

Aurora Public Schools The Math Block

Aurora Public Schools demonstrates commitment to high quality mathematics instruction by designating 90- minute blocks of time for mathematics instruction in elementary school classrooms. A high quality math block should include daily number sense and computational development for all students. The math block should also include regular opportunities to work in depth with algebra, statistics and probability, geometry and measurement.

Essential Components of a Math Block

Component:	What it looks like:	Rationale:
<p>Number Talk Whole class (also appropriate for needs based small group)</p> <p>Kindergarten (5-10 min.) Grades 1-5 (10-15 min.)</p>	<ul style="list-style-type: none"> ▪ Brief time for students to develop mental computation strategies ▪ Teacher poses a problem- students solve it in their own way and then share their strategy with the group. 	<p>It is important for students to be flexible in their strategies, depending on the context of the problem. By seeing others' thinking, their collection of possible strategies increases.</p>
<p>Whole Group Lesson</p> <p>Grades K-1 (30-40 min.)</p> <p>Grade 2 (40-50 min.)</p> <p>Grades 3-5 (50-60 min.)</p>	<ul style="list-style-type: none"> ▪ Supports students in developing grade level appropriate concepts. ▪ Review of previous concepts, introduction of new concepts and/or connection of past and new learning. ▪ Students have time to make sense of the concept in their own way. ▪ Three-part, (launch, explore, summary) problem-based lesson format is recommended 	<p>"Much more learning occurs and much more assessment information is available when a class works on a single problems and engages in discourse about the validity of the solution" (Van de Walle, 2004)</p>
<p>Small Group</p> <p>K-5 (5-10 min.)</p>	<ul style="list-style-type: none"> ▪ Provide experiences that result in new learning for students. ▪ Appropriate levels of support are provided, leading ultimately to independence ▪ Intervention with concepts not necessary for the whole group 	<p>Students have a variety of needs within a classroom. Small group time allows the teacher to bring students together to build on a strength in order to come to new learning.</p>
<p>Independent Work Time</p> <p>K-5 (30-60 min.)</p>	<ul style="list-style-type: none"> ▪ Stations can be introduced in whole group or small group, with support released to independence ▪ Differentiated work on the concept being developed ▪ Stations usually related to number sense and computation. ▪ Teacher plays an active role roving, monitoring and interacting with students at the stations. 	<p>"Students need opportunities to reflect on, or create new ideas through problem-based tasks." (Van de Walle, 2004)</p> <p>Number concepts tend to be the most complex and require the most time to develop. This time has the greatest potential for students to get the practice they need to internalize the concept.</p> <p>Students first learn how to do the task and then they learn from the task.</p>
<p>Assessment Opportunities</p>	<ul style="list-style-type: none"> ▪ Teachers gather assessment data during all components of the math block. ▪ Teachers use formal interviews, questions, observation and student work. ▪ Teachers use the suggested assessments in the Investigations Assessment Sourcebook to aid in monitoring whole group. ▪ Teachers use the suggested Kathy Richardson Assessing Math Concepts interviews and the APS Intermediate Place Value Interview to aid in monitoring number sense development. 	<p>"Assessment can and should happen every day as an integral part of instruction. If you restrict your view of assessment to tests and quizzes you will miss seeing how assessment can help students grow. (Van de Walle, 2004)</p>