

# ONE GIANT STEP for TEACHER-KIND

SCHOOL DISTRICT FIVE OF  
LEXINGTON & RICHLAND  
COUNTIES

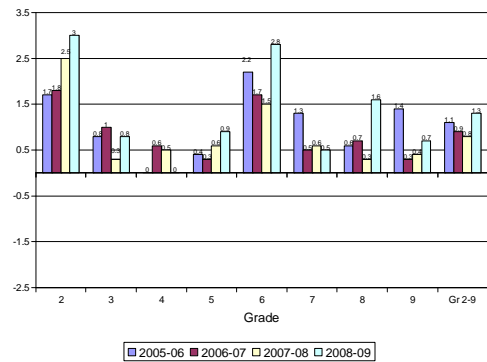
# Virtual Comparison Groups

Compares growth of similar  
students

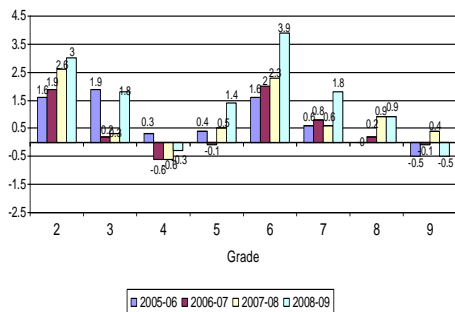
## Possible "Matching" Students

- Have valid fall and spring scores
- Same grade, different district
- Fall Scores  $\pm 5$  RIT points
- School's percentage of students receiving subsidized meals is  $\pm 15\%$
- Same NCES "type" of school (e.g. urban, rural)
- Fall test date  $\pm 12$  days
- Spring Test Date  $\pm 12$  days
- Gender

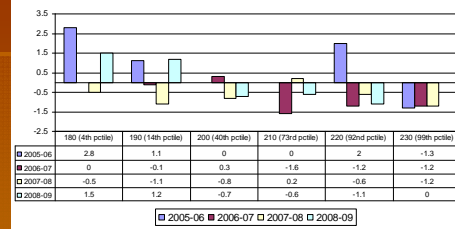
Average Reading VCG Index: By Grade



Average Math VCG Index: By Grade



Average Math VCG Index: Grade 4



Enrollment by RIT Group

	180	190	200	210	220	230
2005-06	53	175	315	359	205	64
2006-07	59	144	324	332	215	63
2007-08	89	165	363	353	176	37
2008-09	65	162	365	340	185	44

# EVERYDAY MATH & DESCARTES

- FULL IMPLEMENTATION IN ALL ELEMENTARY SCHOOLS
- WHERE ARE THE DESCARTES SKILLS?
- EASY ACCESS WHEN LESSON PLANNING

Subject: Mathematics Goal Strand: Geometry IT Score Range: 181 - 190		
Skills and Concepts to Enhance 171 - 180	Skills and Concepts to Develop 181 - 190	Skills and Concepts to Introduce 191 - 200
<b>Two- and Three-Dimensional Shapes</b> Identifies and names a triangle Identifies and names a square Identifies and names a rectangle* Identifies and names a circle* Identifies and names a cube Recognizes geometric shapes in real-world objects	<b>Two- and Three-Dimensional Shapes</b> • Identifies points on a line* • Identifies congruent line segments* • Identifies and names multiple shapes (e.g., square, rectangle, triangle, circle)* • Classifies polygons by sides and vertices • Identifies and names a cube • Identifies and names a sphere	<b>Two- and Three-Dimensional Shapes</b> • Identifies lines* • Identifies parallel lines • Identifies angles* • Identifies points on a circle* • Identifies diagonals of a polygon • Identifies and names a polygon* • Identifies and names a pentagon* • Identifies the number of faces on rectangular prisms • Identifies and names a cylinder • Identifies and names a sphere • Sorts 2-D shapes and objects according to their attributes • Creates a new shape by combining different shapes, or identifies the different shapes that were used to make the original shape*
<b>Spatial Reasoning and Coordinate Geometry</b> Identifies spatial terms (e.g., outside, inside, between, over, under, above, below, behind, in front, middle)*	<b>Spatial Reasoning and Coordinate Geometry</b> • Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)*	<b>Spatial Reasoning and Coordinate Geometry</b> • Identifies positions of shapes (e.g., inside, outside, between)* • Determines and names locations in the first quadrant on a labeled grid or coordinate system (e.g., map or graph)*
<b>Transformations, Congruency, and Symmetry</b> Identifies figures that are similar	<b>Transformations, Congruency, and Symmetry</b> • Identifies congruent figures • Identifies figures that are similar • Identifies plane figures with line symmetry • Identifies transformations of plane figures (rotation/turns) • Identifies transformations of plane figures (translation/slide)*	<b>Transformations, Congruency, and Symmetry</b> • Identifies figures that are the same size and shape (congruent)* • Identifies congruent figures • Identifies plane figures with line symmetry • Identifies the number of lines of symmetry in plane figures • Identifies transformations of plane figures (reflection/mirror)
New Vocabulary: geometric figures, ray, similar	New Vocabulary: clockwise, flip, grid, line of symmetry, rotation, symmetry, turn	New Vocabulary: diagonal, face, intersect, kite, large, one parallel, plane, rhombus, same shape, straight, vertical line
New Signs and Symbols: $\perp$ meet in sequence	New Signs and Symbols: $\{$ ordered pair, $\bullet$ point	New Signs and Symbols: $=$ is equal to, $\times$ multiplication symbol (dot)

