LineUp With Math™ Alignment to
Utah Mathematics– 6th Grade [2003]
Intended Learning Outcomes, Core Standards and Objectives

Intended Learning Outcomes: By the end of sixth grade students will be able to:

1. Demonstrate a positive learning attitude toward mathematics	
Intended Learning Outcome	***LineUp With Math*™ Activities**
b. Pose mathematical questions about objects, events, and processes.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
2. Become mathematical problem solvers.	
Intended Learning Outcome	***LineUp With Math*™ Activities**
a. Determine the approach, materials, and strategies to be used in setting up a problem.	--Explore and apply a variety of strategies to optimize the solution of air traffic control conflicts.
b. Model problem situations in a variety of ways.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts. --Choose and apply a variety of strategies to optimize the solution of air traffic control conflicts.
d. Construct and use concrete, pictorial, symbolic, and graphical models to represent problem situations.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
g. Solve problems in both mathematical and everyday contexts.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
h. Recognize that there may be multiple ways to solve a problem.	--Explore and apply a variety of strategies to optimize the solution of air traffic control conflicts.
i. Persevere in developing alternative problem-solving strategies if initially selected approaches do not work.	--Explore and apply a variety of strategies to optimize the solution of air traffic control conflicts.
3. Reason mathematically.	
Intended Learning Outcome	***LineUp With Math*™ Activities**
a. Draw logical conclusions and make generalizations.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.
c. Use models, known facts, and relationships to explain reasoning.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control

	conflicts. --Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.
d. Make precise calculations and check the validity of the results in the context of the problem.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
g. Analyze mathematical situations by recognizing and using patterns and relationships.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
h. Justify answers and solution processes.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.
4. Communicate mathematically.	
Intended Learning Outcome a. Represent mathematical ideas with objects, pictures, and symbols.	***LineUp With Math™* Activities** --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
b. Express mathematical ideas to peers, teachers, and others through oral and written language.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.
d. Explain mathematical work and justify reasoning and conclusions.	--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.
5. Make mathematical connections.	
Intended Learning Outcome b. Recognize the role of mathematics in the classroom, school, and community.	***LineUp With Math™* Activities** --Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
c. Explore problems and describe and confirm results using various representations.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts. --Explore and apply a variety of strategies to optimize the solution of air traffic control conflicts.
d. Recognize the connections between mathematics and other content areas and apply mathematical thinking and problem solving in those areas.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.

6. Represent mathematical situations.	
Intended Learning Outcome a. Create and use representations to organize and communicate mathematical ideas.	***LineUp With Math™* Activities** --Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.
b. Represent mathematical concepts using concrete, pictorial, and symbolic models.	--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.

Standard 1 Students will acquire number sense and perform operations with rational numbers.	
Objective 5 Solve problems using the four operations with whole numbers, decimals, and fractions.	
Objective g. Solve problems using ratios and proportions.	***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.

Standard 4 Students will understand and apply measurement tools and techniques.	
Objective 2 Determine measurements using appropriate tools and formulas.	
Objective d. Calculate *elapsed time* across a.m. and p.m. time periods.	***LineUp With Math™* Activities** --Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.