

<b>Smart Skies</b>			
<b>2006 21st Century Mathematics</b>			
<b>Standards and Objectives</b>			
<b>West Virginia 21st Century Mathematics</b>			
<b>Grade 5</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Fly by Math	WV	MA.5.M.O.5.4.7	Collect, record, estimate and calculate elapsed times from real-world situations (with and without technology)
Fly by Math	WV	MA.5.M.O.5.5.2	Construct, read, and interpret tables, charts, and graphs including stem and leaf plots to draw reasonable inferences or verify predictions.
Fly by Math	WV	MA.5.M.O.5.5.3	Collect and organize real-world data to construct a circle graph (with and without technology), present data and draw conclusions.
Fly by Math	WV	MA.5.M.O.5.5.4	Collect and analyze data using mean, median and mode to determine the best statistical measure.
Line Up with Math	WV	MA.5.M.O.5.4.4	Describe the effects on the measurements of a two-dimensional shape (such as its perimeter and area) when the shape is changed in some way, justify changes.
Line Up with Math	WV	MA.5.M.O.5.4.7	Collect, record, estimate and calculate elapsed times from real-world situations (with and without technology)
<b>Smart Skies</b>			
<b>2006 21st Century Mathematics</b>			
<b>Standards and Objectives</b>			
<b>West Virginia 21st Century Mathematics</b>			
<b>Grade 6</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Fly by Math	WV	MA.6.M.O.6.3.1	Analyze characteristics using defining properties of lines, angles, polygons, triangles, and compare these geometric figures.
Fly by Math	WV	MA.6.M.O.6.3.3	Apply the concepts of parallel, perpendicular, intersecting, and skew lines to real-world situations (i.e. roads and routes).
Fly by Math	WV	MA.6.M.O.6.5.1	Collect, organize, display, read, interpret and analyze real-world data using appropriate graphs and tables (with and without technology).

Fly by Math	WV	MA.6.M.O.6.5.2	Identify a real life situation using statistical measures (mean, median, mode, range, outliers) overtime, make a hypothesis as to the outcome; design and implement a method to collect, organize and analyze data; analyze the results to make a conclusion; evaluate the validity of the hypothesis based upon collected data, design a mode of presentation using words, graphs, models, and/or tables (with and without technology).
Line Up with Math	WV	MA.6.M.O.6.2.5	Solve real-world proportion problems involving rates, probability and measurements using multiple strategies, justify selection of strategies.
Line Up with Math	WV	MA.6.M.O.6.3.1	Analyze characteristics using defining properties of lines, angles, polygons, triangles, and compare these geometric figures.
Line Up with Math	WV	MA.6.M.O.6.3.3	Apply the concepts of parallel, perpendicular, intersecting, and skew lines to real-world situations (i.e. roads and routes).
<b>Smart Skies</b>			
<b>2006 21st Century Mathematics</b>			
<b>Standards and Objectives</b>			
<b>West Virginia 21st Century Mathematics</b>			
<b>Grade 7</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Fly by Math	WV	MA.7.M.O.7.2.6	Plot lines within the Cartesian coordinate plane from a table of values to solve mathematical real-world problems.
Fly by Math	WV	MA.7.M.O.7.2.9	Identify a real life problem involving proportionality; make a hypothesis as to the outcome; develop, justify, and implement a method to collect, organize, and analyze data; generalize the results to make a conclusion; compare the hypothesis and the conclusion; present the project using words, graphs, drawings, models, or tables.
Fly by Math	WV	MA.7.M.O.7.5.3	Collect, organize, graphically represent, and interpret data displays including frequency distributions, line-plots, scatter plots, box and whiskers, and multiple-line graphs.
Fly by Math	WV	MA.7.M.O.7.5.4	Analyze and solve application problems involving measures of central tendency (mean, median, mode) and dispersion (range) from data, graphs, tables, and experiments using appropriate technology to compare two sets of data.
Line Up with Math	WV	MA.7.M.O.7.2.6	Plot lines within the Cartesian coordinate plane from a table of values to solve mathematical real-world problems.

