Mini-Map for M.EE.HS.N.CN.2.c

Subject: Mathematics
Number and Quantity—The Complex Number System (N.CN)
Grade: 9

Learning Outcome

DLM Essential Element	Grade-Level Standard
M.EE.HS.N.CN.2.c Solve real-world problems involving multiplication of decimals and whole numbers, using models when needed.	**M.N.CN.2.c** Use the relation $i^2 = -1$ and the commutative, associative, and distributive properties to add, subtract, and multiply complex numbers.

Linkage Level Descriptions

Initial Precursor	Distal Precursor	Proximal Precursor	Target	Successor
Recognize separateness as objects that are not joined together.	Recognize a unit as a group of countable objects. Recognize ten as a group of 10 individual objects or 1 ten. Communicate understanding that the digit in the tens place is formed by grouping objects by 10s and the digit in the ones place is composed of individual objects.	Multiply two rational numbers, each with digits up to the tenth place and limiting the product to answers with tenths, ones, or tens (e.g., multiplying 2.5 by 4.0).	Solve word problems involving multiplication of rational numbers, limiting the factors and products to whole numbers and decimals to the hundredths.	Solve multi-step real-world and mathematical problems involving multiplication of rational numbers, limiting the factors and products to whole numbers and decimals to the hundredths (e.g., Miguel earns $8.75 each day for 5 days. He spends $18.80 on a game. How much money does Miguel have left?).

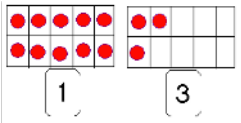
Initial Precursor and Distal Precursor Linkage Level Relationships to the Target

How is the Initial Precursor related to the Target?

Solving multiplication problems with or without decimals requires a student to be able to recognize 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. The educator presents a set, labels it (e.g., two balls, one marker, three CDs), counts the items, labels it again, and encourages students to use numerals to label and count the separate sets.

How is the Distal Precursor related to the Target?

As students' understanding of number develops, they will work with numbers greater than nine (two-digit numbers). Use tools to create tactual and visual models of tens and ones (e.g., ten-frames, connecting cubes, bundling sticks). Educators will describe these numbers as __ groups of ten and __ ones. (e.g., 13 is 1 group of ten and 3 ones).



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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