

Teacher Name: Charboneau

COURSE TITLE/GRADE: Tech In Action

DEPARTMENT/SUBJECT: Special Areas

	Unit 1 - September	Unit 2 - October	Unit 3 – Nov. / Dec.
Essential Questions	Review classroom procedures and safety. What is Technology? Define and discuss Technological systems. Problem solving and Design in Technology	Define and discuss types of technological systems, in depth. Define communication technology, information and ideas. Basic electrical theory and circuits. Soldering safety and practices.	Define manufacturing technology. Production processes and services. Management, Marketing, and R&D
Content	<ul style="list-style-type: none"> • Safety procedures, classroom management • Tool usage, proper storage, hand versus machine • Technology as a system including Input, Processes, Outputs and Feedback. • Steps in Problem solving, specifically as it pertains to technology. • Sketching ideas • Brainstorming ideas 	<ul style="list-style-type: none"> • Inputs, Processes, Outputs, and Feedback in general terminology. • Inputs- seven types and define • Processes- Problem solving or design. Production, Management • Outputs- Desirable, Undesirable. Intended, Unintended. Immediate, Delayed • Feedback- Information relating to system that affects all parts of technological system. Positive, Negative. Controls. • Basic Circuitry • Types of Communication Technologies- Printed Graphic, Photographic, Telecommunication, Computer and Internet 	<ul style="list-style-type: none"> • Break down different parts of manufacturing/production system. • Introduce hierarchy of business including various levels production and management. • Research material, their properties, physical, chemical, natural, etc. • Apply material to possible production run. • Set up product line and processing plan. • Brainstorm products for production. • Manage production of product. • Market product with communication technologies from previously learned skills. • Research and Develop product to provide service
Skills	Design safety poster or visual aid to stress the importance of safety classroom. Explain various hand tools and machines and the procedures for each. Explain proper class work procedure including gathering materials and tools, in class procedures, and clean up procedures. Gather examples of each specific part of a technological system and discuss their parts as a whole system. Use problem-solving example to combine collaborative work and thinking to become a classroom, not a room of individual students.	<ul style="list-style-type: none"> • Mr. Circuit- basic wiring techniques • Soldering- basic soldering techniques • Utilizing various types of communication technology to distribute information. • Applying communication technologies to promote, inform, entertain, educate, and persuade people. • Telecommunication model- transmitter and receiver. 	<ul style="list-style-type: none"> • Collaborative learning with production groups made up of various positions discussed in class. • Assign duties and work assignments to accomplish goal. • Research market for need, type, and materials for product. • Provide schedule of production. • Design slogan and marketing campaign including directions, company name, intended buyer, pricing structure, and display and sales. • Production run to be completed by Christmas to sell product. • Keep accounting record of materials,

			time, and profit. Profit goes directly back into class for new tools and supplies.
NJ Core Content Standard			
Assessments	Safety poster, visual aid. Safety quiz Notes, quizzes and tests Problem solving TLA (Technology Learning Activity)	Mr. Circuit exercises Soldering practices Communication TLA's such as video, poster, song, directions, etc. Notes, quizzes, tests, and worksheets	Production run- produce product for sale. Management- keeping records on progress. Notes, quizzes, and tests Production TLA

Unit 4 - January

Unit 5 - February - March

Essential Questions	Applying Technology: Producing products and structures Materials, Resources, and processing. Problem solving in production technology. Design and build prototypes to produce working assemblies	Transportation Technology system. Define and discuss transportation systems, their economic, social, and global impacts. Components of transportation technology systems Transportation vehicles, operating systems, and energy
Content	<ul style="list-style-type: none"> • Using technology to produce artifacts • Types of material resources and how obtained • Processing resources • Manufacturing products • Constructing structures • Engineering practices 	<ul style="list-style-type: none"> • Using technology to transport • Transportation vehicles • Operating transportation systems • Applying technology- using energy • Energy- The foundation of technology • Energy conversion
Skills	Design and build a prototype for engineering competition Use prototype to test structure and make changes to prototype Use feedback to make changes to prototype Design and build final assembly from prototype to enter in engineering competition Design and build catapult to find mean, median, and mode for calculations	Design and build balsa wood bridge for stress and structure testing Use computer simulation to test bridge components Design transportation vehicle with regard to safety systems Research water vehicles to incorporate into prototype water vehicle Design and build water vehicle to carry payload limited distance
NJ Core Content Standards		
Assessments	Full scale working model of engineering assignment Notes, quizzes, and test Summaries of work completed Production TLA (Technology Learning Activity)	

Unit 6 – March / April / May

Essential Questions	Construction technology- define and discuss components Structures- types, impacts on economy, environment, and society. Architectural design and construction
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	<p>Future technologies and impacts on society Career and technology- choices for our future.</p>
Content	<ul style="list-style-type: none"> • Review construction practices • Research various careers involving construction industry • General overview of blue print reading • Construction systems- modern and historical • Architectural design- reasons for every design including commercial and residential structures • Career choices in technology • New and upcoming technologies • Global and future impacts of technology
Skills	<p>Research residential housing and draw basic blueprint Convert blueprint into 1/2" scale model of structure Build scale model of structure with wood and glue Use new design types for construction Research new technologies in all fields of technology Summarize career choices in tech fields, especially new, interesting technologies</p>
NJ Core Content Standards	
Assessments	<p>Scale model structure Architectural Scale model Architectural TLA Quizzes, tests, research articles, class discussion</p>

REVISED 4/24/03