Advanced Math and Science Academy Charter School (AMSA) is a public school with no pre-selection of entering students offering intensive multi-year math and science curricula. This talk will concentrate on the Computer Science curriculum at AMSA, specifically on the experience of teaching algorithmics in the 6-th and 7-th grades. While there is a growing effort targeting the introduction of Computer Science in secondary school, we believe that AMSA experience in early introduction of systematic Computer Science studies in middle school is unique, and the connections to the math curriculum are noteworthy. We will report on our initial experience and argue that it is possible to successfully teach algorithmics to a diverse group of young children in a public school setting. Our experience indicates that even children relatively weak in math could successfully recognize and follow relatively complex algorithmic concepts. We also observe that study of algorithmics helps improve logical thinking and helps boost interest in and aptitude for math. We will discuss the general structure of the CS curriculum and its connections with the math curriculum, outline the methods used and give examples of tasks the students were asked to complete, and report on the results. (Received September 20, 2006)