

## ELL Center Math A

**Description** The ELL Center Math course is intended for ELL students with a limited math background entering Middle School. Course A was specifically designed for students with a very limited educational background. In addition, Course A was specifically designed for students with entry level English language skills as well as limited math background. Students progress throughout the year working with whole numbers, fractions and decimals. Units in geometry, measurement, probability and statistics are later presented to allow students work to experience all strands of mathematics and its basic vocabulary. Also, skill development in problem solving is emphasized.

**Credits** 1

**Prerequisites** None.

**Textbooks/Resources** *Math Central*, 4<sup>th</sup> Grade, Houghton Mifflin, 2000.

**Required Assessments** Standards based assessment.

**Board Approved** May 2007

**Revised**

### AASD Mathematics Goals for K-12 Students

- *Become mathematical problem solvers.*
- *Learn to reason mathematically.*
- *Learn to communicate mathematically.*
- *Make mathematical connections.*
- *Become proficient in basic computational skills.*
- *Learn to use technology appropriately.*

## AASD Mathematics Standards for ELL Center Math A

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| I. Number Operations and Relationships | A. Identify and understands numbers and the number line.<br>B. Calculate using operations (including +, -, x, ÷) and estimation on whole numbers with applications.<br>C. Calculate using operations and estimation on fractions and decimals. |
| II. Geometry                           | A. Classify and identify lines, angles, and polygons.<br>B. Identify basic transformation and explore symmetry in figures.   |
| III. Measurement                       | A. Identify and understands different units of measure within the customary and the metric systems.<br>B. Understands and finds perimeters of basic shapes.  |
| IV. Algebraic Relationships            | A. Identifies parts of the coordinate plane as well as specific coordinates.   |
| V. Statistics and Probability          | A. Organizes data and constructs graphs including bar, line and circle graphs.<br>B. Understands basic probability.  |

### WIDA English Language Proficiency Standard and Model Performance Indicators: Grades 6-8 Mathematics

Standard 3: English language learners communicate information, ideas, and concepts necessary for academic success in the content area of **MATHEMATICS**.

<i>Domain</i>	<b>Level 1 Entering</b>	<b>Level 2 Beginning</b>	<b>Level 3 Developing</b>	<b>Level 4 Expanding</b>	<b>Level 5 Bridging</b>
<b>Listening</b> – process, understand, interpret, and evaluate spoken language in a variety of situations	match proportional representation of objects with oral directions and illustrations (such as percent, fractions, or decimals; e.g., “Which ___ shows ___?”)	follow multi-step directions to identify proportional representation in graphs	match examples of uses of proportion with oral descriptions (such as interest or taxes; e.g., “If...then...”)	analyze and apply the use of proportion from oral word problems	evaluate ways of using proportion to solve grade level oral word problems
<b>Speaking</b> – engage in oral communication in a variety of situations for a variety of purposes and audiences	identify line segments from pictures of everyday objects (such as types of angles or parallel lines)  restate <b>math</b> problems with visual support (involving algebra)	define or describe types of line segments from pictures of everyday objects (e.g., “Opposite sides are parallel.”)  paraphrase <b>math</b> problems with visual support (involving algebra)	compare/contrast types of line segments from pictures presented orally from <b>math</b> text (such as parallel v. perpendicular lines)  summarize relevant information from <b>math</b> problems (involving algebra)	explain how to use different types of line segments presented orally from <b>math</b> text (such as in geometric figures)  interpret information from <b>math</b> problems (involving algebra)	create <b>math</b> problems using different types of line segments presented orally  infer steps to solving grade level <b>math</b> problems (involving algebra)
<b>Reading</b> – process, interpret, and evaluate written language, symbols, and text with understanding and fluency	match vocabulary needed for problem solving with graphics, symbols, or figures	classify written examples supported visually of <b>math</b> procedures used in real world problems (such as perimeter or area)	classify written examples of <b>math</b> procedures used in text-based problems	order steps of procedure involved in problem solving using sequential language	select reasons for the uses of procedures in grade level <b>math</b> problems
<b>Writing</b> – engage in written communication in a variety of forms for a variety of purposes and audiences	show pictorial representation and label <b>math</b> terms (such as parts of whole numbers, algebraic equations)	express the meaning and give examples of <b>math</b> terms (such as area, perimeter, angles, or patterns) shown graphically	state step-by-step process of <b>math</b> operations, procedures, patterns, or functions	write everyday <b>math</b> word problems and explain problem-solving strategies	summarize, reason, predict, and compare/contrast <b>math</b> information or problem-solving strategies

