

FlyBy Math™ Alignment
Sunshine State Standards, Benchmarks, and Grade Level Expectations
Mathematics

Strand A. Number Sense, Concepts, and Operations

Standard 1:

The student understands the different ways numbers are represented and used in the real world.

Benchmark MA.A.1.2.3: The student understands concrete and symbolic representations of whole numbers, fractions, decimals, and percents in real-world situations.

Grade Level Expectations: Fifth

The student:

1. translates problem situations into diagrams, models, and numerals, using whole numbers, fractions, mixed numbers, decimals, and percents.

FlyBy Math™ Activities

--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

Standard 4: The student uses estimation in problem solving and computation.

Benchmark MA.A.4.2.1: The student uses and justifies different estimation strategies in a real-world problem situation and determines the reasonableness of results of calculations in a given problem situation.

Grade Level Expectations: Fifth

The student:

1. chooses, describes, and explains estimation strategies used to determine the reasonableness of solutions to real-world problems.

FlyBy Math™ Activities

--Predict outcomes and explain results of mathematical models and experiments.

Strand B. Measurement

Standard 1: The student measures quantities in the real world and uses the measures to solve problems.

Benchmark MA.B.1.2.2: The student solves real-world problems involving length, weight, perimeter, area, capacity, volume, time, temperature, and angles.

Grade Level Expectations: Fifth

The student:

1. solves real-world problems involving measurement of the following:
 - length (for example, eighth-inch, kilometer, mile)
 - weight or mass (for example, milligram, ton)
 - temperature (comparing temperature changes within the same scale using either a Fahrenheit or a Celsius thermometer)
 - angles (acute, obtuse, straight)
3. uses schedules, calendars, and elapsed time to solve real-world problems.

FlyBy Math™ Activities

--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.

--Conduct simulation and measurement for several aircraft conflict problems.

Standard 3: The student estimates measurements in real-world problem situations.

Benchmark MA.B.3.2.1: The student solves real-world problems involving estimates of measurements, including length, time, weight, temperature, money, perimeter, area, and volume.

Grade Level Expectations: Fifth

The student:

2. solves real-world problems involving estimated measurements, including the following:
 - length to nearest quarter-inch, centimeter
 - weight to nearest ounce, gram
 - time to nearest one-minute interval
 - temperature to nearest five-degree interval
 - money to nearest \$1.00

FlyBy Math™ Activities

--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.

Standard 4: The student selects and uses appropriate units and instruments for measurement to achieve the degree of precision and accuracy required in real-world situations.

Benchmark MA.B.4.2.2: The student selects and uses appropriate instruments and technology, including scales, rulers, thermometers, measuring cups, protractors, and gauges, to measure in real-world situations.

Grade Level Expectations: Fifth

The student:

1. selects and uses the appropriate tool for situational measures (for example, measuring sticks, scales and balances, thermometer, measuring cups, gauges, protractors).

FlyBy Math™ Activities

--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.

--Conduct simulation and measurement for several aircraft conflict problems.

Strand C. Geometry and Spatial Sense

Standard 3: The student uses coordinate geometry to locate objects in both two and three dimensions and to describe objects algebraically.

Benchmark MA.C.3.2.2: The student identifies and plots positive ordered pairs (whole numbers) in a rectangular coordinate system (graph).

Grade Level Expectations: Fifth

The student:

1. knows how to identify, locate, and plot ordered pairs of whole numbers on a graph or on the first quadrant of a coordinate system.

FlyBy Math™ Activities

--Plot points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system to describe the motion of two airplanes.

Strand D. Algebraic Thinking

Standard 2: The student uses expressions, equations, inequalities, graphs, and formulas to represent and interpret situations.

Benchmark MA.D.2.2.2: The student uses informal methods, such as physical models and graphs to solve real-world problems involving equations and inequalities.

Grade Level Expectations: Fifth

The student:

1. uses concrete or pictorial models and graphs (for example, drawings, number lines) to solve equations or inequalities.
2. uses information from concrete or pictorial models or graphs to solve problems.

FlyBy Math™ Activities

--Represent distance, speed, and time relationship for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system.

--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.

Strand E. Data Analysis and Probability

Standard 1: The student understands and uses the tools of data analysis for managing information.

Benchmark MA.E.1.2.1: The student solves problems by generating, collecting, organizing, displaying, and analyzing data using histograms, bar graphs, circle graphs, line graphs, pictographs, and charts.

Grade Level Expectations: Fifth

The student:

6. analyzes and explains orally or in writing the implications of graphed data.

FlyBy Math™ Activities

--Explain and justify solutions regarding the motion of two airplanes using the results of plotting points on a schematic of a jet route, on a vertical line graph, and on a Cartesian coordinate system.