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## Start Quick and Ramp It Up! 4th Grade Algebraic Reasoning

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## TABLE OF STANDARDS (PG. 1 OF 2)

The activities in this 4<sup>th</sup> grade Algebraic Reasoning book address the following standards.

Where are we going? Focus Standards		Activity
(4.5)	<b>Algebraic reasoning. The student applies mathematical process standards to develop concepts of expressions and equations. The student is expected to:</b>	
4.5A	represent multi-step problems involving the four operations with whole numbers using strip diagrams and equations with a letter standing for the unknown quantity. <b>Readiness Standard</b>	<a href="#">1</a> , <a href="#">2</a> , <a href="#">3</a> , <a href="#">4</a> , <a href="#">5</a> , <a href="#">6</a> , <a href="#">7</a>
4.5B	Represent problems using an input-output table and numerical expressions to generate a number pattern that follows a given rule representing the relationship of the values in the resulting sequence and their position in the sequence. <b>Readiness Standard</b>	<a href="#">8</a> , <a href="#">9</a> , <a href="#">10</a> , <a href="#">11</a> , <a href="#">12</a> , <a href="#">13</a>

How will we get there? Working Standards		Activity
(4.4)	<b>Number and operations. The student applies mathematical process standards to develop and use strategies and methods for whole number computations and decimal sums and differences in order to solve problems with efficiency and accuracy. The student is expected to:</b>	
4.4B	determine products of a number and 10 or 100 using properties of operations and place value understandings; <b>Supporting Standard</b>	<a href="#">1</a>
4.4D	use strategies and algorithms, including the standard algorithm, to multiply up to a four-digit number by a one-digit number and to multiply a two-digit number by a two-digit number. Strategies may include mental math, partial products, and the commutative, associative, and distributive properties; <b>Supporting Standard</b>	<a href="#">11</a> , <a href="#">12</a> , <a href="#">13</a>
4.4F	use strategies and algorithms, including the standard algorithm, to divide up to a four-digit dividend by a one-digit divisor. <b>Supporting Standard</b>	<a href="#">11</a> , <a href="#">12</a> , <a href="#">13</a>



## TABLE OF STANDARDS (PG. 2 OF 2)

The activities in this 4<sup>th</sup> grade Algebraic Reasoning book address the following standards.

What kind of mathematical thinking will we use? Process Standards		Activity
(4.1)	<b>Mathematical process standards. The student uses mathematical processes to acquire and demonstrate mathematical understanding. The student is expected to:</b>	
4.1A	apply mathematics to problems arising in everyday life, society, and the workplace;	<a href="#">1</a> , <a href="#">2</a> , <a href="#">3</a> , <a href="#">4</a> , <a href="#">5</a> , <a href="#">6</a> , <a href="#">7</a> , <a href="#">8</a> , <a href="#">9</a> , <a href="#">10</a> , <a href="#">11</a> , <a href="#">12</a> , <a href="#">13</a>
4.1B	use a problem-solving model that incorporates analyzing given information, formulating a plan or strategy, determining a solution, justifying the solution, and evaluating the problem-solving process and the reasonableness of the solution;	<a href="#">1</a> , <a href="#">2</a> , <a href="#">3</a> , <a href="#">4</a> , <a href="#">5</a> , <a href="#">6</a> , <a href="#">7</a> , <a href="#">8</a> , <a href="#">9</a> , <a href="#">10</a> , <a href="#">11</a> , <a href="#">12</a> , <a href="#">13</a>
4.1C	select tools, including real objects, manipulatives, paper and pencil, and technology as appropriate, and techniques, including mental math, estimation, and number sense as appropriate, to solve problems;	<a href="#">1</a> , <a href="#">2</a> , <a href="#">3</a> , <a href="#">4</a> , <a href="#">5</a> , <a href="#">7</a> , <a href="#">8</a> , <a href="#">9</a> , <a href="#">10</a> , <a href="#">12</a> , <a href="#">13</a>
4.1D	communicate mathematical ideas, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate;	<a href="#">1</a> , <a href="#">2</a> , <a href="#">3</a> , <a href="#">4</a> , <a href="#">5</a> , <a href="#">6</a> , <a href="#">7</a> , <a href="#">8</a> , <a href="#">9</a> , <a href="#">10</a>
4.1E	create and use representations to organize, record, and communicate mathematical ideas;	<a href="#">12</a> , <a href="#">13</a>
4.1F	analyze mathematical relationships to connect and communicate mathematical ideas.	<a href="#">1</a> , <a href="#">2</a> , <a href="#">3</a> , <a href="#">4</a> , <a href="#">5</a> , <a href="#">6</a> , <a href="#">7</a> , <a href="#">8</a> , <a href="#">9</a> , <a href="#">10</a> , <a href="#">11</a> , <a href="#">12</a> , <a href="#">13</a>
4.1G	display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication	<a href="#">1</a> , <a href="#">3</a> , <a href="#">6</a> , <a href="#">8</a> , <a href="#">9</a> , <a href="#">10</a> , <a href="#">13</a>