

# USING STANDARDIZED TEST DATA AS GUIDANCE FOR PLACEMENT INTO 8<sup>TH</sup> GRADE ALGEBRA



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# THE PROBLEM

## Achievement of 8<sup>th</sup> Grade Students Who Took the Algebra (or higher) CST

Year	% of 8 <sup>th</sup> Grade Class	% who are score proficient or advanced on CST	% who score below basic or far below basic on CST
2003	34%	41%	42%
2004	41%	38%	34%
2005	48%	37%	35%
2006	50%	43%	34%



# THE QUESTIONS

1. What level of mathematics achievement is needed in 7<sup>th</sup> grade for success in algebra in the 8<sup>th</sup> grade?
2. How can a school use CST data as an indicator of mathematical growth for 8<sup>th</sup> graders who take algebra or general mathematics?



# THE DATA

## Performance Rankings of Schools

Overall Performance Ranking	Percent of Schools (n=112)
Low Performing (Rank: 1-3)	38%
Middle Performing (Rank: 4-7)	32%
High Performing (Rank: 8-10)	29%



# THE DATA

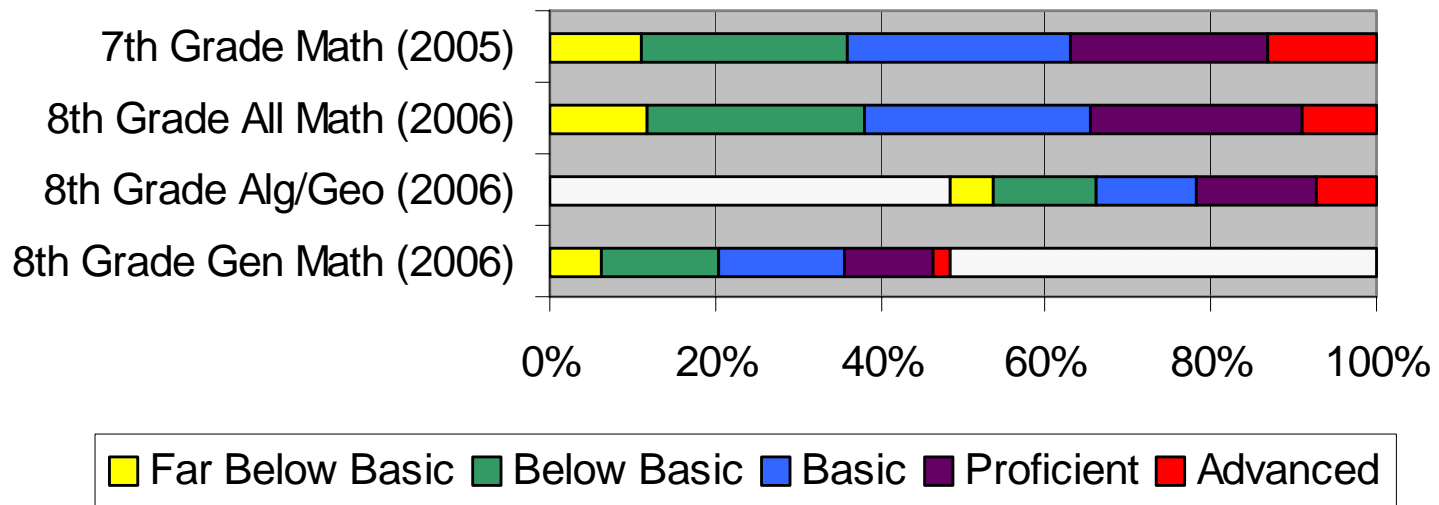
## Algebra Placement Policies of Schools

<b>Minimum 7<sup>th</sup> grade CST score for students taking algebra</b>	<b>Percent of Schools (n = 112)</b>
<b>Far Below Basic (FBB)</b>	<b>23%</b>
<b>Below Basic (BB)</b>	<b>10%</b>
<b>Basic (B)</b>	<b>29%</b>
<b>Proficient or Advanced (PA)</b>	<b>35%</b>



# A PROFILE OF CALIFORNIA STUDENTS

*Figure 1: Mathematics Proficiency Levels of 7th Grade (2005) and 8th Grade (2006) Students in California*

