|  |
| --- |
| **Prime Factorization and Powers** |
| Represents a number as a product of factors in different ways. 24“I can think of 24 as 2 × 12, 4 × 6, or as 2 × 2 × 6.” | Identifies prime and composite numbers.“24 is a composite number because it has more than 2 factors.23 is a prime number because it has only 2 factors, 1 and itself.” | Determines the prime factorization of a number.A diagram of a triangle with numbers and a few black lines  Description automatically generated with medium confidence“24 = 2 × 2 × 2 × 3” |
| **Observations/Documentation** |
|  |  |  |

|  |
| --- |
| **Prime Factorization and Powers (cont’d)** |
| Writes repeated multiplication of identical factors as a power and vice versa. 2 × 2 × 2 = 2334 = 3 × 3 × 3 × 3“In the power 23, 2 is the base and 3 is the exponent.” | Rewrites prime factorization of a number using powers.24 = 2 × 2 × 2 × 3“I can rewrite the prime factorization using powers: 24 = 23 × 3.” | Flexibly uses prime factorization to identify common factors and divisibility.A diagram of a triangle with numbers and a few black lines  Description automatically generated with medium confidence“24 is divisible by 2, 3, 4, 6, 2 × 2 × 2 or 8, and 2 × 2 × 3 or 12.” |
| **Observations/Documentation** |
|  |  |  |