	171-180	181-190	191-200	201-210	211-221	221-230
1.2		Identifies points on a line	Identifies lines		Identifies rays Describes relationship among points, lines, and planes, and identifies models in the environment	Identifies rays
1.3	Identifies and names a triangle Identifies and names a square Identifies and names a rectangle	Identifies and names multiple shapes (e.g., square, rectangle, triangle, circle)	Identifies angles	Identifies angles Identifies and names a parallelogram	Identifies properties of angles Identifies and names a quadrilateral	Identifies and names a trapezoid Identifies and names a quadrilateral
1.4			Identifies parallel lines	Identifies the intersection point of two lines Identifies intersecting lines Identifies parallel lines	Identifies perpendicular lines	Determines which lines are perpendicular (analysis) Identifies properties of parallel and perpendicular lines
1.5		Classifies polygons by sides and vertices	Identifies and names a polygon Identifies and names a pentagon Creates a new shape by combining different shapes, or identifies the different shapes that were used to make the original shape Sorts 2-D shapes and objects according to their attributes	Identifies and names a polygon Classifies polygons by sides and angles Identifies and names a hexagon Identifies and names an octagon	Classifies polygons by number of sides Classifies polygons by type of angle Predicts and verifies the effects of combining or subdividing basic shapes	Compares polygons by properties Classifies polygons by type of angle Classifies equilateral triangles

## EDM - DESCARTES GRID 171-180 & 181-190

LESSON	171-180	181-190
1.2		Identifies points on a line
1.3	Identifies and names a triangle Identifies and names a square Identifies and names a rectangle	Identifies and names multiple shapes (e.g., square, rectangle, triangle, circle)

Grade	RIT Band	#	Grade	RIT Band	#	Grade	RIT Band	#
3	150	6	4	140	3	5	140	1
	160	16		150	3		150	1
	170	92		160	3		160	5
	180	217		170	22		170	8
	190	348		180	65		180	20
	200	406		190	162		190	73
	210	107		200	365		200	227
	220	18		210	340		210	310
	230	3		220	185		220	314
3 Total		1213		230	44		230	201
				240	11		240	66
				250	1		250	21
			4 Total		1204	5 Total		1247

## DesCartes Skills/Concepts and Days Required by Grade and Strand

	Grade 3	Days	Grade 4	Days	Grade 5	Days
Algebra	77	2	93	2	85	2
Data	54	2	75	2	75	2
MS	146	4	185	4	161	4
N & O	407	10	454	11	396	10
Geom	83	2	103	1	93	2

## NEXT STEPS

- CURRICULUM AND INSTRUCTIONAL STRATEGIES DEVELOPED BY RIT BANDS
- ORGANIZATION OF MATH CLASSES EXAMINED
- STUDENT PERFORMANCE MEASURED BY GROWTH USING VCG

## Nursery Road Elementary Data Meetings

- Cut MAP scores, 2nd - 5th grades
- Projected PACT/PASS performance
- Related areas
- K and 1st grades
- Special education, including resource and speech

## Goal Setting

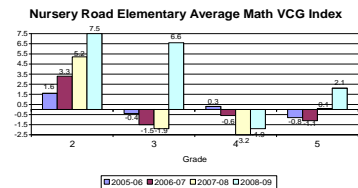
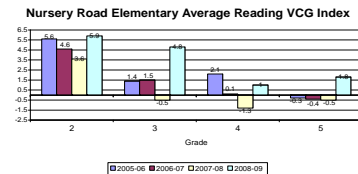
- PLC: SMART goals and short term goals
- GBE \_\_\_\_\_

