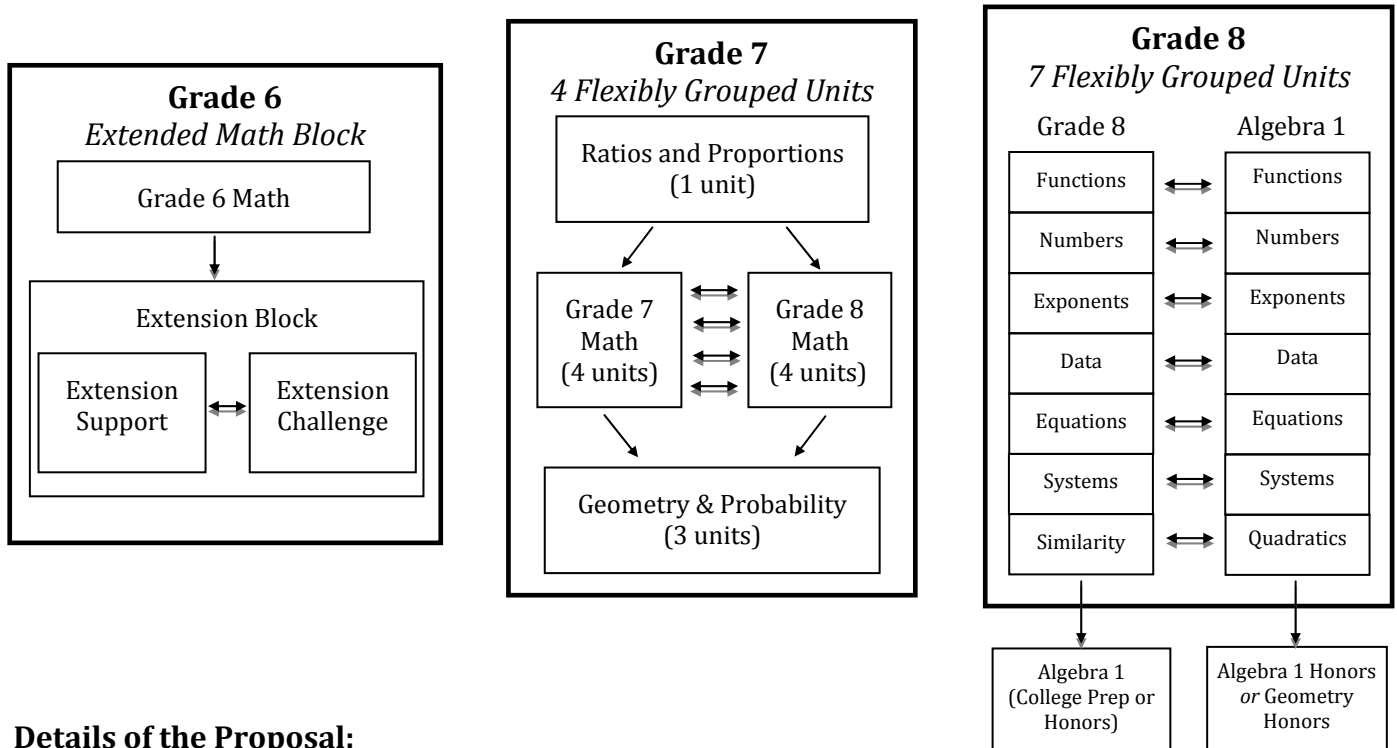


## Proposal for Math in Cambridge Upper Schools

As identified by our teachers, students, and the Cambridge community, priority needs to be put on supporting students at their level in our new Upper Campuses. In math, this means meeting the academic needs of a student population whose talents fit within a wide spectrum.

Currently, our middle school program primarily places students in heterogeneous math classrooms. Teachers meet the wide range of student academic needs in multiple ways. Although our teachers have been successful within this model, many teachers have expressed a need to place structures in our program to better support all students in each classroom.

As a result, the following proposal calls for the increasing incorporating of flexible grouping into middle school math classrooms, with the goal of completing an Algebra 1 course in 8<sup>th</sup> grade.



### **Details of the Proposal:**

#### **Grade 6**

All students entering the Upper Campus in Grade 6 will be enrolled in an on-grade level Grade 6 class. This model is recommended for two reasons. First, as students will be arriving at each Upper Campus, except for the Amigos, from three different feeder schools, this model will allow each Upper Campus to develop a 6<sup>th</sup> grade community, creating a smoother transition for each student from their elementary school. Second, the Grade 6 Transitional Program, as identified in Innovation Agenda updates, will include extended class periods for 6<sup>th</sup> grade math classes. This extended time will help teachers fully meet the support and challenge content needs of their students, while still focusing on the emotional and social needs of students. Challenge content will focus on STEM opportunities, problem solving, and logic problems, as well as related 7<sup>th</sup> grade material for each 6<sup>th</sup> grade unit.

#### **Grade 7 and 8 Flexible Grouping Model**

Although this model helps meet student content needs in 6<sup>th</sup> grade, teachers have identified more is needed for meeting the needs of our 7<sup>th</sup> and 8<sup>th</sup> grade students.

