

LineUp With Math™ Alignment
Academic Standards: Mathematics

Number and Operation

Content Standard 1.0 The student will develop number and operation sense needed to represent numbers and number relationships verbally, symbolically, and graphically and to compute fluently and make reasonable estimates in problem solving.

Learning Expectations and Accomplishments

- 6.1.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems.
- g. develop meaning for ratios using real-world models and/or situations;

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.

- 6.1.3 Solve problems, compute fluently, and make reasonable estimates.

- a. select and use appropriate methods and tools for computing with whole numbers, fractions, decimals, and percents in problem-solving situations (e.g., mental computation, estimation, calculators, computers, paper and pencil);
- d. use strategies to estimate the results of computations involving whole numbers, fractions, and decimals in real-world situations;

--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.

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

Algebra

Content Standard 2.0 The student will understand and generalize patterns as they represent and analyze quantitative relationships and change in a variety of contexts and problems using graphs, tables, and equations.

Learning Expectations and Accomplishments

- 6.2.4 Analyze change in various contexts.
- a. describe how changes in one quantity or variable result in changes in another.

LineUp With Math™ Activities

--Use an interactive simulator to identify distance, rate, time conflicts in air traffic control problems and resolve the conflicts by varying plane speeds or changing plane routes.

Geometry

Content Standard 3.0 The student will develop an understanding of geometric concepts and relationships as the basis for geometric modeling and reasoning to solve problems involving one-, two-, and three-dimensional figures.

Learning Expectations and Accomplishments

- 6.3.4 Use visualization, spatial reasoning, and geometric modeling to solve problems.
- c. use visualization and spatial reasoning to solve real-world problems.

LineUp With Math™ Activities

--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.

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

Measurement

Content Standard 4.0 The student will become familiar with the units and processes of measurement in order to use a variety of tools, techniques, and formulas to determine and to estimate measurements in mathematical and real-world problems.

Learning Expectations and Accomplishments

6.4.2 Apply appropriate techniques, tools, and formulas to determine measurements.

- f. solve problems involving measurement using ratio and proportion.

LineUp With Math™ Activities

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

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