Johnson Creek School District

Personalization of Academics: Meeting Student Needs at their Academic Readiness in Mathematics!

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Meeting student needs at their academic readiness!

Purpose: To share Johnson Creek's journey from single cell classrooms to student academic readiness classrooms.

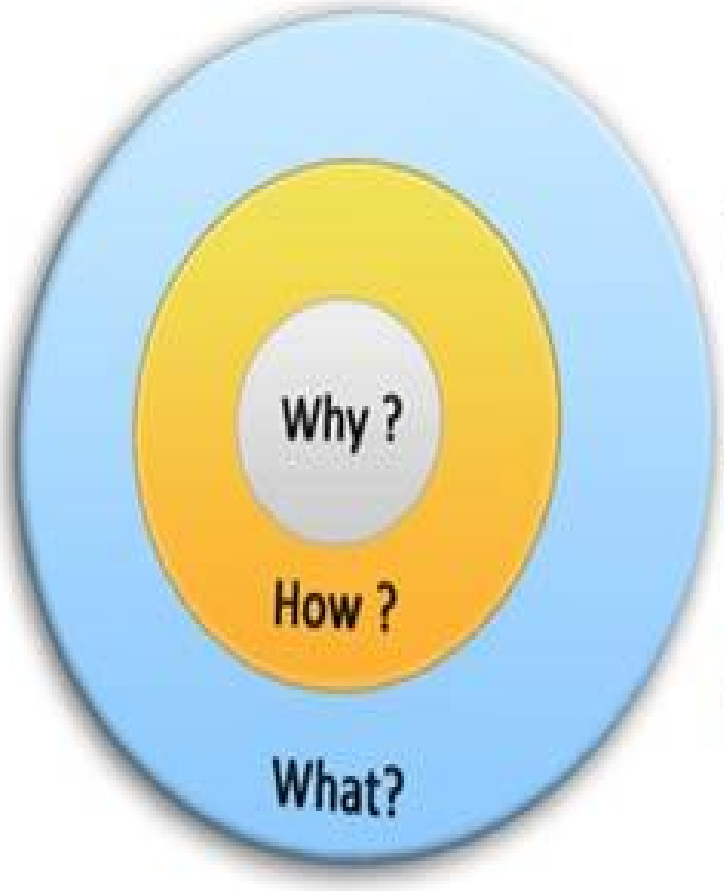
1. **Big Picture**
   a. **Universal Screeners/Data Criteria**
   b. **Professional Development/Workshop Model**
   c. **Multi-age/Student Proficiency Profile**
2. **Changing Practice**
   a. **Videos of JC Math in Action**
   b. **Teachers' share their stories of application.**

Data Changes demonstrates "Why" in action.

Group	Prior to Change (2011)	Current (2015)
MAP Math % of students without disability meeting proficiency and above	68%	92%
MAP Math % of students with disability meeting proficiency and above	20%	89%
MAP Math % of students without disability meeting growth target	54%	96%
MAP Math % of students with disability meeting growth target	12%	84%

Data represents students who have been within the JC district from 2011 - Present

Start with WHY



Why = The Purpose

What is your cause? What do you believe?

How = The Process

Specific actions taken to realize the Why.

What = The Result

What do you do? The result of Why. Proof.

Book/Video Resource: Start with Why (TedTalk) Simon Sinek, Book

WHY?

Questions to ponder

Why do we group by age?
Why does the school year run September - June?
Why are subject taught in separate blocks?
Why does Algebra come before Geometry?
Learning takes place 8:00-3:30?
Why do students "power down" when students come to school?
Why do we teach the same things at the same time?
Why Why Why

Our current system is designed for a society that no longer exists....initially designed 120 years ago

We need to design a system that matches the needs of the knowledge age.