or geometrical relations)		
Course Objectives	Performance Indicators	Classroom Assessments
<p>1. <b>Identify and understands numbers and the number line.</b></p>	<p><b>Performance will be satisfactory when the student:</b></p> <ul style="list-style-type: none"> <li>a. Identifies places value of digits including decimal digits up to the hundredths.</li> <li>b. Orders and compares whole numbers and decimals and their place on the number line.</li> <li>c. Understands the value of different denominations of money.</li> </ul>	<ul style="list-style-type: none"> <li>• Unit assessment</li> </ul>
<p><b>Above Objective aligned with AASD Mathematics standards:</b> Number Operations and Relationships</p>		
<p>2. <b>Calculate using operations (including +, -, x, ÷) and estimation on whole numbers with applications.</b></p>	<p><b>Performance will be satisfactory when the student:</b></p> <ul style="list-style-type: none"> <li>a. Adds and subtracts wholes numbers up to three digits.</li> <li>b. Rounds whole numbers to different place values.</li> <li>c. Knows and can recall multiplication and division facts of whole numbers through 10.</li> <li>d. Divides whole numbers with remainders.</li> <li>e. Estimates products and quotients.</li> </ul>	<ul style="list-style-type: none"> <li>• Unit assessment</li> </ul>
<p><b>Above Objective aligned with AASD Mathematics standards:</b> Number Operations and Relationships</p>		
<p>3. <b>Calculate using operations and estimation on fractions and decimals.</b></p>	<p><b>Performance will be satisfactory when the student:</b></p> <ul style="list-style-type: none"> <li>a. Adds and subtracts fractions and mixed numbers with like and unlike denominators.</li> <li>b. Adds and subtracts decimals.</li> <li>c. Estimates decimal sums and differences.</li> </ul>	<ul style="list-style-type: none"> <li>• Unit assessment</li> </ul>

<p><b>Above Objective aligned with AASD Mathematics standards:</b> Number Operations and Relationships</p>		
Course Objectives	Performance Indicators	Classroom Assessments
<p>4. <b>Classify and identify lines, angles, and polygons.</b></p>	<p><b>Performance will be satisfactory when the student:</b></p> <ul style="list-style-type: none"> <li>a. Identifies line relationships: Parallel lines, perpendicular lines, and intersecting lines.</li> <li>b. Identifies angles as acute, right, or obtuse.</li> <li>c. Identifies and names the basic polygons, including special quadrilaterals.</li> </ul>	<ul style="list-style-type: none"> <li>• Unit assessment</li> </ul>
<p><b>Above Objective aligned with AASD Mathematics standards:</b> Geometry</p>		
<p>5. <b>Identify basic transformation and explore symmetry in figures.</b></p>	<p><b>Performance will be satisfactory when the student:</b></p> <ul style="list-style-type: none"> <li>a. Identifies basic transformation as flips, turns, or slides.</li> <li>b. Identifies line symmetry in geometrical and in common shapes.</li> </ul>	<ul style="list-style-type: none"> <li>• Unit assessment</li> </ul>
<p><b>Above Objective aligned with AASD Mathematics standards:</b> Geometry</p>		
<p>6. <b>Identify and understands different units of measure within the customary and the metric systems.</b></p>	<p><b>Performance will be satisfactory when the student:</b></p> <ul style="list-style-type: none"> <li>a. Understands and can name the customary units of measure for length, area, volume, and capacity.</li> <li>b. Understands and can name the metric units of measure for length, area, volume, and capacity.</li> <li>c. Find temperatures in both Celsius and Fahrenheit.</li> <li>d. Finds and calculates elapsed time.</li> </ul>	<ul style="list-style-type: none"> <li>• Unit assessment</li> </ul>

<p><b>Above Objective aligned with AASD Mathematics standards:</b> Measurement</p>		
<p><b>Course Objectives</b></p>	<p><b>Performance Indicators</b></p>	<p><b>Classroom Assessments</b></p>
<p>7. <b>Understands and finds perimeters of basic shapes.</b></p>	<p><b>Performance will be satisfactory when the student:</b>                      a. Understands the concepts of perimeter.                      b. Finds perimeters of basic geometrical shapes as well as real-life figures.</p>	<ul style="list-style-type: none"> <li>• Unit assessment</li> </ul>
<p><b>Above Objective aligned with AASD Mathematics standards:</b> Measurement</p>		
<p>8. <b>Identifies parts of the coordinate plane as well as specific coordinates.</b></p>	<p><b>Performance will be satisfactory when the student:</b>                      a. Recognizes the parts of the coordinate plane, including axes, quadrants, and ordered pairs.                      b. Plots (x, y) coordinates on the coordinate plane, with most emphasis on the first quadrant.</p>	<ul style="list-style-type: none"> <li>• Unit assessment</li> </ul>
<p><b>Above Objective aligned with AASD Mathematics standards:</b> Algebraic Relations</p>		
<p>9. <b>Organizes data and constructs graphs including bar, line and circle graphs.</b></p>	<p><b>Performance will be satisfactory when the student:</b>                      a. Finds averages from sets of data.                      b. Collects and organizes data into charts and bar graphs.                      c. Creates graphs from data, including bar, line, and circle graphs.</p>	<ul style="list-style-type: none"> <li>• Unit assessment</li> </ul>
<p><b>Above Objective aligned with AASD Mathematics standards:</b> Statistics and Probability</p>		
<p>10. <b>Understands basic probability.</b></p>	<p><b>Performance will be satisfactory when the student:</b>                      a. Predicts outcomes based on observations.                      b. Finds basic probabilities of single events.</p>	<ul style="list-style-type: none"> <li>• Unit assessment</li> </ul>

**Above Objective aligned with AASD Mathematics standards:**  
Statistics and Probability

**Resources and learning activities that address course objectives:**