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| **Extending Whole Number Understanding** | | |
| Represents 5-digit numbers on place-value chart (decomposes in one way).    “71 283 has 7 ten-thousands, 1 thousand,  2 hundreds, 8 tens, and 3 ones.” | Represents same number in multiple ways (e.g., words, expanded form, place-value chart).    “71 238; seventy-one thousand two hundred eighty-three; 70 000 + 1000 + 200 + 80 + 3” | Uses relationships among place-value positions to read a number in more than one way.    “7 ten-thousands, 1 thousand, 2 hundreds, 8 ten, and 3 ones can also be 71 thousands, 2 hundreds, and 83 ones.” |
| **Observations/Documentation** | | |
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| **Extending Whole Number Understanding (con’t)** | | |
| Uses place-value to compare numbers.    “Both numbers have 3 ten-thousands. Since 3 thousands is more than 1 thousand, 73 193 is greater than 71 283.” 73 193 > 71 283 | Uses place value to compare and order numbers.  **65 218, 56 812, 65 018, 65 208**  “I compared the digits in each place-value position. From least to greatest: 56 812, 65 018, 65 208, 65 218.” | Extends whole number understanding up to and beyond 1 000 000.  “To represent 1 639 587, I have to add 2 columns to the place value chart: one for hundred-thousands and one for millions.” |
| **Observations/Documentation** | | |
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| **Determining Multiples and Factors** | | | |
| Uses concrete materials to find multiples.    “To find multiples of 4, I added a row of 4 tiles each time and counted on: 4, 8, 12, ….” | Uses skip-counting or repeated addition.  4, 8, 12, 16, 20, … | Uses familiar basic facts to identify some multiples and factors.  2 × 4 = 8  3 × 4 = 12  10 × 4 = 40  “I thought of the multiplication facts for 4 that I know.” | Uses efficient, systematic strategies to determine multiples and identify all factors.  “To find factors of 8, I start  8 ÷ 1 = 8  Factors are 1 and 8.  8 ÷ 2 = 4  Factors are 2 and 4. 8 ÷ 3 = X  8 ÷ 4 = 2  So, 1, 2, 4, and 8 are all factors.” |
| **Observations/Documentation** | | | |
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| **Determining Multiples and Factors (con’t)** | | | |
| Uses concrete materials to identify prime and composite numbers.        “7 is prime because it has only 2 factors, 1 and 7. 12 is composite because it has more than 2 factors: 1 and 12, 2 and 6, and 3 and 4.” | Writes a composite number as a product of its prime factors.    “30 = 2 × 3 × 5” | Identifies common factors and multiples for a pair of numbers.  Multiples of 4: 4, 8, **12**, 16, 20, **24**, 28 Multiples of 6: 6, **12**, 18, **24**, 30  “Two common multiples are  12 and 24.” | Solves problems involving common factors and multiples  “Choir practice is every 5th day.  Gymnastics is every 3rd day.  That means choir and gymnastics both happen every 15th day.” |
| **Observations/Documentation** | | | |
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