

Links to Unit	Links to Unit
Unit 1: Energy in the World Unit 2: Energy in our Lives Unit 3: Energy in our School	• Calendar Pacing (link) • Competencies At-a-Glance (link) • Task Target Alignment Planning Document (Link)

Course Overview:

An Introductory course designed to teach students about the occupations in the Energy field and the skills required for those occupations. In KCKPS every student who is in the Energy pathway must take and pass Intro to Energy before taking a technical level course. This course is designed for 9th and 10th grade students. 11th and 12th grade students should only be enrolled with teacher recommendation from an energy pathway teacher.

Course Outcomes:

The Students will be able to:	Rating Scale
1. Define energy and classify as kinetic or potential 2. Describe energy transformation 3. Analyze data using charts, graphs, and data analytics 4. Identify what careers are available in the energy field 5. Describe how energy is generated and distributed 6. Describe how energy is used in a building 7. Use tools to perform an energy audit in a building 8. Present findings and recommendations from an energy audit	4. Exemplary Achievement: Student possesses outstanding knowledge, skills or professional attitude. 3. Proficient Achievement: Student demonstrates good knowledge, skills or professional attitude. Requires limited supervision. 2. Limited Achievement: Student demonstrates fragmented knowledge, skills or professional attitude. Requires close supervision. 1. Inadequate Achievement: Student lacks knowledge, skills or professional attitude. 0. No Instruction/Training: Student has not received instruction or training in this area.

Unit 1: Energy in the World

Essential Question:

What is energy and how do we use it in our world?

Big Ideas:

- There are different forms of energy that can be classified as potential or kinetic
- Energy can flow between systems and can be transformed
- Humans use energy in a variety of ways and this use has changed over time due to many different factors
- Data can help us understand patterns in energy generation and consumption.

High Impact Vocabulary:

- Energy
- Power
- Work
- Kinetic
- Potential
- Transformation

Curriculum Resource Aligned to Unit:

<https://www.need.org/>

See task alignment document: [linked here](#)

Pacing Calendar [Link](#)**Additional Resources Aligned to Unit:****Balanced Assessment levels of evidence:**

Pre-test: Sorting and categorizing examples of energy at school
Formatives :Embedded within NEED curriculum resources.

Summative: WIP

Detailed Assessment System: [linked here](#)

Unit 2: Energy in Our Lives

Essential Question: How is energy generated and how do we use it in our own lives?

Big Ideas:

- Power can be generated from a variety of sources
- Power is distributed from a power source to the location where it will be used
- Natural, gas, water, and sewage systems also need to have a distribution system for our HVAC and plumbing systems

High Impact Vocabulary:

- Power
- Generation
- Renewable
- Non-Renewable
- Meter
- Building envelope
- Consumption

Curriculum Resource Aligned to Unit:

<https://www.need.org/>

Reality Works Electrical Wiring Kit

See task alignment document: [linked here](#)

Pacing Calendar [Link](#)

Additional Resources Aligned to Unit:

Balanced Assessment levels of evidence:

Pre-test: Modeling initial ideas about energy flows into, out of, and within a house.

Formatives:: Embedded within NEED curriculum resources.

Summative: WIP

Detailed Assessment System: [linked here](#)

Unit 3: Energy in our School

Essential Question: How does our school use energy and how can we be more efficient with our energy usage?

Big Ideas:

- Our schools use energy in a variety of ways
- We can measure and track the ways our school uses energy
- We can make inferences based on data collected in our school about ways our school can be more efficient with energy
- We can advocate for changes that will reduce our schools energy consumption “footprint”

High Impact Vocabulary:

- Audit
- Benchmarking
- Consumption
- Optimization
- Efficiency

Curriculum Resource Aligned to Unit:

<https://www.need.org/>

See task alignment document: [linked here](#)

Pacing Calendar [Link](#)

Additional Resources Aligned to Unit:

Balanced Assessment levels of evidence:

Pre-test: Energy Use Pre-Survey

Formatives: Embedded throughout the energy audit process

Summative: Presentation of findings and recommendations from energy audit

Detailed Assessment System: [linked here](#)