

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 and also with a divisor of 10 without remainders.	M.7.NS.2.b Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non-zero divisor) is a rational number. If p and q are integers, then $-(p/q) = (-p)/q = p/(-q)$. Interpret quotients of rational numbers by describing real-world contexts.

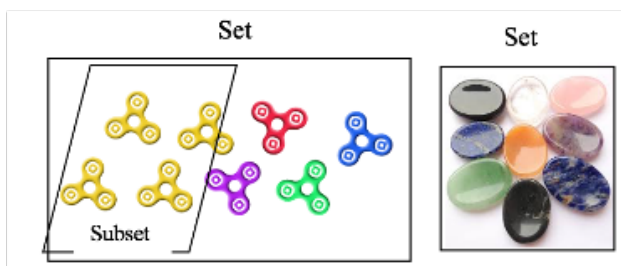
Linkage Level Descriptions

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

Initial Precursor and Distal Precursor Linkage Level Relationships to the Target

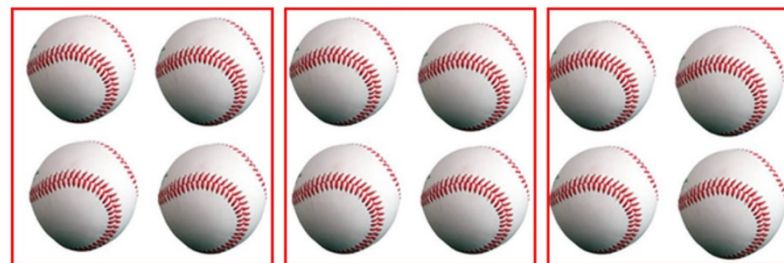
How is the Initial Precursor related to the Target?

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 Guide to Practice Activities and Released Testlets .
Using Untested (UN) Nodes
See the document Using Mini-Maps to Plan Instruction .

[Link to Text-Only Map](#)

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