Mini-Map for M.EE.HS.N.Q.1-3

Subject: Mathematics
Number and Quantity—Quantities (N.Q)
Grade: 10

Learning Outcome

DLM Essential Element	Grade-Level Standard
M.EE.HS.N.Q.1-3 Express quantities to the appropriate precision of measurement.	**M.N.Q.1** Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays. **M.N.Q.2** Define appropriate quantities for the purpose of descriptive modeling. **M.N.Q.3** Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Linkage Level Descriptions

Initial Precursor	Distal Precursor	Proximal Precursor	Target	Successor
Without counting each object, identify the number of objects in a set (up to four).	Round decimals to any place by using standard rounding off rules (e.g., round up when the digit in the tenths place is 5 or greater, and round down when the digit in the tenths place is less than 5). For example, round 8.5 to 9.0.	Solve word problems involving addition, subtraction, and multiplication of rational numbers. (Limit decimal answers to hundredths.)	Report answers to numerical problems involving decimals with a degree of precision appropriate to the problem context (e.g., report the area of a rectangle with sides 6.5 cm and 4.32 cm as 15.1 cm^2 rather than 15.12 cm^2).	Solve multi-step, real-world problems involving rational numbers, limiting all the numbers in the problem 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?

To express quantities with precision, students first need to know number names, the count sequence, one-to-one correspondence, and have cardinality. These procedures and concepts develop through many experiences in early counting. Perceptual subitizing happens when the student is able to name the amount (1-3 items) without actually counting them. For example when an educator asks the student to get their shoes and asks, "How many shoes do you have?" The student would reply, "two," without using the count sequence of one, two. This only happens when students have been given many experiences counting small numbers with many different contexts and materials.

NOTE: Students who are blind will learn to use tactile enumeration for 1-3 items.

How is the Distal Precursor related to the Target?

As students continue to gain experience in counting, educators will introduce the concept that 10 can be grouped into one unit. Educators will use models that help students perceive a group of 10 and some more (e.g., bundles, ten-frames, number line, arrays, etc.). Teen numbers are an important part of understanding this concept. Additionally, educators provide students experience working with money values (e.g., $2.42, $0.67, $5.94) and learning how to round up to the nearest dollar (e.g., $2.42 rounds to $3.00) or tenths place (e.g., $0.67 rounds to $0.70) or ones place (e.g., $5.94 rounds to $5.95). Students should also have experience with rounding down, but not in the context of money (e.g., 0.73 rounds to 70).

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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