## **Proposal for Math in Cambridge Upper Schools**

### ***Grade 7***

In 7<sup>th</sup> grade, students will have the opportunity to complete 4 units of 8<sup>th</sup> grade material within the year. At the start of the year, students will meet in heterogeneous groupings to complete work in Ratios and Proportions. For the next 4 units, students will meet in homogeneous groupings. These groupings will be determined unit-by-unit based on the results of a pre-assessment for each unit. Students scoring 80% or higher will be able to complete related 8<sup>th</sup> grade content for that specific unit. Students not scoring 80% will work on 7<sup>th</sup> grade material. After the 4 units, students will meet back in heterogeneous groups to complete 3 units of 7<sup>th</sup> grade material on Geometry (which will contain 7<sup>th</sup> and 8<sup>th</sup> grade material taught to all students) and Probability (which is much more robust in the new framework and offers challenge to all students).

After their 7<sup>th</sup> grade year, students will have the opportunity to take summer school courses. Modules of instruction will be created to support struggling students and students wanting another opportunity to engage in 8<sup>th</sup> grade material not completed during the year.

### ***Grade 8***

In 8<sup>th</sup> grade, students will have the opportunity to complete 8 units of Algebra 1 material within the year. At the start of the year, students will meet in homogeneous groupings, which will be determined unit-by-unit, based on the results of a pre-assessment for each unit. Students scoring 80% or higher will be able to complete related Algebra 1 content for that specific unit. Students not scoring 80% will work on 8<sup>th</sup> grade material.

After their 8<sup>th</sup> grade year, students will have the opportunity to take summer school courses. Modules of instruction will be created to support struggling students and students wanting another opportunity to engage in Algebra 1 material not completed during the year.

Students will be recommended for placement in either Algebra 1 (College Prep level or Honors level) or Geometry (Honors level only) in Grade 9. All students can apply to take an assessment to determine their mastery of Algebra 1 content before the September of their 9<sup>th</sup> grade year. Students scoring 80% or higher will be placed in Geometry Honors (10<sup>th</sup> grade math), bypassing Algebra 1 (9<sup>th</sup> grade math) in high school.

### ***Special Education***

In Grade 6, identified students that may need support in math will receive their services in the Grade 6 math block and in the Extension Block. During the Extension Block, a general education teacher and a special education teacher will work together to introduce a lesson to the whole group. During that block, the special education teacher will work with identified students to address each student's IEP goals. The two teachers will be given common collaboration time to plan these opportunities.

In Grade 7 and 8, identified students will receive their services within their math classroom. The special education teacher will be given common planning time to collaborate with the Grade 7 and 8 regular education teacher to ensure that the requirements of each student's IEP is met.

## Proposal for Math in Cambridge Upper Schools

### **Staffing**

Each Upper Campus will be allotted 3 math teachers. Each teacher will be expected to teach approximately 4 blocks of math each day.

- One teacher will be responsible for 6<sup>th</sup> grade math. They will be in charge of instruction for the Grade 6 math classes, as well as planning and collaboration for the Extension Block. They may or may not be in charge of instruction of these classes.
- One teacher will be responsible for Grade 7 and 8 math. For their Grade 7 assignment, they will teach the Grade 7 class that includes with 4 units of Grade 8 content. For their Grade 8 assignment, they will teach the full Grade 8 math class.
- One teacher will be responsible for Grade 7 math and Algebra 1. For their Grade 7 assignment, they will teach the full Grade 7 math class. For their Algebra 1 assignment, they will teach the Algebra 1 content to 8<sup>th</sup> graders.

<b>Block</b>	<b>Grade 6 Math Teacher</b>	<b>Grade 7 and 8 Math Teacher</b>	<b>Grade 7 Math and Algebra I Teacher</b>
<b>1</b>	Grade 6 Math	Grade 7 (with 4 units of Grade 8)	Grade 7 Math
<b>2</b>	Grade 6 Math	Grade 7 (with 4 units of Grade 8)	Grade 7 Math
<b>3</b>	Grade 6 Math	Grade 8 Math	Algebra 1
<b>4</b>	Grade 6 Math	Grade 8 Math	Algebra 1

### **General Notes About This Proposal:**

- This proposal, or any modification of this proposal, should apply to programming at all four Upper Campuses and the Amigos School.
- As students complete each course, whether they complete a summer program or not, they will be required to complete a summer math packet at the end of 5<sup>th</sup>, 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grades. This packet will contain work that students must study and complete over the summer and submit to their teacher in September. This work will prepare students for the rigor of the next year's course, as well as help teachers identify the challenges and strengths of their incoming students.
- During the year, supports will be created in the form of afterschool programs, and possibly Saturday programs, to continue to meet the challenges and strengths of each student. This support will be offered in addition to the classroom instruction. These supports will be determined by the middle school staff in the 2011-2012 school year, but could include MCAS support classes, Math Olympiad meetings, and work on STEM (Science, Technology, Engineering, and Mathematics) projects, focusing on career-oriented interdisciplinary work with Science teachers.

