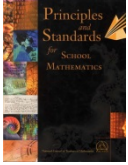

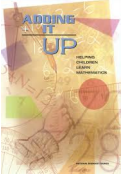




<p>5 NCTM Process Standards</p> 	<p>8 CCSS Mathematical Practices</p> 	<p>5 Strands of Mathematical Proficiency</p> 	<p>5 Practices for Effective Inquiry-Oriented Classrooms</p> 	<p>Guiding Principles for School Mathematics</p> 	
				<p>8 Mathematical TEACHING & LEARNING Practices</p>	<p>5 Essential Elements of Mathematics Programs</p>
<p>Problem Solving</p> <ul style="list-style-type: none"> (1) Make sense of problems and persevere in solving them. (5) Model with mathematics. <p>Reasoning & Proof</p> <ul style="list-style-type: none"> (2) Reason abstractly and quantitatively. (3) Construct viable arguments and critique the reasoning of others. (8) Look for and express regularity in repeated reasoning. <p>Communications</p> <ul style="list-style-type: none"> (3) Construct viable arguments and critique the reasoning of others. <p>Connections</p> <ul style="list-style-type: none"> (6) Attend to precision. (7) Look for and make use of structure. <p>Representations</p> <ul style="list-style-type: none"> (4) Model with mathematics. 	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively. 3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically. 6. Attend to precision. 7. Look for and make use of structure. 8. Look for and express regularity in repeated reasoning. 	<p>Conceptual Understanding The comprehension & connection of concepts, operations, & relations</p> <p>Procedural Fluency The meaningful & flexible use of procedures to solve problems</p> <p>Strategic Competence The ability to formulate, represent, and solve mathematical problems</p> <p>Adaptive Reasoning The capacity to think logically and to justify one's thinking</p> <p>Productive Disposition The tendency to see sense in mathematics, to perceive it as both useful and worthwhile, to believe that steady effort in learning mathematics pays off, and to see oneself as an effective learner and doer of mathematics</p>	<p>Anticipating what students will do--what strategies they will use--in solving a problem</p> <p>Monitoring their work as they approach the problem in class</p> <p>Selecting students whose strategies are worth discussing in class</p> <p>Sequencing those students' presentations to maximize their potential to increase students' learning</p> <p>Connecting the strategies and ideas in a way that helps students understand the mathematics learned</p>	<p>Teaching & Learning Engages students in meaningful learning through individual and collaborative experiences</p> <ol style="list-style-type: none"> 1) Establish Mathematics Goals to Focus Learning 2) Implement Tasks that Promote Reasoning & Problem-Solving 3) Use & Connect Mathematical Representations 4) Facilitate Meaningful Mathematical Discourse (see also 5 Practices) 5) Pose Purposeful Question 6) Build Procedural Fluency from Conceptual Understanding 7) Support Productive Struggle in Learning Mathematics 8) Elicit & Use Evidence of Student Thinking 	<ol style="list-style-type: none"> 1. Access & Equity Access to high-quality mathematics curriculum, effective teaching & learning, high expectations, support & resources 2. Curriculum Develops important mathematics along coherent learning progressions and develops connections to the real world 3. Tools & Technology Integrates tools & technology to help students learn and make sense of mathematical ideas 4. Assessment Provides evidence of proficiency with mathematical content, includes a variety of strategies and data, informs feedback to students & instructional decisions 5. Professionalism Educators hold themselves accountable for the mathematical success of every student and for their collective personal & professional growth