## Use of Data

- Flexible grouping of students, 2nd and 3rd
- For class placement - 4th and 5th grades
- AGP content, allowed inclusion of non identified students

## PreGame

- 4th / 5th grade students
- Math Bowl
- Math Buddies \_\_\_\_\_
- GOLD





### Why schedule by RIT?

- RIT scores indicate a student's mastery of specific concepts, and reveal areas for academic growth.
- RIT analysis allows practical assessment of needs and comparison of progress within a class.
- RIT grouping decreases differentiation within a section allowing students to advance with peers of similar skill levels.
- Teachers design and share lessons and assessments for students targeting specific skills, to be applied at the appropriate pace for each section.
- Teachers continue to improve RIT group programs year after year.
- Fluid grouping ensures that students work at an ideal pace and appropriate level of rigor.

### DesCartes

- DesCartes aligns specific sets of skills to RIT scores.
- DesCartes skills allow our teachers to evaluate what a student is ready to learn in context of what the curriculum is presenting.
- Teachers can easily identify gaps in achievement and address individualized needs for each student using DesCartes.
- DesCartes and RIT scheduling allows focused instruction on skills identified for a homogeneous section, and assessment of individual growth in specific target areas.

### The Scheduling Process

1. Receive RIT Scores and leveling information for all incoming students from the District's Office of Accountability in the Spring.
2. Separate "singletons," or students who have a unique scheduling factor, such as special ed, fine arts requests, ESOL, non-single gender, etc.
3. Create a spreadsheet separating students into section needs (Honors Math/Honors LA; Honors Math/Advanced LA; Honors Math/Grade Level LA; Advanced Math/Honors LA, etc.).
4. Sort students within section groups by Math RIT first, followed by Reading RIT.
5. Calculate number of Math and LA sections available per FTEs.
6. Determine enrollment maximums per level (Honors - 25:1, GL - 15:1, etc) by comparing incoming student levels and total sections available.
7. Divide the RIT-sorted spreadsheet into sections according to enrollment maximums.
8. Assign sections to teachers/teams.
9. Schedule "singletons" in appropriate sections that meet needs.
10. Adjust for balance.

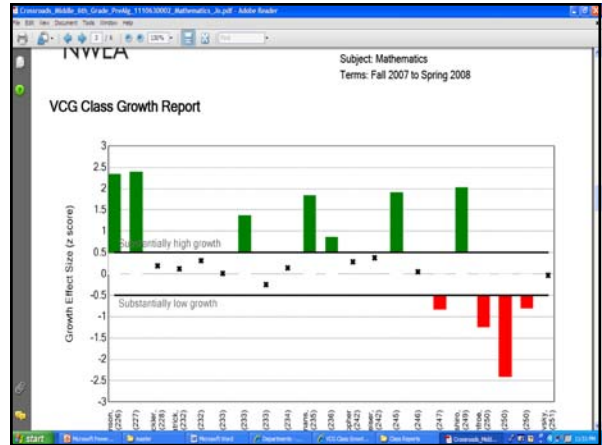
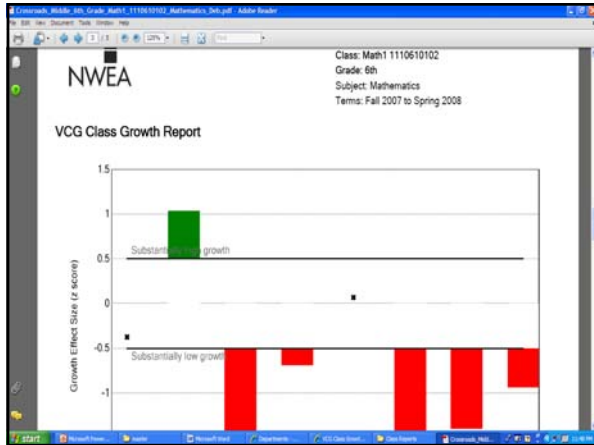
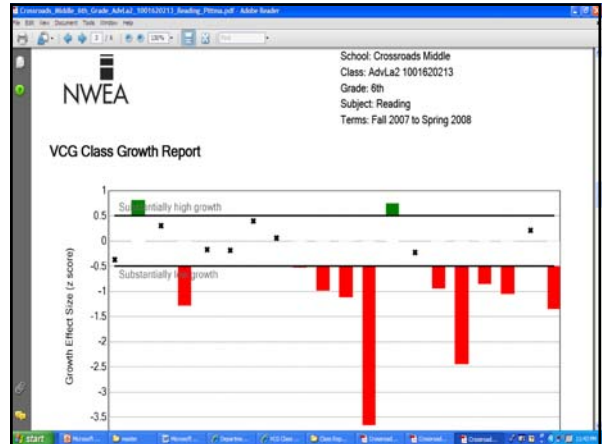
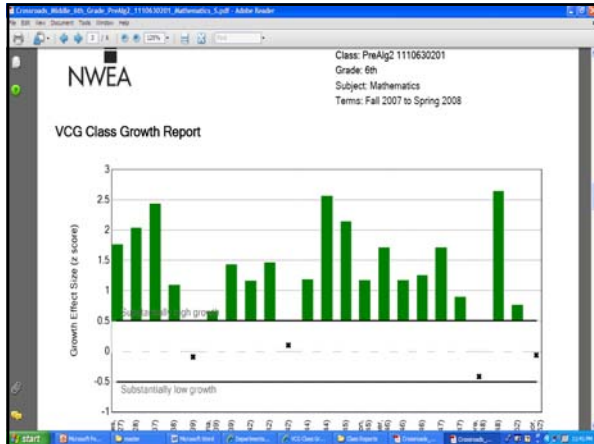
★ Ongoing: Assess student placement and adjust placement according to student academic needs throughout the year.

