

**LineUp With Math™ Alignment  
Performance Standards  
Mathematics**

**NUMBER AND OPERATIONS**

Students will understand the meaning of the four arithmetic operations as related to positive rational numbers and will apply these concepts and associated skills in real world situations.

**M6N1 Students will understand the meaning of the four arithmetic operations as related to positive rational numbers and will use these concepts to solve problems.**

**Performance Standards**

g. Solve problems involving fractions, decimals, and percents.

**LineUp With Math™ Activities**

--Use percent relationships to resolve distance, rate, time conflicts in air traffic control.

**GEOMETRY**

Students will further develop their understanding of plane and solid geometric figures, incorporating the use of appropriate technology and using this knowledge to solve authentic problems.

**M6G1. Students will further develop their understanding of plane figures.**

**Performance Standards**

d. Interpret and sketch simple scale drawings.

**LineUp With Math™ Activities**

-- Predict and plot the relative motion of two or more airplanes on given paths.

--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.

e. Solve problems involving scale drawings.

-- Predict and plot the relative motion of two or more airplanes on given paths.

--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.

**ALGEBRA**

Students will investigate relationships between two quantities. They will write and solve proportions and simple one-step equations that result from problem situations.

**M6A1. Students will understand the concept of ratio and use it to represent quantitative relationships.**

**Performance Standards**

**LineUp With Math™ Activities**

--Use an interactive simulator plus calculation

	worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.
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**M6A2. Students will consider relationships between varying quantities.**

<b>Performance Standards</b>	<b><i>LineUp With Math™</i> Activities</b>
b. Use manipulatives or draw pictures to solve problems involving proportional relationships.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.
c. Use proportions ( $a/b=c/d$ ) to describe relationships and solve problems, including percent problems.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.  --Use percent relationships to resolve distance, rate, time conflicts in air traffic control.
g. Use proportional reasoning ( $a/b=c/d$ and $y = kx$ ) to solve problems.	--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.

**PROCESS STANDARDS**  
Each topic studied in this course should be developed with careful thought toward helping every student achieve the following process standards.

**M6P1. Students will solve problems (using appropriate technology).**

<b>Performance Standards</b>	<b><i>LineUp With Math™</i> Activities</b>
b. Solve problems that arise in mathematics and in other contexts.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
c. Apply and adapt a variety of appropriate strategies to solve problems.	--Choose and apply a variety of strategies to optimize the solution of air traffic control conflicts.

**M6P3. Students will communicate mathematically.**

<b>Performance Standards</b>	<b><i>LineUp With Math™</i> Activities</b>
b. Communicate their mathematical thinking coherently and clearly to peers, teachers, and others.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

<b>M6P4. Students will make connections among mathematical ideas and to other disciplines.</b>	
<b>Performance Standards</b>  c. Recognize and apply mathematics in contexts outside of mathematics.	<b>LineUp With Math™ Activities</b>  --Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
<b>M6P5. Students will represent mathematics in multiple ways.</b>	
<b>Performance Standards</b>  a. Create and use representations to organize, record, and communicate mathematical ideas.	<b>LineUp With Math™ Activities</b>  --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
b. Select, apply, and translate among mathematical representations to solve problems.	--Choose and apply a variety of strategies to optimize the solution of air traffic control conflicts.
c. Use representations to model and interpret physical, social, and mathematical phenomena.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.