

Jay Curriculum: Unit Cover Page

Unit title: Energy/Electricity

Grade Level: 5

Content Area(s): Science

Date Created:

Designed By: Jay Fifth Grade Teachers

Year 1 Map & Template Development

- Map/Matrix Completed
- Material & Resources Listed
- Draft Design Template Completed
- Initial Draft Template Document

Year 2 Piloting

- Develop:
- Performance Tasks
- Other Assessments
- Scoring Rubrics
- Piloted

Year 3 Review & Complete Assessment

- Performance Tasks Development
- Other Assessments Completed
- Scoring Rubrics Completed
- Reviewed/Revised Templates

Year 4

- Full Implementation
- Benchmarks Established

Standard(s)/Performance Indicators:

- E2 Describe the evidence that all matter consists of particles called atoms that are made up of certain smaller particles
- F6 Describe the many products used by humans that are derived from materials in the earth's crust
- H2 Demonstrate that energy cannot be created or destroyed but only changed from one form to another
- H3 Compare and contrast the ways energy travels (e.g. waves, conduction, convection, radiation)
- H4 Describe the characteristics of static and current electricity
- H5 Categorize energy sources as renewable or non-renewable and compare how these sources are used by humans
- J2 Design and conduct scientific investigations which include controlled experiments and systematic observations
- M7 Explain the connection between industry, natural resources, population, and economic development

Unit: Energy/Electricity

Brief Summary of Unit/Topic

Summary:

Students will acquire knowledge of some of the properties of electricity through presentations, discussions, hands on activities, and collaborative efforts within the classroom. Students will also be able to apply their knowledge of simple circuits and how things work to everyday life.

Stage #1: Identify Desired Results

Essential Question/s:

General understanding/s (What is worth being familiar with?)

- Students will understand the basic components/properties of electricity
- Students will develop science thinking and process skills
- Students will learn about electrical safety

Students will know:

- All matter is made up of smaller particles and what these particles are
- Products that are derived from natural resources
- That energy takes different forms
- That energy travels in different ways
- Characteristics of static electricity and current electricity
- We may run out of certain natural resources
- There are alternative energy sources that create less of a negative impact on our environment
- How to safely work with and around electricity
- Electricity is a form of energy
- The different types of circuits
- Types of charges
- How electrons flow

Students will be able to:

- Summarize how electrons move and how electricity flows
- Describe certain products and explain the product's origin in the earth's crust
- Compare effectiveness of conductors and insulators
- Design an alternative energy source for an existing product
- Draw and label the flow of an electric current from an energy source
- Separate items into renewable and non-renewable categories
- Compare and contrast effectiveness of several different energy sources

Enduring Understanding/s:

Stage #2: Evidence

What evidence will students have to provide in order to demonstrate that they have developed the skills, knowledge and understanding to successfully complete this unit?

Performance Tasks/Products/other assessments Performance tasks should have a <u>scoring guide</u> .	<i>Performance Indicators</i> for this task.* Example: ELA: C- 1,2,3 Science: B- 3,5,7 SS His: H- 2	<u>Modalities</u> K =Kinesthetic O =oral V =visual W =written	Are <u>examples</u> available to students? ? Y, N, or N/A	Component of Local Assessment System? Y or N (See <u>aligned scoring guide</u> .)

*Abbreviate: English Language Arts= ELA, Career Preparation=CP, Modern and Classical Languages=MCL, Social Studies=SS, Visual and Performing Arts=VPA

Stage #3: Plan learning experiences & instruction

What teaching & learning experiences may equip students to develop & demonstrate the targeted understanding(s)? (activities/plans):

REFERENCES: