5.NF.5a: Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

Content Topic: Math

Grade Level: 5th Grade

Domain: Numbers and Operations- Fractions

Essential Questions	I Can...
1-2. What is the effect of multiplying a whole number by a whole number? 3-4. What is the effect of multiplying a whole number by a fraction? 5-6. What is the effect of multiplying a fraction by a whole number. 7. How does the commutative property explain the 1/2 x 4 = 4 x 1/2? 8. What is a rule for multiplying a fraction by a whole number regardless of order? 9. What is the product? 10. How do I compare the product to the factors?	1-2. explain the effect of multiplying a whole number by a whole number. 3-4. explain the effect of multiplying a whole number by a fraction. 5-6. the effect of multiplying a fraction by a whole number. 7. demonstrate the commutative property when multiplying a whole number by a fraction. 8. recall the rule for multiplying a fraction by a whole number regardless of order. 9. predict a product based on two factors. 10. compare the value of a product to the factors without performing the indicated multiplication.

Instructional Task Analysis (TLW)	Vocabulary	Assessment Prompts
1. Explain the effect of multiplying a whole number by a whole number using visual models. 2. Generalize a rule for the product of a whole number by a whole number. 3. Explain the effect of multiplying a whole number by a fraction less than one using visual models (example: 4 x 1/2). 4. Generalize a rule for the product of a whole number by a fraction less than one. 5. Explain the effect of multiplying a fraction less than one by a whole number using visual models (example: 1/2 x 4). 6. Generalize a rule for the product of a fraction less than one by a whole number. 7. Connect the commutative property with the product of a fraction and a whole number (example: 4 x 1/2	**Primary** * scaling **Secondary** * commutative property * numerator * denominator * product * mixed number * unit fraction * simple fraction * whole number	* How does the product of 225 x 60 compare to the product of 225 x 30? How do you know? * Since 30 is half of 60, the product of 22 5x 60 will be double or twice as large as the product of 225 x 30. * Howard County Assessment Tasks * DPI Assessment Tasks

= 1/2 x 4). 8. Generalize a rule for the product of a whole number and a fraction regardless of order. 9. Predict the product based on the two factors. 10. Compare the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication	fraction * simplify	

Resources

Text	Electronic	Lesson Sample
* EngageNY Module 4 Topic F Lessons 21-24 *What's That Portion?: 4A.1-2,4A.6	* EngageNY- Module 4 * DPI Fraction Unit * Georgia Unit 4 * Howard County Wiki Activities * K-5 Math Teaching Resources * LearnZillion Lesson Set 1 * LearnZillion Lesson Set 2 * DPI Math Games	