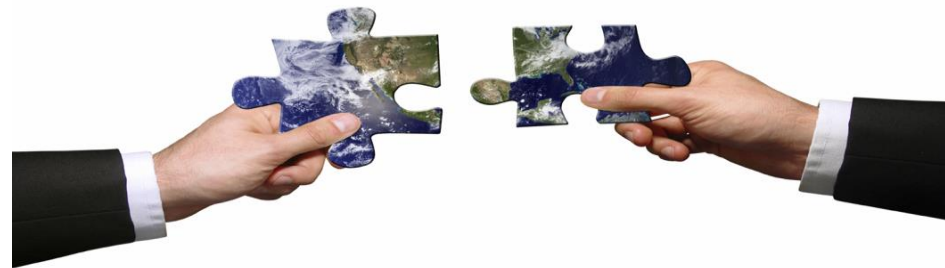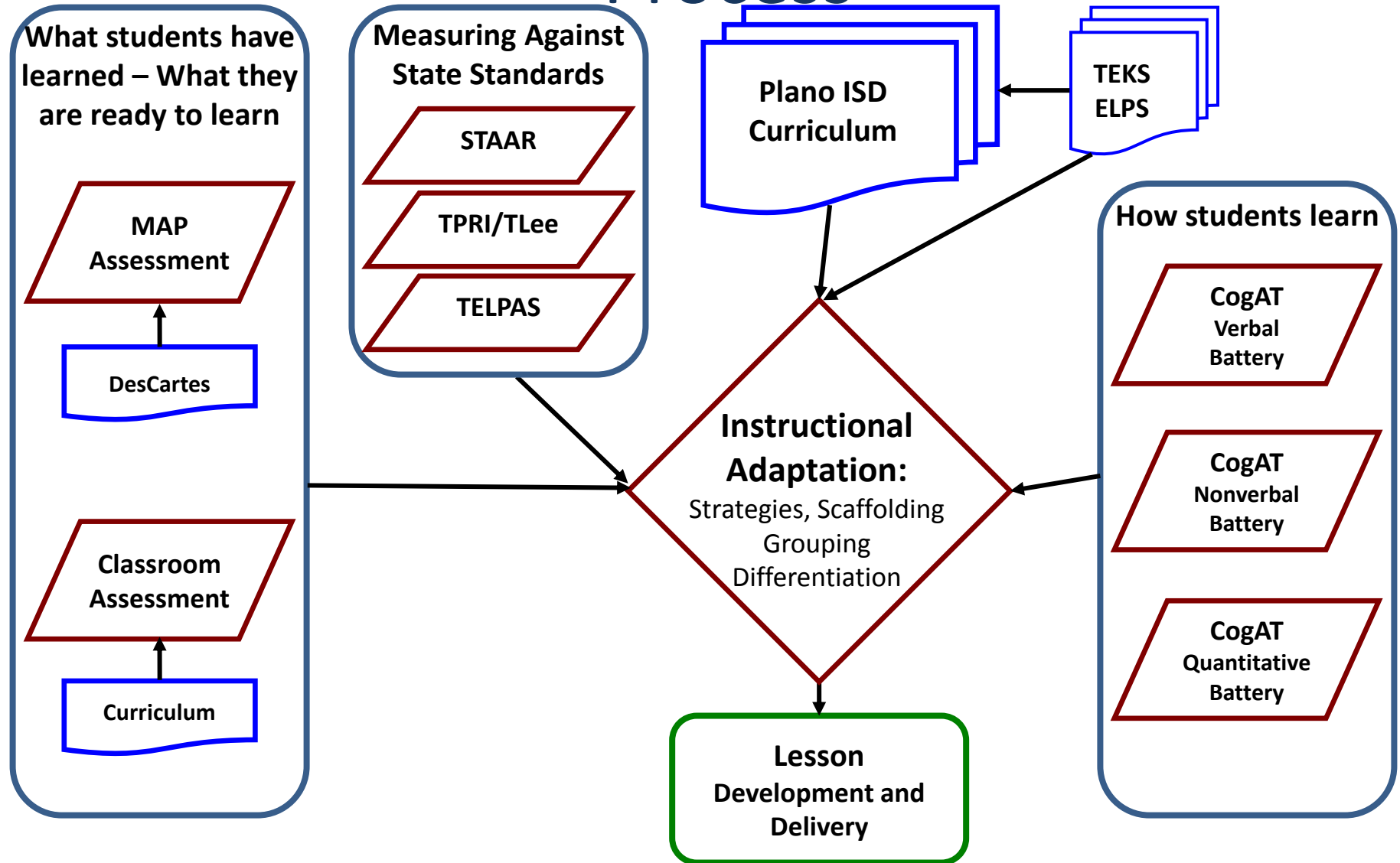# How Plano Uses the MAP Assessment to Inform Instructional Decisions

Presenter: John Tedford
John.Tedford@pisd.edu
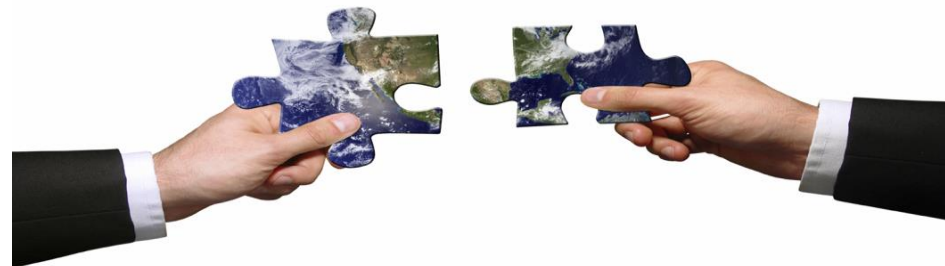
Plano ISD Formative Assessment Process

