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| **Clarity for Learning**  |
| **Standard KY.4.NBT.5** Multiply whole numbers* Up to four-digit numbers by a one-digit number
* Two-digit number by two-digit number

Multiply using strategies based on place value and properties of operations. Illustrate and explain the calculation using equations, rectangular arrays, and area models.  |
| **Concepts (Nouns)**whole numbersdigitstrategyplace value properties of operationsequationsrectangular arraysarea models | **Skills (Verbs)**multiplyillustrateexplain |
| **Learning Progressions** *Prerequisites:** Understand multiplication as repeated addition.
* Know how to make an array.
* Multiply one-digit by one-digit numbers.

*Grade Level Skills:* * Use hands-on materials (counters, color tiles, or base-10 blocks) to show the multiplication of whole numbers using strategies based on place value.
* Use place value strategies to multiply up to a four-digit number by a one-digit number.
* Use place value strategies to multiply a two-digit number by a two-digit number
* Multiply using properties of operations (Distributive property, Associative property, etc).
* Illustrate and explain multiplication calculations using equations, rectangular arrays, and/or area models.

*Clarifications:* KY.3.NBT.3(KY.3.OA.5, KY.3.MD.7)→ KY.4.NBT.5 →KY.5.NBT.5  |
| **Learning Intentions (I am learning to...)** | **Success Criteria (I know I’m successful when...)** |
| Multiply multi-digit numbers 4-digit by 1-digit and 2-digit by 2-digit.  | * I can multiply up to a 4-digit number by a 1-digit number.
* I can multiply two 2-digit numbers.
* I can use place value strategies to solve multiplication problems.
* I can show my thinking by creating rectangular arrays.
* I can show my thinking by creating area models.
* I can write an equation to model a multiplication problem.
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