

## STEMPilot Curriculum Alignment: Next Generation Sunshine State Standards

Description	STEMPilot Lesson	STEMPilot Worksheet
MA.2.A.6.1 Solve Problems that involve repeated addition.		9.1 Pg. 157
MA.3.A.4.1 Create, analyze, and represent patterns and relationships using words, variables, tables and graphs.		4.2 Pgs. 137-138 4.3 Pgs. 139-140
MA.4.A.6.3 Generate equivalent fractions and simplify fractions.	Ratios-Fractions Pg. 43	4.3 Pgs. 139-140
MA.5.A.2.1 Represent addition and subtraction of decimals and fractions with like and unlike denominators using models, place value or properties.	Ratios-Fractions Pg. 43	4.3 Pgs. 139-140
MA.5.A.4.2 Construct and describe a graph showing continuous data, such as a graph of a quantity that changes over time.	Altitude vs Speed Pg. 39	5.1 Pgs. 146-147
MA.6.A.3.4 Solve problems given a formula.	Force Pg. 22	9 Pgs. 155-157
MA.6.G.4.1 Understand the concept of $\pi$ , know common estimates of $\pi$ (3.14; 22/7) and use these values to estimate and calculate the circumference and the area of circles.	Area & Circumference Pgs. 43-44	4.4 Pg. 141
MA.6.A.5.1 Use equivalent forms of fractions, decimals, and percents to solve problems.	Ratios-Fractions Pg. 43	4.3 Pgs. 139-140
MA.7.A.1.1 Distinguish between situations that are proportional or not proportional and use proportions to solve problems.	Ratios-Fractions Pg. 43	4.3 Pgs. 139-140
MA.7.A.1.4 Graph proportional relationships and identify the unit rate as the slope of the related linear function.		4.3 Pgs. 139-140
MA.7.G.4.4; MA.8.G.5.1 Compare, contrast, and convert units of measure between different measurement systems (US customary or metric (SI)), dimensions, and derived units to solve problems.	MPH to Knots Pg. 27	4.1 Pg. 136
MA.912.A.1.1 Know equivalent forms of real numbers (including integer exponent and radical, percents, scientific notation, absolute value, rational numbers, irrational numbers).	MPH to Knots Pg. 27	4.1 Pg. 136
MA.912.A.2.1 Create a graph to represent a real-world situation.		4.2 Pgs. 137-138 4.3 Pgs. 139-140 5.1 Pgs. 146-147
MA.912.A.2.2 Interpret a graph representing a real-world situation.	Altitude vs Speed Pg. 39	5.1 Pgs. 146-147
MA.912.A.2.6 Identify and graph common functions (including but not limited to linear, rational, quadratic, cubic, radical, absolute value).		4.2 Pgs. 137-138 4.3 Pgs. 139-140 5.1 Pgs. 146-147
MA.912.A.5.3 Simplify complex fractions.	Ratios-Fractions Pg. 43	4.3 Pgs. 139-140

MA.912.A.5.5 Solve rational equations.	Adding & Subtracting Fractions Pg. 87	9.1 Pg. 158
MA.912.A.5.7 Solve real-world problems involving rational equations (mixture, distance, work, interest, and ratio).	Ratios-Fractions Pg. 43 Adding & Subtracting Fractions Pg. 87	4.3 Pgs. 139-140 9.1 Pg. 158
MA.912.A.10.2 Decide whether a solution is reasonable in the context of the original situation.	Angles Pg. 44	4.5a Pg. 142
MA.912.A.10.4 Use counterexamples to show that statements are false.		4.5a Pg. 142
MA.912.G.6.5 Solve real-world problems using measures of circumference, arc length, and area of circles and sectors.	Area & Circumference Pgs. 43-44	4.4 Pg. 141
SC.K.E.5.1 Explore the Law of Gravity by investigating how objects are pulled toward the ground unless something holds them up.	Gravity Pgs. 18-20	3 Pg. 134
SC.K.P.13.1 Observe that a push or a pull can change the way an object is moving	Thrust/ Drag Pgs. 19-20	
SC.1.E.5.2 Explore the Law of Gravity by demonstrating that Earth's gravity pulls any object on or near Earth toward it even though nothing is touching the object.	Gravity Pgs. 18-19	3 Pg. 134
<ul style="list-style-type: none"> <li>SC.1.P.13 It takes energy to change the motion of objects; Energy change is understood in terms of forces—pushes or pulls.</li> <li>SC.1.P.13.1 Demonstrate that the way to change the motion of an object is by applying a push or a pull</li> </ul>	Four Forces of Flight Pgs. 18-23	3 Pg. 134
SC.2.N.1.4 Explain how particular scientific investigations should yield similar conclusions when repeated.		5.1 Pgs. 146-147
SC.2.E.7.1 Compare and describe changing patterns in nature that repeat themselves, such as weather conditions including temperature and precipitation, day to day and season to season.	Weather Pgs. 68-82	8.0 Pgs. 152-153
SC.2.E.7.3 Investigate, observe and describe how water left in an open container disappears (evaporates), but water in a closed container does not disappear (evaporate).	Weather Pgs. 68-82	8.0 Pgs. 152-153
SC.2.E.7.5 State the importance of preparing for severe weather, lightning. And other weather related events.	Weather Pgs. 68-82	8.0 Pgs. 152-153
SC.2.P.8.2 Identify objects and materials as solid, liquid, or gas.	Weather Pgs. 68-82	8.0 Pgs. 152-153

