

# Giving Individualized Instruction in Algebra

OSBA Conference

November 14, 2016

Presented by Kevin Grieshop, Jean Koth, and Kim Dyar

# The Problem

- ▶ Low standardized testing scores
- ▶ Alarming lack of prerequisite skills
- ▶ Not enough time to cover curriculum
- ▶ “Domino Effect” in future math classes

# The Beginning of a Solution

- ▶ Double class period
- ▶ Two “classes” merged together with two classroom teachers and one intervention specialist
- ▶ Differentiation by pacing—students move through the curriculum as they are ready

# How Do We Manage This??

- ▶ Each student begins in their “home classroom”.
- ▶ Team agendas are passed out to make students aware of their schedule for the day.

**Team #14 (Lesson 6-1: Parts of an Equation)**

**Leader:**

**Teammates:**

**Primary Teacher:** Mr. Grieshop

**Primary Location:** Mr. Grieshop's Room

**Agenda:** \*\*You do not need a calculator today.\*\*

1. Complete guided notes packet
2. Make flash-cards for the words you will be tested on: coefficient, variable, operator, term, constant
3. With time remaining, complete Unit 5 test corrections
4. At 8:52, stop for quizzes

- ▶ Each student is only allowed to do one lesson each day, for our own sanity.
- ▶ They split up to the room that they are assigned to, which is where they receive their mathematical instruction.
- ▶ At the end of every block, they return to their home classroom and take a mini-quiz that tells us whether or not they are ready to move on to the next lesson.
  - ▶ They get three tries on each lesson before they are forced to move on.

# A Peek Into Our Classrooms



# Curriculum & Materials

- ▶ Developed our own curriculum—no book
  - ▶ Allows for intense remediation of prerequisite skills, and enrichment units for accelerated students
  - ▶ The units and learning targets are displayed on the wall with student “markers” underneath to encourage friendly competition and a sense of accomplishment
- ▶ Wrote all activities, quizzes, and tests ourselves
- ▶ Students also have online accounts for the IXL program



# Downfalls

- ▶ Some student difficulty transitioning between instructors
- ▶ Demanding on us as teachers
  - ▶ Have to manage several lessons at once during class time
  - ▶ Extra planning time needed
  - ▶ Grading can't ever wait
- ▶ When students waste class time, it puts them behind in the curriculum
  - ▶ Pacing activity to increase student awareness of individual progress
  - ▶ Giving credits for course completion becomes tricky

# Benefits

- ▶ Students love it!!



# Benefits

- ▶ Prerequisite units allow us to ensure students are ready to begin typical Algebra I curriculum
- ▶ Enrichment units provide accelerated students some Algebra II content
  - ▶ Aids them on AIR test as well (theoretically)
- ▶ Lesson repetition fosters teacher refinement
- ▶ Low pressure, low stress environment
- ▶ Increases confidence in students
- ▶ Helps students excel in future math classes

# Questions?

Thank you for your attention! Any questions in the future, feel free to contact us at [grieshopk@piqua.org](mailto:grieshopk@piqua.org), [kothj@piqua.org](mailto:kothj@piqua.org), or [dyark@piqua.org](mailto:dyark@piqua.org).

**Team #1 (Unit 2 Remediation)**

**Leader:**

**Teammates:**

**Primary Teacher:** Mr. Grieshop

**Primary Location:** Mr. Grieshop's Room

**Agenda:** \*\*You will need a calculator today.\*\*

1. Complete Unit 2 Test corrections, using answer key to self-check if teacher provides
  - a. If you don't remember how to do a problem, first look back in your binder at old worksheets to see if you can figure it out on your own. Then if you still don't know, ask a teacher or classmate for help.
2. Choose IXL: Algebra I C.5 Solve Proportions, Algebra I C.6 Solve Proportions: Word Problems, Algebra I D.3 Percent word problems, Algebra I A.4: Convert between decimals and fractions, Algebra I D.1: Convert between percents, fractions, and decimals, 6th grade: I.10 Put a mix of decimals, fractions, and mixed numbers in order

