|  |  |
| --- | --- |
| **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 numbers  digit  strategy  place value  properties of operations  equations  rectangular arrays  area models | **Skills (Verbs)**  multiply  illustrate  explain |
| **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. |