## Topic D:

# Number Theory—Thinking Logically About Multiplicative Arithmetic

### 6.NS.B.4

| Focus Standard: | 6.NS.B.4 | Find the greatest common factor of two whole numbers less than or equal to 100 and the least common multiple of two whole numbers less than or equal to 12. Use the distributive property to express a sum of two whole numbers 1–100 with a common factor as a multiple of a sum of two whole numbers with no common factor. *For example, express 36 + 8 as 4 (9 + 2).* |
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| Instructional Days: | 4 | |
| Lesson 16: | Even and Odd Numbers (S)[1] | |
| Lesson 17: | Divisibility Tests for 3 and 9 (S) | |
| Lesson 18: | Least Common Multiple and Greatest Common Factor (P) | |
| Lesson 19: | The Euclidean Algorithm as an Application of the Long Division Algorithm (P) | |

Students have previously developed facility with multiplication and division. They now begin to reason logically about them in Topic D. Students apply odd and even number properties and divisibility rules to find factors and multiples. They extend this application to consider common factors and multiples and find greatest common factors and least common multiples. Students explore and discover that Euclid's Algorithm is a more efficient means of finding the greatest common factor of larger numbers and determine that Euclid's Algorithm is based on long division.

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[1] Lesson Structure Key: **P**-Problem Set Lesson, **M**-Modeling Cycle Lesson, **E**-Exploration Lesson, **S**-Socratic Lesson

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