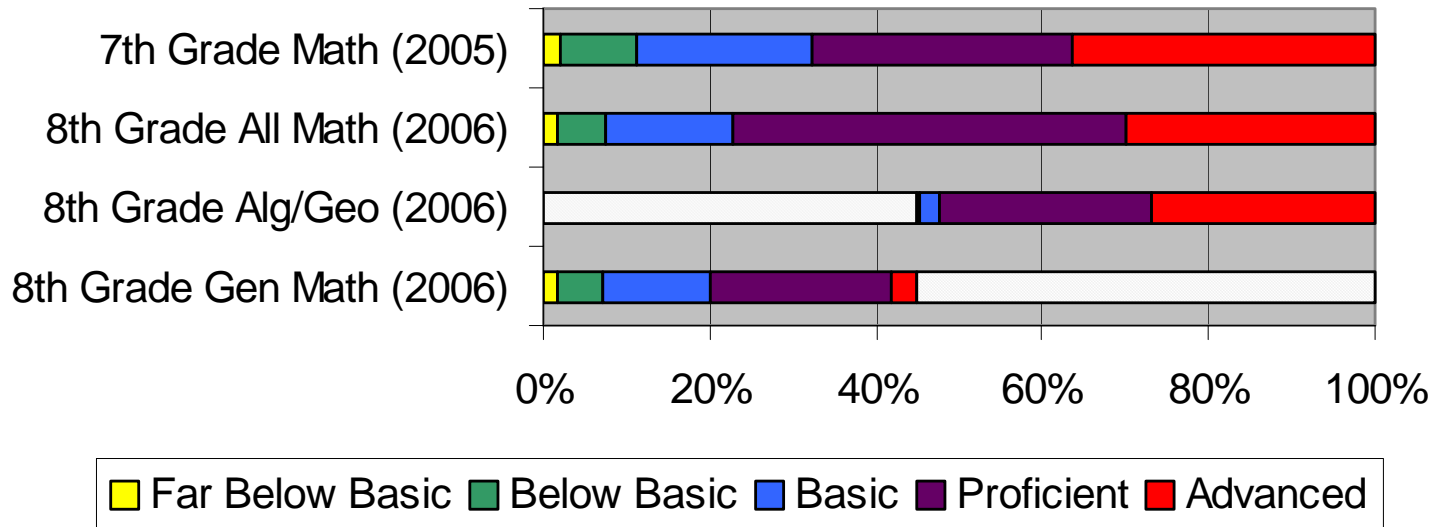


about 470,000 students



# SCHOOL PROFILES 1

*Figure 2: Tracking the Progress of an 8th Grade Class  
(School rank = high )*

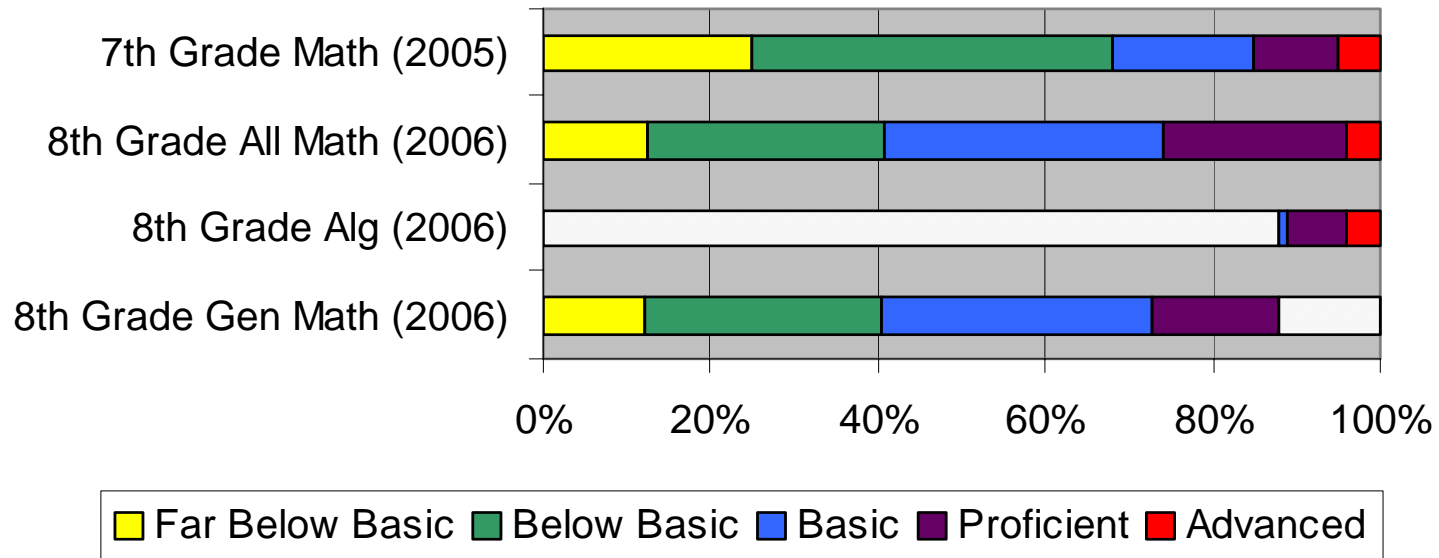


School A  
about 445 students



