

## Math DesCartes Numbers and Operations

### Skills: Computation Strategies – Estimation

<b>Students:</b>	<b>DesCartes Skills:</b> (Highlight the skills related to your chosen standard/concept)
	<b>RIT 251-260:</b> <ul style="list-style-type: none"> <li>• Verifies reasonableness of results of complex problems</li> </ul>
	<b>RIT 241-250:</b> <ul style="list-style-type: none"> <li>• Verifies reasonableness of results of complex problems</li> <li>• Uses estimation to solve problems involving decimals</li> </ul>
	<b>RIT 231-240:</b> <ul style="list-style-type: none"> <li>• Verifies reasonableness of results of complex problems</li> <li>• Rounds decimals to the nearest hundredth</li> <li>• Rounds decimals to nearest thousandth</li> <li>• Rounds decimals to nearest ten-thousandth</li> <li>• Uses estimation to solve problems involving decimals</li> <li>• Determines the most accurate answer (fractions only)</li> <li>• Uses estimation to solve problems involving proportional reasoning (decimals only)</li> </ul>
	<b>RIT 221-230:</b> <ul style="list-style-type: none"> <li>• Verifies reasonableness of results of more difficult problems</li> <li>• Rounds whole numbers to the nearest million</li> <li>• Rounds wholes numbers to the nearest billion</li> <li>• Rounds decimals to the nearest hundredth</li> <li>• Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)</li> <li>• Uses rounding to estimate answers to real-world problems involving fractions and mixed numbers</li> <li>• Uses estimation to solve problems involving fractions and mixed numbers</li> </ul>
	<b>RIT 211-220:</b> <ul style="list-style-type: none"> <li>• Verifies reasonableness of results of more difficult problems</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten thousand</li> <li>• Rounds decimals to the nearest whole number</li> <li>• Rounds decimals to the nearest tenth</li> <li>• Uses rounding to estimate answers to real-world problems involving multiplication and division of numbers less than 100 (whole numbers only)</li> </ul>

	<ul style="list-style-type: none"> <li>• Uses rounding to estimate answers to real-world problems involving numbers less than 1000 with multiplication and division (whole numbers only)</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater using multiplication and division (whole numbers only)</li> <li>• Uses rounding to estimate answers to difficult multiplication and division problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (using decimals)</li> <li>• Uses referent numbers to estimate answers when adding and subtracting fractions and mixed numbers</li> </ul>
	<b>RIT 201-210:</b> <ul style="list-style-type: none"> <li>• Verifies reasonableness of results of simple problems</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest ten</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest hundred</li> <li>• Rounds 4-, 5-, and 6-digit whole numbers to the nearest thousand</li> <li>• Rounds whole numbers to the nearest hundred thousand</li> <li>• Explains the rules for rounding</li> <li>• Rounds decimals to the nearest whole number</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers 1000 or greater with addition and subtraction (whole numbers only)</li> <li>• Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)</li> <li>• Uses front end estimation for multiplication and division computations (whole numbers only)</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to simple multiplication and division problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers \$20 or greater (using decimals)</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (whole numbers only)</li> <li>• Uses rounding to estimate answers to 2-step problems involving money (using decimals)</li> </ul>
	<b>RIT 191-200:</b> <ul style="list-style-type: none"> <li>• Verifies reasonableness of results of simple problems</li> <li>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>• Rounds 3-digit whole numbers to the nearest hundred</li> <li>• Uses rounding to estimate answers to real-world problems involving numbers</li> </ul>

# Math DesCartes Numbers and Operations

## Skills: Computation Strategies – Estimation

	<p>less than 1000 with addition and subtraction (whole numbers only)</p> <ul style="list-style-type: none"> <li>• Uses front end digits to estimate answers in addition and subtraction computations (whole numbers only)</li> <li>• Uses rounding to estimate answers to addition and subtraction problems (whole numbers only)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers less than \$1 (whole numbers only, e.g., 10 cents + 10 cents)</li> <li>• Uses rounding to estimate answers to 1-step problems involving answers less than \$20 (decimals only, e.g., \$1.20 + \$2.75)</li> </ul>
	<p><b>RIT 181-190:</b></p> <ul style="list-style-type: none"> <li>• Uses manipulatives to model and justify solutions</li> <li>• Rounds 2- and 3- digit whole numbers to the nearest ten</li> <li>• Rounds 3-digit whole numbers to the nearest hundred</li> <li>• Uses rounding to estimate answers to real-world problems involving addition of numbers less than 100 (whole numbers only)</li> </ul>
	<p><b>RIT 171-180:</b></p> <ul style="list-style-type: none"> <li>• Uses manipulatives to model and justify solutions</li> </ul>
	<p><b>RIT 161-170:</b></p> <ul style="list-style-type: none"> <li>• Uses manipulatives to model and justify solutions</li> </ul>

**Lesson Title:**

**Standard/Concept for All:**

**Introduction:** (Get Attention; Connect to Prior Knowledge)

**For Students Ready for a Challenge:**

Lesson/Activity:

Resources:

Means of Assessment:

**For Most Students:**

Lesson/Activity:

Resources:

Means of Assessment:

**For Students Needing Extra Support:**

Lesson/Activity:

Resources:

Means of Assessment:

**Closure/Summary for All:**