## Proposal for Math in Cambridge Upper Schools

### Grade 7 Flexible Groupings Model

<b>Unit 1:</b>	
<b>Variables and Patterns (Introducing Algebra)</b>	
<i>Core Content</i>	
<b>Ratios and Proportions</b>	
7.RP.2	

<b>Unit 2:</b>	
<b>Core:</b> Stretching and Shrinking (Understanding Similarity)	
<b>Enrichment:</b> Kaleidoscopes, Hubcaps, and Mirrors (Symmetry and Transformations)	
<i>Core Content</i>	<i>Enrichment Content</i>
<b>Similarity (Triangles and Scale Drawings) and Angle Measures</b> 7.G.1, 7.G.2, 7.G.5	<b>Similarity</b> 8.G.1, 8.G.2, 8.G.3, 8.G.4, 8.G.5

<b>Unit 3:</b>	
<b>Core:</b> Comparing and Scaling (Ratio, Proportion, and Percent)	
<b>Enrichment:</b> Thinking With Mathematical Models (Linear and Inverse Variations)	
<i>Core Content</i>	<i>Enrichment Content</i>
<b>Analyze Proportional Relationships</b> 7.RP.1, 7.RP.3	<b>Comparing Proportional Relationships with Lines and Linear Equations</b> 8.EE.5, 8.EE.6

<b>Unit 4:</b>	
<b>Core:</b> Accentuate the Negative (Integers and Rational Numbers)	
<b>Enrichment:</b> CMP2 8 <sup>th</sup> Grade Common Core Supplements	
<i>Core Content</i>	<i>Enrichment Content</i>
<b>Operations on Rational Numbers</b> 7.NS.1, 7.NS.2, 7.NS.3	<b>Rational and Irrational Numbers</b> 8.NS.1, 8.NS.2 <b>Exponents and Roots</b> 8.EE.1, 8.EE.2 <b>Scientific Notation</b> 8.EE.3, 8.EE.4

<b>Unit 5:</b>	
<b>Core:</b> Moving Straight Ahead (Linear Relationships)	
<b>Enrichment:</b> Say It With Symbols (Making Sense of Symbols)	
<i>Core Content</i>	<i>Enrichment Content</i>
<b>Generate Equivalent Expressions and Solve Word Problems</b> 7.EE.1, 7.EE.2, 7.EE.3, 7.EE.4	<b>Solving Linear Equations</b> 8.EE.7

## Proposal for Math in Cambridge Upper Schools

<b>Unit 6: Filling and Wrapping (Three-Dimensional Measurement)</b>
<i>Core Content</i>
<b><i>Surface Area and Volume</i></b> 7.G.3, 7.G.4, 7.G.6, MA.7.G.7 <i>Extension: 8.G.9</i>

<b>Unit 7: Data Distributions (Describing Variability and Comparing Groups)</b>
<i>Core Content</i>
<b><i>Statistics</i></b> 7.SP.1, 7.SP.2, 7.SP.3, 7.SP.4

<b>Unit 8: What Do You Expect? (Probability and Expected Value)</b>
<i>Core Content</i>
<b><i>Probability</i></b> 7.SP.5, 7.SP.6, 7.SP.7, 7.SP.8

## Proposal for Math in Cambridge Upper Schools

### Grade 8 Flexible Groupings Model

*(Modeling standards to be considered throughout Algebra 1: N.Q.1, N.Q.2, N.Q.3, MA.N.Q.3a)*

<b>Unit 1:</b>	
<b>Core:</b> Thinking With Mathematical Models (Linear and Inverse Variation)	
<b>Algebra 1:</b> PH 2004 Algebra 1, Chapter 5	
<i>Core Content</i>	<i>Algebra 1 Content</i>
<p><b>Comparing Proportional Relationships with Lines and Linear Equations</b> 8.EE.5, 8.EE.6</p> <p><b>Functions</b> 8.F.1, 8.F.2, 8.F.3, 8.F.4, 8.F.5</p>	<p><b>Building Functions</b> F.BF.1, F.BF.2, F.BF.3, F.BF.4</p> <p><b>Absolute Value and Step Functions</b> F.IF.7b</p> <p><b>Functions and Function Notation</b> F.IF.1, F.IF.2, F.IF.3</p>

<b>Unit 2:</b>	
<b>Core:</b> Looking for Pythagoras (The Pythagorean Theorem)	
<b>Algebra 1:</b> PH 2004 Algebra 1, Chapters 8 & 11	
<i>Core Content</i>	<i>Algebra 1 Content</i>
<p><b>Irrational Numbers</b> 8.NS.1, 8.NS.2</p> <p><b>Square and Cube Roots</b> 8.EE.2</p> <p><b>Pythagorean Theorem</b> 8.G.6, 8.G.7, 8.G.8</p>	<p><b>Rational Exponents</b> N.RN.1, N.RN.2</p> <p><b>Properties of Rational and Irrational Numbers</b> N.RN.3</p>

