Individualized Educational Services

Education Center
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Fall 2019 Algebra I Syllabus

"Patterns of Nature"

Class Summary	
Dates & Times:	Mondays 1:45 - 2:45
Costs:	$30 per day Pre-Pay (less group discount), $40 Drop-in. No material / registration fee.
Instructor:	Jonathan Gush; jonathan@ies-tutor.com
Texts:	Big Ideas Math Middle School Program Instructor Created Supplemental Materials
Google Classroom:	c8lnyg

* These are available at http://bim.eassyaccessmaterials.com free of cost

Course Outcomes:

1. Students will create visual understandings of numbers, order numbers on a number line, and show basic operations visually, symbolically, and verbally to model a variety of problems and scenarios.
2. Students will connect division with fractions and how dividing a numerator by a denominator necessitates numbers to be formed that are less than a whole.
3. Students will create visual, symbolic, and verbal models of fractions and be able to compute the four basic operations with fractions.
4. Students will connect place value less than 1 and understand the scale with visuals and the change in the verbal model by adding "ths." Students will compute the four basic operations with decimals and utilize problem solving skills to solve real world problems.
5. Students will explore integers as "opposite" the positive numbers they are familiar with by constructing and using a number line for addition, subtraction, and multiplication to solve items. Students will discuss the limitations of integers and how they do not directly appear in language nor nature.
6. Students will apply the basic skills they have learned to geometry concepts, such as area, perimeter, and volume to solve common problems.
7. Students will connect dimensional concepts from geometry to exponents to formulate an understanding. Students will calculate with exponents as repeated multiplication or division. They will use roots as the opposite operation.
8. Students will use technology as appropriate, understanding that calculators are tools of the trade, not answer generating machines, and only output quality data when quality input is given.

Instructor's Obligations

1. Deliver instruction to ensure students think for themselves and develop their skills and critical thinking abilities.
2. Model math skills, critical thinking, and problem solving strategies
3. Develop instructional supports and accommodations as needed for students' success.
4. Communicate assignments and time lines to students and families to prevent confusion.
5. Share rubrics and grading expectations when assignments are assigned.
6. Maintain learning expectations that allow students to pursue as may post secondary options as possible.
7. Maintain a learning environment where students can take risks, make mistakes, ask questions and discuss issues.
8. Give quality feedback to students and families on assignments and when asked questions in person or via email.

Students' Obligations

1. Maintain current on study and assignment schedules to contribute to class discussions.
2. Proactively complete work and study over time, rather than "cram."
3. Participate in lively, opinionated discussions, but be civil and respectful to all people in the room.
4. Have a growth mindset and know that there are no expectations of perfection.
5. Keep a schedule to balance all life's activities.
6. Ask questions when you have them!

Family Obligations

1. Check in with the instructor proactively to understand your child's progress. Remember, the parent has to assign the transcript grade in conjunction with the supervising teacher that is backed by graded work samples.
2. Help schedule all of your child's obligations so they know what to expect
3. Establish routines for schooling, home needs, and special events.
4. Ask your child questions on what they are reading and pose questions for discussion.
5. Create a comfortable study space that is well lit with supplies near by.
6. Ask questions when you have them!

Students with IEPs, 504 Plans, or Students in Need of Accommodations

Please inform the instructor of any needs you have so they can be accommodated. This class is designed for your success by choosing a math series with lessons that include built in strategies to help you learn the material. All students can meet high, grade level standards with the correct supports. Although the goals of the class are the same for everyone, the path that each student takes is unique and set up with the supports for success!

This class will be taught using neuro-educational strategies, including visualization of the content, directed vocabulary instruction, language supports, and self-management strategies. These strategies are research based teaching techniques to help all students learn, regardless of learning differences!

Tentative Schedule Schedule & Pacing Guide

Date	Math Area	Topic(s)
9/9/19	Review of Basic Operations	• Natural vs. Counting numbers • Visualizing Number Lines • Comparing & Ordering Number Lines with Scales
9/16/19		• Addition, Subtraction, and Multiplication on the number line • Introduction to Ken-Ken Puzzles
9/23/19		• Division on the number line: whole quotients >1
9/30/19		• Division on the number line: quotients with fractions
10/7/19		• Number line Applications: Perimeter of Polygons • Classifying Polygons
10/14/19	Fractions	• Visualizing Fractions • Creating Equivalent Fractions
10/21/19		• Adding & Subtracting Fractions with Common Denominators • Adding & Subtracting Fractions with Uncommon Denominators • Fast Fractions
10/28/19		No Class- Fall Break
11/4/19		• Multiplying & Dividing Fractions
11/11/19		No Class- Veteran's Day
11/18/19		• Prime Factorization • Greatest Common Factor • Reducing Fractions • Fraction Review
11/25/18	Sharpen the Saw	No Class- Thanksgiving Break
12/2/19	Decimals	• Visualizing Place Value < 0 • Reading Numbers < 0 • Converting Fractions, Decimals, and Percents into each other
12/9/19		• Visualizing Decimals • Adding & Subtracting Decimals
12/16/19	Sharpen the Saw	IES Flex Week
12/23/19		No Class- Winter Break
12/30/19		No Class- Winter Break
1/6/20	Decimals	• Multiplying & Dividing Decimals
1/13/20		• Using Percents: % and ‰ • Applications of Percents: Discounts, Mark-Ups, Tips, Interest
1/20/20	Sharpen the Saw	MLK, Jr. Holiday

Date	Math Area	Topic(s)
1/27/20	Integers	• Visualizing Integers on a Number Line • Comparing Integers • Adding Integers
2/3/20		• Subtracting Integers • Absolute Value
2/10/20		• Multiplying Integers by Repeated Addition • Dividing Integers • Signing of Multiplied & Divided Integers
2/17/20		Presidents' Day Holiday
2/24/20		• The Coordinate Plane • Plotting Points on the Coordinate Plane
3/2/20	Geometry	• Plotting Shapes on the Coordinate Plane • Calculating Areas of Two Dimensional Shapes: Squares, Rectangles, Parallelograms, and Triangles
3/9/20		• Transformations on the Coordinate Plane: Translations, Rotations, and Reflections
3/16/20		• Properties of Circles • Understanding π • Calculating Circumference and Area of Circles
3/23/20		• Calculating Surface Area of Prisms
3/30/20		• Calculating Surface Volume of Prisms
4/6/20	Sharpen the Saw	No Class- Spring Break
4/13/20	Sharpen the Saw	IES Flex Week
4/20/20	Geometry	• Geometry of Compound Figures & Shapes • Applications of Surface Area & Volume / 2D & 3D Geometry
4/27/20		• Introduction to Angles and Lines
5/4/20	Exponents	• Introduction To Exponents • Writing & Calculating Exponents
5/11/20		• Product & Quotients of Exponents
5/18/20		• Scientific Notation • Base 10 Number System & Exponents
5/25/20		Memorial Day, IES Closed
		• Calculating Roots

By completing this class, your child will increase their success at IES' pre-algebra class next year!