SC.2.P.8.4 Observe and describe water in its solid, liquid, and gaseous states.	Weather Pgs. 68-82	8.0 Pgs. 152-153
<ul style="list-style-type: none"> <li>SC.2.P.13 It takes energy to change the motion of objects; Energy change is understood in terms of forces—pushes or pulls.</li> <li>SC.2.P.13.1 Investigate the effect of applying various pushes and pulls on different objects.</li> </ul>	Four Forces of Flight Pgs. 18-23	3 Pg. 134
SC.2.P.13.3 Recognize that objects are pulled toward the ground unless something holds them up.	Gravity Pgs. 18-23	3 Pg. 134
SC.2.P.13.4 Demonstrate that the greater the force (push or pull) applied to an object, the greater the change in motion of the object.	Four Forces of Flight Pgs. 18-23	
SC.3.N.1.6 Infer based on observation.	Altitude & Speed Pg. 39	5.1 Pgs. 146-147
SC.3.E.5.4 Explore the Law of Gravity by demonstrating that gravity is a force that can be overcome.	Gravity Pgs. 18-23	3 Pg. 134
SC.3.P.9.1 Describe the changes water undergoes when it changes state through heating and cooling by using familiar scientific terms such as melting, freezing, boiling, evaporation, and condensation.	Weather Pgs. 68-82	8.0 Pgs. 152-153
SC.3.P.10.2 Recognize that energy has the ability to cause motion or create change.	Making Thrust Pg. 20	
<ul style="list-style-type: none"> <li>SC.4.P.10 Energy exists in many forms and has the ability to do work or cause a change.</li> <li>SC.4.P.10.2 Investigate and describe that energy has the ability to cause motion or create change.</li> </ul>	Four Forces of Flight Pgs. 18-23	
SC.4.P.12; SC.6.P.12 The motion of objects can be changed by forces.	Four Forces of Flight Pgs. 18-23	3 Pg. 134
SC.5.E.7.1 Create a model to explain the parts of the water cycle. Water can be a liquid, or a solid and can go back and forth from one state to another.	Weather Pgs. 68-82	8.0 Pgs. 152-153
SC.5.E.7.3 Recognize how air temperature, barometric pressure, humidity, wind speed and direction, and precipitation determine the weather in a particular place and time.	Weather Pgs. 68-82	8.0 Pgs. 152-153

SC.5.E.7.4 Distinguish among the various forms of precipitation (rain, snow, sleet, and hail), making connections to the weather in a particular place and time.	Weather Pgs. 68-82	8.0 Pgs. 152-153
<ul style="list-style-type: none"> <li>SC.5.P.13 It takes energy to change the motion of objects; Energy change is understood in terms of forces—pushes or pulls.</li> <li>SC.5.P.13.1 Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity acting on falling objects.</li> </ul>	Four Forces of Flight Pgs. 18-23	3 Pg. 134
SC.6.E.7.2 Investigate and apply how the cycling of water between the atmosphere and hydrosphere has an effect on weather patterns and climate.	Weather Pgs. 68-82	
SC.6.E.7.6 Differentiate between weather and climate.	Weather Pg. 79	
SC.6.P.12.1 Measure and graph distance versus time for an object moving at a constant speed. Interpret this relationship.		5.1 Pgs. 146-147
<ul style="list-style-type: none"> <li>SC.6.P.13 It takes energy to change the motion of objects; Energy change is understood in terms of forces—pushes and pulls.</li> <li>SC.6.P.13.1 Investigate and describe types of forces including contact forces and forces acting at a distance, such as electrical, magnetic, and gravitational.</li> </ul>	Four Forces of Flight Pgs. 18-23	3 Pg. 134
SC.6.P.13.2 Explore the Law of Gravity by recognizing that every object exerts gravitational forces on every other object and that the forces depends on how much mass the objects have and how far apart they are.	Gravity Pgs. 18-19	
SC.7.P.10 Energy exists in many forms and has the ability to do work or cause a change.	Making Thrust Pg. 20	