<b>Unit 3:</b>	
<b>Core:</b> CMP2 Common Core Supplements	
<b>Algebra 1:</b> Growing, Growing, Growing (Exponential Relationships) or PH 2004 Algebra 1, Chapters 6 & 8	
<i>Core Content</i>	<i>Algebra 1 Content</i>
<p><b>Properties of Exponents</b> 8.EE.1</p> <p><b>Scientific Notation</b> 8.EE.3, 8.EE.4</p>	<p><b>Properties of Exponents</b> A.SSE.3c</p> <p><b>Compare Linear and Exponential Relationships</b> F.LE.1, F.LE.2, F.LE.3, F.LE.5</p> <p><b>Solve Equations Graphically</b> A.REI.10, A.REI.11</p> <p><b>Interpret Linear Models</b> S.ID.6, S.ID.7, S.ID.8, S.ID.9</p> <p><b>Features of a Graph</b> F.IF.4, F.IF.5, F.IF.6, F.IF.7a, F.IF.8b, F.IF.9, MA.F.IF.10</p> <p><b>Graph Exponential Functions</b> F.IF.7e</p>

## Proposal for Math in Cambridge Upper Schools

<b>Unit 4:</b>	
<b>Core:</b> Samples and Populations (Data and Statistics) & Common Core Supplements	
<b>Algebra 1:</b> PH 2004 Algebra 1 Section 2.7 & Supplemental Materials	
<i>Core Content</i>	<i>Algebra 1 Content</i>
<b><i>Patterns of Associations</i></b> 8.SP.1, 8.SP.2, 8.SP.3, 8.SP.4	<b><i>Interpreting Data</i></b> S.ID.1, S.ID.2, S.ID.3, S.ID.4, S.ID.5

<b>Unit 5:</b>	
<b>Core:</b> Say It With Symbols (Making Sense of Symbols)	
<b>Algebra 1:</b> PH 2004 Algebra 1 Chapter 2 & Sections 1.7, 1.8, 9.1 & Supplemental Material	
<i>Core Content</i>	<i>Algebra 1 Content</i>
<b><i>Solving Linear Equations</i></b> 8.EE.7	<b><i>Interpret Linear Expressions</i></b> A.SSE.1 <b><i>Operations on Polynomials</i></b> A.APR.1 <b><i>Create Equations</i></b> A.CED.1, A.CED.2, A.CED.3 <b><i>Solve Linear Equations</i></b> A.CED.4, A.REI.1, A.REI.3

<b>Unit 6:</b>	
<b>Core:</b> The Shapes of Algebra (Linear Systems and Inequalities)	
<b>Algebra 1:</b> PH 2004 Algebra 1 Chapter 3 & 7	
<i>Core Content</i>	<i>Algebra 1 Content</i>
<b><i>Solving Systems of Linear Equations</i></b> 8.EE.8	<b><i>Solve Systems of Linear Equations Algebraically and Graphically</i></b> 8.EE.8, A.REI.5, A.REI.6, A.REI.7 <b><i>Solve Linear Inequalities Algebraically and Graphically</i></b> A.REI.3, A.REI.10, A.REI.11, A.REI.12

<b>Unit 7:</b>	
<b>Core:</b> Kaleidoscopes, Hubcaps, and Mirrors	
<b>Algebra 1:</b> PH 2004 Algebra 1 Chapter 9 & 10 or Frogs, Fleas, and Painted Cubes	
<i>Core Content</i>	<i>Algebra 1 Content</i>
<b><i>Congruence and Similarity</i></b> 8.G.1, 8.G.2, 8.G.3, 8.G.4, 8.G.5 <b><i>Volume</i></b> 8.G.9	<b><i>Solve Quadratic Equations (factoring, graphically, and completing the square)</i></b> A.REI.4, A.SSE.2, A.SSE.3, F.IF.8a <b><i>Compare Quadratic Relationships</i></b> F.LE.3 <b><i>Features of a Graph</i></b> F.IF.7a, F.IF.9, MA.F.IF.10

# Research Summary on Academic Challenge

*Prepared by CPS Academic Team for Cambridge School Committee Roundtable (November 29, 2011)*

Academic challenge is defined as the high expectations for academic and social outcomes that we hold for each student, teacher and member of the Cambridge Public School community.

This document summarizes current thinking and perspectives about the issues involved in challenging each student to perform at high levels. While not conclusive, the ideas that emerge from the research can inform our community's discussion on providing academic challenge for each student in Cambridge.

## Research on Tracking

### *Summary of Findings*

What is the research on "tracking" students? Does the sorting of students by ability groups ("tracking") work? One of the most controversial practices in education today, ability grouping or tracking has received widespread harsh criticism, since it is viewed as constricting poor students and students of color into low tracks and an impoverished education. Defenders of tracking insist that teachers are more easily able to help students learn while separating students into groups based on their skills and abilities.

Although research on tracking is mixed, choices around tracking must address unintended consequences for each child, including the historically negative impact for poor children and children of color.