What students have learned – What they are ready to learn

MAP Assessment

DesCartes

Classroom Assessment

Curriculum

Measuring Against State Standards

STAAR

TPRI/TLee

TELPAS

Plano ISD Curriculum

TEKS ELPS

How students learn

CogAT **Verbal Battery**

CogAT **Nonverbal Battery**

CogAT **Quantitative Battery**

Instructional Adaptation:
Strategies, Scaffolding Grouping Differentiation

Lesson Development and Delivery

Class by RIT

The Relationship between the Learning Continuum and the TEKS

Continuum of Learning

TEKS

| Third | Fourth | Fifth | Sixth | Seventh | Eighth |
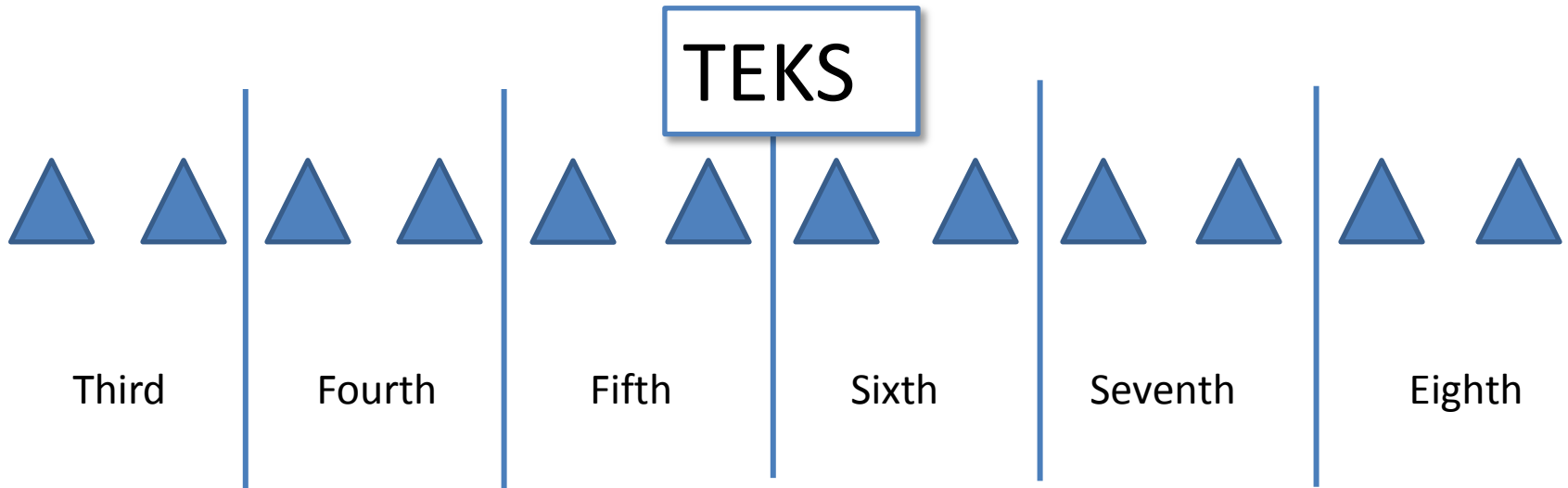
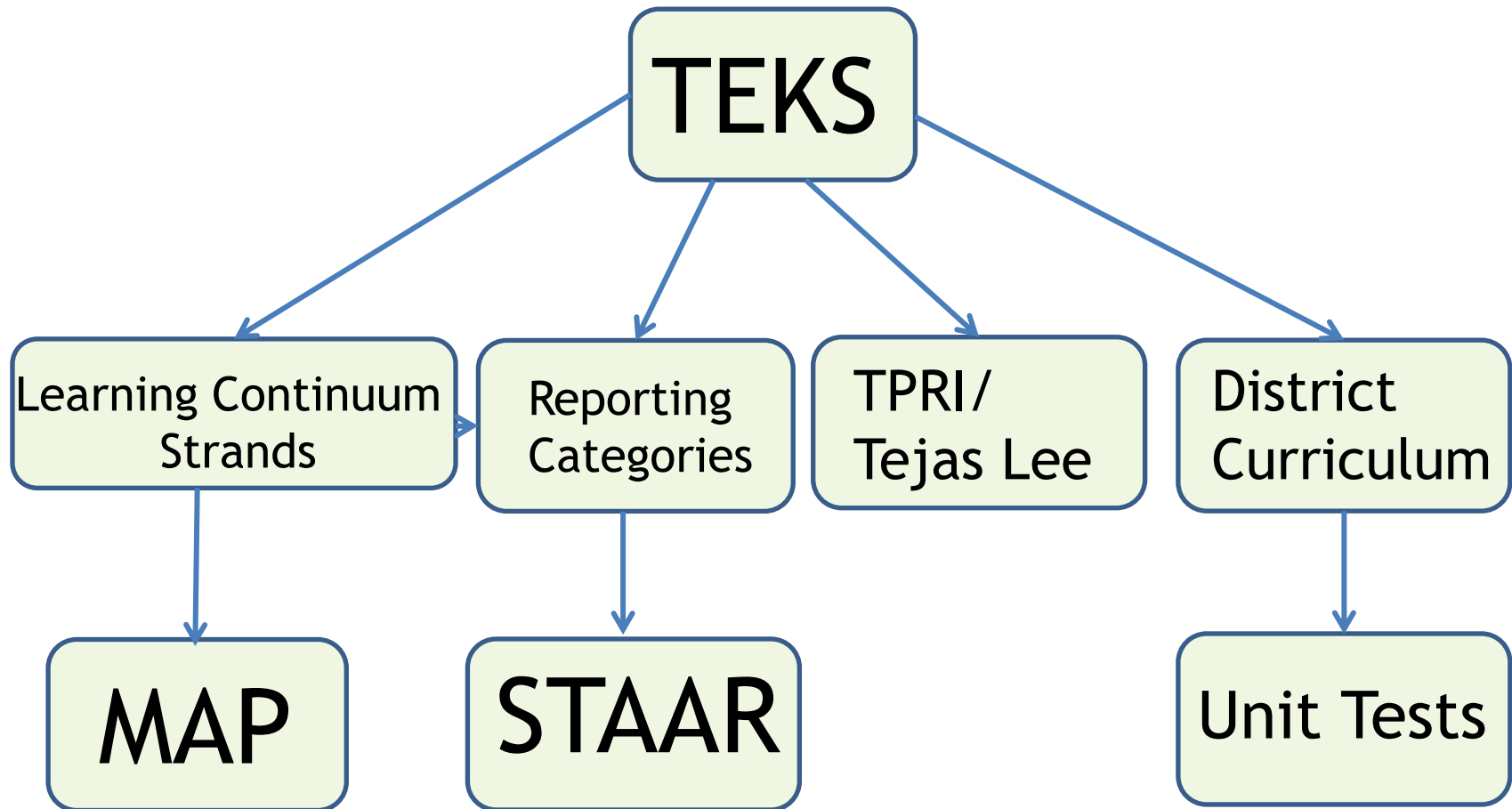Learning Continuum (DesCartes)
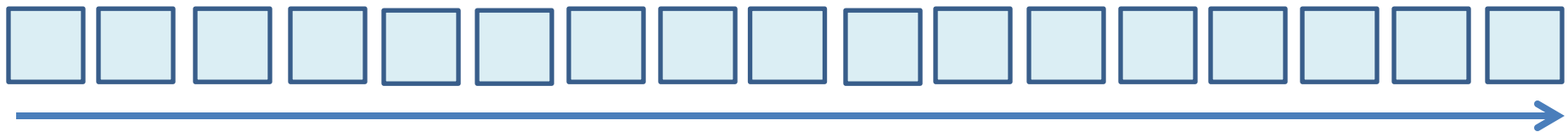
110   300

Relationship with the TEKS

DesCartes

Skills and [75%] Enhance	Skills and [50%] Develop	Skills and [25%] Introduce
Use Place Value: Whole Numbers and Decimals	**Use Place Value: Whole Numbers and Decimals**	**Use Place Value: Whole Numbers and Decimals**
• Identifies whole numbers 100 - 999 using base-10 blocks* • Identifies whole numbers over 999 using base-10 blocks* • Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place • Identifies the numeral and written name for whole numbers 10,000 to 100,000 • Identifies the numeral and written name for whole numbers over 100,000 • Identifies the numeral and written name for ordinal numbers 21st to 100th (e.g., 21st is twenty-first, and vice versa)* • Writes equivalent forms of whole numbers 11 to 20 using addition (e.g., 14 = 7 + 7)* • Writes equivalent forms of whole numbers using multiplication (e.g., 12 = 4 x 3 = 2 x 6 = 2 x 2 x 3)* • Compares sets of objects and identifies which is equal to, more than, or less than the other (1 to 10 objects)* • Compares whole numbers through 999,999 • Compares whole numbers to 100, using the symbols for 'less than', 'equal to', or 'greater than' (<, =, >) • Compares whole numbers through the thousands using the symbols <, >, or =	• Identifies whole numbers over 999 using base-10 blocks* • Identifies the numeral and written name for whole numbers with a zero between digits to the ten thousands place • Identifies the numeral and written name for whole numbers over 100,000 • Compares whole numbers through 999,999 • Compares whole numbers through the billions using the symbols <, >, or =* • Orders whole numbers less than 10,000 • Orders whole numbers a million or greater • Writes equivalent forms of whole numbers using place value (e.g., 54 = 4 tens and 14 ones) • Writes whole numbers using place value terms and vice versa	• Identifies whole numbers 100 - 999 using 2-D and 3-D models* • Identifies whole numbers over 999 using 2- and 3-D models* • Represents a decimal to the hundredths place (e.g., three hundredths = 0.03) • Writes a decimal for a shaded region to the tenths place*
Use Fractions: Describe, Compare, & Solve	**Use Fractions: Describe, Compare, & Solve**	**Use Fractions: Describe, Compare, & Solve**
• Represents 1/3 with a diagram or model • Identifies one-half from a region or set* • Identifies 1/4 from a region or set	• Identifies halves of a region using nonadjacent parts • Converts a basic fractional numeral to lowest terms (e.g., halves, thirds, quarters)*	• Writes improper fractions and mixed numbers from a visual representation* • Identifies a fractions in lowest terms from a region or

Key: 3rd Grade   4th Grade   5th Grade   6th Grade   7th Grade   8th Grade

Edugence - Class by RIT

Individual Learning Statements based on MAP Goal Strand Performance

Mathematics, Grade Level: 03

Goal Strand: Numerical Representations and Relationships, Instruction Level: 191-200

