

**STEMPilot Curriculum Alignment: Texas Essential Knowledge and Skills**

Standard	Description	STEMPilot Lesson	STEMPilot Worksheet
<b>English</b>			
110.18.b.23.A 110.16.b.24.A	Follow the research plan to collect data from a range of print and electronic resources (e.g., reference texts, periodicals, web pages, online sources) and data from experts.	Informational Writing Activity: Heritage Research Pg 48	9.1: Informational Writing 2.0 Pg 141
110.18.b.23.C	Record data, utilizing available technology (e.g., word processors) in order to see the relationships between ideas, and convert graphic/visual data (e.g., charts, diagrams, timelines) into written notes.	Informational Writing Activity: Heritage Research Pg 48	9.1: Informational Writing 2.0 Pg 141
110.18.b.23.D	Identify the source of notes (e.g., author, title, page number) and record bibliographic information concerning those sources according to a standard format.	Informational Writing Activity: Heritage Research Pg 48	9.1: Informational Writing 2.0 Pg 141
110.18.b.25.A 110.16.b.26.A	Compiles important information from multiple sources.	Informational Writing Activity: Heritage Research Pg 48	9.1: Informational Writing 2.0 Pg 141
110.18.b.25.B 110.16.b.26.B	Develops a topic sentence, summarizes findings, and uses evidence to support conclusions.	Informational Writing Activity: Heritage Research Pg 48	9.1: Informational Writing 2.0 Pg 141
110.18.b.25.C 110.16.b.26.C	Presents findings in a consistent format.	Informational Writing Activity: Heritage Research Pg 48	9.1: Informational Writing 2.0 Pg 141 6: Altitude vs Speed Pgs 129-130
110.18.b.25.D 110.16.b.26.D	Uses quotations to support ideas and an appropriate form of documentation to acknowledge sources (e.g., bibliography, works cited).	Informational Writing Activity: Heritage Research Pg 48	9.1: Informational Writing 2.0 Pg 141
110.19.b.17.D	Produce a multimedia presentation involving text and graphics using available technology.	Informational Writing Activity: Heritage Research Pg 48	9.1: Informational Writing 2.0 Pg 141
110.15.b.24.A	Follow the research plan to collect information from multiple sources of information both oral and written, including: (i) Student-initiated surveys, on-site inspections, and interviews. (ii) Data from experts, reference texts, and online searches. (iii) Visual sources of information (e.g., maps, timelines, graphs) where appropriate.	Informational Writing Activity: Heritage Research Pg 48	9.1: Informational Writing 2.0 Pg 141

Standard	Description	STEMPilot Lesson	STEMPilot Worksheet
<b>Math</b>			
111.26.b.1.D 111.39.c.1.D 111.40.c.1.D 111.41.c.1.D 111.42.c.1.D 111.43.c.1.D 111.44.c.1.D 111.46.c.1.D 111.47.c.1.D 111.48.c.1.D	Communicate mathematical ideals, reasoning, and their implications using multiple representations, including symbols, diagrams, graphs, and language as appropriate.	Aircraft Landing Pgs 36-38	6: Altitude vs Speed Pgs 129-130
111.26.b.1.E 111.39.c.1.E 111.40.c.1.E 111.41.c.1.E 111.42.c.1.E 111.43.c.1.E 111.44.c.1.E 111.46.c.1.E 111.47.c.1.E 111.48.c.1.E	Create and use representations to organize, record, and communicate mathematical ideas.		7.1A: Ratios Pgs 131-132 7.1B: Ratios: Fractions Pgs 133-135 6: Altitude vs Speed Pgs 129-130
111.26.b.1.G 111.39.c.1.G 111.40.c.1.G 111.41.c.1.G 111.42.c.1.G 111.43.c.1.G 111.44.c.1.G 111.46.c.1.G 111.47.c.1.G 111.48.c.1.G	Display, explain, and justify mathematical ideas and arguments using precise mathematical language in written or oral communication.		6: Altitude vs Speed Pgs 129-130
111.26.b.5.A	Represent mathematical and real-world problems involving ratios and rates using scale factors, tables, graphs, and proportions.		7.1A: Ratios Pgs 131-132 7.1B: Ratios: Fractions Pgs 133-135
111.26.b.5.C	Use equivalent fractions, decimals, and percents to show equal parts of the same whole.	Ratios: Fractions Pg 42	7.1B: Ratios: Fractions Pgs 133-135
111.27.b.3.A	Add, subtract, multiply, and divide rational numbers fluently.	Adding & Subtracting Fractions Pg 77	11.2: Adding & Subtracting Fractions Pg 150
111.27.b.4.C	Determine the constant of proportionality ( $k = y/x$ ) within mathematical and real-world problems.	Ratios: Fractions Pg 42	7.1B: Ratios: Fractions Pgs 133-135
111.27.b.4.D	Solve problems involving ratios, rates, and percents, including multi-step problems involving percent increase and percent decrease, and financial literacy problems.		7.1A: Ratios Pgs 131-132
111.27.b.4.E	Convert between measurement systems, including the use of proportions and the use of unit rates.	MPH to Knots Pg 27	4.2: MPH to Knots Pg 127
111.27.b.9.B	Determine the circumference and area of circles.	Area & Circumference Pgs 42	7.2: Area & Circumference Pg 136