Foundation of **WHY:** Student Learning

Student Learning

- **Triangulation of Data (Year 1, continues to evolve)**
- **Standard Based: Student Proficiency Profile (Year 1-2, continues to evolve)**
- **Content rich Focus Area Advisors (Year 2-3)**
- **Meeting students at their academic readiness and teacher lens schedule in Math and Reading (multiage) (Year 3 Grades 2-5, Year 4 Grades K-1 and Year 5/6 6th-8th- multiage)**
- **Consistent pedagogy: workshop model (Year 2-3, continues to evolve)**
- **Depth of Knowledge (Year 4, continues to evolve)**
- **Student Ownership: Learning Continuum (with voice and choice) (Year 5/6 beginning to evolve)**

Universal Screeners

NWEA MAP Mathematics (1st-9th)

Depth of Knowledge Assessments (K-9th)

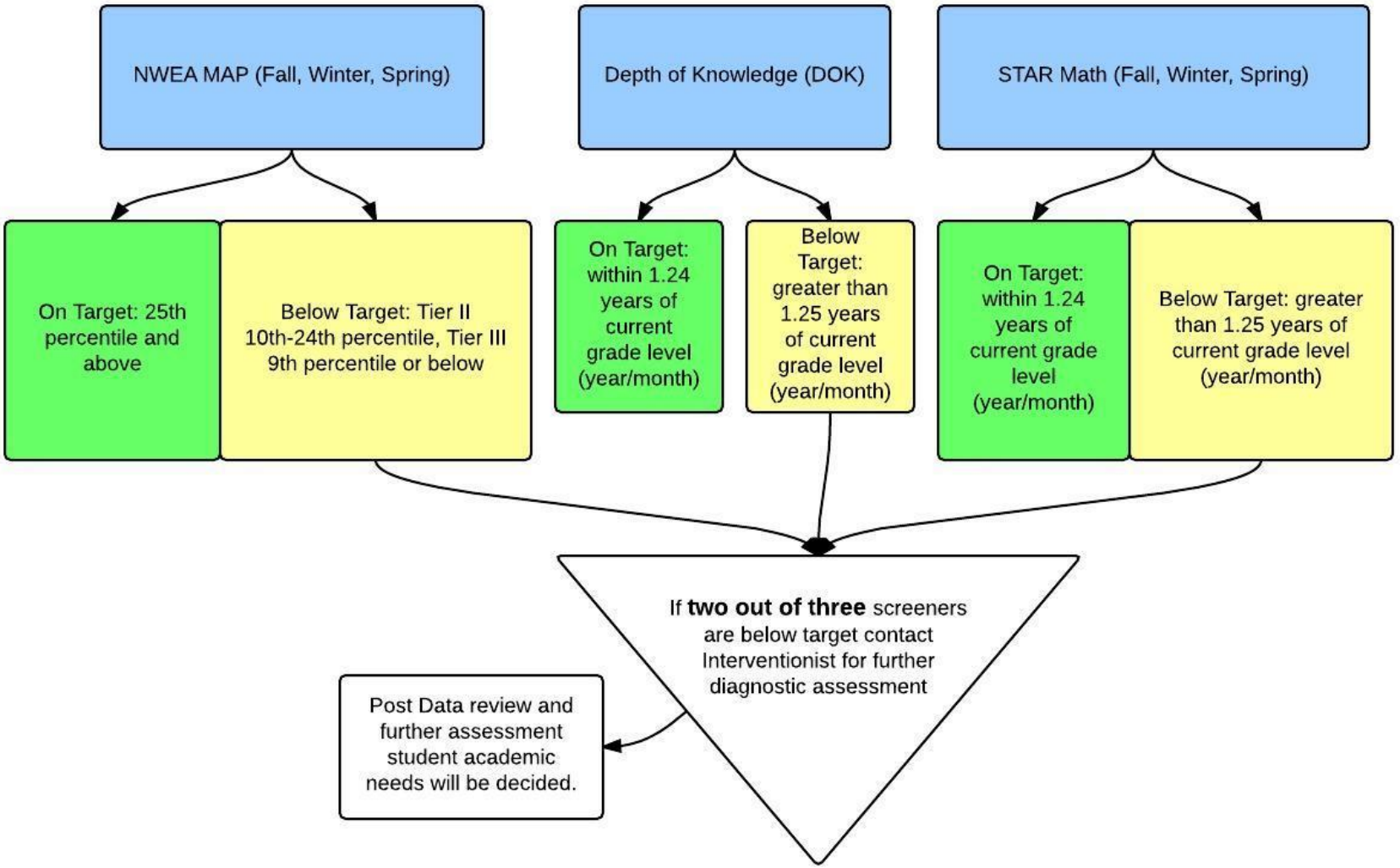
*CBA (see resource slide/last slide)

STAR (K-5)

ALEKS (6th-8th)

Kahn Academy (9th)

