

## ELL Center Math B

**Description** The ELL Center Math course is intended for ELL students with a limited math background entering Middle School. In addition, Course B was designed for students with beginning level English language skills as well as beginning level math. The course begins with basic operations of whole numbers. Students progress throughout the year working on fractions, decimals, percents, and integers, as well as measurement. Units in geometry are later presented to allow students work with the extensive vocabulary as they learn the formulas for area and volume. Also, skill development in problem solving is emphasized.

**Credits** 1

**Prerequisites** None.

**Textbooks/Resources** *Basic Mathematics*, 3rd Edition, Globe Fearon, 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 B**

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|---|---|
| I. Number Operations<br>and Relationships | A. Read, write, and compare whole numbers including LCM and GCF of pairs of numbers.<br>B. Compare and convert fractions, decimals, and percents.<br>C. Calculate using operations on rational numbers, including applications; i.e. tips, tax, interest. |
| II. Geometry                              | A. Classify and identify lines, angles, and their relationships.<br>B. Classify and identify 2-dimensional and 3-dimensional figures.   |
| III. Measurement                          | A. Identify and understands different units of measure within the metric system.<br>B. Find areas and perimeters of 2-dimensionals figures using formulas.<br>C. Find volumes of rectangular prisms and cylinders.  |
| IV. Algebraic<br>Relationships            | A. Writes and solves applications involving ratios and proportions.   |
| V. Statistics and<br>Probability          | A. Reads and constructs graphs, including line and circle (pie) graphs.   |

### 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**.

Domain	Level 1 Entering	Level 2 Beginning	Level 3 Developing	Level 4 Expanding	Level 5 Bridging
<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 or geometrical relations)	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

Course Objectives	Performance Indicators	Classroom Assessments
<p>1. <b>Read, write, and compare whole numbers including LCM and GCF of pairs of numbers.</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.</li> <li>b. Reads, writes, and rounds whole numbers.</li> <li>c. Finds the least common multiple (LCM) and greatest common factor (GCF) of a pair of whole numbers.</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>Compare and convert fractions, decimals, and percents.</b></p>	<p><b>Performance will be satisfactory when the student:</b></p> <ul style="list-style-type: none"> <li>a. Understands and compares fractions and mixed numbers.</li> <li>b. Understands the meaning of percent.</li> <li>c. Converts percents to decimals and fractions and vise-versa.</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 on rational numbers, including applications; i.e. tips, tax, interest.</b></p>	<p><b>Performance will be satisfactory when the student:</b></p> <ul style="list-style-type: none"> <li>a. Knows and can quickly recall addition and multiplication facts of whole numbers through 10.</li> <li>b. Understands basics elements of a percent problem including base and rate.</li> <li>c. Finds discounts, sales tax, commissions, tips, and other applications involving percent.</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
4. <b>Classify and identify lines, angles, and their relationships.</b>	<b>Performance will be satisfactory when the student:</b> <ol style="list-style-type: none"> <li>Identifies line relationships: Parallel lines, perpendicular lines, and intersecting lines.</li> <li>Identifies and constructs angles parts: vertex, sides, measure.</li> <li>Identify and classify angle relationships: vertical, complementary, and supplementary.</li> </ol>	<ul style="list-style-type: none"> <li>Unit assessment</li> </ul>
<b>Above Objective aligned with AASD Mathematics standards:</b> Geometry		
5. <b>Classify and identify 2-dimensional and 3-dimensional figures.</b>	<b>Performance will be satisfactory when the student:</b> <ol style="list-style-type: none"> <li>Identifies polygons and understands their properties</li> <li>Identifies two-dimensional figures including, rectangle, square, triangle, parallelogram, and circle</li> <li>Identifies three dimensional shapes including prisms (rectangular and triangular) and cylinders, and their parts</li> </ol>	<ul style="list-style-type: none"> <li>Unit assessment</li> </ul>
<b>Above Objective aligned with AASD Mathematics standards:</b> Geometry		
6. <b>Identify and understands different units of measure within the metric system.</b>	<b>Performance will be satisfactory when the student:</b> <ol style="list-style-type: none"> <li>Understands and can name the metric units of measure for length, area, volume, capacity, and mass</li> <li>Selects the appropriate unit when measuring.</li> <li>Converts between the different metric units.</li> </ol>	<ul style="list-style-type: none"> <li>Unit assessment</li> </ul>
<b>Above Objective aligned with AASD Mathematics standards:</b> Measurement		

Course Objectives	Performance Indicators	Classroom Assessments
7. <b>Find areas and perimeters of 2-dimensionals figures using formulas.</b>	<b>Performance will be satisfactory when the student:</b> <ol style="list-style-type: none"> <li>Understands and find perimeters of different polygons.</li> <li>Find areas of rectangles, squares, triangles, parallelograms, and circles.</li> <li>Applies area formulas to real-life problems.</li> </ol>	<ul style="list-style-type: none"> <li>Unit assessment</li> </ul>
<b>Above Objective aligned with AASD Mathematics standards:</b> Measurement		
8. <b>Find volumes of rectangular prisms and cylinders.</b>	<b>Performance will be satisfactory when the student:</b> <ol style="list-style-type: none"> <li>Finds the volumes of prisms, both rectangular and triangular.</li> <li>Applies volume formula to real-life problems.</li> </ol>	<ul style="list-style-type: none"> <li>Unit assessment</li> </ul>
<b>Above Objective aligned with AASD Mathematics standards:</b> Measurement		
9. <b>Writes and solves applications involving ratios and proportions.</b>	<b>Performance will be satisfactory when the student:</b> <ol style="list-style-type: none"> <li>Sets ups ratios and proportions for real-life problems.</li> <li>Identifies major elements of a percent sentence.</li> <li>Solves proportions to find solutions to real-world problems.</li> </ol>	<ul style="list-style-type: none"> <li>Unit assessment</li> </ul>
<b>Above Objective aligned with AASD Mathematics standards:</b> Algebraic Relations		
10. <b>Reads and constructs graphs, including line and circle (pie) graphs.</b>	<b>Performance will be satisfactory when the student:</b> <ol style="list-style-type: none"> <li>Analyze and interpret information from graphs.</li> <li>Selects appropriate scales to display data as graphs.</li> <li>Recognizes graphs which are misleading.</li> </ol>	<ul style="list-style-type: none"> <li>Unit assessment</li> </ul>
<b>Above Objective aligned with AASD Mathematics standards:</b> Statistics and Probability		

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