<b>Math (Continued)</b>			
111.28.b.5.A	Represent linear proportional situations with tables, graphs, and equations in the form of $y = kx$ .		7.1A: Ratios Pgs 131-132 7.1B: Ratios: Fractions Pgs 133-135
111.28.b.5.F	Distinguish between proportional and non-proportional situations using tables, graphs, and equations in the form $y=kx$ or $y=mx+b$ , where $b \neq 0$ .	Ratios: Fractions Pg 42	7.1B: Ratios: Fractions Pgs 133-135
111.39.c.3.D	Graph the solution set of linear inequalities in two variables on the coordinate plane.		7.1B: Ratios: Fractions Pgs 133-135
Standard	Description	STEMPilot Lesson	STEMPilot Worksheet
<b>Science</b>			
112.11.b.4.A 112.13.b.4.A	Collect information using tools, including computers, hand lenses, primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices, including clocks and timers; non-standard measuring items such as paper clips and clothespins; weather instruments such as demonstration thermometers and wind socks; and materials to support observations of habitats of organisms such as terrariums and aquariums.		6: Altitude vs Speed Pgs 129-130
112.11.b.5.A	Observe and record properties of objects, including relative size and mass, such as bigger or smaller and heavier or lighter, shape, color, and texture.	Weight & Gravity Pgs 20	11.1: Weight & Balance Pgs 148-149
112.11.b.5.B	Observe, record, and discuss how materials can be changed by heating or cooling.	Making Thrust Pg 21	
112.11.b.8.A	Observe and describe weather changes from day to day and over seasons.	Weather Pgs 64-76	
112.15.b.5.B	Predict the changes caused by heating and cooling such as ice becoming liquid water and condensation forming on the outside of a glass of ice water.	Weather Pgs 64-76	
112.15.b.6.A	Differentiate among forms of energy, including mechanical, sound, electrical, light, and heat/thermal.	Four Forces of Flight Pgs 20-23	3: The Four Forces of Flight Pg 125
112.15.b.8.B	Describe and illustrate the continuous movement of water above and on the surface of Earth through the water cycle and explain the role of the Sun as a major source of energy in this process.	Weather Pg 64	
112.16.b.8.A	Differentiate between weather and climate.	Weather Pg 73-74	
112.16.b.8.B	Explain how the Sun and the ocean interact in the water cycle.	Weather Pg 64	
112.19.b.2.D 112.20.b.2.D	Construct tables and graphs, using repeated trials and means, to organize data and identify patterns.		6: Altitude vs Speed Pgs 129-130
112.19.b.2.E 112.20.b.2.E	Analyze data to formulate reasonable explanations, communicate valid conclusions supported by the data, and predict trends.		6: Altitude vs Speed Pgs 129-130
112.35.c.4.C	Compare solids, liquids, and gases in terms of compressibility, structure, shape, and volume.	Weather Pgs 64-76	10: Weather Pgs 146-147
112.71.c.2.J	Organize and evaluate data and make inferences from data, including the use of tables, charts, and graphs.		7.1A: Ratios Pgs 131-132 7.1B: Ratios: Fractions Pgs 133-135