# SCHOOL PROFILES 2

*Figure 3: Tracking the Progress of an 8th Grade Class  
(School Rank = middle)*

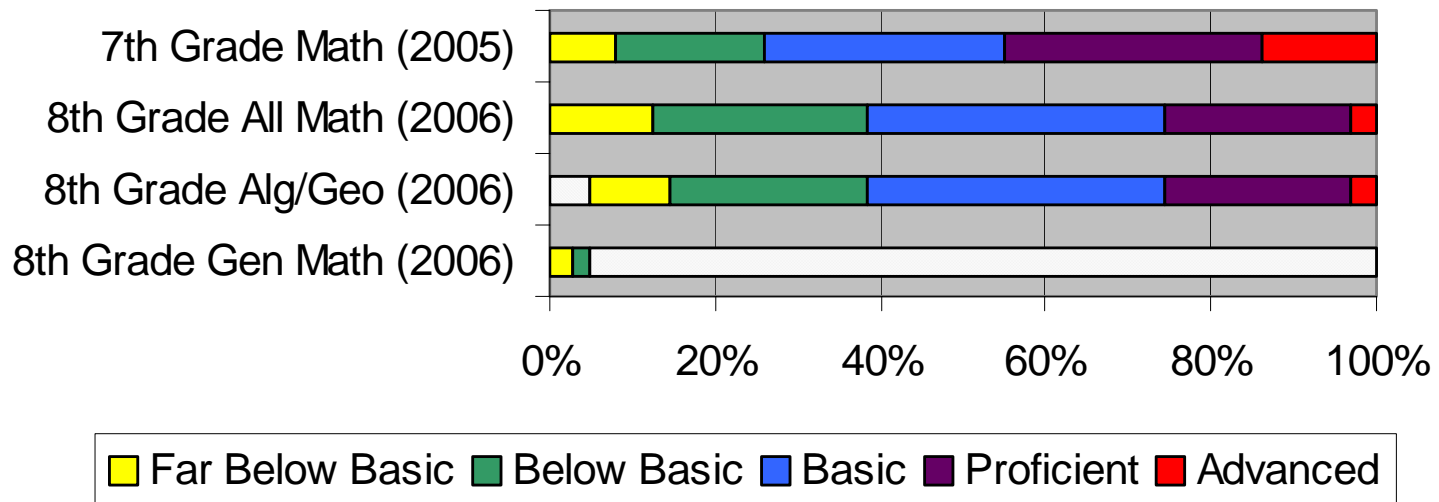


School B  
about 375 students



# SCHOOL PROFILES 3

**Figure 4: Tracking the Progress of an 8th Grade Class  
(School rank = high )**

