

Green Tech NGSS Alignment CHART - Level 2 Activities

Hacking Our Sustainable Future	Solarize It	Battery Builder	Energy Sleuths	Meet Team Reakter
4-ESS3-1: Earth & Space Sciences: Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.	4-PS3-2: Physical Sciences: Make observations to provide evidence that energy can be transferred from place to place by sound light heat and electric currents.	3-PS2-2: Physical Sciences: Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.	5-ESS3-1: Earth & Space Sciences: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	4-ESS3-1: Earth & Space Sciences: Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.
5-ESS3-1: Earth & Space Sciences: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.	4-PS3-4: Physical Sciences: Apply scientific ideas to design test and refine a device that converts energy from one form to another.*	4-PS3-2: Physical Sciences: Make observations to provide evidence that energy can be transferred from place to place by sound light heat and electric currents.	3-5-ETS1-1: Engineering Technology and Applications of Science: Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials time or cost.	5-ESS3-1: Earth & Space Sciences: Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.
MS-PS1-3: Physical Sciences: Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.	4-ESS3-1: Earth & Space Sciences: Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.	4-PS3-4: Physical Sciences: Apply scientific ideas to design test and refine a device that converts energy from one form to another.	3-5-ETS1-2: Engineering Technology and Applications of Science: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	HS-ESS3-4: Earth & Space Sciences: Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.
MS-ESS3-3: Earth & Space Sciences: Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	MS-PS1-3: Physical Sciences: Gather and make sense of information to describe that synthetic materials come from natural resources and impact society.	5-PS1-3: Physical Sciences: Make observations and measurements to identify materials based on their properties.	3-5-ETS1-3: Engineering Technology and Applications of Science: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	
MS-ETS1-1: Engineering Technology and Applications of Science: Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.	HS-PS3-3: Physical Sciences: Design build and refine a device that works within given constraints to convert one form of energy into another form of energy.	3-5-ETS1-1: Engineering Technology and Applications of Science: Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials time or cost.	MS-ESS3-3: Earth & Space Sciences: Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.	
4-ESS3-2: Earth & Space Sciences: Generate and compare multiple solutions to reduce the impacts of natural Earth processes on humans.	HS-ESS3-4: Earth & Space Sciences: Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.	3-5-ETS1-2: Engineering Technology and Applications of Science: Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.	MS-ETS1-1: Engineering Technology and Applications of Science: Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.	
		3-5-ETS1-3: Engineering Technology and Applications of Science: Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.	MS-ETS1-3: Engineering Technology and Applications of Science: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.	
		MS-ETS1-2: Engineering Technology and Applications of Science: Evaluate competing design solutions using a systematic process to determine how well they meet the criteria and constraints of the problem.	MS-ETS1-4: Engineering Technology and Applications of Science: Develop a model to generate data for iterative testing and modification of a proposed object tool or process such that an optimal design can be achieved.	
		MS-ETS1-3: Engineering Technology and Applications of Science: Analyze data from tests to determine similarities and differences among several design solutions to identify the best characteristics of each that can be combined into a new solution to better meet the criteria for success.	HS-ESS3-4: Earth & Space Sciences: Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.	
		MS-ETS1-4: Engineering Technology and Applications of Science: Develop a model to generate data for iterative testing and modification of a proposed object tool or process such that an optimal design can be achieved.	HS-ETS1-2: Engineering Technology and Applications of Science: Design a solution to a complex real-world problem by breaking it down into smaller more manageable problems that can be solved through engineering.	
		MS-PS1-2: Physical Sciences: Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred.	HS-ETS1-3: Engineering Technology and Applications of Science: Evaluate a solution to a complex real-world problem based on prioritized criteria and trade-offs that account for a range of constraints including cost safety reliability and aesthetics as well as possible social cultural and environmental impacts.	
		HS-ETS1-2: Engineering Technology and Applications of Science: Design a solution to a complex real-world problem by breaking it down into smaller more manageable problems that can be solved through engineering.	HS-ETS1-4: Engineering Technology and Applications of Science: Use a computer simulation to model the impact of proposed solutions to a complex real-world problem with numerous criteria and constraints on interactions within and between systems relevant to the problem.	
		HS-PS3-3: Physical Sciences: Design build and refine a device that works within given constraints to convert one form of energy into another form of energy.*		