RIT Band

Strand

Number Patterns and Concepts of Expressions

Sub Strand

Grade level TEKS to target
3.4I - determine if a number is even or odd using divisibility rules;

Grade Level TEKS

MAP learning statements from Learning Continuum
• Distinguishes between odd and even numbers • Evaluates numerical expressions using grouping symbols (whole numbers only) • Identifies numbers as composite

Learning Statements

Represent and Generate Fractions

Grade level TEKS to target
3.3A - represent fractions greater than zero and less than or equal to one with denominators of 2, 3, 4, 6, and 8 using concrete objects and pictorial models, including strip diagrams and number lines; 3.3F - represent equivalent fractions with denominators of 2, 3, 4, 6, and 8 using a variety of objects and pictorial models, including number lines; 3.3A - model addition and subtraction using pictures, words, and numbers; and

MAP learning statements from Learning Continuum
• Identifies 1/4 from a region or set • Identifies equivalent fractions using visual representations • Represents 1/3 with a diagram or model • Represents fractions with denominators other than 2, 3, 4 with a diagram or model • Matches numeric and visual representation of equivalent fractions

Use Place Value: Whole Numbers and Decimals

Grade level TEKS to target
3.2B - describe the mathematical relationships found in the base-10 place value system through the hundred thousands place; 3.2A - compose and decompose numbers up to 100,000 as a sum of so many ten thousands, so many thousands, so many hundreds, so many tens, and so many ones using objects, pictorial models, and numbers, including expanded notation as appropriate;

MAP learning statements from Learning Continuum
• Writes whole numbers in standard and expanded form through the thousands • Orders whole numbers less than 1000 • Identifies the place value and value of each digit in whole numbers through the hundred thousands • Orders whole numbers less than 10,000

Top 10 Ways to Use Class by RIT

<u>Chart:</u>

1. See a visual picture of the general performance of the class.

2. Identify strengths and weaknesses for your students.

3. Obtain program specific information.

4. Create flexible groups for specific skill instruction.

5. Group students both within the grade level and outside of the grade level.

6. Compare the growth of your class with a visual snapshot.

<u>Individualized Learning Statements:</u>

7. Set student goals.

8. Identify student groups that may need differentiated content.

9. Connect the learning statements to the TEKS for instructional planning.

10. Locate resources for instruction.

Adapted from 10 Ways to Use the Class Breakdown Reports in the Classroom NWEA

Class by RIT in Edugence

Goal	101-110	121-130	131-140	141-150	151-160	161-170	171-180	181-190
Foundational Skills	Vanvalkenburgh, T (120)		Underwood, S (148)	Young, Y (138) Tyler, S (147)	Urcuyo, S (149) Van Hecker, T (149) Vang, T (151) Turner, S (154) Troy, S (155) Ubl, S (159) Uriegas, S (159) Vecera, T (161)	Vandiver, T (161) Thomas, S (165)	Valencia, T (170) Vargas, T (176)	
Comprehension		Vanvalkenburgh, T (120)	Young, Y (138) Turner, S (154)	Urcuyo, S (149) Van Hecker, T (149)	Tyler, S (147) Underwood, S (148) Vang, T (151) Troy, S (155) Uriegas, S (159) Vandiver, T (161)	Ubl, S (159) Vecera, T (161) Valencia, T (170)	Vargas, T (176)	Thomas, S (165)
Vocabulary		Vanvalkenburgh, T (120)	Young, Y (138)	Tyler, S (147) Van Hecker, T (149) Vang, T (151)	Underwood, S (148) Urcuyo, S (149) Troy, S (155) Uriegas, S (159) Vandiver, T (161) Vecera, T (161) Thomas, S (165)	Turner, S (154) Ubl, S (159) Valencia, T (170)		Vargas, T (176)
Writing & Language		Vanvalkenburgh, T (120)	Young, Y (138)	Tyler, S (147) Urcuyo, S (149) Van Hecker, T (149) Vang, T (151)	Underwood, S (148) Troy, S (155) Ubl, S (159)	Turner, S (154) Uriegas, S (159) Vandiver, T (161) Vecera, T (161) Thomas, S (165) Valencia, T (170)	Vargas, T (176)	

How to use Class by RIT for Grouping

- by relative weaknesses
- by performance in the current strand of study
- within class
- across grade level
- across multiple grade levels
- for stations or partner work
- for tutoring
- for intervention/extension time

How to use Class by RIT for Lower Performing Students

- Preteach topics based on upcoming curriculum.

- Reteach topics based on relative weaknesses.

- Fill in gaps from the previous RIT band.

- If no skills correspond to the grade level TEKS, go back to the previous grade to fill in gaps.

- When skills are mastered, go to the next RIT to continue growth towards grade level performance.

Lower Achieving Students

Goal	181-190	191-200	201-210	211-220
Matter / Energy / Force / Motion	Piper, M (187) Young, Y (189)	Syed, S (195) Tucker, S (196) Ramos, M (197) Sales, Q (199) Vargas, T (200) Prasad, M (205)	Thomas, S (193) Patel, M (198) Potluri, M (201) Renjith, N (202) Tahiri, S (203) Nayak, L (204) Proano Montalvo, M (204) Williams, W (206) Plancey, M (208) Pruitt, M (214)	Ramos, M (210) Reynolds, N (210)
Earth & Space	Piper, M (187) Young, Y (189)	Thomas, S (193) Syed, S (195) Ramos, M (197) Sales, Q (199) Proano Montalvo, M (204)	Tucker, S (196) Patel, M (198) Vargas, T (200) Potluri, M (201) Renjith, N (202) Tahiri, S (203) Nayak, L (204) Williams, W (206) Plancey, M (208) Reynolds, N (210) Ramos, M (210)	Prasad, M (205) Pruitt, M (214)
Organisms & Environments	Piper, M (187) Young, Y (189) Thomas, S (193) Tucker, S (196) Patel, M (198)	Syed, S (195) Ramos, M (197) Sales, Q (199) Potluri, M (201) Renjith, N (202) Nayak, L (204) Prasad, M (205)	Vargas, T (200) Tahiri, S (203) Williams, W (206) Ramos, M (210) Reynolds, N (210)	Proano Montalvo, M (204) Plancey, M (208) Pruitt, M (214)

Organisms and Environments 181-190

Individual Learning Statements based on MAP Goal Strand Performance

Science, Grade Level: 04

Goal Strand: Organisms and Environments, Instruction Level: 181-190

Relationships within Environments, Classification

Grade level TEKS to target
4.2D - analyze data and interpret patterns to construct reasonable explanations from data that can be observed and measured;
4.9B - describe the flow of energy through food webs, beginning with the Sun, and predict how changes in the ecosystem affect the food web such as a fire in a forest.
4.3C - represent the natural world using models such as rivers, stream tables, or fossils and identify their limitations, including accuracy and size; and
4.9A - investigate that most producers need sunlight, water, and carbon dioxide to make their own food, while consumers are dependent on other organisms for food; and
4.2F - communicate valid, oral, and written results supported by data.

MAP learning statements from Learning Continuum
• Compares basic needs of different organisms in their environment
• Gives examples of foods that come from plants
• Recognizes that air pollution is caused by things that dirty the air
• Explains that most pollution results from human activities
• Sorts living and non-living things using different characteristics
• Differentiates among living and nonliving things
• Sorts organisms and objects as living or non-living
• Makes inferences about the effect of pollution on living things

How to use Class by RIT for Higher Performing Students

- Preteach topics based on upcoming curriculum.

- Reinforce topics based on relative weaknesses.

- Delve deeper into topics where there is an area of need.

- When skills are mastered, go the next RIT band to continue extension of instruction.

- When no skills correspond to grade level TEKS in any strand, go to the next grade level to look for areas to extend.

