Technology Education, 6th Grade Scope & Sequence

Days	Unit	Standard(s)/Outcome(s)	Essential/Guiding Questions
6	Introduction and Safety	Students will develop an understanding of the core concepts of technology. Students will develop an understanding of the attributes of design. The use of symbols, measurements, and drawings promotes clear communication by providing a common language to express ideas	What is Technology? Why is it important to work safely?
7	Technology to the Rescue	New products and systems can be developed to solve problems or to help do things that could not be done without the help of technology. Throughout history, new technologies have resulted from the demands, values, and interests of individuals, businesses, industries, and societies.	How do you determine if something is a want or a need? What is the difference between natural resources and consumer products?
4	Tallest Tower	Students will develop an understanding of the attributes of	What is the essence of problem solving?

| | | design. Requirements for a design are made up of criteria and constraints.

Students will develop an understanding of engineering design. Design involves a set of steps, which can be performed in different sequences and repeated as needed. Brainstorming is a group problem-solving design process in which each person in the group presents his or her ideas in an open forum. Modeling, testing, evaluating, and modifying are used to transform ideas into practical solutions.

Students will develop an understanding of the role of troubleshooting, research and development, invention and innovation, and experimentation in problem solving. Some technological problems are best solved through experimentation.

Students will develop an understanding of and ability to select and use manufacturing technologies. They will make a product or system and document the solution. | What is the Engineering Design Process?
Why do we keep an Engineering Design Journal? |

		Students will develop an understanding of and be able to select and use medical technologies. Formulate questions, design studies, and collect data about a characteristic shared by two populations or different characteristics within one population.	
7	Lego Robotics	Students will develop the abilities to use and maintain technological products and systems. Transportation vehicles are made up of subsystems, such as structural, propulsion, suspension, guidance, control, and support, which must function together for a system to work effectively. Operate and maintain systems in order to achieve a given purpose. Troubleshooting is a problem-solving method used to identify the cause of a malfunction in a technological system. Technological systems include input, processes, output, and, at times, feedback. An open-loop system has no feedback path and requires human intervention, while a closed loop	How can Robotic transportation systems be used? How are they similar to conventional transportation systems? How are they different from conventional transportation systems?

		system uses feedback.	
8	Rocket	Students will develop an understanding of the core concepts of technology. The Students will demonstrate knowledge of and apply the engineering design and development process. Students will understand the role of research and development, invention and innovation, and experimentation in problem solving.	What are the core concepts of technology? How can technology be used in solving a problem
5	Green Town	Students will develop an understanding of and abilities to select and use manufacturing technologies. Specify criteria and constraints for the design. Use computers and calculators in various applications. Students will develop an understanding of and be able to select and use information and communication technologies. The design of a message is influenced by such factors as the intended audience, medium, purpose, and nature of the message. The use of symbols, measurements, and drawings promotes clear	What is a Design Brief? What are the steps in the Engineering Design Process? Why is it important to consider the secondary impacts of our design?

		communication by providing a common language to express ideas Students will develop an understanding of and be able to select and use energy and power technologies. Much of the energy used in our environment is not used efficiently. Students will develop an understanding of and be able to select and use transportation technologies. Transporting people and goods involves a combination of individuals and vehicles	
4	Hold It Platform	Students will develop an understanding of the attributes of design. Students will develop an understanding of engineering design. Students will develop an understanding of troubleshooting, research and development, invention and innovation, and experimentation in problem solving. Students will develop abilities to apply the design process.	How does the selection of materials impact the outcome of the project?.