



Impact Mathematics

Course 2

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STANDARDS		PAGE REFERENCES
Grade 7		
Number Sense and Operations Strand		
<i>Students engage in problem solving, communicating, reasoning, connecting, and representing as they:</i>		
7.N.1	Compare, order, estimate, and translate among integers, fractions and mixed numbers (i.e., rational numbers), decimals, and percents. <i>This standard is intentionally the same as standard 8.N.1.</i>	Student Edition: Lesson 4.1, pp. 218-219; Lesson 8.2, pp. 562-567
7.N.2	Use ratios and proportions in the solution of problems involving unit rates, scale drawings, and reading of maps.	Student Edition: Lesson 8.1, pp. 520-531; Lesson 8.2, pp. 545-551
7.N.3	Represent numbers in scientific notation (positive powers of ten only) and use that notation in problem situations.	Student Edition: Lesson 3.4, pp. 190-202

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<p>7.N.4 Demonstrate an understanding of absolute value, e.g., $-3 = 3 = 3$. <i>This standard is intentionally the same as standard 8.N.6.</i></p>	<p>Student Edition: Lesson 4.1, pp. 218-219</p>
<p>7.N.5 Apply the rules of positive integer exponents to the solution of problems. Extend the Order of Operations to include positive integer exponents.</p>	<p>Student Edition: Lesson 1.1, pp. 13-15; Lesson 3.1, pp. 146-159; Lesson 3.2, pp. 166-171</p>
<p>7.N.6 Use the inverse relationships of addition and subtraction, and of multiplication and division, to simplify computations and solve problems, e.g., multiplying by $\frac{1}{2}$ or 0.5 is the same as dividing by 2.</p>	<p>Student Edition: Lesson 6.1, pp. 384-387; Lesson 6.3, pp. 409-414; Lesson 6.4, pp. 422-428</p>
<p>7.N.7 Estimate and compute with fractions (including simplification of fractions), integers, decimals, and percents (including those greater than 100 and less than 1). <i>This standard is intentionally the same as standard 8.N.10.</i></p>	<p>Student Edition: Lesson 8.2, pp. 562-567 (percents)</p> <p>This content is covered in Course 1, Lesson 2.2, pp. 104-101; Lesson 3.2, p. 179; Lesson 4.3, p. 262, p. 266</p>
<p>7.N.8 Determine when an estimate rather than an exact answer is appropriate and apply in problem situations. <i>This standard is intentionally the same as standard 8.N.11.</i></p>	<p>Student Edition: Lesson 3.4, p. 209; Lesson 4.2, pp. 250-251; Lesson 8.4, pp. 588-589</p>
<p>7.N.9 Select and use appropriate operations—addition, subtraction, multiplication, division, and positive integer exponents—to solve problems with rational numbers (including negatives). <i>This standard is intentionally the same as standard 8.N.12.</i></p>	<p>Student Edition: Lesson 3.3, pp. 176-182; Lesson 6.2, pp. 402-403; Lesson 6.3, pp. 413-414; Lesson 6.4, pp. 419-421.</p>

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<p>Patterns, Relations, and Algebra Strand <i>Students engage in problem solving, communicating, reasoning, connecting, and representing as they:</i></p>	
<p>7.P.1 Extend, represent, analyze, and generalize a variety of patterns with tables, graphs, words, and, when possible, symbolic expressions. Include arithmetic and geometric progressions, e.g., compounding. <i>This standard is intentionally the same as standard 8.P.1.</i></p>	<p>Student Edition: Lesson 2.1, pp. 79-83; Lesson 3.3, pp. 176-182; Lesson 5.3, pp. 345-353; Lesson 9.3, pp. 645-651</p>
<p>7.P.2 Evaluate simple algebraic expressions for given variable values, e.g., $3a^2 - b$ for $a = 3$ and $b = 7$. <i>This standard is intentionally the same as standard 8.P.2.</i></p>	<p>Student Edition: Lesson 1.1, pp. 10-21; Lesson 1.2, pp. 37-42</p>
<p>7.P.3 Create and use symbolic expressions for linear relationships and relate them to verbal, tabular, and graphical representations.</p>	<p>Student Edition: Lesson 5.1, pp. 301-313; Lesson 5.2, pp. 322-333; Lesson 5.3, pp. 345-353; Lesson 5.4, pp. 362-370</p>
<p>7.P.4 Solve linear equations using tables, graphs, models, and algebraic methods.</p>	<p>Student Edition: Lesson 6.1, pp. 385-391; Lesson 6.2, pp. 396-403; Lesson 6.3, pp. 410-414</p>

