

Main Criteria: Next Generation Science Standards (NGSS)

Secondary Criteria: Alliance to Save Energy

Subject: Science

Grades: K, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Correlation Options: Show Correlated

Next Generation Science Standards (NGSS)

Science

Grade: **K** - Adopted: **2013**

**STRAND NGSS.K- PHYSICAL SCIENCE
PS**

TITLE	K-PS3	Energy
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION K-PS3-1 Make observations to determine the effect of sunlight on Earth's surface.

Alliance to Save Energy

- [How Is Energy Made? \(Home\)](#)
- [How Is Energy Made? \(School\)](#)
- [What is Sustainability? \(Home\)](#)
- [What is Sustainability? \(School\)](#)

PERFORMANCE EXPECTATION K-PS3-2 Use tools and materials to design and build a structure that will reduce the warming effect of sunlight on an area.

Alliance to Save Energy

- [How Is Energy Made? \(Home\)](#)
- [How Is Energy Made? \(School\)](#)

**STRAND NGSS.K- EARTH AND SPACE SCIENCE
ESS**

TITLE	K-ESS3	Earth and Human Activity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION K-ESS3-3 Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.

Alliance to Save Energy

- [Holiday Fun! \(Home\)](#)
- [Holiday Fun! \(School\)](#)
- [How Are Energy & Water Related? \(Home\)](#)
- [How Are Energy & Water Related? \(School\)](#)
- [How Do We Save Energy? \(Home\)](#)
- [How Do We Save Energy? \(School\)](#)
- [How Is Energy Made? \(Home\)](#)
- [How Is Energy Made? \(School\)](#)
- [Student Presentation \(Home\)](#)
- [Student Presentation \(School\)](#)
- [What is Energy? \(Home\)](#)
- [What is Energy? \(School\)](#)
- [What is Sustainability? \(Home\)](#)
- [What is Sustainability? \(School\)](#)
- [When is Energy Used? \(Home\)](#)
- [When is Energy Used? \(School\)](#)

Next Generation Science Standards (NGSS)

Science

Grade: **1** - Adopted: **2013**

**STRAND NGSS.1- PHYSICAL SCIENCE
PS**

TITLE	1-PS4	Waves and their Applications in Technologies for Information Transfer
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION 1-PS4-3 Plan and conduct an investigation to determine the effect of placing objects made with different materials in the path of a beam of light.

- Alliance to Save Energy**
- [How Is Energy Made? \(Home\)](#)
 - [How Is Energy Made? \(School\)](#)

Next Generation Science Standards (NGSS)
Science
Grade: 2 - Adopted: 2013

**STRAND NGSS.2- EARTH AND SPACE SCIENCE
ESS**

TITLE	2-ESS2	Earth's Systems
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION 2-ESS2-3 Obtain information to identify where water is found on Earth and that it can be solid or liquid.

- Alliance to Save Energy**
- [How Are Energy & Water Related? \(Home\)](#)
 - [How Are Energy & Water Related? \(School\)](#)

Next Generation Science Standards (NGSS)
Science
Grade: 3 - Adopted: 2013

**STRAND NGSS.3- EARTH AND SPACE SCIENCE
ESS**

TITLE	3-ESS2	Earth's Systems
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION 3-ESS2-2 Obtain and combine information to describe climates in different regions of the world.

- Alliance to Save Energy**
- [3-5 Climate Video](#)

Next Generation Science Standards (NGSS)
Science
Grade: 4 - Adopted: 2013

**STRAND NGSS.4- PHYSICAL SCIENCE
PS**

TITLE	4-PS3	Energy
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION 4-PS3-2 Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents.

Alliance to Save Energy

- [3-5 Energy Audit Video](#)
- [3-5 Energy Basics Video](#)
- [3-5 Explore Renewables Video](#)
- [3-5 Understanding Energy Demand Video](#)

PERFORMANCE EXPECTATION 4-PS3-4 Apply scientific ideas to design, test, and refine a device that converts energy from one form to another.

Alliance to Save Energy

- [3-5 Explore Renewables Video](#)

**STRAND NGSS.4- EARTH AND SPACE SCIENCE
ESS**

TITLE	4-ESS3	Earth and Human Activity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION 4-ESS3-1 Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.

Alliance to Save Energy

- [3-5 Climate Video](#)
- [3-5 Energy Basics Video](#)
- [3-5 Explore Renewables Energy Poster Project](#)
- [3-5 Explore Renewables Video](#)
- [3-5 Understanding Energy Demand Video](#)
- [3-8 Custodial Presentation & Pledge](#)
- [Assembly Announcement](#)
- [Carbon Footprint Calculator](#)
- [Family Presentation](#)
- [Staff Presentation](#)

Next Generation Science Standards (NGSS)

Science

Grade: 5 - Adopted: 2013

**STRAND NGSS.5- EARTH AND SPACE SCIENCE
ESS**

TITLE	5-ESS2	Earth's Systems
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION 5-ESS2-1 Develop a model using an example to describe ways the geosphere, biosphere, hydrosphere, and/or atmosphere interact.

Alliance to Save Energy

- [3-5 Climate Video](#)

**STRAND NGSS.5- EARTH AND SPACE SCIENCE
ESS**

TITLE	5-ESS3	Earth and Human Activity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION 5-ESS3-1 Obtain and combine information about ways individual communities use science ideas to protect the Earth's resources and environment.

