**“Algebraic Thinking” Defined:**

As defined by Learner ([www.learner.org](http://www.learner.org) )

* Algebraic thinking begins as a study of generalized arithmetic. The focus is on operations and processes rather than numbers and computations. When algebra is studied this way, the rules for manipulating letters and numbers in equations don’t seem arbitrary, but instead are a natural extension of what we know about computation.
* Use of symbolic language
* Representing quantities, not just with variable but with numerals
* Looking at patterns and discussing why the patterns make sense

As defined by SEDL ([www.sedl.org/pubs/sedl-letter/v15n01/5.html](http://www.sedl.org/pubs/sedl-letter/v15n01/5.html) )

* Students modeling, exploring, arguing, predicting, conjecturing, and testing their ideas, as well as practicing computational skills
* Using existing arithmetic activities and word problems, transforming them from problems with a single numerical answer to opportunities for discovering patterns and making conjectures or generalizations about mathematical facts and relationships and justifying them
* Opportunities for building computation skill in the context of finding and generalizing mathematical patterns and relationships

As defined by NCTM ([www.nctm.org](http://www.nctm.org) )

* Used to make generalizations
* A powerful set of tools for representing situations, analyzing mathematical relationships, making generalizations and solving problems. It can extend well beyond the limited types of problems once filling traditional algebra texts to serving as a set of approaches in a student’s mathematical toolkit
* Used to solve problems

We highly recommend the book *Algebra and the Elementary Classroom: Transforming Thinking, Transforming Practice* by Maria L. Blanton (Heinemann, 2008).