

Unit	Topic	Lesson	Lesson Objectives
Green Design and Technology Course Overview			
<p>Introduction</p> <ul style="list-style-type: none"> Define green design Describe some of the industries that have been impacted by green design principles List tips for achieving academic success in the course <p>Start the Course</p> <ul style="list-style-type: none"> Identify computer requirements Learn how to move through the course Switch between windows <p>Set Up Your Computer</p> <ul style="list-style-type: none"> Find files and folders on a computer Set up a computer to show the List folder view and file name extensions Make a course folder <p>Set Up a Browser and Install 7-Zip</p> <ul style="list-style-type: none"> Set up a Web browser Download and install a zip utility Zip and unzip files and folders <p>Research and Citation</p> <ul style="list-style-type: none"> Identify sources of trustworthy information Define plagiarism and citation 			
Exploring Systems			
<p>Designing for the Environment</p> <ul style="list-style-type: none"> Define environment and natural environment, and identify parts of the natural environment Define ecology, organism, ecologist, ecological design, and product Define resource, natural resource, and renewable resource Identify things that ecological designers consider Define green design, green product, and sustainability 			

Unit	Topic	Lesson	Lesson Objectives
		Systems	<ul style="list-style-type: none"> Define system, inputs, processes, outputs, and boundaries Define systems thinking and holistic Identify system dynamics, including stocks, flows, and feedback loops Identify competitive strategies Define ecosystem
		Human Impact	<ul style="list-style-type: none"> Define built environment and resource depletion Identify common negative effects of resource depletion Identify common types of pollution caused by built environments Define ozone, ozone depletion, chlorofluorocarbons, and ozone hole
		Global Climate Change	<ul style="list-style-type: none"> Define climate and identify static and dynamic factors that affect the climate Define global climate change and identify its natural causes Identify evidence of global warming that scientists have discovered Define greenhouse effect and greenhouse gases Identify ways that humans contribute to the greenhouse effect
		Calculating Impact	<ul style="list-style-type: none"> Identify the five main stages of the water cycle Identify types of information used to calculate a water footprint Identify the parts of the carbon cycle Identify types of information used to calculate a carbon footprint Define and calculate your ecological footprint
		Waste Management	
		Reduce, Reuse, and Recycle	<ul style="list-style-type: none"> Define waste and identify what happens to waste Identify stages in the waste management process Define reduce, reuse, and recycle, and identify ways to do those things Identify stages in the recycling process Define downcycling, and identify the waste hierarchy

Unit	Topic	Lesson	Lesson Objectives
		Special Types of Waste	<ul style="list-style-type: none"> Define monofill, biodegradable materials, compost, and yard waste Identify benefits of composting Define electronic waste, heavy metals, and take-back program Identify types of waste that need special handling
	Green Energy	Alternative Energy Sources	<ul style="list-style-type: none"> Define energy and sustainable energy Identify how different types of alternative energy work and how they impact the environment, including solar, wind, hydro, geothermal, nuclear, biomass, and biofuel energy
		Clean Energy and Conservation	<ul style="list-style-type: none"> Define clean fossil fuel energy and clean coal technology Identify how clean coal technology works Identify ways to conserve energy Define smart grid and identify features of smart grids
	Green Transportation	Green Vehicles	<ul style="list-style-type: none"> Define green vehicles and identify types of green vehicles Identify some possible alternative fuels and energy sources Define hybrid vehicle Identify ways that people can conserve fuel
		Green Transportation Planning	<ul style="list-style-type: none"> Identify common ways that people are designing transportation systems that are better for the environment Identify types of public transportation Define population density

Unit	Topic	Lesson	Lesson Objectives
Green Agriculture			
Agriculture and Aquaculture			
Define agriculture, crops, and livestock			
Identify parts of the agricultural process and ways to produce crops			
Identify uses for livestock and ways that farmers breed, feed, and maintain the health of livestock			
Define feedlots and growth hormones			
Define aquaculture and integrated multi-trophic aquaculture			
Property Rights and Sustainability			
Define property and property rights			
Identify ways that environmental sustainability laws and water use laws affect property rights			
Define irrigation and identify common types of irrigation			
Define wastewater, graywater, and blackwater			
Define fertilizer, pesticide, insecticide, herbicide, and GMOs, and then identify the benefits and disadvantages of GMOS			
Organic Products and Local Agriculture			
Define organic, synthetic, and food additive			
Identify how organic products are produced and how they impact the environment			
Identify types of organic certifications			
Identify benefits of small farms			
Identify ways to support small farms and alternatives to home gardens			
Sustainable Agriculture			
Define industry, agricultural industry, and industrialization			
Identify ways that large farms and industrialized agriculture have affected the environment			
Identify ways that agriculture is being made more sustainable			
Define integrated biological systems and identify how they can make a process sustainable			
Green Manufacturing and Construction			
Economic Systems and the Environment			
Define manufacturing, good, service, consumer, and producer			
Define distribution and distribution chain			
Identify the main types of economies			
Define capital, labor, natural capital, and human capital			
Define natural capitalism and identify how it is different from traditional capitalism			

Unit	Topic	Lesson	Lesson Objectives
			<p>Life Cycles and Industrial Production</p> <ul style="list-style-type: none"> Define life cycle, cradle to cradle design, and cradle to grave Define life cycle analysis, byproduct, and embodied energy Identify ways that the industrial revolution and mass production affected the economy and production Identify ways to measure the efficiency of production <p>Green Product Design</p> <ul style="list-style-type: none"> Identify tips for choosing green materials for making products Define rapidly renewable resource and identify ways to practice sustainable forestry Identify ways to make packaging and labeling more sustainable Identify ways to manage industrial waste more sustainably Define remediation, phytoremediation, mycoremediation, and carbon offsets <p>Green Construction</p> <ul style="list-style-type: none"> Identify how cradle to cradle design applies to buildings Define environmental impact statement Identify green building rating systems and certifications Identify the types of things a green building rating system considers