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| **Developing Fluency with Multiplication and Division** |
| Models with concrete materials and counts by 1s | Uses skip-counting forward and backward | Works flexibly with numbers (e.g., uses repeated addition or subtraction, familiar facts, commutative property)“5 + 5 + 5 = 15I know 2 × 5 = 10 and one more group of 5 is 15, so 3 × 5 = 15.I know 5 × 3 = 15, so 3 × 5 also equals 15.” |
| **Observations/Documentation** |
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| **Developing Fluency with Multiplication and Division (con’t)** |
| Uses distributive property to help with unfamiliar facts“7 × 5 = 35” | Applies multiplicative thinking to compare quantities (solve ratio problems)“For each hand there are 5 fingers. The ratio of hands to fingers is 1:5. That means I multiply by 5. So, on 2 hands there are 2 × 5, or 10 fingers.” | Fluently multiplies and divides“I just know that 7 × 5 = 35.” |
| **Observations/Documentation** |
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| **Multiplying 1-Digit Numbers** |
| Groups objects and counts by 1s | Groups objects and skip-counts“2, 4, 6, 8” | Uses repeated addition“2 + 2 + 2 + 2 = 8.” | Models using multiplicative thinking“4 rows of 2 is 8.” |
| **Observations/Documentation** |
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| Understands relationship between operations“I can think of 2 + 2 + 2 + 2 = 8 as 4 groups of 2.” | Uses multiplication symbol“4 × 2 = 8” | Multiplies fluently (e.g., uses properties of multiplication)“4 × 2 = 8 2 × 4 = 8” | Creates and solves problems involving equal groups4 × 2 = 8“There are 4 bicycles in the shed. How many wheels are there altogether?”  |
| **Observations/Documentation** |
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