High Achieving Students

Goal	181-190	191-200	201-210	211-220	221-230
Matter / Energy / Force / Motion	Trevino, S (192)	Pineda, M (201) Pyun, M (201) Royer, P (202) Pavlis, M (204)	Plunkett, M (197) Pochinka, M (197) Pulido, M (200) Ratliff, N (201) Rankin, M (201) Wedeking, V (203) Proano Montalvo, M (206) Stanley, S (206) Ramki, M (207) Potluri, M (208) Sanders, R (208) Ramji, M (212) Roach, N (214)	Purkayastha, M (219) Potisek Acosta, M (220)	Rao, N (222)
Earth & Space	Plunkett, M (197)	Trevino, S (192) Pulido, M (200) Pineda, M (201) Pyun, M (201) Ratliff, N (201)	Pochinka, M (197) Rankin, M (201) Royer, P (202) Wedeking, V (203) Pavlis, M (204) Proano Montalvo, M (206) Stanley, S (206) Ramki, M (207) Sanders, R (208)	Potluri, M (208) Ramji, M (212) Roach, N (214) Rao, N (222)	Purkayastha, M (219) Potisek Acosta, M (220)
Organisms & Environments	Trevino, S (192) Pochinka, M (197)	Plunkett, M (197) Pulido, M (200) Wedeking, V (203)	Pyun, M (201) Rankin, M (201) Ratliff, N (201) Royer, P (202) Proano Montalvo, M (206) Stanley, S (206) Ramki, M (207) Potluri, M (208)	Pineda, M (201) Pavlis, M (204) Sanders, R (208) Ramji, M (212) Roach, N (214) Purkayastha, M (219) Potisek Acosta, M (220)	Rao, N (222)

Earth Materials and Changes to Earth Surface 211-220

Individual Learning Statements based on MAP Goal Strand Performance

Science, Grade Level: 03

Goal Strand: Earth and Space, Instruction Level: 211-220

Earth Materials and Changes to Earth Surface

Grade level TEKS to target
3.7B - investigate rapid changes in Earth's surface such as volcanic eruptions, earthquakes, and landslides; 3.7D - explore the characteristics of natural resources that make them useful in products and materials such as clothing and furniture and how resources may be conserved. 3.2F - communicate valid conclusions supported by data in writing, by drawing pictures, and through verbal discussion. 3.7A - explore and record how soils are formed by weathering of rock and the decomposition of plant and animal remains; 3.3A - in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanat 3.7C - identify and compare different landforms, including mountains, hills, valleys, and plains; and 3.1B - make informed choices in the use and conservation of natural resources by recycling or reusing materials such as paper, aluminum cans, and plastics.

MAP learning statements from Learning Continuum
- Recognizes that in most fossils, living tissue is replaced with minerals, but in certain fossils (e.g., amber, frozen organisms), biological matter (DNA) may remain - Labels a diagram of Earth (four layers) to show Earth's mantle - Describes the process of metamorphic rock formation - Describes geologic features of the ocean - Differentiates among artesian wells, springs and geysers - Explains that the geologic processes we observe today have also occured in the geologic past - Gives examples of fault zones - Makes inferences about where igneous rocks may be found - Recognizes the sources of geothermal energy - Compares weathering and erosion - Recognizes that faults are breakages in rock associated with movement of Earth's plates - Recognizes that petrification is the replacement of bone by minerals - Describes evidence supporting the theory of plate tectonics - Classifies rocks according to the forces which formed them - Explains how mountain building is caused by movement of tectonic plates - Describes how slow and rapid processes cause the Earth's surface to change constantly - Describes the composition of the Earth's bodies of water - Describes characteristics of sedimentary rock - Relates plate movement to geologic events - Understands that for alternative energy resources to be most useful, they must be renewable, or based on different non-renewable resources than are currently in use

Top 10 Ways to Use Class by RIT

Chart:

1. To see a visual picture of the general performance of the class.

2. To identify strengths and weaknesses for your students.

3. To obtain program specific information.

4. To create flexible groups for specific skill instruction.

5. To group students both within the grade level and outside of the grade level.

6. To compare the growth of your class with a visual snapshot.

Individualized Learning Statements:

7. To set student goals.

8. To identify student groups that may need differentiated content.

9. To connect the learning statements to the TEKS for instructional planning.

10. To locate resources for instruction.

Adapted from 10 Ways to Use the Class Breakdown Reports in the Classroom NWEA

Earth Materials and Changes to Earth Surface 211-220

Individual Learning Statements based on MAP Goal Strand Performance

Science, Grade Level: 03

Goal Strand: Earth and Space, Instruction Level: 211-220

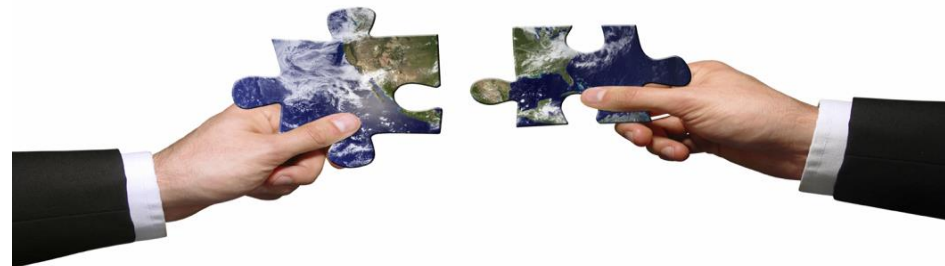## Earth Materials and Changes to Earth Surface