Among the research suggesting that tracking is detrimental, the following arguments are cited:

*A disproportionate number of minority and low income students are placed in low-ability groups and tracks. Trimble and Sinclair (1986) and Oakes and Lipton (1990)*

*Students in low-ability groups tend to receive lower-quality instruction. Instruction covers less content, involves more drill and repetition, and places more emphasis on classroom management tasks. Dreeben and Gamoran (1986)*

*The criteria used to track students are often based on subjective perceptions and narrow views of intelligence. Expectations lead to labels which differ for learners placed in ability grouped classes, and the effect of self-fulfilling prophecy negatively impacts student achievement by creating lowered self-esteem for students and lowered expectations from teachers. Once grouped, students stay at that level for their school careers, widening the gaps between achievement levels. Wheelock (1992)*

Among the research suggesting that tracking is favorable, the following arguments are cited:

*Tracking allows teachers to better direct lessons toward the specific ability level of the students in each class. Ansalone (2003)*

*The learning of accelerated students declines when they are placed in detracked classes. Kulik and Kulik (1992)*

*Tracking meets the needs of highly gifted students to be appropriately challenged and to be with intellectually-equal peers. Fiedler et al. (2002)*



Researchers generally agree that tracking has little effect on average achievement. Slavin (1990)

## Research on Grouping Practices and Detracking

*What are current implications based on inconclusive, conflicting research on tracking and achievement?*

In general, researchers agree that tracking increases inequality, by raising achievement levels for students in the high track while having a negative effect on those in the low track. (Loveless, 2009). At the same time, some research studies suggest that the greatest downside of detracking is that, although a greater equality is attained—the gap between high and low achievers shrinks—it is accomplished by depressing achievement at the top. (Rees, Argys, and Brewer, 1996).

Slavin proposed that elementary school within-class grouping can have positive effects when (a) assignment is based on subject-relevant criteria, b) students can be moved from one group to another as appropriate for their progress, and c) curriculum and instruction are differentiated to meet the needs of students assigned to the different groups.

A more recent study by Burris (Burris et al. 2006) suggests that mixed ability grouping in middle school mathematics can lead to higher achievement for all. Teachers implemented an accelerated curriculum for all students, paired with a supplemental workshop to support students keeping up. Teachers also had common collaboration time and increased the use of calculators in class.

This new research by Burris is extremely important because it demonstrates that detracking can result in gains for low achievers without losses for high achievers. A key factor in the success of the model enabled the school to offer extra mathematics instruction for struggling students (Gamoran, 2009).

Implications for creating effective detracking models appear to turn on ensuring effective instruction in mixed-ability classes. Successful cases reported by Burris, Connor and Gamoran suggest that teachers respond to variation among students in their teaching, using effective models of differentiation within the mixed-ability classroom. In Connor's elementary school research, differentiation meant carefully analyzing students' skill levels, matching skills to particular instructional strategies, and arranging students for instruction within classes in such a way as to match the skill levels with instructional approaches. Further, teachers had access to important resources that allowed them to supplement instruction and tailor it to students' needs (Gamoran, 2009). Finally, Gamoran argues that how students are arranged matters less than the instruction they encounter.

## Research on Gifted and Talented Students

What does "gifted and talented" mean?

The comprehensive working definition of "gifted and talented" used by the National Society of the Gifted and Talented is drawn from a definition offered by the US Department of Education:

*"Children and youth with outstanding talent who perform or show the potential for performing at remarkably high levels of accomplishment when compared with others of their age, experience, or environment." US Department of Education, 1993.*

This definition is a **comparative** one; gifted and talented students achieve or have the potential to achieve at levels way above their peers. Many school districts use this definition in their creation of approaches to support gifted and talented learners.

The National Society of the Gifted and Talented asserts that gifted students usually have unusual talent in one or occasionally two areas of the following six: creative thinking, general intellectual ability, specific academic ability, leadership, psychomotor and visual/performing arts. No child will be gifted in all six.

One very promising model offered by researchers to support the learning of all students, including gifted and talented learners, is called “cluster grouping.” Cluster grouping differs from tracking in that students are not sorted into classrooms with students of all similar abilities. Rather, clusters of students from a range of abilities are intentionally clustered into classrooms, making sure that there are cohorts of gifted, high ability, average, and low ability within the same classroom. The benefit of such a model is that a range of students learn together as well as in flexible groups that meet the specific needs of all children.

Features of the CGSM Model (Cluster Grouping Schoolwide Model) are explained in the book called *The Cluster Grouping Handbook: A Schoolwide Model: How to Challenge Gifted Students and Improve Achievement for All* by Susan Winebrenner and Dina Brulles (2008).

The Center for Talented Youth (CTY) at Johns Hopkins University is an exceptional resource for serving gifted students. It helps in indentifying gifted youth as well as providing support to students and schools to meet their needs, including distance courses described on their website as follows:

Since 1979, CTY has served the needs of academically gifted students worldwide by providing challenging programs matched to their abilities. CTY *Online* distance [courses](#) offer [eligible students](#) opportunities to accelerate and enrich their learning at home or at school. Students can take advanced math, for example, without having to take a bus to a high school or college and without having to miss other classes at their local school. CTY *Online* offers gifted students in grades pre K-12 challenging academic course work throughout the year. We bring together the best resources for each course, which may include multimedia resources, interactive whiteboard, web-based classrooms, texts, student guides, and CD-ROMs. Each student works with a qualified CTY faculty member who provides guidance, feedback, encouragement, and evaluation. CTY *Online* courses are available year-round.