Alliance to Save Energy

- 3-5 Carbon Rank Competition
- 3-5 Climate Video
- 3-5 Energy Audit Video
- 3-5 Energy Basics Video
- 3-5 Environmental Justice Video
- 3-5 Explore Renewables Video
- 3-5 Final Presentation & Peer Performance
- 3-5 Green Your Career Video
- 3-5 My Future Green Career
- 3-5 Understanding Energy Demand Video
- 3-8 Custodial Presentation & Pledge
- 3-8 Water Audit
- Amelia Airflow 3-5
- Appliance Audit
- Assembly Announcement
- Carbon Footprint Calculator
- Carbon Footprint Journal
- Energy Patrol Contest
- Family Presentation
- Green Career Guest Speaker
- HVAC Audit
- Home Energy Audit
- Home Energy Demand Pledge
- Lighting Audit
- My Future Green Career Presentation
- Poster Campaign
- School Audit
- Shutdown Reminders
- Staff Presentation
- Water Awareness Posters
- Water Saving Awareness

Next Generation Science Standards (NGSS)

Science

Grade: 6 - Adopted: 2013

**STRAND NGSS.MS PHYSICAL SCIENCE
-PS**

TITLE	MS-PS2	Motion and Stability: Forces and Interactions
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION MS-PS2-3 Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.

Alliance to Save Energy

- 6-8 Energy Audit Video
- 6-8 Energy Basics Video

**STRAND NGSS.MS LIFE SCIENCE
-LS**

TITLE	MS-LS2	Ecosystems: Interactions, Energy, and Dynamics
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

Alliance to Save Energy

- [6-8 Climate Video](#)

PERFORMANCE EXPECTATION MS-LS2-5 Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

Alliance to Save Energy

- [3-8 Custodial Presentation & Pledge](#)
- [6-12 Final Presentation & Peer Performance](#)
- [6-8 Carbon Rank Competition](#)
- [6-8 Climate Video](#)
- [6-8 Energy Basics Video](#)
- [6-8 Environmental Justice Video](#)
- [6-8 Green Your Career Video](#)
- [6-8 My Future Green Career](#)
- [Assembly Announcement](#)
- [Carbon Footprint Journal](#)
- [Family Presentation](#)
- [Home Energy Demand Pledge](#)
- [My Future Green Career Presentation](#)
- [Net Zero School Design](#)
- [Shutdown Reminders](#)
- [Staff Presentation](#)

STRAND NGSS.MS EARTH AND SPACE SCIENCE-ESS

TITLE	MS-ESS3	Earth and Human Activity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION MS-ESS3-1 Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

Alliance to Save Energy

- [3-8 Custodial Presentation & Pledge](#)
- [6-8 Climate Video](#)
- [6-8 Energy Basics Video](#)
- [6-8 Explore Renewables Energy Poster Project](#)
- [6-8 Explore Renewables Video](#)
- [Assembly Announcement](#)
- [Carbon Footprint Calculator](#)
- [Family Presentation](#)
- [Staff Presentation](#)

PERFORMANCE EXPECTATION	MS-ESS3-3	<p>Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 3-8 Custodial Presentation & Pledge • 3-8 Water Audit • 6-12 Final Presentation & Peer Performance • 6-8 Carbon Rank Competition • 6-8 Climate Video • 6-8 Energy Audit Video • 6-8 Energy Basics Video • 6-8 Environmental Justice Video • 6-8 Explore Renewables Video • 6-8 Green Your Career Video • 6-8 My Future Green Career • 6-8 Understanding Energy Demand Video • Amelia Airflow 6-8 • Appliance Audit • Assembly Announcement • Carbon Footprint Calculator • Carbon Footprint Journal • Energy Patrol Contest • Family Presentation • HVAC Audit • Home Energy Audit • Home Energy Demand Pledge • Lighting Audit • Mr. BTU 6-8 • My Future Green Career Presentation • Net Zero School Design • Poster Campaign • School Audit • Shutdown Reminders • Staff Presentation • Water Awareness Posters • Water Saving Awareness
PERFORMANCE EXPECTATION	MS-ESS3-4	<p>Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 3-8 Custodial Presentation & Pledge • 6-8 Climate Video • 6-8 Energy Basics Video • 6-8 Environmental Justice Video • 6-8 Explore Renewables Energy Poster Project • 6-8 Explore Renewables Video • Assembly Announcement • Family Presentation • Staff Presentation
PERFORMANCE EXPECTATION	MS-ESS3-5	<p>Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 6-8 Climate Video • 6-8 Energy Basics Video • Carbon Footprint Calculator

**STRAND NGSS.MS PHYSICAL SCIENCE
-PS**

TITLE	MS-PS2	Motion and Stability: Forces and Interactions
		Students who demonstrate understanding can:

PERFORMANCE MS-PS2- Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.
EXPECTATION 3

Alliance to Save Energy

- [6-8 Energy Audit Video](#)
- [6-8 Energy Basics Video](#)

**STRAND NGSS.MS LIFE SCIENCE
-LS**

TITLE	MS-LS2	Ecosystems: Interactions, Energy, and Dynamics
		Students who demonstrate understanding can:

PERFORMANCE MS-LS2- Construct an argument supported by empirical evidence that changes to physical or biological components of
EXPECTATION 4 an ecosystem affect populations.