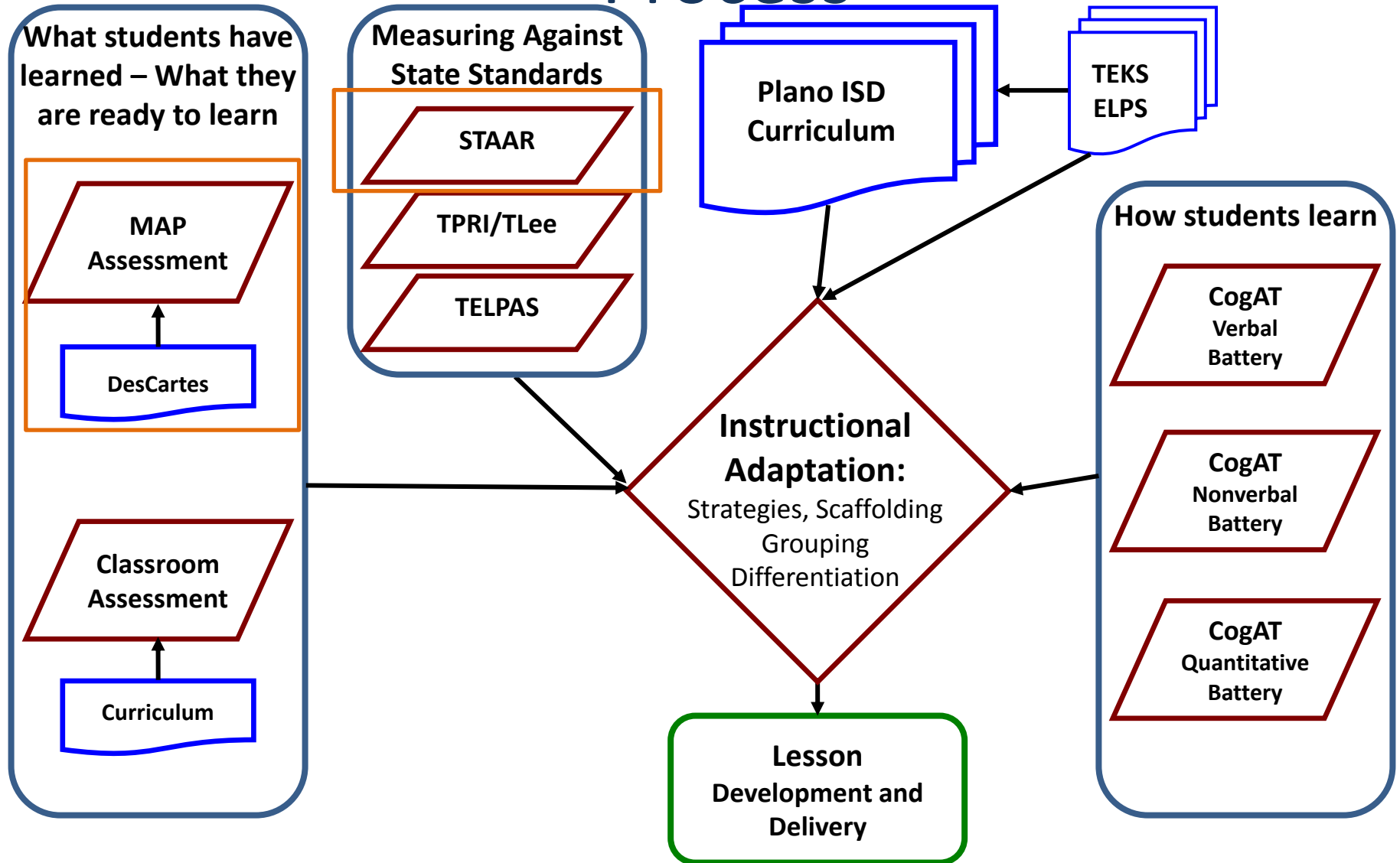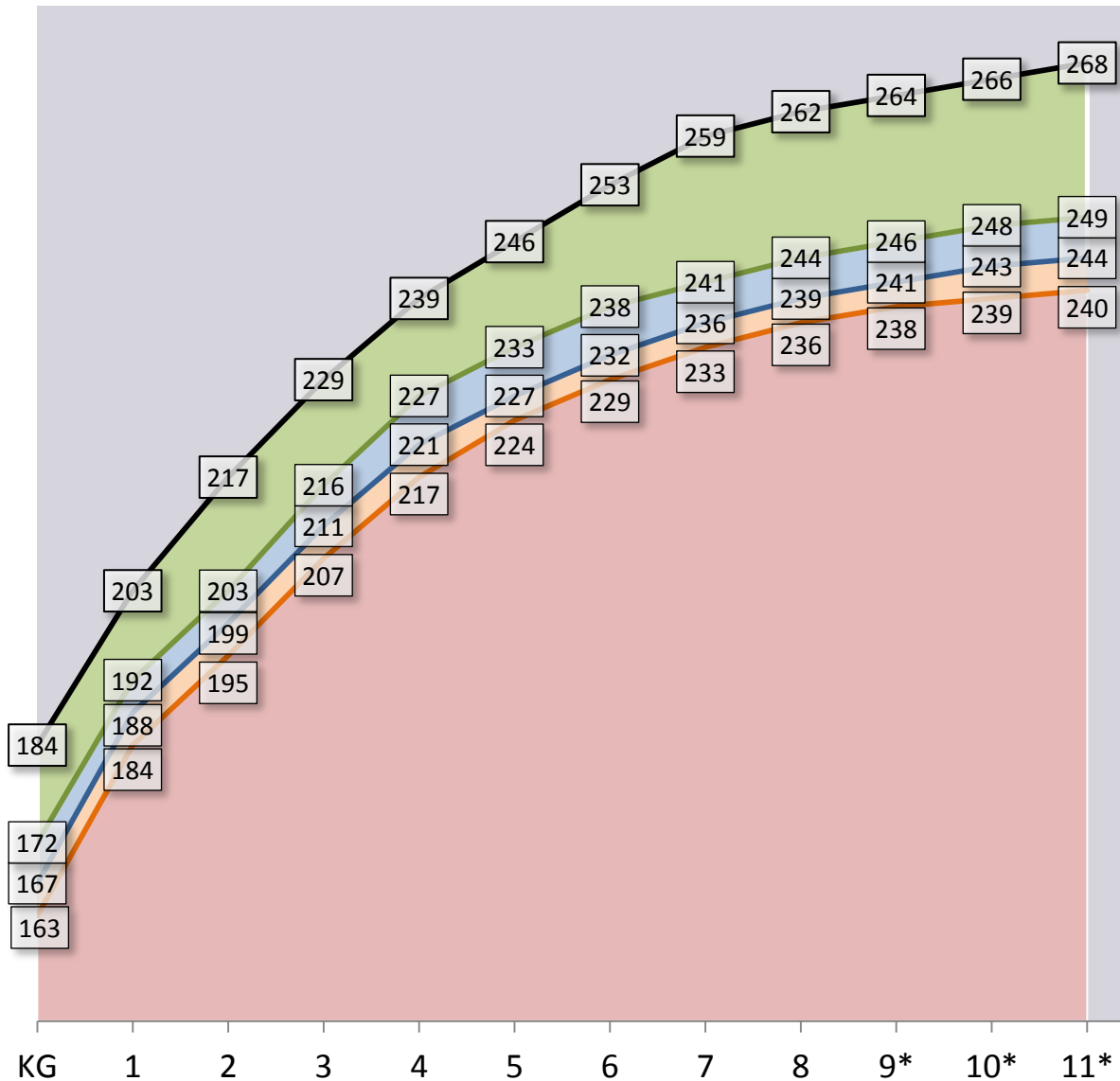| Grade level TEKS to target	MAP learning statements from Learning Continuum
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Student Probability of State Standard Success

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Lesson Development and Delivery