Math Decision Making Criteria

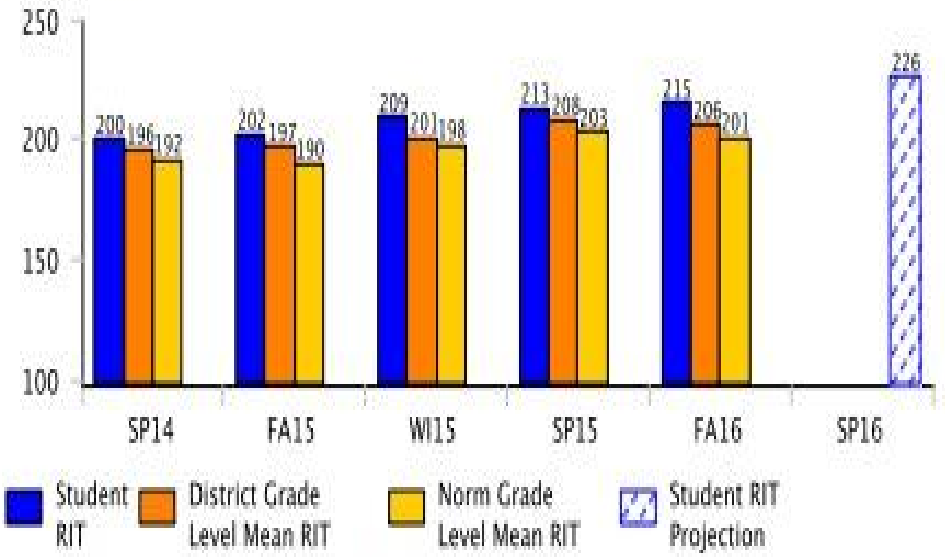


Action Plan

Student Name	MAP Observation Summary	STAR/Fact Fluencey	SPP/Formative (Exit Slips)	Reflective Thoughts	Action Plan
Student Name	Score: 199 Percentile Rank: 77 Projected Growth: 12 points Highest area(s): Geometry Lowest area: OA	GE: 3.0 Percentile Rank: 58 Higest area(s): Lowest area(s): Mastery of addition/subtraction	Level 3 moving Level 4 stands vary on proficiency	Test scores don't always match the performance in class	Exit Slip for Level 3, Areas of Need: OA (IXL), Start on Multiplication and continue assesing Addition/subtraction that she is accountable for practicing. Needs depth on number relationships for word problems
Student Name	Number and Operations lowest, consistent growth over the years, working well above grade level	GE:6 Fractions and measurement lowest	Need SPP checked for ML5, ML6, Exit Slips	Working almost 2 grade levels above, does well in groups	Exit Slips needed for ML6, IXL work on ML6/ML7, push!
Student Name	Large gains prior to 4th grade, Plateauing in 230s Exit Slip 5G1-3 (Check 4G1-3, Check 2G1)	FF complete, Classify two-dimensional figures into categories based on their properties.?? Fractions	ML7 G, No Geo Exit Slips	highly motivated and hard worker	Give exit slips for Geometry 5G1-3, give work IXL properties geometry, Fraction Exit slips with equivalency, push vocabulary

NWEA MAP 2nd-5th CCSS

Mathematics



Term/ Year	Grade	RIT (+/- Std Err)	RIT Growth	Growth Projection	Percentile Range
FA16	4	212-215-218			79-85-89
SP15	3	210-213-216	11	12	69-76-82
WI15	3	206-209-212			72-79-85
FA15	3	198-202-205			74-81-87
SP14	2	197-200-203	15	14	64-72-79
WI14	2	193-195-198			67-74-81
FA13	2	182-185-188			65-73-80
FA12	1	170-173-176			72-79-85
SP12	K	170-173-176			79-84-89
WI12	K	157-160-163			66-73-79

Mathematics Goals Performance - Fall 2015-2016

Operations and Algebraic Thinking	221-235	Number and Operations	206-218
Measurement and Data	209-221	Geometry	198-212

