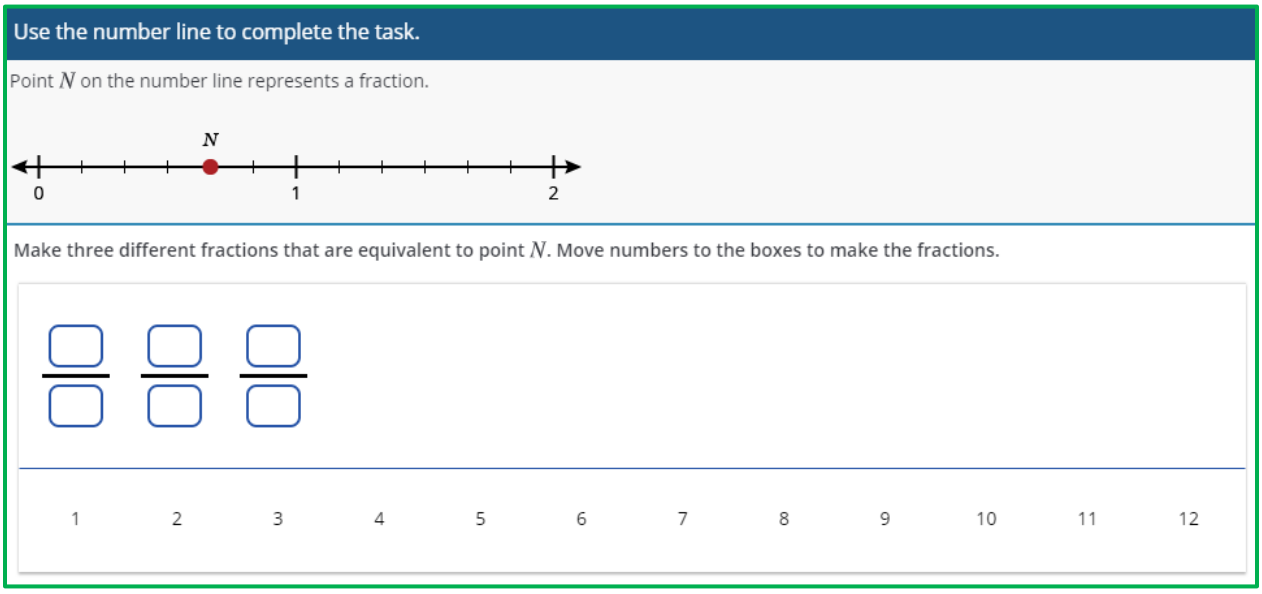
NWEA Assessment Item Illustrating 4.NF.A.1

Domain: Number and Operations—Fractions
4.NF.A: Extend understanding of fraction equivalence and ordering.
Calculator Availability: No



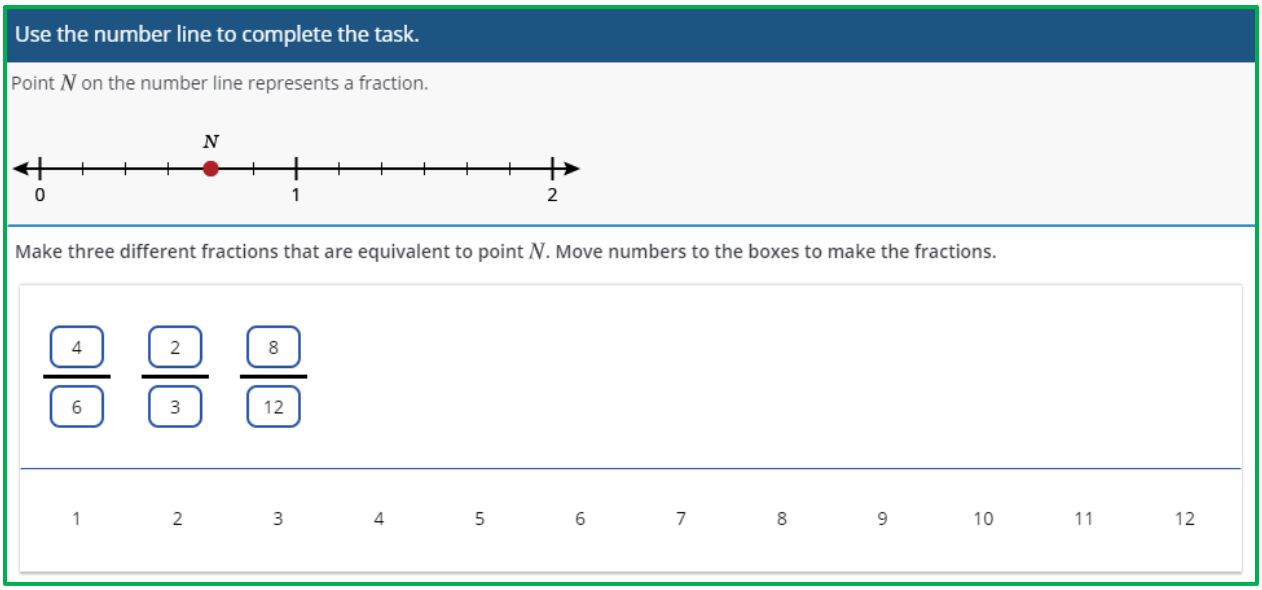
Alignment: 4.NF.A.1: Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

Learning that multiplying the numerator and denominator of a fraction by the same number yields an equivalent fraction is a central concept to the work that students do in grade 4 with fractions. For example, students are learning that if the number of partitions of the whole is doubled, an equivalent fraction will have twice the number of parts. This understanding must be built conceptually using models such as number lines, tape diagrams, or area models. This content helps students when they compare, add, subtract, and multiply fractions.[4.NF.A.2, 4.NF.B]

Coherence: Students began learning about equivalent fractions in grade 3, when they created simple equivalent fractions and when they learned that fractions are equivalent when they can be represented by the same point on a number line.[3.NF.A.3] Students will continue this work in grade 5, when equivalent fractions are key to adding and subtracting fractions with unlike denominators.[5.NF.A]

Rigor: This item attends to conceptual understanding because students must interpret a visual fraction model and then use it to create equivalent fractions.

Answer Key: There are multiple equivalent correct responses. One sample correct response is shown.



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