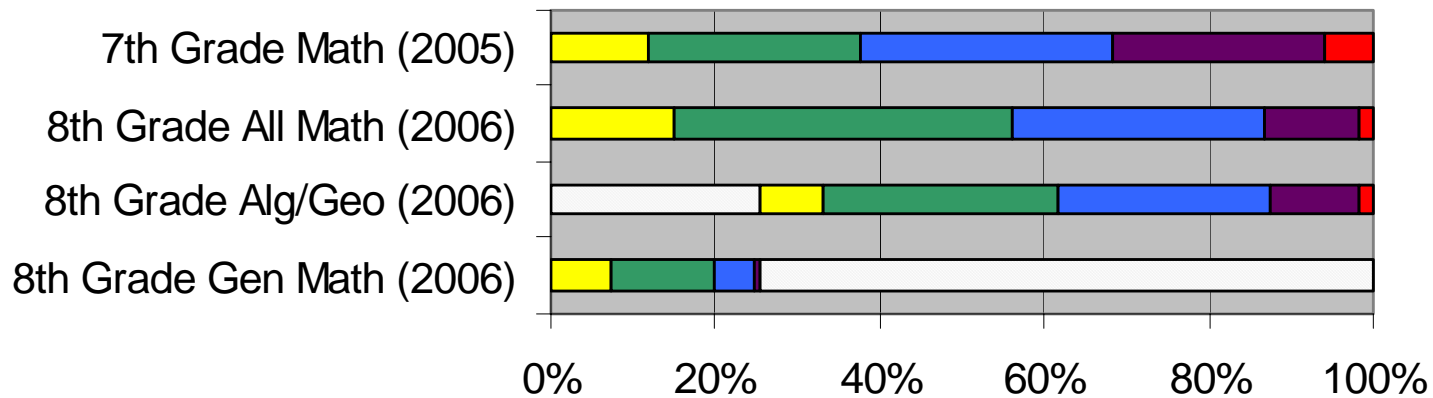


School C  
About 470 students



# SCHOOL PROFILES 4

*Figure 5: Tracking the Progress of an 8th Grade Class  
(School Rank = low)*



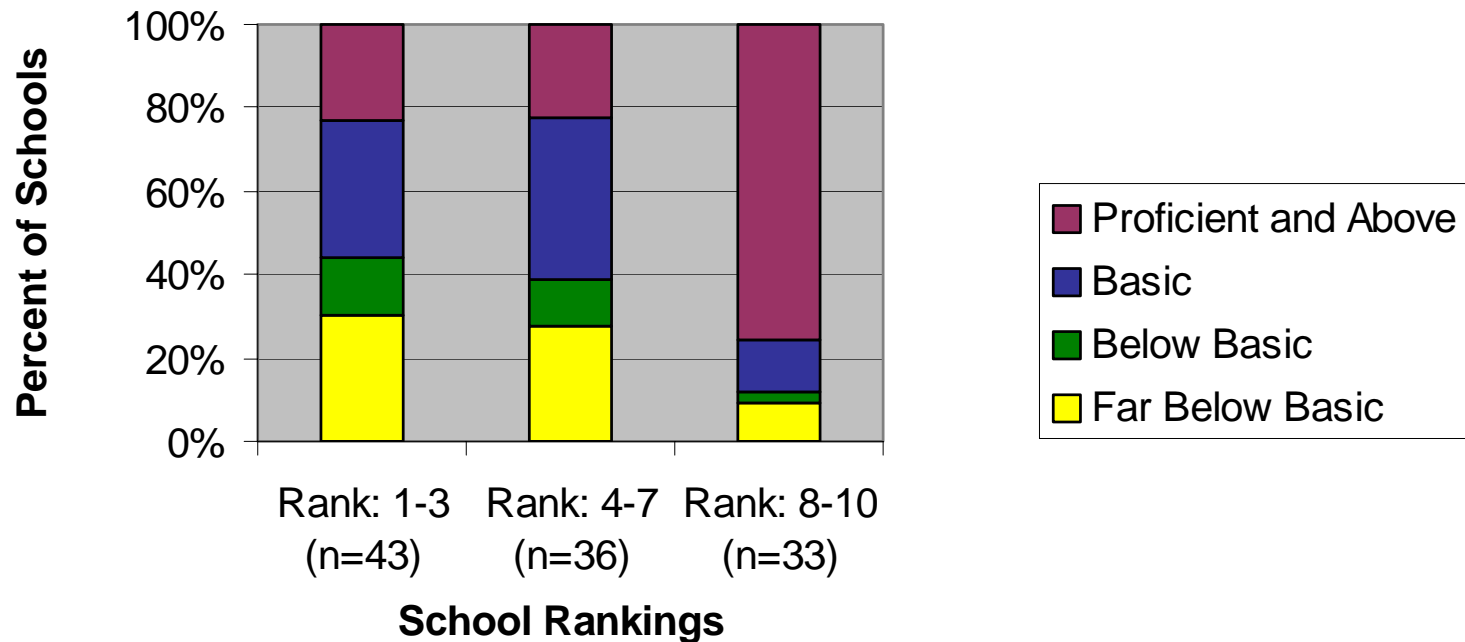
Far Below Basic
  Below Basic
  Basic
  Proficient
  Advanced