Alliance to Save Energy

- [6-8 Climate Video](#)

PERFORMANCE MS-LS2- Evaluate competing design solutions for maintaining biodiversity and ecosystem services.
E 5
EXPECTATION

Alliance to Save Energy

- [3-8 Custodial Presentation & Pledge](#)
- [6-12 Final Presentation & Peer Performance](#)
- [6-8 Carbon Rank Competition](#)
- [6-8 Climate Video](#)
- [6-8 Energy Basics Video](#)
- [6-8 Environmental Justice Video](#)
- [6-8 Green Your Career Video](#)
- [6-8 My Future Green Career](#)
- [Assembly Announcement](#)
- [Carbon Footprint Journal](#)
- [Family Presentation](#)
- [Home Energy Demand Pledge](#)
- [My Future Green Career Presentation](#)
- [Net Zero School Design](#)
- [Shutdown Reminders](#)
- [Staff Presentation](#)

**STRAND NGSS.MS EARTH AND SPACE SCIENCE
-ESS**

TITLE	MS-ESS3	Earth and Human Activity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION MS-ESS3-1 Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.

Alliance to Save Energy

- 3-8 Custodial Presentation & Pledge
- 6-8 Climate Video
- 6-8 Energy Basics Video
- 6-8 Explore Renewables Energy Poster Project
- 6-8 Explore Renewables Video
- Assembly Announcement
- Carbon Footprint Calculator
- Family Presentation
- Staff Presentation

PERFORMANCE EXPECTATION MS-ESS3-3 Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.

Alliance to Save Energy

- 3-8 Custodial Presentation & Pledge
- 3-8 Water Audit
- 6-12 Final Presentation & Peer Performance
- 6-8 Carbon Rank Competition
- 6-8 Climate Video
- 6-8 Energy Audit Video
- 6-8 Energy Basics Video
- 6-8 Environmental Justice Video
- 6-8 Explore Renewables Video
- 6-8 Green Your Career Video
- 6-8 My Future Green Career
- 6-8 Understanding Energy Demand Video
- Amelia Airflow 6-8
- Appliance Audit
- Assembly Announcement
- Carbon Footprint Calculator
- Carbon Footprint Journal
- Energy Patrol Contest
- Family Presentation
- HVAC Audit
- Home Energy Audit
- Home Energy Demand Pledge
- Lighting Audit
- Mr. BTU 6-8
- My Future Green Career Presentation
- Net Zero School Design
- Poster Campaign
- School Audit
- Shutdown Reminders
- Staff Presentation
- Water Awareness Posters
- Water Saving Awareness

PERFORMANCE EXPECTATION MS-ESS3-4 Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.

Alliance to Save Energy

- 3-8 Custodial Presentation & Pledge
- 6-8 Climate Video
- 6-8 Energy Basics Video
- 6-8 Environmental Justice Video
- 6-8 Explore Renewables Energy Poster Project
- 6-8 Explore Renewables Video
- Assembly Announcement
- Family Presentation
- Staff Presentation

PERFORMANCE MS-ESS3-5 Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.

Alliance to Save Energy

- 6-8 Climate Video
- 6-8 Energy Basics Video
- Carbon Footprint Calculator

Next Generation Science Standards (NGSS)

Science

Grade: 8 - Adopted: 2013

STRAND NGSS.MS PHYSICAL SCIENCE -PS

TITLE	MS-PS2	Motion and Stability: Forces and Interactions
		Students who demonstrate understanding can:

PERFORMANCE MS-PS2-3 Ask questions about data to determine the factors that affect the strength of electric and magnetic forces.

Alliance to Save Energy

- 6-8 Energy Audit Video
- 6-8 Energy Basics Video

STRAND NGSS.MS LIFE SCIENCE -LS

TITLE	MS-LS2	Ecosystems: Interactions, Energy, and Dynamics
		Students who demonstrate understanding can:

PERFORMANCE MS-LS2-4 Construct an argument supported by empirical evidence that changes to physical or biological components of an ecosystem affect populations.

Alliance to Save Energy

- 6-8 Climate Video

PERFORMANCE MS-LS2-5 Evaluate competing design solutions for maintaining biodiversity and ecosystem services.

Alliance to Save Energy

- 3-8 Custodial Presentation & Pledge
- 6-12 Final Presentation & Peer Performance
- 6-8 Carbon Rank Competition
- 6-8 Climate Video
- 6-8 Energy Basics Video
- 6-8 Environmental Justice Video
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- Net Zero School Design
- Shutdown Reminders
- Staff Presentation

STRAND NGSS.MS EARTH AND SPACE SCIENCE -ESS

TITLE	MS-ESS3	Earth and Human Activity
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		Students who demonstrate understanding can:
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PERFORMANCE EXPECTATION	MS-ESS3-1	Construct a scientific explanation based on evidence for how the uneven distributions of Earth's mineral, energy, and groundwater resources are the result of past and current geoscience processes.
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Alliance to Save Energy

- 3-8 Custodial Presentation & Pledge
- 6-8 Climate Video
- 6-8 Energy Basics Video
- 6-8 Explore Renewables Energy Poster Project
- 6-8 Explore Renewables Video
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- Staff Presentation

PERFORMANCE EXPECTATION	MS-ESS3-3	Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.
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Alliance to Save Energy