Probability of State Standards Success

70% Chance of Level III
Well Prepared

90% or higher of Level II
Sufficiently Prepared

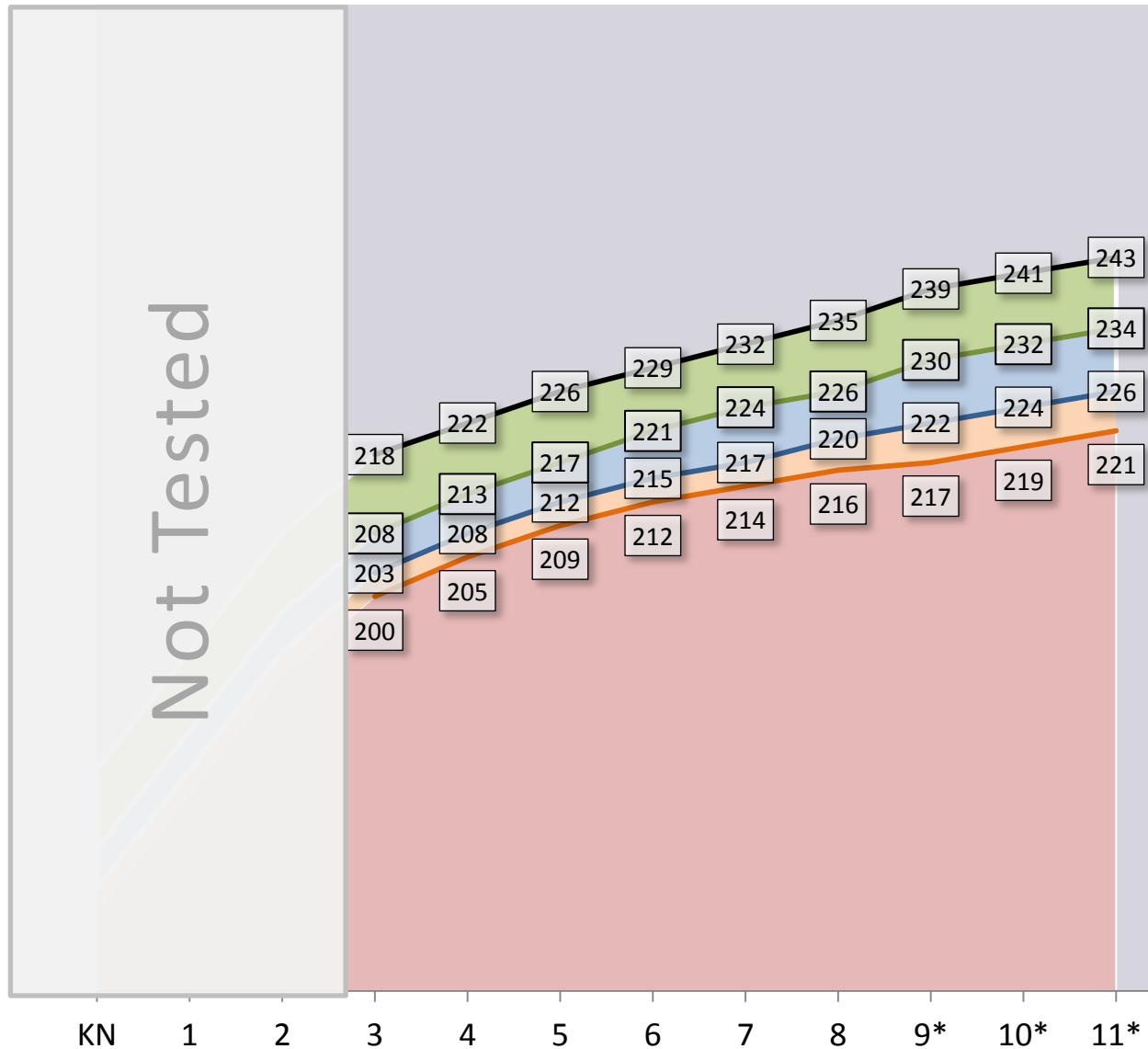**70-89% Chance of Level II**

50-69% Chance of Level II

Less than 50% Chance of Meeting Level II on STAAR

Mathematics

Level II – _sufficiently prepared_ for the next grade

Level III – _well prepared_ for the next grade

Probability of State Standards Success
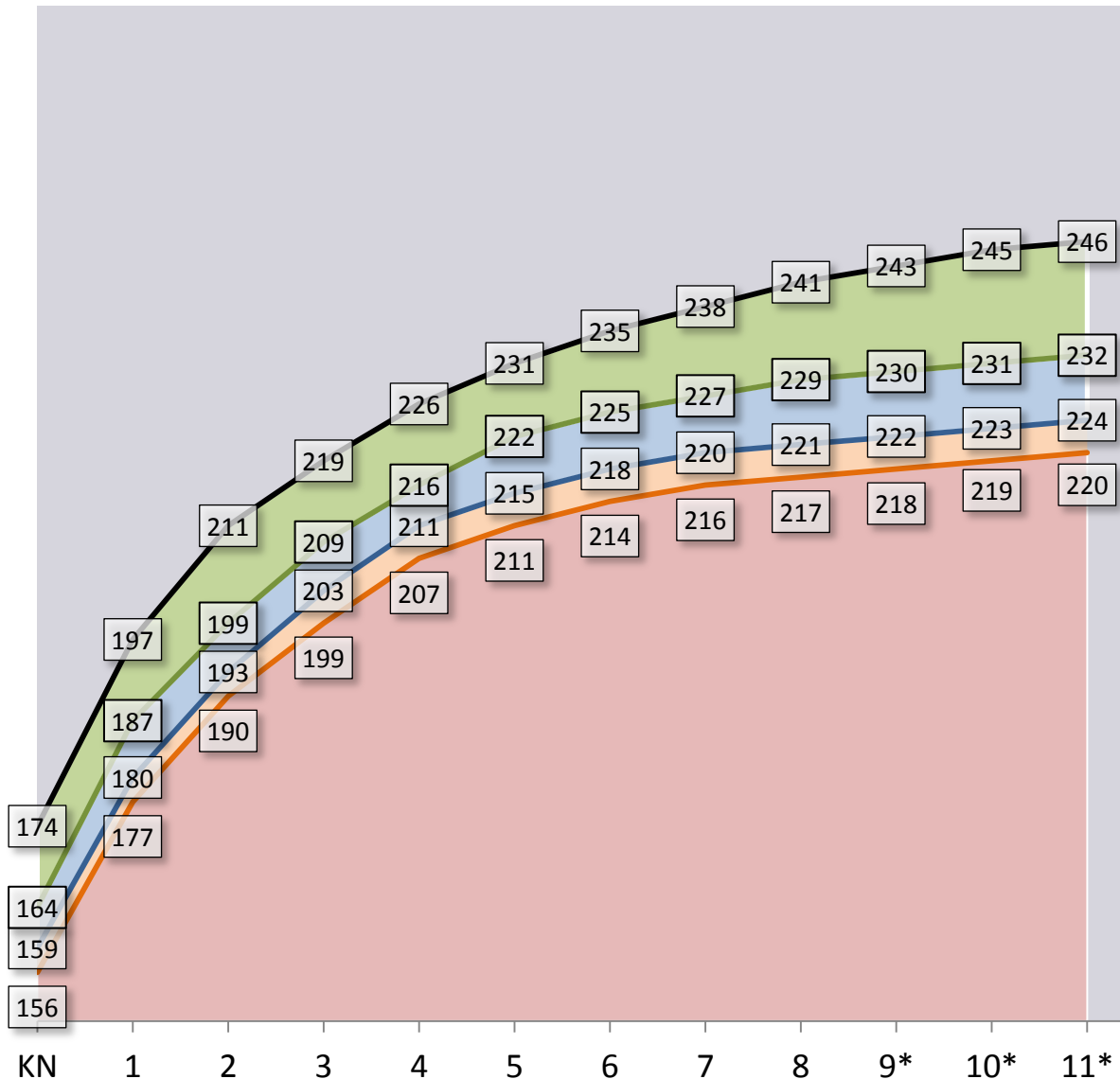
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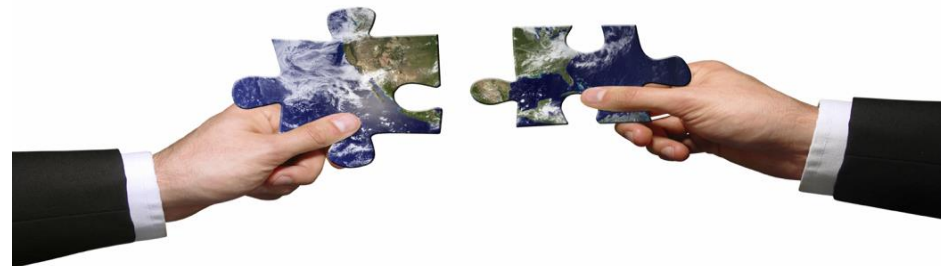**70-89% Chance of Level II**
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Less than 50% Chance of Meeting Level II on STAAR

Reading and Language Usage

Level II – *sufficiently prepared* for the next grade

Level III – *well prepared* for the next grade

Probability of State Standards Success

70% Chance of Level III
Well Prepared

90% or higher of Level II
Sufficiently Prepared

70-89% Chance of Level II
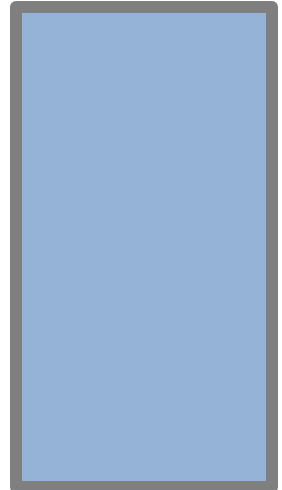
50-69% Chance of Level II