The Center’s Research Department provides extensive research about academically talented students: <http://jhu.edu/research/whatweknow.html>

## Research on Mind-sets

*There are two sets of beliefs that people have about intelligence (and that students can have about their own intelligence). They may have a **fixed mind-set**, in which they believe that intelligence is a static trait: some students are smart and some are not, and that’s that. Or they may have a **growth mind-set**, in which they believe that intelligence can be developed by various means- for example, through effort and instruction. A growth mind-set doesn’t imply that everyone’s intellectual ability can grow- and that even Einstein wasn’t Einstein before he put in years of passionate, relentless effort. Dweck (2010)*

*Students with a growth mind-set view challenging work as an opportunity to learn and grow and that they can build their abilities through effort. Conversely students with a fixed mind-set do not like effort and believe that if you have ability everything should come easily. These students become discouraged and defensive when they don't succeed and often blame others. Dweck (2010)*

*Recent research has shown that students' mind-sets have a direct influence on their grades and that teaching students to have a growth mind-set raises their grades and achievement test scores significantly (Blackwell, Trzesniewski, & Dweck, 2007; Good, Aaronson, & Inzlicht, 2003).*

*In addition, studies demonstrate that having a growth mind-set is especially important for students who are laboring under a negative stereotype about their abilities, such as Black or Latino students or girls in mathematics or science classes (Blackwell et al,2007; Good et al, 2003; Aaronson, Fried, & Good, 2002). Adopting a growth mind-set helps those students remain engaged and achieve well, even in the face of stereotypes. Dweck (2010)*

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Insert statement that came from the conference

Among suggestions offered by a CPS parent as “Best Thinking on How to Support Accelerated Learners in the Cambridge Schools (November 2011), the following seem very worthy of consideration notwithstanding a non-tracking policy in elementary classrooms:

Develop an Academic Challenge policy that lays out how accelerated learners in one or two subjects will be assessed, supported and challenged.

Identify a district wide overseer of an Academic Challenge Program to operationalize all aspects of the program and collaborates with parents on an advisory basis.

Conduct routine, comprehensive, multivariate assessment of every student with special attention to accelerated learners from groups of students that are currently disadvantaged from being more easily and traditionally identified as gifted and talented.

Create an Accelerated Learning Plan for identified students (or individualized learning plans for all students).

Use cluster grouping and provide specific professional development for teachers in differentiation for accelerated learners.

Place an academic challenge resource teacher in each school.

For accelerated learners with difficult emotional or behavioral issues, provide support from school counselor or psychologist

Create summer learning opportunities, particularly to target gifted students from disadvantaged families.

Build a Parent Council as advisory to the efforts of the district to support gifted and talented children

## SAMPLE ASSESSMENT TEMPLATES

Assessment tools can be created in a variety of forms and levels of complexity. The template examples that follow are resources taken from the National Adult Literacy Database and can be found at the following website: <http://www.nald.ca/library/learning/bte/ed/evaluation/general.htm#top>. As stated previously, both the Challenge Habit of Scholarship and the Assessment Tools will be developed and finalized with input from teachers.

### Rubric Template

	<b>Apprentice</b>	<b>Basic</b>	<b>Learned</b>	<b>Exemplary</b>
<b>Stated Objective of Performance</b>	Description of identifiable performance characteristics reflecting a <i>beginning level</i> of performance.	Description of identifiable performance characteristics reflecting <i>development and movement toward mastery</i> of performance.	Description of identifiable performance characteristics reflecting <i>mastery</i> of performance.	Description of identifiable performance characteristics reflecting the <i>highest level</i> of performance.
<b>Stated Objective of Performance</b>	Description of identifiable performance characteristics reflecting a beginning level of performance.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance.	Description of identifiable performance characteristics reflecting mastery of performance.	Description of identifiable performance characteristics reflecting the highest level of performance.
<b>Stated Objective of Performance</b>	Description of identifiable performance characteristics reflecting a beginning level of performance.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance.	Description of identifiable performance characteristics reflecting mastery of performance.	Description of identifiable performance characteristics reflecting the highest level of performance.
<b>Stated Objective of Performance</b>	Description of identifiable performance characteristics reflecting a beginning level of performance.	Description of identifiable performance characteristics reflecting development and movement toward mastery of performance.	Description of identifiable performance characteristics reflecting mastery of performance.	Description of identifiable performance characteristics reflecting the highest level of performance.