- 3-8 Custodial Presentation & Pledge
- 3-8 Water Audit
- 6-12 Final Presentation & Peer Performance
- 6-8 Carbon Rank Competition
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- Water Saving Awareness

PERFORMANCE EXPECTATION	MS-ESS3-4	Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems. Alliance to Save Energy <ul style="list-style-type: none"> • 3-8 Custodial Presentation & Pledge • 6-8 Climate Video • 6-8 Energy Basics Video • 6-8 Environmental Justice Video • 6-8 Explore Renewables Energy Poster Project • 6-8 Explore Renewables Video • Assembly Announcement • Family Presentation • Staff Presentation
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PERFORMANCE EXPECTATION	MS-ESS3-5	Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century. Alliance to Save Energy <ul style="list-style-type: none"> • 6-8 Climate Video • 6-8 Energy Basics Video • Carbon Footprint Calculator
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Next Generation Science Standards (NGSS)

Science

Grade: 9 - Adopted: 2013

STRAND NGSS.HS PHYSICAL SCIENCE -PS

TITLE	HS-PS3	Energy
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	HS-PS3-1	Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known. Alliance to Save Energy <ul style="list-style-type: none"> • 9-12 Energy Audit Video • 9-12 Energy Basics Video • 9-12 Explore Renewables Video
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PERFORMANCE EXPECTATION	HS-PS3-3	Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy. Alliance to Save Energy <ul style="list-style-type: none"> • 9-12 Explore Renewables Video
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PERFORMANCE EXPECTATION	HS-PS3-4	Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics). Alliance to Save Energy <ul style="list-style-type: none"> • Mr. BTU 9-12 • Professor Frio
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STRAND NGSS.HS LIFE SCIENCE -LS

TITLE	HS-LS2	Ecosystems: Interactions, Energy, and Dynamics
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-LS2-2 Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.

Alliance to Save Energy

- 9-12 Climate Video
- 9-12 Environmental Justice Video
- 9-12 Green Your Career Video

PERFORMANCE EXPECTATION HS-LS2-7 Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.

Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
- 9-12 Climate Video
- 9-12 Custodial Presentation & Pledge
- 9-12 Energy Basics Video
- 9-12 Environmental Justice Video
- 9-12 Green Your Career Video
- 9-12 My Future Green Career
- 9-12 Understanding Energy Demand Video
- Assembly Announcement
- Capstone Project
- Carbon Footprint Journal
- Family Presentation
- Green Future Design
- Home Energy Demand Pledge
- My Future Green Career Presentation
- Shutdown Reminders
- Staff Presentation

**STRAND NGSS.HS LIFE SCIENCE
-LS**

TITLE	HS-LS4	Biological Evolution: Unity and Diversity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-LS4-6 Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.

Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
- 9-12 Climate Video
- 9-12 Custodial Presentation & Pledge
- 9-12 Energy Basics Video
- 9-12 Environmental Justice Video
- 9-12 Green Your Career Video
- 9-12 My Future Green Career
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- Staff Presentation

**STRAND NGSS.HS EARTH AND SPACE SCIENCE
-ESS**

TITLE	HS-ESS1	Earth's Place in the Universe
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		Students who demonstrate understanding can:
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PERFORMANCE EXPECTATION HS-ESS1-6 Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.

Alliance to Save Energy

- [9-12 Climate Video](#)

STRAND NGSS.HS EARTH AND SPACE SCIENCE -ESS

TITLE	HS-ESS2	Earth's Systems
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-ESS2-2 Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth's systems.

Alliance to Save Energy

- [9-12 Climate Video](#)

PERFORMANCE EXPECTATION HS-ESS2-4 Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.

Alliance to Save Energy

- [9-12 Climate Video](#)
- [9-12 Energy Basics Video](#)
- [9-12 Explore Renewables Video](#)
- [Carbon Footprint Calculator](#)

PERFORMANCE EXPECTATION HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.

Alliance to Save Energy

- [9-12 Climate Video](#)

STRAND NGSS.HS EARTH AND SPACE SCIENCE -ESS

TITLE	HS-ESS3	Earth and Human Activity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	HS-ESS3-1	Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
- 9-12 Climate Video
- 9-12 Custodial Presentation & Pledge
- 9-12 Energy Audit Video
- 9-12 Energy Basics Video
- 9-12 Environmental Justice Video
- 9-12 Explore Renewables Energy Poster Project
- 9-12 Explore Renewables Video
- 9-12 Green Your Career Video
- 9-12 My Future Green Career
- 9-12 Understanding Energy Demand Video
- 9-12 Water Audit
- Amelia Airflow 9-12
- Appliance Audit
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- Water Awareness Posters
- Water Saving Awareness

PERFORMANCE EXPECTATION	HS- ESS3-2	Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
- 9-12 Climate Video
- 9-12 Custodial Presentation & Pledge
- 9-12 Energy Audit Video
- 9-12 Energy Basics Video
- 9-12 Environmental Justice Video
- 9-12 Explore Renewables Energy Poster Project
- 9-12 Explore Renewables Video
- 9-12 Green Your Career Video
- 9-12 My Future Green Career
- 9-12 Understanding Energy Demand Video
- 9-12 Water Audit
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PERFORMANCE EXPECTATION	HS- ESS3-3	Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
- 9-12 Climate Video
- 9-12 Custodial Presentation & Pledge
- 9-12 Energy Audit Video
- 9-12 Energy Basics Video
- 9-12 Environmental Justice Video
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- Poster Campaign
- School Audit
- Shutdown Reminders
- Staff Presentation
- Water Awareness Posters
- Water Saving Awareness