School D  
About 340 students



# PATTERNS IN ALGEBRA PLACEMENT

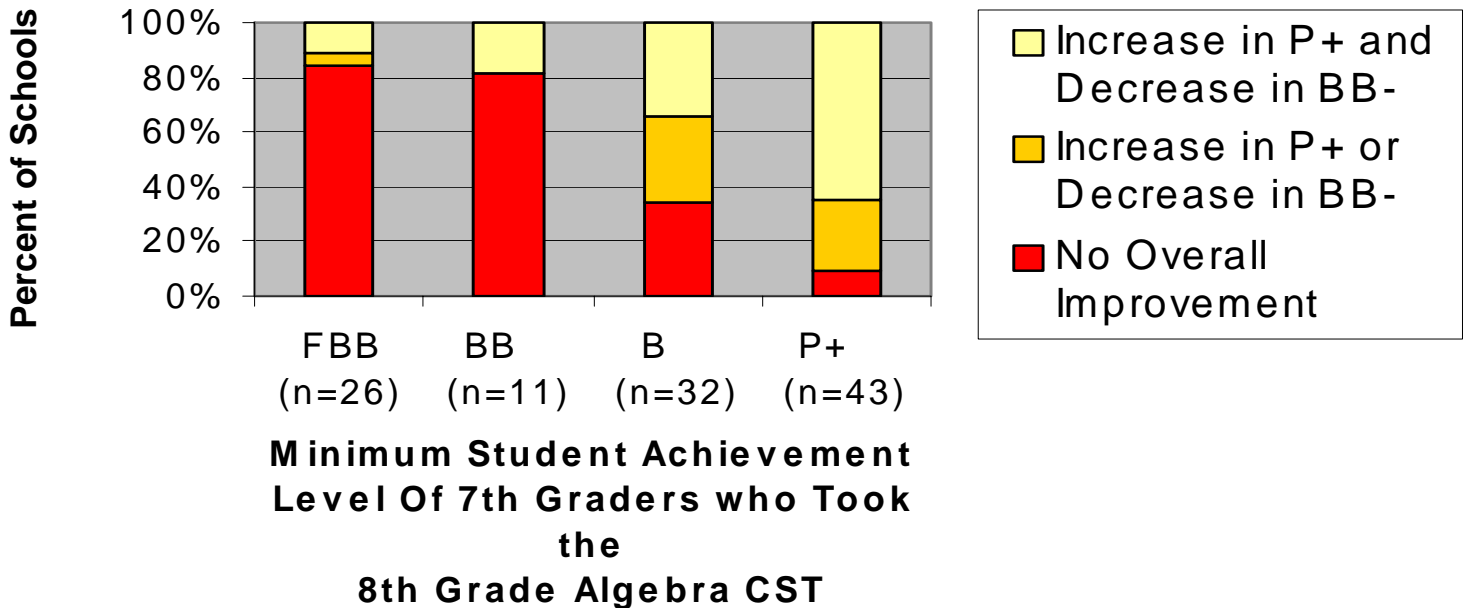
Figure 6: Minimum Student Achievement Level of 7th Graders who Take 8th Grade Algebra





# PATTERNS IN STUDENT ACHIEVEMENT

Figure 7: Improved Proficiency in CST scores from 7th Grade to 8th Grade



P+: students scored proficient and above on the CST

B: students who scored basic on the CST

BB-: students scored below basic (BB) or far below basic (FBB) on the CST



# SUMMARY OF RESULTS 1

**Although State and National policies offer strong incentives to schools to make algebra its 8<sup>th</sup> grade course, still only half of California's students are completing algebra in the 8<sup>th</sup> grade, and less than half of those students are demonstrating proficiency in the subject.**

**High ranked schools were three times as more likely to only place students demonstrating proficiency in 7<sup>th</sup> grade mathematics into algebra, while low ranked schools were three times more likely to place students who were at below basic or far below basic proficiency levels into algebra.**



## SUMMARY OF RESULTS 2

**90% of the schools that used conservative algebra placement policies saw an increase in the number of proficient students or decrease in the number of non-proficient students, while only 20% of the schools using an aggressive algebra placement policy saw improvement in at least one of these ranges.**



# CONCLUSIONS

**What level of mathematics achievement is needed in 7<sup>th</sup> grade for success in algebra in the 8<sup>th</sup> grade?**

**Proficiency in 7<sup>th</sup> grade mathematics is an important indicator of success in 8<sup>th</sup> grade algebra**

**Enrolling 7<sup>th</sup> grade students who are below basic or far below basic in mathematical proficiency is ineffective.**

**CST results are inconclusive about whether students at the basic level are ready for algebra**



## CONCLUSIONS 2

### How can a school use CST data as an indicator of mathematical growth for 8<sup>th</sup> graders who take algebra or general mathematics?

When students are showing growth mathematically, schools reduce the number of students from year-to-year who score below basic and far below basic

When students are growing mathematically schools increase the number of students who score at the proficient or advanced levels. Stacked bar graph displays using CST data offer visual evidence of the effectiveness of math programs and enrollment policies.