Nebraska CTE

Sustainable Energy

Apply safety principles, practice, philosophy, and guidelines to the work environment. STS.HS.31.1	**a** Complete applicable safety assessment with 100% accuracy. STS.HS.31.1.A
	b Employ appropriate Personal Protective Equipment (PPE) while in the lab setting. STS.HS.31.1.B
	c Employ eye protection in compliance with Neb. Rev. Statute 79–715. STS.HS.31.1.C
	d Employ the safe application of tools and machines. STS.HS.31.1.D
	e Explain the main hazards that are possible in the lab setting. STS.HS.31.1.E
	f Demonstrate proper handling and storing of materials. STS.HS.31.1.F
Identify career opportunities in the sustainable energy field. STS.HS.31.2	**a** Identify the responsibilities of professionals in the sustainable energy industry. STS.HS.31.2.A
	b Identify opportunities and employment trends in various sustainable energy sectors. STS.HS.31.2.B
	c Identify the training, education, certification, and licensing requirements for occupation choices within sustainable energy. STS.HS.31.2.C
Explain societal topics concerning sustainable energy. STS.HS.31.3	**a** Summarize energy systems' relation to the conservation and interaction of energy and matter. STS.HS.31.3.A
	b Explain the responsibilities and considerations involved in making decisions in the energy industry. STS.HS.31.3.B
	c Explain the economic and political ramifications of the energy industry. STS.HS.31.3.C
Identify the various types of energy and their uses. STS.HS.31.4	**a** Explain the characteristics of wind as an energy source. STS.HS.31.4.A
	b Explain how solar energy may be used as an alternative energy source. STS.HS.31.4.B
	c Explain how geothermal energy can be used as a form of energy. STS.HS.31.4.C
	d Explain how biomass is used as an alternative form of energy. STS.HS.31.4.D

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	e Explain how water may be used in energy production. STS.HS.31.4.E
Determine the materials, tools, and equipment needed to manufacture a sustainable energy product. STS.HS.31.5	a Determine types of materials, fasteners, adhesives, and finishes needed to produce a specific product related to sustainable energy. STS.HS.31.5.A
	b Determine the correct tools and equipment needed to produce a specific product related to sustainable energy. STS.HS.31.5.B
	c Identify the components of an effective sustainable energy product construction plan. STS.HS.31.5.C
Explain current trends and information related to sustainable energy production and distribution. STS.HS.31.6	a Identify pros and cons of sustainable energy. STS.HS.31.6.A
	b Locate, organize, and reference reliable information from various sources to communicate trends in sustainable energy. STS.HS.31.6.B
Execute accurate measurements using math and measurement tools pertaining to sustainable energy. STS.HS.31.7	a Identify types of measurement tools used in sustainable energy. STS.HS.31.7.A
	b Demonstrate the accurate use of measurement and layout tools to 1/16" precision. STS.HS.31.7.B
	c Solve math functions and formulas to complete tasks within the sustainable energy field. STS.HS.31.7.C
Construct a sustainable energy related product or structure. STS.HS.31.8	a Create sketches and plans for a sustainable energy related product or structure. STS.HS.31.8.A
	b Determine structural requirements, specifications, and estimate costs of structures. STS.HS.31.8.B
	c Interpret plans to construct, maintain, or repair sustainable energy-related products or structures. STS.HS.31.8.C
	d Properly plan, build, and maintain the product or structure. STS.HS.31.8.D