**Team #2 (Lesson 3-1: Translating Algebraic Expressions)**

**Leader:**

**Teammates:**

**Primary Teacher:** Mr. Grieshop

**Primary Location:** Mr. Grieshop's Room

**Agenda:** \*\*You will not need a calculator today.\*\*

1. Complete matching activity with signal words
2. Practice writing algebraic expressions on Kuta worksheet
3. Practice writing algebraic expressions with signal words
  - a. IXL--Algebra I I.1 Write Variable Expressions
4. Correct Unit 2 test with guided test corrections sheet
5. At 8:52, stop for quizzes

**Team #3 (Lesson 3-5: Rules of Exponents Days 2 and 3)**

**Leader:**

**Teammates:**

**Primary Teacher:** Mr. Grieshop

**Primary Location:** Mr. Grieshop's Room

**Agenda:** \*\*You may NOT use a calculator today.\*\*

1. Correct quizzes
2. Make flash cards to practice rules if necessary
3. Do example problems with teacher for misunderstood rules
4. Finish practice worksheet, or begin a second one
5. Practice lacking skill on IXL (all Eighth Grade):
  - a. F.7 Evaluate negative exponents
  - b. F.8 Multiplication with exponents
  - c. F.9 Division with exponents
  - d. F.10 Multiplication and division with exponents
  - e. F.11 Power rule
6. At 8:52, stop for quizzes

**Team #4 (Lesson 4-1: Solving One-Step Equations)**

**Leader:**

**Teammates:**

**Primary Teacher:** Mrs. Howard

**Primary Location:** Room 214

**Agenda:** \*\*You may NOT use a calculator today.\*\*

1. Complete guided notes for solving one-step equations
2. Do Unit 3 Test Corrections
3. Work on IXL--Algebra I J.3 Solve One-Step Linear Equations for remaining time
  - a. You may use a calculator for this assignment ONLY
4. At 8:52, stop for quizzes

**Team #5 (Lesson 4-3: Solving Multi-Step Equations)****Leader:****Teammates:****Primary Teacher:** Mrs. Dyar**Primary Location:** Mrs. Koth's Room

Agenda: \*\*You may use a calculator today if you want to.\*\*

1. Warm-up problems on distributive property and combining like terms
2. Complete guided notes
3. IXL Eighth Grade W.8 Solve Multi-Step Equations until 8:30
4. Practice word problems with additional worksheet
5. At 8:52, stop for quizzes

**Team #6 (Lesson 4-3: Solving Multi-Step Equations Day 2 and Day 3)****Leader:****Teammates:****Primary Teacher:** Mrs. Dyar**Primary Location:** Mrs. Koth's Room

Agenda: \*\*You may use a calculator today if you want to.\*\*

1. Correct quiz
2. Do equation scavenger hunt with handout
3. Finish word problem worksheet
4. IXL Eighth Grade W.8 Solve Multi-Step Equations
5. At 8:52, stop for quizzes

**Team #7 (Lesson 4-4: Solving Equations with Variables on Both Sides)****Leader:****Teammates:****Primary Teacher:** Mr. Grieshop**Primary Location:** Mr. Grieshop's Room

Agenda: \*\*You may use a calculator today if you want to.\*\*

1. Complete guided notes
2. Around the Room activity (using alphabet)
3. Continue Around the Room
4. Practice word problems with additional worksheet
5. At 8:52, stop for quizzes

**Team #8 (Lesson 4-4: Solving Equations with Variables on Both Sides Day 2 and 3)****Leader:****Teammates:****Primary Teacher:** Mr. Grieshop**Primary Location:** Mr. Grieshop's Room

Agenda: \*\*You may use a calculator today if you want to.\*\*

1. Correct quizzes
2. Finish Around the Room from yesterday
3. Work through Kuta practice sheet
4. Buttons puzzle
5. IXL Algebra I J.6 Solve Equations with Variables on Both Sides
6. At 8:52, stop for quizzes

**Team #9 (Lesson 4-5: Literal Equations)****Leader:****Teammates:****Primary Teacher:** Mrs. Dyar**Primary Location:** Mrs. Koth's Room

Agenda: \*\*You will need a calculator today.\*\*

1. Complete "Literal Equations - Worksheet #1"
2. Complete gridded practice sheet (You must get to these word problems in order to be most successful on your quiz!)
3. At 8:52, stop for quizzes

**Team #10 (Lesson 4-5: Literal Equations Day 2 and 3)****Leader:****Teammates:****Primary Teacher:** Mrs. Dyar**Primary Location:** Mrs. Koth's Room

Agenda: \*\*You will need a calculator today.\*\*

1. Correct quiz
2. Complete remaining problems from 1st day worksheets
3. Complete additional practice problems
4. At 8:52, stop for quizzes

**Team #11 (Unit 4 Review)****Leader:****Teammates:****Primary Teacher:** Mrs. Howard**Primary Location:** Room 214

Agenda: \*\*You will need a calculator today.\*\*

1. Complete Unit 4 Test review, using answer key to self-check
2. Choose IXL: Algebra I J.3 Solve One-Step Linear Equations, Algebra I J.4 Solve Two-Step Linear Equations, Eighth Grade U.7 Solve Multi-Step Equations, Algebra I J.6 Solve Equations with Variables on Both Sides, Eighth Grade W.12 Solve Equations: Word Problems

**Team #12 (Lesson 5-1: Basic Inequalities Day 2 and Day 3)****Leader:****Teammates:****Primary Teacher:** Mrs. Howard**Primary Location:** Room 214

Agenda: \*\*You do not need a calculator today.\*\*

1. Correct quiz
2. Complete extra worksheet
3. IXL assignment for the lacking skill
  - a. Algebra 1: K.1 Graphing Inequalities
  - b. Algebra 1: K.2 Write Inequalities from Graphs
4. At 8:52, stop for quizzes

**Team #13 (Lesson 5-3: Compound Inequalities)****Leader:****Teammates:****Primary Teacher:** Mr. Grieshop**Primary Location:** Mr. Grieshop's Room**Agenda:** \*\*You MAY use a calculator today.\*\*

1. Practice writing and graphing inequalities from written descriptions using guided notes
2. Complete selected exercises on solving compound inequalities worksheet
3. IXL Algebra I K.12 Graph Compound Inequalities, K.13 Write Compound Inequalities from Graphs
4. At 8:52, stop for quizzes

**Team #14 (Lesson 6-1: Parts of an Equation)****Leader:****Teammates:****Primary Teacher:** Mr. Grieshop**Primary Location:** Mr. Grieshop's Room**Agenda:** \*\*You do not need a calculator today.\*\*

1. Complete guided notes packet
2. Make flash-cards for the words you will be tested on: coefficient, variable, operator, term, constant
3. With time remaining, complete Unit 5 test corrections
4. At 8:52, stop for quizzes

**Team #15 (Lesson 6-2: Identifying Sequences)****Leader:****Teammates:****Primary Teacher:** Mr. Grieshop**Primary Location:** Mr. Grieshop's Room**Agenda:** \*\*You MAY use a calculator today.\*\*

1. Complete warm-up assignment on IXL: Fifth Grade S.5 Mixed Patterns Review
2. Complete practice worksheet (or two or three)
3. IXL choices:
  - a. If you're feeling a challenge--Algebra I P.2 and P.3
  - b. If you're not feeling a challenge--Seventh Grade Q.2 and Q.3
4. At 8:52, stop for quizzes

**Team #16 (Test--Good luck today!!)****Leader:****Teammates:****Primary Teacher:** Independent day**Primary Location:** Mrs. Koth's room, then relocate to take test**Agenda:**

1. Complete Unit Test
2. If finished early, here are your choices:
  - a. Help teachers or classmates
  - b. Play math speed, integer war, 30-Wonderful, or any other math game
  - c. Complete math puzzles or coloring pages (ask Mrs. Koth for these)
  - d. Do homework for another class