PERFORMANCE EXPECTATION	HS- ESS3-4	<p>Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 6-12 Final Presentation & Peer Performance • 9-12 Carbon Rank Competition • 9-12 Climate Video • 9-12 Custodial Presentation & Pledge • 9-12 Energy Audit Video • 9-12 Energy Basics Video • 9-12 Environmental Justice Video • 9-12 Explore Renewables Video • 9-12 Green Your Career Video • 9-12 My Future Green Career • 9-12 Understanding Energy Demand Video • 9-12 Water Audit • Amelia Airflow 9-12 • Appliance Audit • Assembly Announcement • Capstone Project • Carbon Footprint Calculator • Carbon Footprint Journal • Energy Patrol Contest • Family Presentation • Green Future Design • HVAC Audit • Home Energy Audit • Home Energy Demand Pledge • Lighting Audit • Mr. BAS • Mr. BTU 9-12 • My Future Green Career Presentation • Poster Campaign • School Audit • Shutdown Reminders • Staff Presentation • Water Awareness Posters • Water Saving Awareness
PERFORMANCE EXPECTATION	HS- ESS3-5	<p>Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 9-12 Climate Video • 9-12 Energy Basics Video • Carbon Footprint Calculator

PERFORMANCE EXPECTATION HS-ESS3-6 Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.

Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
- 9-12 Climate Video
- 9-12 Custodial Presentation & Pledge
- 9-12 Energy Basics Video
- 9-12 Environmental Justice Video
- 9-12 Explore Renewables Video
- 9-12 Green Your Career Video
- 9-12 My Future Green Career
- 9-12 Understanding Energy Demand Video
- Assembly Announcement
- Capstone Project
- Carbon Footprint Journal
- Family Presentation
- Green Future Design
- Home Energy Demand Pledge
- My Future Green Career Presentation
- Shutdown Reminders
- Staff Presentation

**STRAND NGSS.HS ENGINEERING DESIGN
-ETS**

TITLE	HS-ETS1	Engineering Design
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	HS-ETS1-1	Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
- 9-12 Climate Video
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- 9-12 Energy Audit Video
- 9-12 Energy Basics Video
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- 9-12 Explore Renewables Video
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- Appliance Audit
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- Green Future Design
- HVAC Audit
- Home Energy Audit
- Home Energy Demand Pledge
- Lighting Audit
- Mr. BAS
- Mr. BTU 9-12
- My Future Green Career Presentation
- Poster Campaign
- School Audit
- Shutdown Reminders
- Staff Presentation
- Water Awareness Posters
- Water Saving Awareness

PERFORMANCE EXPECTATION	HS-ETS1-3	<p>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.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 6-12 Final Presentation & Peer Performance • 9-12 Carbon Rank Competition • 9-12 Climate Video • 9-12 Custodial Presentation & Pledge • 9-12 Energy Audit Video • 9-12 Energy Basics Video • 9-12 Environmental Justice Video • 9-12 Explore Renewables Video • 9-12 Green Your Career Video • 9-12 My Future Green Career • 9-12 Understanding Energy Demand Video • Amelia Airflow 9-12 • Appliance Audit • Assembly Announcement • Capstone Project • Carbon Footprint Calculator • Carbon Footprint Journal • Energy Patrol Contest • Family Presentation • Green Future Design • HVAC Audit • Home Energy Audit • Home Energy Demand Pledge • Lighting Audit • Mr. BAS • Mr. BTU 9-12 • My Future Green Career Presentation • Poster Campaign • School Audit • Shutdown Reminders • Staff Presentation
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PERFORMANCE EXPECTATION	HS-ETS1-4	<p>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.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 9-12 Climate Video
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Next Generation Science Standards (NGSS)

Science

Grade: **10** - Adopted: **2013**

STRAND NGSS.HS PHYSICAL SCIENCE-PS

TITLE	HS-PS3	Energy
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	HS-PS3-1	<p>Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 9-12 Energy Audit Video • 9-12 Energy Basics Video • 9-12 Explore Renewables Video
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PERFORMANCE EXPECTATION	HS-PS3-3	Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy. <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • 9-12 Explore Renewables Video
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PERFORMANCE EXPECTATION	HS-PS3-4	Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics). <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • Mr. BTU 9-12 • Professor Frio
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STRAND NGSS.HS LIFE SCIENCE -LS

TITLE	HS-LS2	Ecosystems: Interactions, Energy, and Dynamics
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	HS-LS2-2	Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales. <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • 9-12 Climate Video • 9-12 Environmental Justice Video • 9-12 Green Your Career Video
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PERFORMANCE EXPECTATION	HS-LS2-7	Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • 6-12 Final Presentation & Peer Performance • 9-12 Carbon Rank Competition • 9-12 Climate Video • 9-12 Custodial Presentation & Pledge • 9-12 Energy Basics Video • 9-12 Environmental Justice Video • 9-12 Green Your Career Video • 9-12 My Future Green Career • 9-12 Understanding Energy Demand Video • Assembly Announcement • Capstone Project • Carbon Footprint Journal • Family Presentation • Green Future Design • Home Energy Demand Pledge • My Future Green Career Presentation • Shutdown Reminders • Staff Presentation
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STRAND NGSS.HS LIFE SCIENCE -LS

TITLE	HS-LS4	Biological Evolution: Unity and Diversity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-LS4-6 Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.

Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
- 9-12 Climate Video
- 9-12 Custodial Presentation & Pledge
- 9-12 Energy Basics Video
- 9-12 Environmental Justice Video
- 9-12 Green Your Career Video
- 9-12 My Future Green Career
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- Green Future Design
- Home Energy Demand Pledge
- My Future Green Career Presentation
- Shutdown Reminders
- Staff Presentation

STRAND NGSS.HS EARTH AND SPACE SCIENCE -ESS

TITLE	HS-ESS1	Earth's Place in the Universe
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-ESS1-6 Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.

Alliance to Save Energy

- 9-12 Climate Video

STRAND NGSS.HS EARTH AND SPACE SCIENCE -ESS

TITLE	HS-ESS2	Earth's Systems
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-ESS2-2 Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth's systems.

Alliance to Save Energy

- 9-12 Climate Video

PERFORMANCE EXPECTATION HS-ESS2-4 Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.

Alliance to Save Energy

- 9-12 Climate Video
- 9-12 Energy Basics Video
- 9-12 Explore Renewables Video
- Carbon Footprint Calculator

PERFORMANCE EXPECTATION HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.

Alliance to Save Energy

- 9-12 Climate Video

**STRAND NGSS.HS EARTH AND SPACE SCIENCE
-ESS**

TITLE	HS-ESS3	Earth and Human Activity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-ESS3-1 Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
- 9-12 Climate Video
- 9-12 Custodial Presentation & Pledge
- 9-12 Energy Audit Video
- 9-12 Energy Basics Video
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- School Audit
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- Staff Presentation
- Water Awareness Posters
- Water Saving Awareness

PERFORMANCE EXPECTATION	HS- ESS3-2	Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
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PERFORMANCE EXPECTATION	HS-ESS3-3	Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
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- 9-12 Climate Video
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- Staff Presentation
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- Water Saving Awareness

PERFORMANCE EXPECTATION	HS- ESS3-4	<p>Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 6-12 Final Presentation & Peer Performance • 9-12 Carbon Rank Competition • 9-12 Climate Video • 9-12 Custodial Presentation & Pledge • 9-12 Energy Audit Video • 9-12 Energy Basics Video • 9-12 Environmental Justice Video • 9-12 Explore Renewables Video • 9-12 Green Your Career Video • 9-12 My Future Green Career • 9-12 Understanding Energy Demand Video • 9-12 Water Audit • Amelia Airflow 9-12 • Appliance Audit • Assembly Announcement • Capstone Project • Carbon Footprint Calculator • Carbon Footprint Journal • Energy Patrol Contest • Family Presentation • Green Future Design • HVAC Audit • Home Energy Audit • Home Energy Demand Pledge • Lighting Audit • Mr. BAS • Mr. BTU 9-12 • My Future Green Career Presentation • Poster Campaign • School Audit • Shutdown Reminders • Staff Presentation • Water Awareness Posters • Water Saving Awareness
PERFORMANCE EXPECTATION	HS- ESS3-5	<p>Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 9-12 Climate Video • 9-12 Energy Basics Video • Carbon Footprint Calculator

PERFORMANCE EXPECTATION	HS-ESS3-6	Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
- 9-12 Climate Video
- 9-12 Custodial Presentation & Pledge
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- Shutdown Reminders
- Staff Presentation

STRAND **NGSS.HS ENGINEERING DESIGN**
-ETS

TITLE	HS-ETS1	Engineering Design
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	HS-ETS1-1	Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
- 9-12 Climate Video
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- Water Awareness Posters
- Water Saving Awareness

PERFORMANCE EXPECTATION HS-ETS1-3 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.

Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
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- Staff Presentation

PERFORMANCE EXPECTATION HS-ETS1-4 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.

Alliance to Save Energy

- 9-12 Climate Video

**Next Generation Science Standards (NGSS)
Science**

Grade: 11 - Adopted: 2013

**STRAND NGSS.HS PHYSICAL SCIENCE
-PS**

TITLE	HS-PS3	Energy
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-PS3-1 Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.

Alliance to Save Energy

- 9-12 Energy Audit Video
- 9-12 Energy Basics Video
- 9-12 Explore Renewables Video

PERFORMANCE EXPECTATION	HS-PS3-3	Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy. <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • 9-12 Explore Renewables Video
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PERFORMANCE EXPECTATION	HS-PS3-4	Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics). <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • Mr. BTU 9-12 • Professor Frio
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STRAND NGSS.HS LIFE SCIENCE -LS

TITLE	HS-LS2	Ecosystems: Interactions, Energy, and Dynamics
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	HS-LS2-2	Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales. <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • 9-12 Climate Video • 9-12 Environmental Justice Video • 9-12 Green Your Career Video
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PERFORMANCE EXPECTATION	HS-LS2-7	Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • 6-12 Final Presentation & Peer Performance • 9-12 Carbon Rank Competition • 9-12 Climate Video • 9-12 Custodial Presentation & Pledge • 9-12 Energy Basics Video • 9-12 Environmental Justice Video • 9-12 Green Your Career Video • 9-12 My Future Green Career • 9-12 Understanding Energy Demand Video • Assembly Announcement • Capstone Project • Carbon Footprint Journal • Family Presentation • Green Future Design • Home Energy Demand Pledge • My Future Green Career Presentation • Shutdown Reminders • Staff Presentation
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STRAND NGSS.HS LIFE SCIENCE -LS

TITLE	HS-LS4	Biological Evolution: Unity and Diversity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-LS4-6 Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.

Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
- 9-12 Carbon Rank Competition
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- Staff Presentation

STRAND NGSS.HS EARTH AND SPACE SCIENCE -ESS

TITLE	HS-ESS1	Earth's Place in the Universe
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-ESS1-6 Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.

Alliance to Save Energy

- 9-12 Climate Video

STRAND NGSS.HS EARTH AND SPACE SCIENCE -ESS

TITLE	HS-ESS2	Earth's Systems
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-ESS2-2 Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth's systems.

Alliance to Save Energy

- 9-12 Climate Video

PERFORMANCE EXPECTATION HS-ESS2-4 Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.

Alliance to Save Energy

- 9-12 Climate Video
- 9-12 Energy Basics Video
- 9-12 Explore Renewables Video
- Carbon Footprint Calculator

PERFORMANCE EXPECTATION HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.

Alliance to Save Energy

- 9-12 Climate Video

**STRAND NGSS.HS EARTH AND SPACE SCIENCE
-ESS**

TITLE	HS-ESS3	Earth and Human Activity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-ESS3-1 Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
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- Water Awareness Posters
- Water Saving Awareness

PERFORMANCE EXPECTATION	HS- ESS3-2	Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
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PERFORMANCE EXPECTATION	HS- ESS3-3	Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
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PERFORMANCE EXPECTATION	HS- ESS3-4	<p>Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 6-12 Final Presentation & Peer Performance • 9-12 Carbon Rank Competition • 9-12 Climate Video • 9-12 Custodial Presentation & Pledge • 9-12 Energy Audit Video • 9-12 Energy Basics Video • 9-12 Environmental Justice Video • 9-12 Explore Renewables Video • 9-12 Green Your Career Video • 9-12 My Future Green Career • 9-12 Understanding Energy Demand Video • 9-12 Water Audit • Amelia Airflow 9-12 • Appliance Audit • Assembly Announcement • Capstone Project • Carbon Footprint Calculator • Carbon Footprint Journal • Energy Patrol Contest • Family Presentation • Green Future Design • HVAC Audit • Home Energy Audit • Home Energy Demand Pledge • Lighting Audit • Mr. BAS • Mr. BTU 9-12 • My Future Green Career Presentation • Poster Campaign • School Audit • Shutdown Reminders • Staff Presentation • Water Awareness Posters • Water Saving Awareness
PERFORMANCE EXPECTATION	HS- ESS3-5	<p>Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 9-12 Climate Video • 9-12 Energy Basics Video • Carbon Footprint Calculator

PERFORMANCE EXPECTATION	HS-ESS3-6	Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
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- Staff Presentation

STRAND **NGSS.HS ENGINEERING DESIGN**
-ETS

TITLE	HS-ETS1	Engineering Design
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	HS-ETS1-1	Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
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Alliance to Save Energy

- 6-12 Final Presentation & Peer Performance
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PERFORMANCE EXPECTATION	HS-ETS1-3	<p>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.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 6-12 Final Presentation & Peer Performance • 9-12 Carbon Rank Competition • 9-12 Climate Video • 9-12 Custodial Presentation & Pledge • 9-12 Energy Audit Video • 9-12 Energy Basics Video • 9-12 Environmental Justice Video • 9-12 Explore Renewables Video • 9-12 Green Your Career Video • 9-12 My Future Green Career • 9-12 Understanding Energy Demand Video • Amelia Airflow 9-12 • Appliance Audit • Assembly Announcement • Capstone Project • Carbon Footprint Calculator • Carbon Footprint Journal • Energy Patrol Contest • Family Presentation • Green Future Design • HVAC Audit • Home Energy Audit • Home Energy Demand Pledge • Lighting Audit • Mr. BAS • Mr. BTU 9-12 • My Future Green Career Presentation • Poster Campaign • School Audit • Shutdown Reminders • Staff Presentation
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PERFORMANCE EXPECTATION	HS-ETS1-4	<p>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.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 9-12 Climate Video
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**Next Generation Science Standards (NGSS)
Science**

Grade: **12** - Adopted: **2013**

STRAND **NGSS.HS PHYSICAL SCIENCE
-PS**

TITLE	HS-PS3	Energy
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	HS-PS3-1	<p>Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 9-12 Energy Audit Video • 9-12 Energy Basics Video • 9-12 Explore Renewables Video
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PERFORMANCE EXPECTATION	HS-PS3-3	Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy. <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • 9-12 Explore Renewables Video
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PERFORMANCE EXPECTATION	HS-PS3-4	Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics). <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • Mr. BTU 9-12 • Professor Frio
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STRAND NGSS.HS LIFE SCIENCE -LS