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Workshop Model

Universal Screeners - Workshop Model

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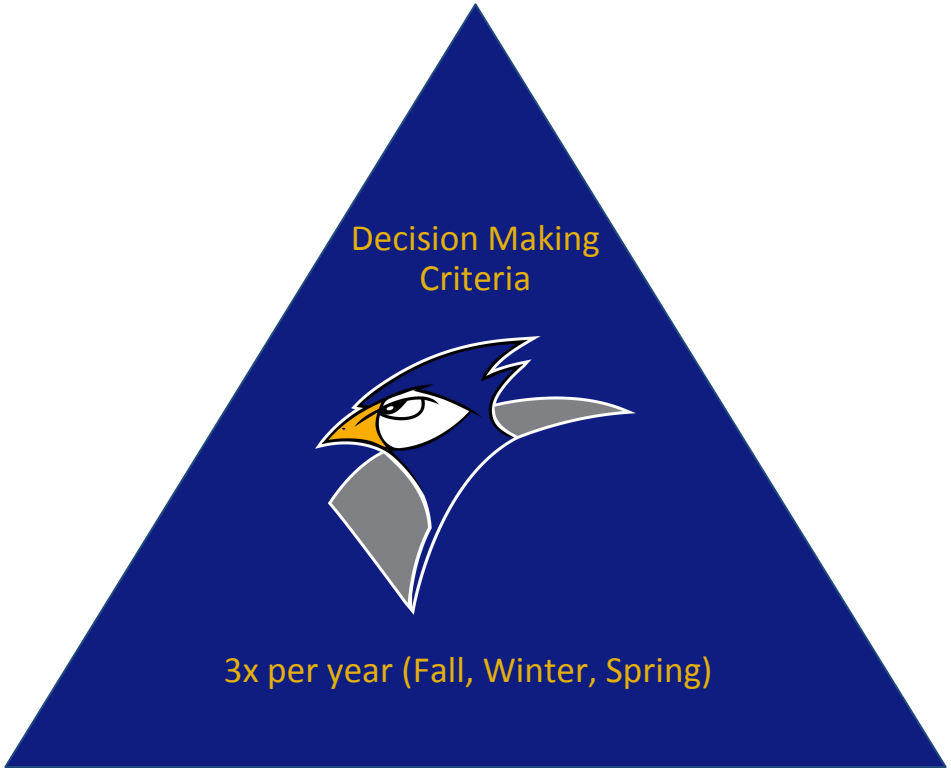

Depth of Knowledge Assessments (K-9th)

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STAR (K-5)

ALEKS (6th-8th)

Kahn Academy (9th)

Workshop Model: **Consistent pedagogy** **Workshop model**

Learning Continuum/SPP

Learning Continuum

Student Learning

Student Samples:

Math SPP: ML6

Math Learning Continuum: ML6

Math SPP: ML4

Math Learning Continuum: ML4

Math Exchange Groups/Lesson

Student Exchange Groups/Lessons

Student Learning

1. **Lesson Sample**
2. **Transformation as an educator**
3. **Gamification in the Math Classroom**

Personalizing Academics

Student perspective Q/A video

Resources Referenced

Basics of JC Personalization of Academics

JC Sample of Universal Screeners

JC Student Proficiency Profile (SPP) JC Learning Continuum

JC Sample of DOK (Exit Slips)

Sample Student Academic Learning Plan 1, 2, 3

JC MSP Grant PD Sample with amazing links/resources

Cognition- Based Assessment & Teaching By Michael Battista

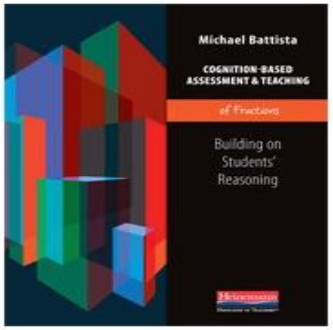
Howard County Wiki DOK Assessments

Rocket Math: Donald B. Crawford, Ph.D. Otter Creek Institute App

Big Math Ideas 6-8th ALEKS 6th-8th FrontRow Math Kahn Academy
Math Exchanges Guided Math