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<p>7.P.5 Identify, describe, and analyze linear relationships between two variables. Compare positive rate of change, e.g., $y = 3x + 1$, to negative rate of change, e.g., $y = -3x + 1$.</p>	<p>Student Edition: Lesson 5.1, pp. 301-313; Lesson 5.2, pp. 322-333; Lesson 5.3, pp. 345-353; Lesson 5.4, pp. 362-370</p>
<p>7.P.6 Use linear equations to model and analyze problems involving proportional relationships. Use technology as appropriate. <i>This standard is intentionally the same as standard 8.P.9.</i></p>	<p>Student Edition: Lesson 8.2, pp. 541-548; Lesson 8.3, pp. 562-567</p>
<p>Geometry Strand <i>Students engage in problem solving, communicating, reasoning, connecting, and representing as they:</i></p>	
<p>7.G.1 Analyze, apply, and explain the relationship between the number of sides and the sums of the interior angle measures of polygons.</p>	<p>Student Edition: Course 1: Lesson 8.1, pp. 473-476 Quick Review Math Handbook: Book 2, pp. 339-340</p>
<p>7.G.2 Classify figures in terms of congruence and similarity, and apply these relationships to the solution of problems. <i>This standard is intentionally the same as standard 8.G.2.</i></p>	<p>Student Edition: Lesson 7.1, pp. 451-463; Lesson 7.2, pp. 472-475; Lesson 8.2, pp. 548-550</p>

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<p>7.G.3 Demonstrate an understanding of the relationships of angles formed by intersecting lines, including parallel lines cut by a transversal. <i>This standard is intentionally the same as standard 8.G.3.</i></p>	<p>Student Edition: Course 1: Lesson 8.1, pp. 472-473 (intersecting); <i>Parallel lines cut by a transversal is not covered.</i></p>
<p>7.G.4 Graph points and identify coordinates of points on the Cartesian coordinate plane (all four quadrants).</p>	<p>Student Edition: Lesson 4.3, pp. 255-261</p>
<p>7.G.5 Use a ruler, protractor, and compass to draw polygons and circles.</p>	<p>Student Edition: Lesson 7.4, p. 454, pp. 501-502; Lesson 7.2, p. 475</p>
<p>7.G.6 Predict the results of translations and reflections of figures on unmarked or coordinate planes and draw the transformed figure.</p>	<p>Quick Review Math Handbook: Book 2, pp. 344-348</p>
<p>7.G.7 Identify three-dimensional figures (e.g., prisms, pyramids) by their physical appearance, distinguishing attributes, and spatial relationships such as parallel faces. <i>This standard is intentionally the same as standard 8.G.7.</i></p>	<p>Student Edition: Lesson 2.3, pp. 109-116</p>

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<p>Measurement Strand <i>Students engage in problem solving, communicating, reasoning, connecting, and representing as they:</i></p>	
<p>7.M.1 Select, convert (within the same system of measurement), and use appropriate units of measurement or scale. <i>This standard is intentionally the same as standard 8.M.1.</i></p>	<p>Student Edition: Lesson 2.3, pp. 114-115; Lesson 2.4, pp. 131-133; Lesson 5.1, pp. 301-302, pp. 314-317 Quick Review Math Handbook: Book 2, p. 397</p>
<p>7.M.2 Given the formulas, convert from one system of measurement to another. Use technology as appropriate. <i>This standard is intentionally the same as standard 8.M.2.</i></p>	<p>Student Edition: Lesson 5.1, p. 318 Quick Review Math Handbook: Book 2, p. 398</p>
<p>7.M.3 Demonstrate an understanding of the concepts and apply formulas and procedures for determining measures, including those of area and perimeter/circumference of parallelograms, trapezoids, and circles. Given the formulas, determine the surface area and volume of rectangular prisms and cylinders. Use technology as appropriate.</p>	<p>Student Edition: Course 1: Lesson 8.2, pp. 482-489; Lesson 8.3, pp. 495-507; Lesson 8.4, pp. 515-524 (area and perimeter of parallelograms, circles) Course 2: Lesson 2.3, pp. 110-118 (volume of rectangular prisms and cylinders) Quick Review Math Handbook: Book 2, pp. 356-360 (area of parallelograms, triangles, trapezoids) pp. 366-368 (volume of rectangular prisms and cylinders) pp. 373-376 (area and perimeter of circles)</p>
<p>Data Analysis, Statistics, and Probability Strand <i>Students engage in problem solving, communicating, reasoning, connecting, and representing as they:</i></p>	
<p>7.D.1 Select, create, interpret, and utilize the following tabular and graphical representations of data: circle graphs, Venn diagrams, stem-and-leaf plots, tables, and charts.</p>	<p>Student Edition: Lesson 10.4, pp. 710-717 Quick Review Math Handbook: Book 2, pp. 251-252</p>

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<p>7.D.2 Find, describe, and interpret appropriate measures of central tendency (mean, median, and mode) and spread (range) that represent a set of data. Use these notions to compare different sets of data. <i>This standard is intentionally the same as standard 8.D.3.</i></p>	<p>Student Edition: Course 1: Lesson 6.2, pp. 362-376 Quick Review Math Handbook: Book 2, pp. 210-214</p>
<p>7.D.3 Use tree diagrams, tables, organized lists, and area models to compute probabilities for simple compound events, e.g., multiple coin tosses or rolls of number cubes.</p>	<p>Student Edition: Lesson 10.1, pp. 666-671; Lesson 10.2, pp. 675-677</p>