

Grade 5 Rationalized Mathematics

Notes

Strand 1.0 Numbers

Sub-Strand 1.1 Whole Numbers

Place Value and Total Value

- A digit's **place value** tells you its position in a number (e.g., units, tens, hundreds, thousands).
- A digit's **total value** (also called face value times place value) is what the digit is worth in a number.
- Place value chart (from right to left):
Units → Tens → Hundreds → Thousands → Ten Thousands → Hundred Thousands
- **Example:** In the number **482,316**:
 - 4 is in the hundred thousands place → place value = 100,000
→ total value = $4 \times 100,000 = 400,000$
 - 8 is in the ten thousands place → total value = 80,000
 - 2 is in the thousands place → total value = 2,000
 - 3 is in the hundreds place → total value = 300
 - 1 is in the tens place → total value = 10
 - 6 is in the units place → total value = 6

Reading and Writing Numbers in Words

- Numbers can be written in standard form (digits) or in word form (words).
- To write numbers in words:

- Group the digits in thousands and hundreds.
- Write each group in words followed by the place (e.g., thousand).
- **Examples:**
 - 24,157 → **Twenty-four thousand one hundred fifty-seven**
 - 7,402 → **Seven thousand four hundred two**
 - 89,000 → **Eighty-nine thousand**

Ordering Numbers

- Numbers are ordered by comparing digits from left to right.
- **Ascending order:** smallest to largest
- **Descending order:** largest to smallest
- Always start comparing from the highest place value.
- **Examples:**
 - Ascending: 12,045; 15,230; 18,760
 - Descending: 99,999; 89,000; 45,783

Rounding Off Numbers

- Rounding makes numbers simpler but close to the original value.
- **To round to the nearest hundred:**
 - Look at the tens digit.
 - If it's 5 or more, round up; if it's less than 5, round down.
- **To round to the nearest thousand:**
 - Look at the hundreds digit.
 - Apply the same rule.
- **Examples:**
 - Round 4,356 to nearest hundred → 4,400
 - Round 4,356 to nearest thousand → 4,000
 - Round 27,689 to nearest thousand → 28,000

Divisibility Tests (2, 5, 10)

- **Divisibility by 2:** number ends in 0, 2, 4, 6, or 8 (e.g., 84, 202, 1,476)