### Math Sections 2009-2010

Chavis	AM-G 229-239	AM-G 226-229	Plan	M-B 209-217
Valek	PA-B 230-233	PA-B 223-230	Plan	M-G 181-210
Jones	PA 239-237	PA 237-245	M	Plan
Chapman	PA-M-G 245-262	Plan	PA-G-66 236-254	PA-G-61 240-246
Tyler	PA-B 233-237	Plan	PA-G 236-238	AM-G 212-226
Fuller	AM-B 222-240	Plan	M-G (CT) 179-213	M-B (CT) 192-215
Satriet	PA-B-65 248-265	PA-G-64 242-248	Plan	PA-B-63 242-248
Berube	PA-G 221-238	PA-B 227-249	Plan	M-B 200-204
S.Holland	AM-G 207-215	AM-B 217-221	Plan	M-B 204-208
Debenport	PA-G 238-246	PA - mix 223-243	M - mix 202-214	Plan
McCook	AM-G 220-223	AM-G 213-222	M-G 204-219	Plan
Pearson	PA-G 211-217	Plan	M-B 219-226	PA-B 237-242
Hinkle	AM-G 207-217	Plan	AM-B 226-240	M-B 206-213
Alara	AM-G 224-226	AM-B 216-222	AM-B 216-225	Plan
Pitchford	M-B 205-209	AM-B 211-215	Plan	AM-B 223-228

### What does a tightly grouped section look like?





School: Crossroads Middle  
Terms: Fall 2007 to Spring 2008  
Grades: 6th  
Subject: Mathematics

### VCG Source Data

Grade Level	Mean Initial RTT	Mean Final RTT	Mean Growth	Counts	Mean Std Dev	VCG Mean Growth	VCG Std Dev	VCG Counts	Mean Growth Diff	Percent Met HSM	Percent Met Prof	Num Met HSM	Num Met Prof
6th	225.2	233.4	8.2	934	7.1	5.3	3	47609	2.9	53.1	63.1	496	589
Averages									2.91	53.1	63.1	496	589

School: Crossroads Middle  
Terms: Fall 2007 to Spring 2008  
Grades: 6th  
Subject: Reading

### VCG Source Data

Grade Level	Mean Initial RTT	Mean Final RTT	Mean Growth	Counts	Mean Std Dev	VCG Mean Growth	VCG Std Dev	VCG Counts	Mean Growth Diff	Percent Met HSM	Percent Met Prof	Num Met HSM	Num Met Prof
6th	214.7	220.7	6.1	342	8.7	4.6	3.2	48040	1.5	55.1	57.7	519	544
Averages									1.54	55.1	57.7	519	544

## *Challenges to Scheduling by RIT*

- Constraints to tight grouping (fine arts/single gender).
- Traditional views of curriculum and leveling.
- Standards vs. DesCartes.
- Disruption of fluid scheduling.
- Students without scores.
- Time to schedule.