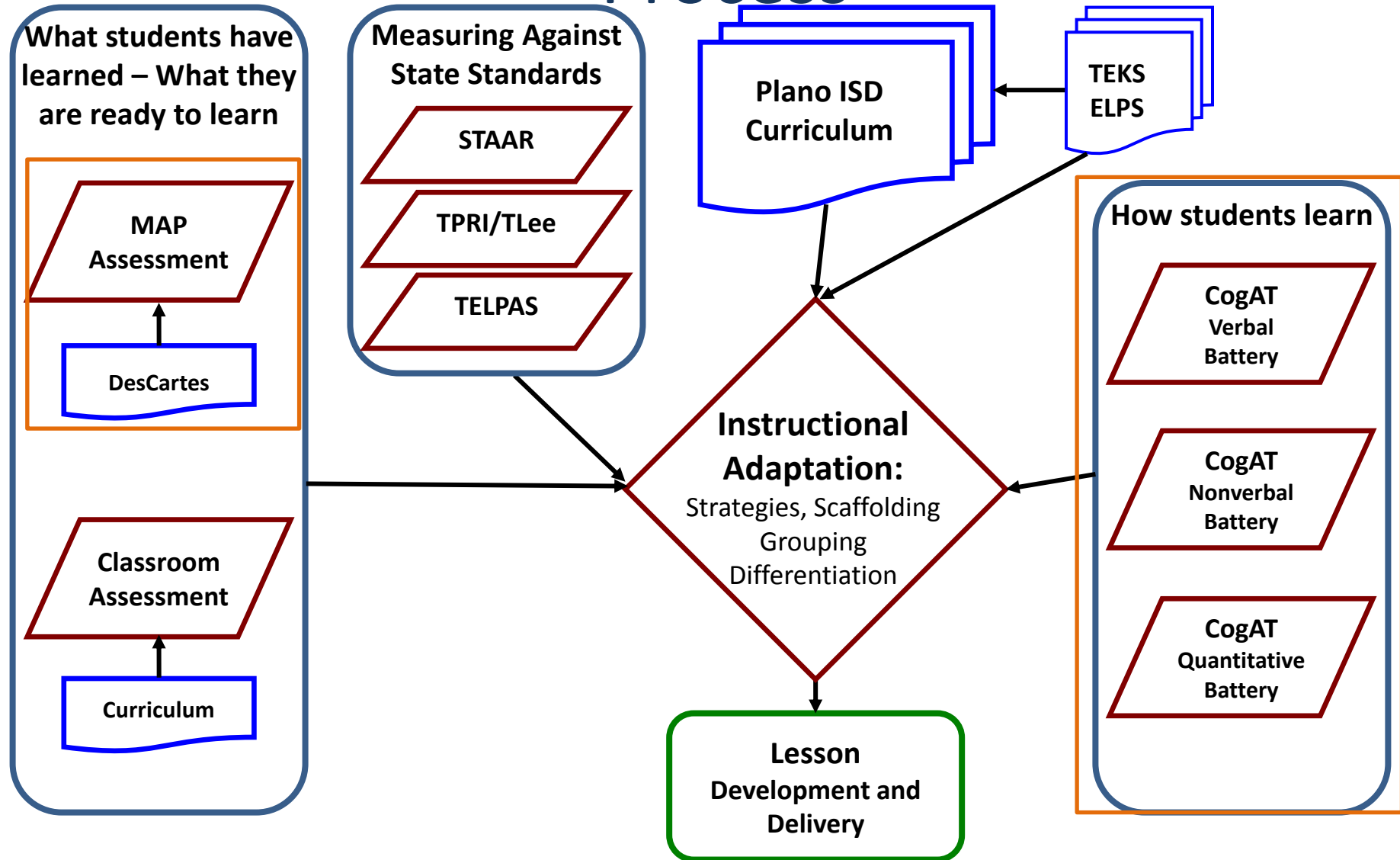**Less than 50% Chance of Meeting Level II on STAAR**

Science

Level II – *sufficiently prepared* for the next grade

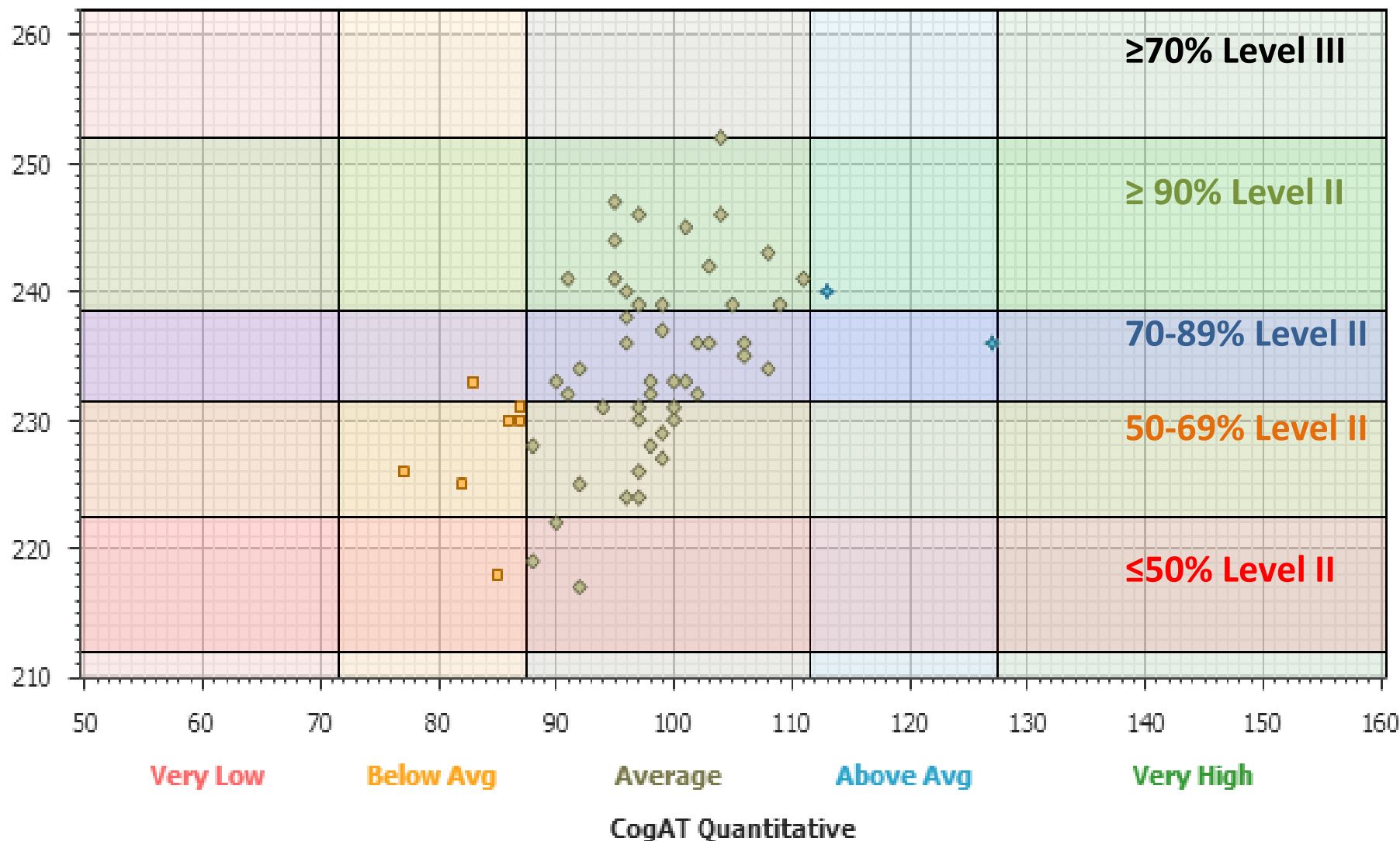Level III – *well prepared* for the next grade

Ability Performance Chart
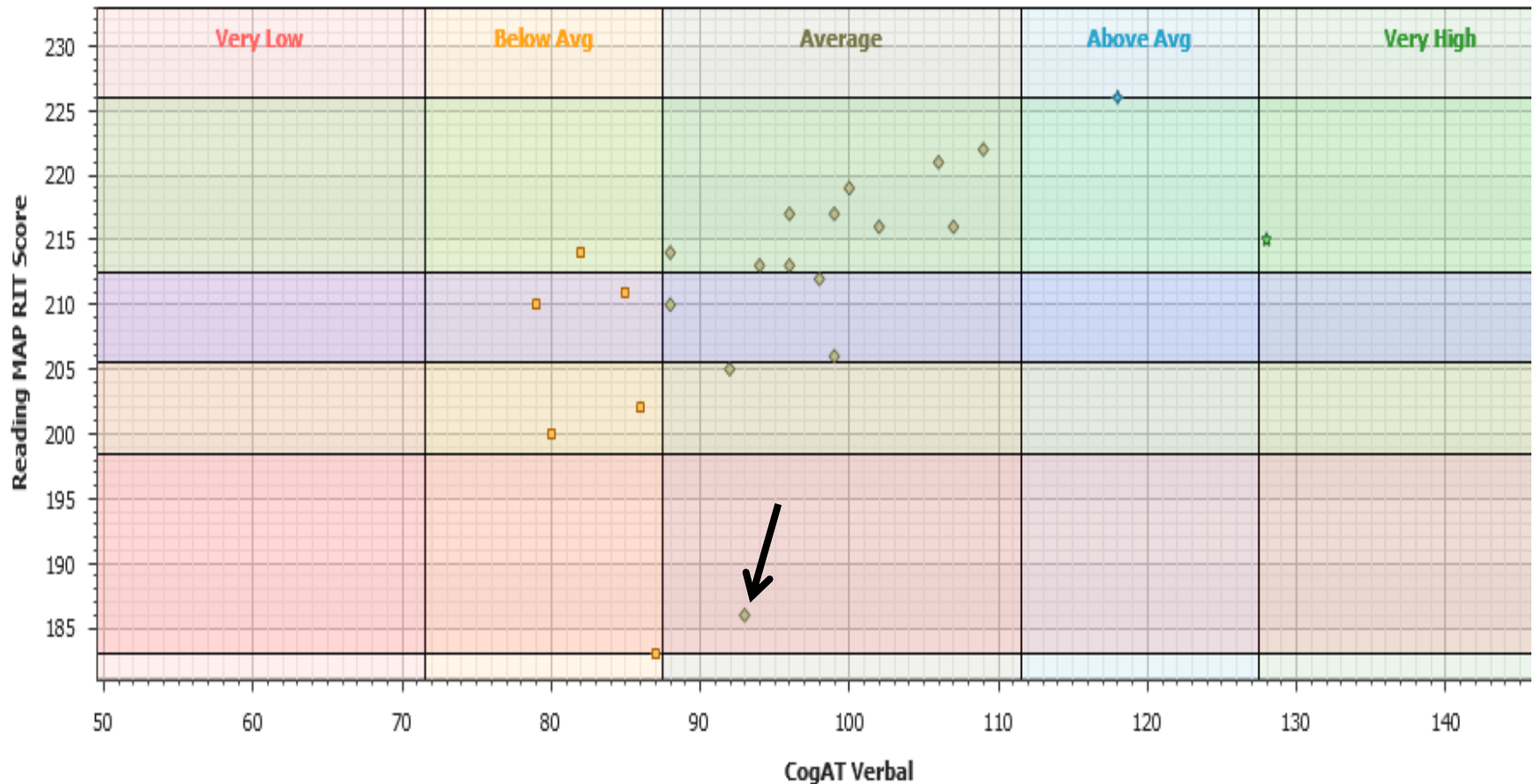
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Lesson Development and Delivery

