Focus Topic: Standard 8.1: Educational Technology

TSW = The Student Will

Objective(s)	NJCCCS Alignment	Essential Questions	Understandings	Suggested Assessments & Activities
TSW demonstrate knowledge of a real world problem using digital tools	8.1.8.A.1	What specific needs does technology meet?	The use of technology and digital tools requires knowledge	Ongoing observation & questioning during class discussions
TSW create a professional document (newsletter or flyer) using a digital application	8.1.8.A.2	How is technology used?	Media rich resources enhance creativity	Performance tasks
TSW plan and create a simple database, define fields, and input data	8.1.8.A.2	Why is safety important?	Cyber safety has an impact on society	Self-Assessment
TSW use or develop a simulation that provides a situation to solve a real world problem	8.1.8.A.3	What purpose do digital tools serve?	Technological development creates societal/global concerns	NJ TAP IN Checklist
TSW create a multimedia presentation including images and sounds	8.1.8.A.3	What impact do global issues have on technology?	Technology impacts our lives	Projects
TSW graph data within a spreadsheet and present results	8.1.8.A.4	What impact does technology have globally?		Differentiated Instruction
TSW create a database query, sort and create a report	8.1.8.A.5			Technology Integration
TSW select and use digital tools and digital resources to accomplish tasks and solve problems	8.1.8.A.5			
TSW evaluate and publish information about a local/global event on a collaborative web based service	8.1.8.B.1			

TSW apply previous knowledge by creating a digital learning game or tutorial	8.1.8.B.2			
TSW engage in online discussions with learners to understand perspectives relating to a problem	8.1.8.C.1			
TSW develop and publish work that provides perspectives on a global problem	8.1.8.C.1			
TSW propose solutions to technological problems	8.1.8.C.1			
TSW model appropriate online behaviors relating to cyber safety, cyber bullying, and cyber security	8.1.8.D.1			
TSW apply the rules of appropriate citations to digital content	8.1.8.D.2			
TSW understand the fair use and Creative Commons guidelines	8.1.8.D.3			
TSW demonstrate how information on a controversial issue may be biased	8.1.8.D.3			
TSW assess the credibility and accuracy of digital content	8.1.8.D.4			
TSW understand the appropriate uses for social media and the negative consequences of misuse	8.1.8.D.5			
TSW gather/analyze findings using data collection technology to produce solutions for a real world problem	8.1.8.E.1			

TSW effectively use a variety of search tools	8.1.8.E.1			
TSW effectively use filters in databases to find information	8.1.8.E.1			
TSW use electronic authoring tool (in collaboration) to evaluate and summarize a current event	8.1.8.F.1			
TSW use digital tools to collect and analyze data to identify a solution	8.1.8.F.1			

Focus Topic: Standard 8.2: Technology Education, Engineering, and Design TSW = The Student Will

Objective(s)	NJCCCS Alignment	Essential Questions	Understandings	Suggested Assessment & Activities
TSW understand the impact of globalization on the development of a technological system over time	8.2.8.A.1	How does technology impact global issues?	The design process is a systematic approach to solving problems	Ongoing observation & questioning during class discussions
TSW research a product that was designed for a specific purpose	8.2.8.A.1	What are the advantages/disadvantages of technology?	Technology has an impact on our environment & economy	Performance tasks
TSW identify how a product has changed to meet real world demands	8.2.8.A.1	How does technology affect our environment and economy?	Resource selection affects the development of a product	Self-Assessment
TSW explore how parts of a system work together as a whole	8.2.8.A.2	How does recycling affect our environment and economy?	Choice of resources impact the environment and economy	NJ TAP IN Checklist
TSW discuss how to redesign a system for improvement	8.2.8.A.2			Projects

TSW explore a malfunction in a part of a system and identify its impacts	8.2.8.A.3			Differentiated Instruction
TSW redesign an existing product to lessen the impact on the environment	8.2.8.A.4			Technology Integration
TSW describe how resources contribute to a technological system	8.2.8.A.5			
TSW design and create a product that addresses a real world problem working with specific criteria	8.2.8.B.1			
TSW understand the impact of sustainability on the development of a product	8.2.8.B.1			
TSW identify the desired and undesired consequences of a system	8.2.8.B.2			
TSW identify design constraints involved in designing a prototype by completing a design problem	8.2.8.B.2			
TSW identify results of design constraints in prototype development	8.2.8.B.2			
TSW analyze the ethical issues of a product on the environment and compile findings	8.2.8.B.3			
TSW solve a science based design challenge	8.2.8.B.3			
TSW build a prototype using science and math principles	8.2.8.B.3			

TSW be mindful of how technologies impact one another	8.2.8.B.4			
TSW identify new technologies resulting from demand and interest of business/industry	8.2.8.B.5			
TSW compare and contrast copyrights, patents, and trademarks	8.2.8.B.6			
TSW understand the impact of waste and the advantages to recycling	8.2.8.B.7			
TSW demonstrate how a product is reused or remanufactured into a new product	8.2.8.B.7			
TSW explain the need for patents and the registration of a patent	8.2.8.C.1			
TSW how collaboration contributes to the overall design of a product	8.2.8.C.1			
TSW compare and contrast current and past incidences of ethical/unethical use of labor	8.2.8.C.2			
TSW understand the need to optimize in a design process	8.2.8.C.2			
TSW evaluate the value of a product from the perspective of user and producer	8.2.8.C.3			
TSW identify the steps in a design process	8.2.8.C.4			

TSW understand a subsystem that operates as part of a system	8.2.8.C.5			
TSW identify the step by step process used to troubleshoot a malfunctioning system	8.2.8.C.6			
TSW present a sound solution for the repair of a malfunctioning system	8.2.8.C.6			
TSW analysis data and trends pertaining to product development	8.2.8.C.7			
TSW maintain sketches to record the development cycle of a product	8.2.8.C.7			
TSW develop a proposal for a technological solution (including a model)	8.2.8.C.8			
TSW evaluate the role of ethics and bias on trend analysis/ prediction	8.2.8.D.1			
TSW design a product that addresses a real world problem using the design process	8.2.8.D.1			
TSW identify trade-offs involved in designing a prototype (including failure)	8.2.8.D.2			
TSW build a prototype that meets a STEM based design challenge	8.2.8.D.3			
TSW research the steps for using and maintaining a product or system	8.2.8.D.4			

TSW explain the impact of resource selection	8.2.8.D.5			
TSW understand the production process in the development of a common product or system	8.2.8.D.5			
TSW identify how to have a more positive impact on the environment in the design process	8.2.8.D.6			
TSW work collaboratively to develop a product using the design process and data analysis	8.2.8.E.1			
TSW record the development cycle of a product	8.2.8.E.1			
TSW demonstrate an understanding of how hardware and software work together	8.2.8.E.2			
TSW develop an algorithm to solve an assigned problem	8.2.8.E.3			
TSW use appropriate terms in conversation	8.2.8.E.4			