### Learning Skills Rubric

<b>Criteria</b>	<b>Needs Improvement</b>	<b>Satisfactory</b>	<b>Good</b>	<b>Excellent</b>
<b>Works Independently</b>	<ul style="list-style-type: none"> <li>* Needs prompting to begin task.</li> <li>* Is easily distracted.</li> </ul>	<ul style="list-style-type: none"> <li>* Often needs prompting to remain on task.</li> <li>* Is easily distracted but will usually return to task.</li> </ul>	<ul style="list-style-type: none"> <li>* Begins task promptly.</li> <li>* Stays on task with little external prompting.</li> </ul>	<ul style="list-style-type: none"> <li>* Begins task promptly and stays focused without external prompting.</li> </ul>
<b>Teamwork</b>	<ul style="list-style-type: none"> <li>* Does not work well in a group.</li> <li>* May be disruptive and keep others from working.</li> </ul>	<ul style="list-style-type: none"> <li>* Needs encouragement to work in a group.</li> <li>* Tries to work alone.</li> <li>* May only work well with group when student chooses the group.</li> </ul>	<ul style="list-style-type: none"> <li>* Cooperates with other group members.</li> <li>* Remains on task.</li> <li>* Communicates effectively with group.</li> </ul>	<ul style="list-style-type: none"> <li>* Cooperates with other group members.</li> <li>* Keeps group focused and on task.</li> <li>* Communicates well with group and on behalf of the group.</li> </ul>
<b>Organization</b>	<ul style="list-style-type: none"> <li>* Missing pages from notebook or papers stuffed in locker or bag.</li> <li>* Forgets equipment regularly.</li> </ul>	<ul style="list-style-type: none"> <li>* Has a notebook.</li> <li>* Usually puts worksheets etc. into notebook.</li> <li>* Usually brings equipment to class.</li> </ul>	<ul style="list-style-type: none"> <li>* Keeps notebook and other equipment organized.</li> <li>* Brings equipment to class daily.</li> </ul>	<ul style="list-style-type: none"> <li>* Keeps notebook well organized.</li> <li>* Inserts pages and work as soon as they are received.</li> <li>* Brings all equipment and knows where it is.</li> </ul>
<b>Work Habits/ Homework</b>	<ul style="list-style-type: none"> <li>* Needs a lot of direction to get to work.</li> <li>* Does not do homework</li> </ul>	<ul style="list-style-type: none"> <li>* Needs reminders to get work finished.</li> <li>* Sometimes forgets to bring homework back to class.</li> <li>* Does not always do homework.</li> </ul>	<ul style="list-style-type: none"> <li>* Comes to class prepared to work.</li> <li>* Attempts homework and completes where possible.</li> </ul>	<ul style="list-style-type: none"> <li>* Opens book and gets out equipment before class starts.</li> <li>* Attempts and completes homework daily.</li> <li>* Completes extra work for practice or interest.</li> </ul>
<b>Initiative</b>	<ul style="list-style-type: none"> <li>* Must be told to do everything.</li> <li>* Does not complete work or start another page or exercise without much prompting.</li> </ul>	<ul style="list-style-type: none"> <li>* May or may not seek help when required.</li> <li>* Waits for teacher to notice work is done and another task is required</li> </ul>	<ul style="list-style-type: none"> <li>* Seeks help when required.</li> <li>* Looks for next task to do as each one is completed</li> </ul>	<ul style="list-style-type: none"> <li>* Willing to ask for assistance.</li> <li>* Helps other students when the need arises.</li> </ul>





### Generalized Task Rubric

<b>Apprentice</b>	<b>Basic</b>	<b>Learned</b>	<b>Exemplary</b>
<p>* Demonstrates partial understanding of the major concepts.</p> <p>- is stronger at “doing” than at describing with language</p> <p>-solves basic problems at the concrete level only</p>	<p>* Demonstrates a fundamental level of understanding of major concepts.</p> <p>-uses language at the literal level</p> <p>-reflects about process and purpose</p>	<p>* Demonstrates detailed understanding of major concepts.</p> <p>-uses language, to a point, to describe process or strategy</p> <p>-reflects and generalizes about process and purpose</p>	<p>* Demonstrates deep understanding of major concepts.</p> <p>-uses language to describe process or strategy</p> <p>-reflects and generalizes about process and purpose</p>

# CPS Subject Acceleration Protocol

A guiding principle of the Upper School Program is to promote a climate of academic rigor and high expectations in every middle school classroom. All teachers are expected and will be supported to provide challenging classroom environments that support *all* students to succeed at high levels.

CPS recognizes that a small percentage of students may demonstrate mastery of concepts in a particular subject area that are significantly above grade level expectations (more than 2-3 years). In such instances a Subject Acceleration Protocol will be made available.

## ***Recommendation/ Application***

A request for consideration for subject acceleration can be initiated by school personnel, an individual student or a parent/ guardian. This request is made through a formalized CPS protocol, *Request for Subject Acceleration*.

## ***Process for review***

A review will be conducted by a school-based team comprised of teachers and administrators most knowledgeable with the student's situation and based on a comprehensive evaluation of the whole child. The student will be assessed in a number of domains including: individual student motivation, school history, assessment of achievement in subject area, and a review of developmental, academic and interpersonal factors. In addition, student work samples will be reviewed.

The goal of the *Subject Acceleration Protocol* is to develop a plan that appropriately challenges and meets the developmental needs of the student. The desire and motivation of the student to challenge him/herself is a key factor in designing a plan for the student with primary consideration being a student's willingness to accept additional academic rigor and a heavier course load.