Gamification

Student Interviews

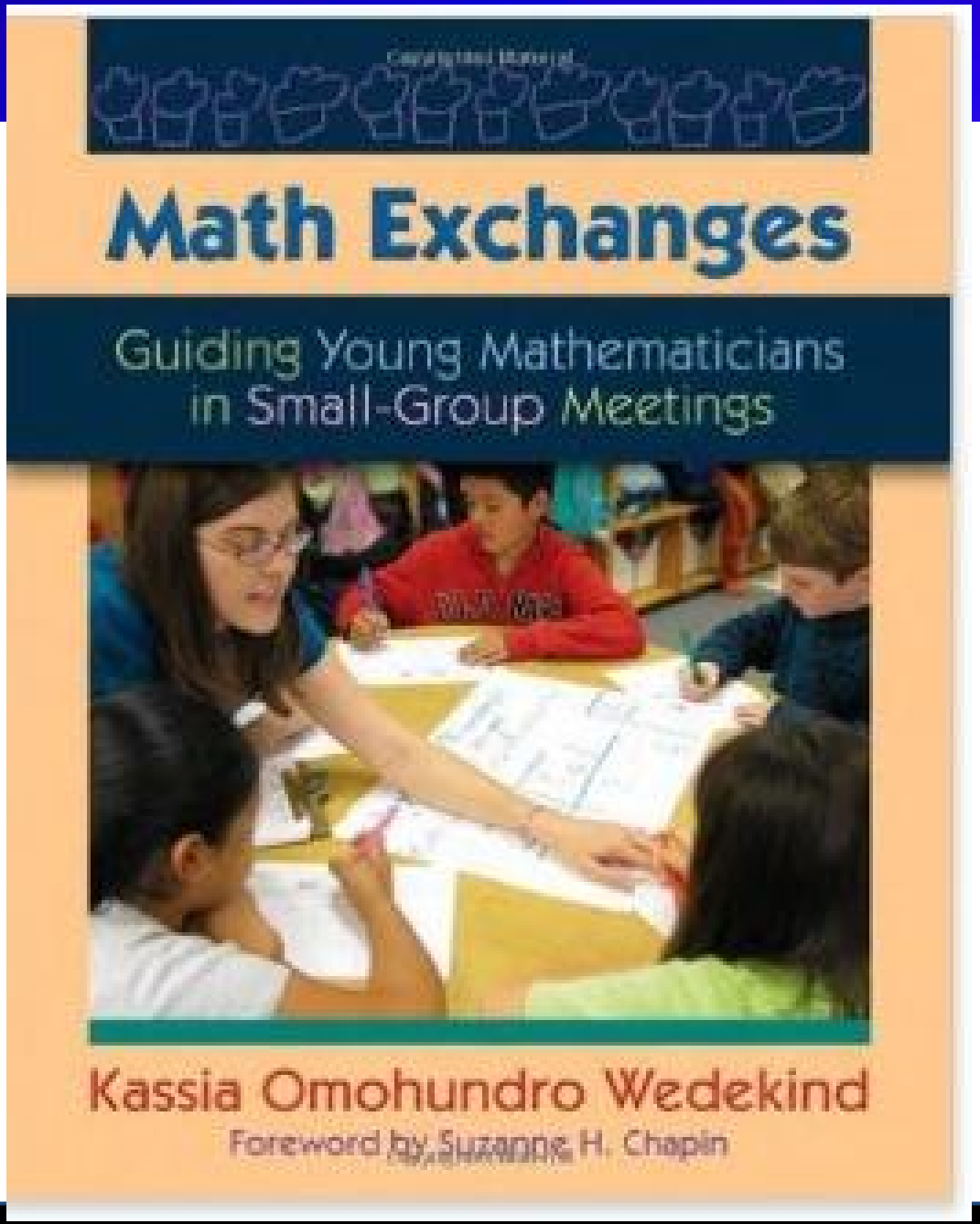


Cognition-Based Assessment & Teaching of Fractions

Building on Students' Reasoning

By Michael Battista

CBA Levels of Sophistication in Students' Reasoning About Fractions	
Level	**Description**
0	Student has no concept of the meaning of fractions, but may understand partitioning.
1	Student recognizes only familiar pictures of fractions.
2	Student understands fractions as counting all parts and shaded parts.
3	Student understands fractions as partitioning a whole shape into equal parts and selecting parts.
4	Student understands fractions as partitioning a quantity into equal parts and selecting some parts.
5	Student can manipulate or imagine visual representations of fractions to solve simple fraction arithmetic problems.
6	Student uses and has some intuitive understanding of symbolic fraction computation.
7	Student uses pictures or materials to solve difficult fraction arithmetic problems and to understand more precisely why fraction computations work.


Math Exchanges
Guiding Young Mathematicians in Small-Group Meetings
Kassia Omohundro Wedekind
Foreword by Suzanne H. Chapin