8th Grade Technology Education Scope & Sequence

Days	Unit	Standard(s)/Outcome(s)	Essential/Guiding Questions
1	**Introduction & Engineering Design Journals Human System**	1. Malfunctions of any part of a system may affect the function and quality of the system. 2. Technological systems can be connected to one another. 3. Technological systems often interact with one another.	Processes within systems serve different functions and can cause problems with the performance of the system if there is a malfunction. How do you ensure systems function properly?
2	**Safety & Safety test**		
6 - 7	**Hydroponics Unit**	1. Explain what a food desert is, and why it is a problem. 2. Determine if a plant has what it needs to grow. 3. Explain how hydroponics is different from growing plants in soil. 4. Analyze the pros and cons of hydroponics, compared with soil farming. 5. Explain what is similar and what is different in four hydroponic systems.	Identify and evaluate four different systems for growing food without soil, and find out why we think hydroponics is the wave of the future

9 - 10	**Up-cycling/ Repurposing Device**	1. Technology, by itself, is neither good nor bad, but decisions about the use of products and systems can result in desirable or undesirable consequences. 2. The management of waste produced by technological systems is an important societal issue. 3. Technologies can be used to repair damage caused by natural disasters and to break down waste from the use of various products and systems. 4. Decisions to develop and use technologies often put environmental and economic concerns in direct competition with one another. 5. A product, system, or environment developed for one setting may be applied to another setting. 6. Make a product or system and document the solution.	Technology can have both positive and negative impacts on the environment and the economy. Knowledge from a variety of fields is used in the development of products and systems and the completed system can be used in multiple applications. How can you repurpose existing items to create a new device?
4	**Product Autopsy**	1. Controls are mechanisms or	Technical information comes in

		particular steps that people perform using information about the system that causes systems to change. 2. Use information provided in manuals, protocols or by experienced people to see and understand how things work. 3. Use tools, materials, and machines safely to diagnose, adjust, and repair systems.	many forms, and is used to test, evaluate and problem-solve within systems. How do you ensure the information and directions for a product are repeatable by a consumer?
6	**Arduino Unit**	1. Understanding the relationships among technologies and connections with other fields of study 2. Technological systems often interact with one another. 3. A product, system, or environment developed for one setting may be applied to another setting. 4. Technology, by itself, is neither good nor bad, but decisions about the use of products and systems can result in desirable or undesirable consequences.	The use of technology and computers are essential to the day to day workings of today's society. How are computer programs created to perform specific tasks?

4	**Career Pathways Program of Studies CTE term project.**	1. Research various programs offered through their high schools and Career and Tech Center. 2. Determine a possible career path and scheduling high school classes to be as career and college ready as possible.	There are many career choices available for students entering the workforce. What career areas are of most interest to you and your skills and abilities?
6	**Extension project Simple Machines & Flying Devices**	1. Energy can be used to do work, using many processes. 2. Power systems are used to drive and provide propulsion to other technological products and systems	Energy is needed to do work of any kind, by human, machine, system or other means.