Smart Skies			
2006 21st Century Mathematics			
Standards and Objectives			
West Virginia 21st Century Mathematics			
Grade 8			
Activity/Lesson	State	Standards	
Fly by Math	WV	MA.8.M.O.8.1.2	Analyze and solve application problems with powers, squares, square roots, scientific notation, and verify solutions using estimation techniques.
Fly by Math	WV	MA.8.M.O.8.1.3	Analyze and solve grade-appropriate real-world problems with whole numbers, decimals, fractions, percents, percent increase and decrease, integers, and including, but not limited to, rates, tips, discounts, sales tax and interest and verify solutions using estimation techniques.
Fly by Math	WV	MA.8.M.O.8.2.5	Apply inductive and deductive reasoning to write a rule from data in an input/output table, analyze the table and the rule to determine if a functional relationship exists.
Fly by Math	WV	MA.8.M.O.8.2.1 0	Identify a real life problem involving change over time; make a hypothesis as to the outcome; develop, justify, and implement a method to collect, organize, and analyze data; generalize the results to make a conclusion; compare the hypothesis and the result of the investigation; present the problem using words, graphs, drawings, models, or tables.
Fly by Math	WV	MA.8.M.O.8.3.6	Make and test a conjecture concerning regular polygons, the cross section of a solid such as a cylinder, cone, and pyramid, the intersection of two or more geometric figures in the plane (e.g., intersection of a circle and a line), and justify the results.
Fly by Math	WV	MA.8.M.O.8.5.3	Create and extrapolate information from multiple-bar graphs, box and whisker plots, and other data displays using appropriate technology.
Fly by Math	WV	MA.8.M.O.8.5.5. b	Misuses of statistical or numeric information, based on data analysis of same and different sets of data.
Line Up with Math	WV	MA.8.M.O.8.2.1 0	Identify a real life problem involving change over time; make a hypothesis as to the outcome; develop, justify, and implement a method to collect, organize, and analyze data; generalize the results to make a conclusion; compare the hypothesis and the result of the investigation; present the problem using words, graphs, drawings, models, or tables.

Line Up with Math	WV	MA.8.M.O.8.3.6	Make and test a conjecture concerning regular polygons, the cross section of a solid such as a cylinder, cone, and pyramid, the intersection of two or more geometric figures in the plane (e.g., intersection of a circle and a line), and justify the results.
Line Up with Math	WV	MA.8.M.O.8.5.5.a	Different effects that changes in data values have on measures of central tendency
<b>Smart Skies</b>			
<b>2006 21st Century Mathematics</b>			
<b>Standards and Objectives</b>			
<b>West Virginia 21st Century Mathematics</b>			
<b>Grades 9-12 (Algebra I)</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Fly by Math	WV	MA.9-12.M.O.A1.2.2	Create and solve multi-step linear equations, absolute value equations, and linear inequalities in one variable, (with and without technology); apply skills toward solving practical problems such as distance, mixtures or motion and judge the reasonableness of solutions.
Fly by Math	WV	MA.9-12.M.O.A1.2.3	Evaluate data provided, given a real-world situation, select an appropriate literal equation and solve for a needed variable.
Fly by Math	WV	MA.9-12.M.O.A1.2.7	Analyze situations and solve problems by determining the equation of a line given a graph of a line, two points on the line, the slope and a point, or the slope and y intercept.
Fly by Math	WV	MA.9-12.M.O.A1.2.18	Compute and interpret the expected value of random variables in simple cases using simulations and rules of probability (with and without technology).
Fly by Math	WV	MA.9-12.M.O.A1.2.19	Gather data to create histograms, box plots, scatter plots and normal distribution curves and use them to draw and support conclusions about the data.
Line Up with Math	WV	MA.9-12.M.O.A1.2.2	Create and solve multi-step linear equations, absolute value equations, and linear inequalities in one variable, (with and without technology); apply skills toward solving practical problems such as distance, mixtures or motion and judge the reasonableness of solutions.
Line Up with Math	WV	MA.9-12.M.O.A1.2.7	Analyze situations and solve problems by determining the equation of a line given a graph of a line, two points on the line, the slope and a point, or the slope and y intercept.
<b>Smart Skies</b>			
<b>2006 21st Century Mathematics</b>			
<b>Standards and Objectives</b>			
<b>West Virginia 21st Century Mathematics</b>			

<b>Grades 9-12 (Geometry and Applied Geometry)</b>			
<b>Activity/Lesson</b>	<b>State</b>	<b>Standards</b>	
Fly by Math	WV	MA.9-12.M.O.G.3.1	Represent geometric figures, such as points, lines, planes, segments, rays, and angles pictorially with proper identification and distinguish between undefined and defined terms.
Fly by Math	WV	MA.9-12.M.O.G.3.6	Compare and contrast the relationships between angles formed by two lines cut by a transversal when lines are parallel and when they are not parallel, and use the results to develop concepts that will justify parallelism.
Line Up with Math	WV	MA.9-12.M.O.G.3.1	Represent geometric figures, such as points, lines, planes, segments, rays, and angles pictorially with proper identification and distinguish between undefined and defined terms.
Line Up with Math	WV	MA.9-12.M.O.G.3.6	Compare and contrast the relationships between angles formed by two lines cut by a transversal when lines are parallel and when they are not parallel, and use the results to develop concepts that will justify parallelism.