Ability-Performance Charts - MAP

Ability Performance Chart

Ability-Performance Charts - MAP

Look for Patterns

Plano Effect Score

Plano ISD Formative Assessment Process

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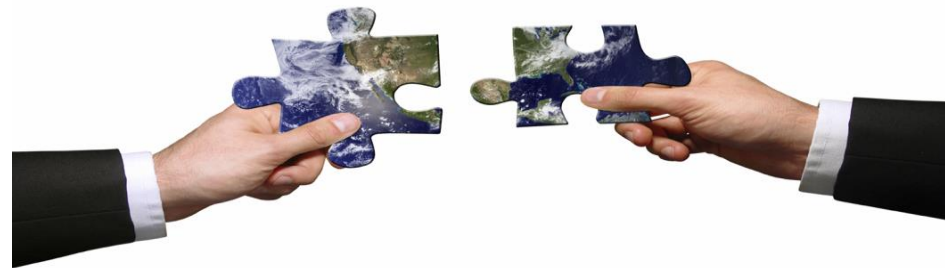
Plano Effect Score

All Second Graders with a BOY MAP of 180

EOY
177

EOY
192

EOY
220
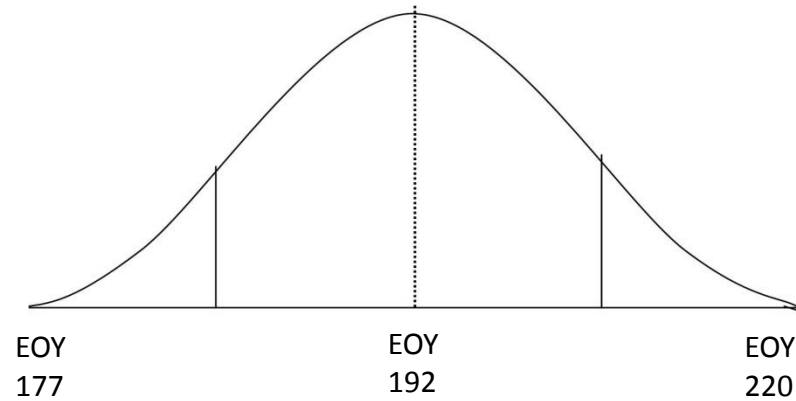
MAP Normative Growth Roster

2014-15 Plano Effect Score – MAP Normative Growth Roster - Mathematics

STAAR	CogAT	MATHEMATICS MAP

Quintile 1 (Highest) — Students Growth Below One Standard Deviation of Target

		S	III-1787	119	9B (Q-)	254	254	245	-9
		S	III-1922	104	7B (Q-)	254	254	246	-8
		S	III-1839	118	7E (V-N+)	259	259	248	-11
		S	III-1922	132	9A	259	259	251	-8
		S	III-2138	141	9A	261	261	252	-9
E		S	III-2138	130	9B (N+)	262	262	245	-17
		S	III-2002	118	8C (Q-N+)	262	262	250	-12
		S	III-1922	136	9A	264	264	253	-11
E		S	III-2002	121	8A	269	269	254	-15
E		S	III-2138	151	9E (N-)	272	272	258	-14
		S	III-1966	147	9B (Q+)	278	278	271	-7

Quintile 1 - Below 1 SD: 13

Quintile 1 (Highest) — Students Growth Within One Standard Deviation of Target

		S	III-1922	128	8A	249	249	247	-2
		S	III-1762	94	6B (Q-)	249	249	247	-2
		S	III-1874	110	6B (V+)	249	249	249	0
		S	III-1922	116	7B (N+)	249	249	250	1
		S	III-1874	121	8A	249	249	255	6
		S	III-1811	104	8E (Q-)	250	250	244	-6
		S	III-2138	146	9E (V-Q+)	250	250	246	-4
		S	III-1811	129	9A	250	250	247	-3
		S	III-1874	135	9A	250	250	247	-3
		S	III-1787	137	8E (Q+)	250	250	249	-1
		S	III-1874	105	6E (N+)	250	250	250	0
		S	III-1811	120	9A	251	251	255	4
		S	III-1874	116	9B (Q-)	253	253	253	0
		S	III-1922	117	9B (Q-)	253	253	253	0
		S	III-1874	138	9E (N-)	253	253	255	2
		S	III-2002	112	7B (V+)	254	254	250	-4
		S	III-1811	123	8B (V-)	254	254	250	-4
		S	III-1922	111	8C (V+Q-)	255	255	252	-3
		S	III-1762	111	6E (N+)	256	256	253	-3
		S	III-1922	105	8B (Q-)	258	258	253	-5

Quintile 1 (Highest) — Students Growth Above One Standard Deviation of Target

Code Z = MAP Difference (typical Target Score - actual Score) is within 1 Standard Deviations (11 341 points). Only 11 341 point can contribute to PES.
Code X = MAP Difference is considered extreme (lowest and highest 1%) and therefore not included in PES calculations.
Code P = Not enrolled at testing campus on PEIMS day and not included in PES.   Code R = Retained student not included in PES.

Identify Quintile Groups Falling Below Typical Growth

Reading	% of Students Meeting Growth Expectations			Students	PES Lower Bound	PES	PES Upper Bound
	Below 1 SD	Within 1 SD	Above 1 SD				
All Students	26%	53%	21%	(76)	-1.4	-0.9	3.2
District	17%	60%	23%			0.9	
Quintile 1 (Highest)	21%	43%	36%	(14)	-0.3	1.0	4.3
District	8%	67%	24%			2.0	
Quintile 2	15%	62%	23%	(13)	-1.0	0.8	3.6
District	17%	59%	25%			1.3	
Quintile 3	18%	65%	18%	(17)	-1.4	-0.8	3.2
District	18%	58%	25%			0.9	
Quintile 4	31%	63%	6%	(16)	-2.7	-2.4	1.9
District	24%	57%	19%			-0.4	
Quintile 5 (Lowest)	44%	31%	25%	(16)	-2.1	-2.7	2.5
District	20%	58%	22%			0.2	

Identify Students who May Have Contributed to the Pattern

- On the PES roster, locate the students who missed their typical growth by a significant amount.

- What programs or academic characteristics do these kids have in common?

- Is the performance of these students consistent with their classroom performance?

- MAP performance is reflective of instruction so look at instruction for clues to performance.

Summary

- In Plano we have a variety of reports which are designed to help drive questions surrounding student success.

- We look at many different sources of data to get a complete picture of our students.

- MAP provides a vital source of data which can be used in combination with other sources of data to drive instruction