TITLE	HS-LS2	Ecosystems: Interactions, Energy, and Dynamics
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	HS-LS2-2	Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales. <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • 9-12 Climate Video • 9-12 Environmental Justice Video • 9-12 Green Your Career Video
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PERFORMANCE EXPECTATION	HS-LS2-7	Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity. <u>Alliance to Save Energy</u> <ul style="list-style-type: none"> • 6-12 Final Presentation & Peer Performance • 9-12 Carbon Rank Competition • 9-12 Climate Video • 9-12 Custodial Presentation & Pledge • 9-12 Energy Basics Video • 9-12 Environmental Justice Video • 9-12 Green Your Career Video • 9-12 My Future Green Career • 9-12 Understanding Energy Demand Video • Assembly Announcement • Capstone Project • Carbon Footprint Journal • Family Presentation • Green Future Design • Home Energy Demand Pledge • My Future Green Career Presentation • Shutdown Reminders • Staff Presentation
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STRAND NGSS.HS LIFE SCIENCE -LS

TITLE	HS-LS4	Biological Evolution: Unity and Diversity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-LS4-6 Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.

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STRAND NGSS.HS EARTH AND SPACE SCIENCE -ESS

TITLE	HS-ESS1	Earth's Place in the Universe
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-ESS1-6 Apply scientific reasoning and evidence from ancient Earth materials, meteorites, and other planetary surfaces to construct an account of Earth's formation and early history.

Alliance to Save Energy

- 9-12 Climate Video

STRAND NGSS.HS EARTH AND SPACE SCIENCE -ESS

TITLE	HS-ESS2	Earth's Systems
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-ESS2-2 Analyze geoscience data to make the claim that one change to Earth's surface can create feedbacks that cause changes to other Earth's systems.

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- 9-12 Climate Video

PERFORMANCE EXPECTATION HS-ESS2-4 Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.

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- 9-12 Climate Video
- 9-12 Energy Basics Video
- 9-12 Explore Renewables Video
- Carbon Footprint Calculator

PERFORMANCE EXPECTATION HS-ESS2-5 Plan and conduct an investigation of the properties of water and its effects on Earth materials and surface processes.

Alliance to Save Energy

- 9-12 Climate Video

**STRAND NGSS.HS EARTH AND SPACE SCIENCE
-ESS**

TITLE	HS-ESS3	Earth and Human Activity
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION HS-ESS3-1 Construct an explanation based on evidence for how the availability of natural resources, occurrence of natural hazards, and changes in climate have influenced human activity.

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PERFORMANCE EXPECTATION	HS- ESS3-2	Evaluate competing design solutions for developing, managing, and utilizing energy and mineral resources based on cost-benefit ratios.
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PERFORMANCE EXPECTATION	HS- ESS3-3	Create a computational simulation to illustrate the relationships among management of natural resources, the sustainability of human populations, and biodiversity.
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PERFORMANCE EXPECTATION	HS- ESS3-4	<p>Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 6-12 Final Presentation & Peer Performance • 9-12 Carbon Rank Competition • 9-12 Climate Video • 9-12 Custodial Presentation & Pledge • 9-12 Energy Audit Video • 9-12 Energy Basics Video • 9-12 Environmental Justice Video • 9-12 Explore Renewables Video • 9-12 Green Your Career Video • 9-12 My Future Green Career • 9-12 Understanding Energy Demand Video • 9-12 Water Audit • Amelia Airflow 9-12 • Appliance Audit • Assembly Announcement • Capstone Project • Carbon Footprint Calculator • Carbon Footprint Journal • Energy Patrol Contest • Family Presentation • Green Future Design • HVAC Audit • Home Energy Audit • Home Energy Demand Pledge • Lighting Audit • Mr. BAS • Mr. BTU 9-12 • My Future Green Career Presentation • Poster Campaign • School Audit • Shutdown Reminders • Staff Presentation • Water Awareness Posters • Water Saving Awareness
PERFORMANCE EXPECTATION	HS- ESS3-5	<p>Analyze geoscience data and the results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none"> • 9-12 Climate Video • 9-12 Energy Basics Video • Carbon Footprint Calculator

PERFORMANCE EXPECTATION	HS-ESS3-6	Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.
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STRAND **NGSS.HS ENGINEERING DESIGN**
-ETS

TITLE	HS-ETS1	Engineering Design
		Students who demonstrate understanding can:

PERFORMANCE EXPECTATION	HS-ETS1-1	Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
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PERFORMANCE EXPECTATION	HS-ETS1-3	<p>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.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none">• 6-12 Final Presentation & Peer Performance• 9-12 Carbon Rank Competition• 9-12 Climate Video• 9-12 Custodial Presentation & Pledge• 9-12 Energy Audit Video• 9-12 Energy Basics Video• 9-12 Environmental Justice Video• 9-12 Explore Renewables Video• 9-12 Green Your Career Video• 9-12 My Future Green Career• 9-12 Understanding Energy Demand Video• Amelia Airflow 9-12• Appliance Audit• Assembly Announcement• Capstone Project• Carbon Footprint Calculator• Carbon Footprint Journal• Energy Patrol Contest• Family Presentation• Green Future Design• HVAC Audit• Home Energy Audit• Home Energy Demand Pledge• Lighting Audit• Mr. BAS• Mr. BTU 9-12• My Future Green Career Presentation• Poster Campaign• School Audit• Shutdown Reminders• Staff Presentation
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PERFORMANCE EXPECTATION	HS-ETS1-4	<p>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.</p> <p><u>Alliance to Save Energy</u></p> <ul style="list-style-type: none">• 9-12 Climate Video
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