

***FlyBy Math™* Alignment**
Minnesota Academic Standards
Mathematics

Strand I. MATHEMATICAL REASONING

Standard: *Apply skills of mathematical representation, communication and reasoning throughout the remaining four content strands.*

Benchmarks	<i>FlyBy Math™</i> Activities
1. Assess the reasonableness of a solution by comparing the solution to appropriate graphical or numerical estimates or by recognizing the feasibility of a solution in a given context.	--Predict outcomes and explain results of mathematical models and experiments.
2. Appropriately use examples and counterexamples to make and test conjectures, justify solutions and explain results.	--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. --Predict outcomes and explain results of mathematical models and experiments.
3. Translate a problem described verbally or by tables, diagrams or graphs, into suitable mathematical language, solve the problem mathematically and interpret the result in the original context.	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes. --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.
4. Support mathematical results by explaining why the steps in a solution are valid and why a particular solution method is appropriate.	--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.

Strand II. NUMBER SENSE, COMPUTATION AND OPERATIONS

Sub-Strand A. Number Sense

Standard: *Use positive and negative rational numbers, represented in a variety of ways, to quantify information and to solve real-world and mathematical problems.*

Benchmarks	<i>FlyBy Math™</i> Activities
2. Use rounding and estimation with integers, decimals and fractions to solve real-world and mathematical problems.	--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.

Strand III. PATTERNS, FUNCTIONS AND ALGEBRA

Sub-Strand A. Patterns and Functions

Standard: Demonstrate understanding of the rectangular coordinate system.

Benchmarks

1. Demonstrate understanding of the four quadrants in a rectangular coordinate system by writing and plotting ordered pairs.

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 IV. DATA ANALYSIS, STATISTICS AND PROBABILITY

Sub-Strand A. Data and Statistics

Standard: Represent data and use various measures associated with data to draw conclusions and identify trends.

Benchmarks

1. Collect, organize and represent categorical and numerical data with tables and bar graphs.

FlyBy Math™ Activities

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

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

Strand V. SPATIAL SENSE, GEOMETRY AND MEASUREMENT

Sub-Strand C. Measurement

Standard: Make calculations of time, length, area and volume within standard measuring systems, using good judgment in choice of units.

Benchmarks

2. Express measures of time and distance as fractions, mixed numbers and decimals to solve real-world and mathematical problems.

FlyBy Math™ Activities

--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

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