6th – 8th Problem-Based Learning

Essential Question:
The Tennessee Bureau of Investigation is having issues recruiting new employees due to the current political climate and misinformation about law enforcement. How do we make forensic and law enforcement careers attractive to new recruits? Since our students attend a virtual school, STEM days are done on the 2nd and 4th Fridays of the month. Attendance is mandatory but it can vary. Approximately 20% of our 6-8 students attend.

Standards & Alignment	
Science/Social Studies 6.LS2.7 Compare and contrast auditory and visual methods of communication among organisms in relation to survival strategies of a population. 7.ETS2.1 Examine a problem from the medical field pertaining to biomaterials and design a solution taking into consideration the criteria, constraints, and relevant scientific principles of the problem that may limit possible solutions.	**Math** 6th 6.RP.A.3 Use ratio and rate reasoning to solve real-world and mathematical problems (e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations). 7th Solve real-world and mathematical problems involving the four operations with rational numbers. (Computations with rational numbers extend the rules for manipulating fractions to complex fractions.) 8th 8.SP.B Investigate chance processes and develop, use, and evaluate probability models. 8.SP.B.4 Find probabilities of compound events using organized lists, tables, tree diagrams, and simulation. Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify

	the outcomes in the sample space which compose the event.

ELA W.TTP.1: Write arguments to support claims with clear reasons and relevant evidence. SL. PKI.5: Include multimedia components and visual displays in presentations to clarify information.	***Computer Science*** 1.AT: Algorithmic Thinking 1) Identify and revise problem-solving strategies to solve a simple problem. 2) Classify and sort information into logical order with and/or without a computer. 2.AT: Algorithmic Thinking 1) Plan and create a design document to illustrate thoughts, ideas, and stories in a sequential (step-by-step) manner (e.g., story map, storyboard, sequential graphic organizer). 2) Compare and evaluate multiple ways to get a solution Students will consider potential solutions to a simple problem, how to recruit new employees to work at the Tennessee Bureau of Investigation. They have completed a graphic organizer to sort their information using a computer for research. Brainstorming and possible solutions will be logged in an online team book which will show each step of the design process students completed to develop their potential solutions. Students are going to work as a team to determine a single solution among many possibilities. As they receive feedback from the community partner, they will make modifications to their solutions. Finally, they will present the completed solution to the community partner.