books.
containing 10 objects	4 + 3, 2 x 3 = 3 x 2) and	commutative (e.g., 3 ×	properties of addition	How many books do they
into two subsets	that the sum or product	$4 = 4 \times 3$) and	and multiplication {e.g.,	have altogether?" Two
containing 4 and 6	of three or more	associative [e.g., (10 ×	recognize [(3 + 4) - (5 x	equivalent expressions
objects).	numbers remains the	$4) \times 2 = 10 \times (4 \times 2)$	6)] as an expression	that represent this word
	same regardless of the	properties of	equivalent to [(4 + 3) -	problem are (5 + 7) + 8
	grouping of the	multiplication as	(6 x 5)]}.	and (7 + 8) + 5.
	numbers [e.g., (2 + 3) +	strategies to multiply		
	5 = 2 + (3 + 5), 2 x (3 x 5)	two or more numbers.		
	= (2 x 3) x 5].			

Initial Precursor and Distal Precursor Linkage Level Relationships to the Target

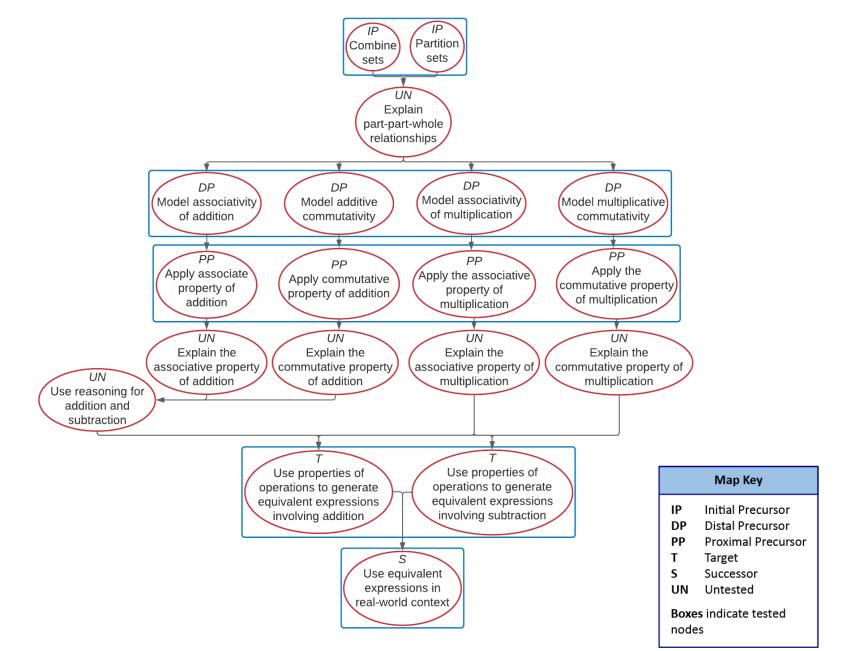
How is the Initial Precursor related to the Target? In order to use properties of operations, students begin by counting small units, recognizing that two or more sets or groups of items exist. Work on this skill using a variety of sets. Help students recognize when items are grouped together into a set or separated out. As educators present a set, they label it (e.g., two balls, one marker, three CDs), count the items, label it again, and encourage students to use numerals to label and count the separate sets. The general goal is to explore how the set changes when items are separated out (partitioned) or combined.

How is the Distal Precursor related to the Target?

As students continue developing their understanding of how sets change, educators can use manipulatives to create sets that model the commutative and associative properties of addition and multiplication.

Instructional Resources





M.EE.7.EE.1 Use the properties of operations as strategies to demonstrate that expressions are equivalent.