Based on the results of the *Subject Acceleration Protocol*, in collaboration with the students' parents/guardians and school personnel, an individual plan will be developed for the student. In the absence of consensus, the decision to accelerate the student will be decided by the CPS Head of School.

**Cambridge Public Schools  
Subject Acceleration Evaluation**

**Section 1: General Information**

**Part A: Student Information**

Student Name: \_\_\_\_\_

Student Address: \_\_\_\_\_

Current School: \_\_\_\_\_ Current Grade: \_\_\_\_\_

Student Gender: \_\_\_\_\_ Today's Date: \_\_\_\_\_

**Part B: Subject Acceleration Team**

Individuals participating in acceleration decision/planning:

Name: \_\_\_\_\_ Role: \_\_\_\_\_

Name: \_\_\_\_\_ Role: \_\_\_\_\_

Name: \_\_\_\_\_ Role: \_\_\_\_\_

Name: \_\_\_\_\_ Role: \_\_\_\_\_

Name: \_\_\_\_\_ Role: \_\_\_\_\_

Name: \_\_\_\_\_ Role: \_\_\_\_\_

Name: \_\_\_\_\_ Role: \_\_\_\_\_

Name: \_\_\_\_\_ Role: \_\_\_\_\_

Person completing this form:

Name: \_\_\_\_\_ Role: \_\_\_\_\_

Who initiated the consideration for acceleration? \_\_\_\_\_

Attach request in writing to this document.

## Section 2: School History

**Has the student done any of the following? Check the appropriate box(es).**

Participated in any “in-school” enrichment or challenge opportunities	Is already accelerated in one or more subjects	Demonstrated talent in one or more subject areas	Participated in an enrichment/acceleration activity outside of school

## Section 3: Assessment of Achievement in Subject Area

MCAS (all available) Subject: _____ Year: ____/____/____ Score: ____/____/____	CPSD Periodics (Current and last year) Subject: _____ Year: ____/____/____ Score: ____/____/____	Literacy Benchmarks (Current and last year) Subject: _____ Year: ____/____/____ Score: ____/____/____	Other: _____  Subject: _____ Year: ____/____/____ Score: ____/____/____

## Section 4: Developmental, Academic and Interpersonal Factors

### 3. Attendance at School

Excessive absences and tardiness	History of frequent absences and tardiness	Average number of absences and tardiness	Excellent attendance

### 4. Motivation

Does not complete assignments and appears disinterested in schoolwork	Completes those assignments and tasks that are of interest to him/her	Completes virtually all assignments on time with a positive attitude	Completes most assignments more quickly, accurately and comprehensively than classmates

Comments/concerns: \_\_\_\_\_

\_\_\_\_\_

### 5. Attitude Toward Learning

Disinterested or discouraged when presented with new challenges	Completes assignments competently but inconsistently	Completes assignments but rarely seeks additional challenges	Receptive to and enthusiastic about new challenges	Actively seeks and persists in new and rigorous academic challenges

Comments/concerns: \_\_\_\_\_

\_\_\_\_\_

## Part B: Developmental Factors

### 6. Age

Is among the youngest in present grade	Is of average age for his/her present grade	Is among the oldest in his/her present grade

Comments/Concerns:

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### 7. Independence Level

Does not work independently on tasks	Works independently on some tasks	Works independently on most tasks

Comments/Concerns:

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### 8. Maturity

Is immature for age	Is average in maturity for his/her age	Mature for his/her age

Comments/Concerns:

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### 9. Responsibility

Demonstrates below level of responsibility compared to peers	Demonstrates average level of responsibility compared	Demonstrates above average level of responsibility compared to peers

Comments/Concerns:

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**10. Emotional Development**

Exhibits a pattern of inappropriate emotions and/or interactions	Reacts aggressively and/or defensively when criticized	Is very sensitive to criticism or remarks	Thoughtfully considers criticism and feedback and modifies behavior appropriately

Comments/Concerns:

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**11. Behavior**

Has a history of frequent discipline problems in class	Has occasional discipline problems	Has no history of discipline problems, but is not exemplary	Is exceptionally positive and effective

Comments/Concerns:

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**12. Relationship with Peers**

Has extremely poor interpersonal skills	Interpersonal skills are not as well developed as peers	Interpersonal skills are appropriate for his/her age	Demonstrates good interpersonal skills and prefers to be with older children	Has good interpersonal skills with age peers as well as with both older and younger students and with adults

Comments/Concerns:

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### 13. Relationship with Teacher

Has poor interpersonal relationships with most teachers	Has poor interpersonal relations with some teachers	Has good interpersonal relationship with most teachers	Has excellent interpersonal relationships with all teachers.

Comments/Concerns:

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### Section 5: Holistic Evaluation and Plan

#### Additional Considerations:

Does student receive his/her current grade level teacher's recommendation for the accelerated request?

- Yes
- No

Does student exhibit highest level of performance in subject matter at current grade level?

- Yes
- No

Is student proficient + on tests and tasks which assess the content of skipped grade (s) and work at potential grade level?

- Yes
- No
- Please describe: \_\_\_\_\_



