

# Mini-Map for M.EE.7.NS.2.b

Subject: Mathematics The Number System (NS) Grade: 7

## Learning Outcome

DLM Essential Element	Grade-Level Standard
M.EE.7.NS.2.b Solve division problems with divisors up to five	M.7.NS.2.b Understand that integers can be divided, provided
and also with a divisor of 10 without remainders.	that the divisor is not zero, and every quotient of integers (with
	non-zero divisor) is a rational number. If <i>p</i> and <i>q</i> are integers,
	then $-(p/q) = (-p)/q = p/(-q)$ . Interpret quotients of rational
	numbers by describing real-world contexts.

## Linkage Level Descriptions

Initial Precursor	Distal Precursor	Proximal Precursor	Target	Successor
Communicate	Communicate	Show understanding of	Divide numbers within	Recognize the inverse
understanding of	understanding that	division by arranging	100 by 1, 2, 3, 4, 5, and	relationship between
"separateness" by	repeated subtraction is	the total number of	10 and determine the	multiplication and
recognizing objects that	a subtraction of equal	objects into two or	quotient, using	division, and
are not joined together.	groups from a number	more equal groups and	manipulatives.	communicate
Communicate	(e.g., 15 - 5 - 5 - 5).	communicate that the		understanding that the
understanding of set by	Represent repeated	total number of objects		number of groups
recognizing a group of	subtraction using	(i.e., dividend) divided		multiplied by the
objects sharing an	equations (e.g., 15 - 5 -	by the number of		number of objects in
attribute. Communicate	5 - 5 = 0). Solve	groups (i.e., divisor) is		each group equals the
understanding of a	repeated subtraction	equal to the number of		total number of objects
subset by recognizing a	problems by identifying	objects in each group		and that the total
subset as a set or group	the number of times a	(i.e., quotient).		number of objects
of objects within a	number is subtracted			divided by the number
larger set that share an	repeatedly from			of groups equals the
attribute.	another number to			number of objects in
	reach zero.			each group.

#### Initial Precursor and Distal Precursor Linkage Level Relationships to the Target

How is the Initial Precursor related to the Target? In order to understand division, students must learn to organize items into groups/sets based on a common characteristic such as size, color, shape, or texture. Students learn how to sort items by separating a group of items into two groups (e.g., music I like/music I don't like; red fidgets/black fidgets). As students gain comfort sorting items into sets, they are encouraged to use their language to convey their thought process by identifying and naming the characteristic that determines the set (e.g., color, length). Activities that require students to engage actively with the items will foster understanding of set, subsets, and separateness.



How is the Distal Precursor related to the Target? As students' understanding of labeling and counting sets develops, they will begin working on adding and taking away items from a set. Educators provide opportunities for students to work on developing an understanding of equal shares by actively participating in one-to-one distribution of objects to person, objects to objects, and objects to available space (e.g., giving each person in the group two pencils; given four counters they would line up, then four more counters in front of or on top of the first set; given three chairs at a table, the student would place a cup on the table for each available chair) and taking equal shares away (subtracting) from each person, object, or space. Educators will provide opportunities for students to connect their understanding of subtraction (starting with the whole and taking away a part) to repeated subtraction. For example, if the educator has 12 balls, and each team gets 4 balls, how many teams will there be? By subtracting 4 from the whole, we made 3 equal sets so there are 3 teams.



12 - 4=8 8 - 4=4 4 - 4=0

#### **Instructional Resources**

**Released Testlets** 

See the <u>Guide to Practice Activities and Released Testlets</u>.

Using Untested (UN) Nodes

See the document Using Mini-Maps to Plan Instruction.



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