Main Criteria: National Theatre for Children

Secondary Criteria: Wisconsin Academic Standards, Next Generation Science Standards (NGSS)

Subject: Science

Grades: 3, 4, 5

National Theatre for Children

How electricity is made

Next Generation Science Standards (NGSS)

Science

Grade **4** - Adopted: **2013**

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

Wisconsin Academic Standards

Science

Grade **3** - Adopted: **1998**

DOMAIN	**WI.B.**	**Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.**
CONTENT STANDARD	**B.4.3.**	**Show how the major developments of scientific knowledge in the earth and space, life and environmental, and physical sciences have changed over time.**
DOMAIN	**WI.C.**	**Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.**
CONTENT STANDARD	**C.4.1.**	**Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.**
CONTENT STANDARD	**C.4.2.**	**Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations.**
DOMAIN	**WI.D.**	**Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.**
CONTENT STANDARD	**D.4.8.**	**Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).**
DOMAIN	**WI.E.**	**Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.**
CONTENT STANDARD	**E.4.7.**	**Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.**
DOMAIN	**WI.G.**	**Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.**
CONTENT STANDARD	**G.4.3.**	**Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.**
CONTENT STANDARD	**G.4.5.**	**Ask questions to find answers about how devices and machines were invented and produced.**
DOMAIN	**WI.H.**	**Science Applications: Students in Wisconsin will use scientific information and skills**

		to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **4** - Adopted: **1998**

DOMAIN	WI.B.	Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.
CONTENT STANDARD	B.4.3.	Show how the major developments of scientific knowledge in the earth and space, life and environmental, and physical sciences have changed over time.
DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
CONTENT STANDARD	C.4.2.	Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.4.8.	Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
CONTENT STANDARD	G.4.5.	Ask questions to find answers about how devices and machines were invented and produced.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **5** - Adopted: **1998**

DOMAIN	WI.A.	Science Connections: Students in Wisconsin will understand that there are unifying themes: systems, order, organization, and interactions; evidence, models, and explanations; constancy, change, and measurement; evolution, equilibrium, and energy; form and function among scientific disciplines.
CONTENT STANDARD	A.8.5.	Show how models and explanations, based on systems, were changed as new evidence accumulated (the effects of constancy, evolution, change, and measurement should all be part of these explanations).
DOMAIN	WI.B.	Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.
CONTENT STANDARD	B.8.1.	Describe how scientific knowledge and concepts have changed over time in the earth and space, life and environmental, and physical sciences.
CONTENT STANDARD	B.8.2.	Identify and describe major changes that have occurred over in conceptual models and explanations in the earth and space, life and environmental, and physical sciences and identify the people, cultures, and conditions that led to these developments.
CONTENT STANDARD	B.8.6.	Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.

DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.8.8.	Transfer of Energy: Describe and investigate the properties of light, heat, gravity, radio waves, magnetic fields, electrical fields, and sound waves as they interact with material objects in common situations.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.8.6.	Earth's History: Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.8.2.	Explain how current scientific and technological discoveries have an influence on the work people do and how some of these discoveries also lead to new careers.
CONTENT STANDARD	G.8.3.	Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.
CONTENT STANDARD	G.8.6.	Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to identify examples of how scientific discoveries have resulted in new technology.
CONTENT STANDARD	G.8.7.	Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.

How energy is used unwisely

Next Generation Science Standards (NGSS)

Science

Grade **4** - Adopted: **2013**

STRAND	NGSS.4-PS.	PHYSICAL SCIENCE
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.
STRAND	NGSS.4-ESS.	EARTH AND SPACE SCIENCE
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.

Next Generation Science Standards (NGSS)

Science

Grade **5** - Adopted: **2013**

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

Wisconsin Academic Standards

Science

Grade **3** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.

DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.4.8.	Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **4** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.4.8.	Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **5** - Adopted: **1998**

DOMAIN	WI.B.	Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.
CONTENT STANDARD	B.8.6.	Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.

DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.8.8.	Transfer of Energy: Describe and investigate the properties of light, heat, gravity, radio waves, magnetic fields, electrical fields, and sound waves as they interact with material objects in common situations.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.8.6.	Earth's History: Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.8.2.	Explain how current scientific and technological discoveries have an influence on the work people do and how some of these discoveries also lead to new careers.
CONTENT STANDARD	G.8.3.	Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.
CONTENT STANDARD	G.8.6.	Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to identify examples of how scientific discoveries have resulted in new technology.
CONTENT STANDARD	G.8.7.	Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.

How we use natural resources

Next Generation Science Standards (NGSS)

Science

Grade **4** - Adopted: **2013**

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

Wisconsin Academic Standards

Science

Grade **3** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **4** - Adopted: **1998**

DOMAIN	**WI.C.**	**Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.**
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	**WI.E.**	**Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.**
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	**WI.G.**	**Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.**
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	**WI.H.**	**Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.**
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **5** - Adopted: **1998**

DOMAIN	**WI.B.**	**Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.**
CONTENT STANDARD	B.8.6.	Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.
DOMAIN	**WI.E.**	**Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.**
CONTENT STANDARD	E.8.6.	Earth's History: Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources.
DOMAIN	**WI.G.**	**Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.**
CONTENT STANDARD	G.8.2.	Explain how current scientific and technological discoveries have an influence on the work people do and how some of these discoveries also lead to new careers.
CONTENT STANDARD	G.8.3.	Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.
CONTENT STANDARD	G.8.6.	Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to identify examples of how scientific discoveries have resulted in new technology.
CONTENT STANDARD	G.8.7.	Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.

The science of energy and technology

Next Generation Science Standards (NGSS)

Science

Grade **4** - Adopted: **2013**

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

Wisconsin Academic Standards

Science

Grade **3** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.4.8.	Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **4** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.4.8.	Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.

DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **5** - Adopted: **1998**

DOMAIN	WI.A.	Science Connections: Students in Wisconsin will understand that there are unifying themes: systems, order, organization, and interactions; evidence, models, and explanations; constancy, change, and measurement; evolution, equilibrium, and energy; form and function among scientific disciplines.
CONTENT STANDARD	A.8.8.	Use the themes of evolution, equilibrium, and energy to predict future events or changes in the natural world.
DOMAIN	WI.B.	Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.
CONTENT STANDARD	B.8.6.	Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.8.4.	Properties and Changes of Properties in Matter: While conducting investigations, use the science themes to develop explanations of physical and chemical interactions and energy exchanges.
CONTENT STANDARD	D.8.7.	Motions and Forces: While conducting investigations of common physical and chemical interactions occurring in the laboratory and the outside world, use commonly accepted definitions of energy and the idea of energy conservation.
CONTENT STANDARD	D.8.8.	Transfer of Energy: Describe and investigate the properties of light, heat, gravity, radio waves, magnetic fields, electrical fields, and sound waves as they interact with material objects in common situations.
CONTENT STANDARD	D.8.9.	Transfer of Energy: Explain the behaviors of various forms of energy by using the models of energy transmission, both in the laboratory and in real-life situations in the outside world.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.8.6.	Earth's History: Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.8.2.	Explain how current scientific and technological discoveries have an influence on the work people do and how some of these discoveries also lead to new careers.
CONTENT STANDARD	G.8.3.	Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.
CONTENT STANDARD	G.8.6.	Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to identify examples of how scientific discoveries have resulted in new technology.
CONTENT STANDARD	G.8.7.	Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.

The science of natural resources

Next Generation Science Standards (NGSS)

Science

Grade **4** - Adopted: **2013**

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

Wisconsin Academic Standards

Science

Grade **3** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **4** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **5** - Adopted: **1998**

DOMAIN	WI.B.	Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new

		evidence is found.
CONTENT STANDARD	B.8.6.	Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.8.6.	Earth's History: Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.8.2.	Explain how current scientific and technological discoveries have an influence on the work people do and how some of these discoveries also lead to new careers.
CONTENT STANDARD	G.8.3.	Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.
CONTENT STANDARD	G.8.6.	Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to identify examples of how scientific discoveries have resulted in new technology.
CONTENT STANDARD	G.8.7.	Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.

The uses of electricity

Next Generation Science Standards (NGSS)

Science

Grade **4** - Adopted: **2013**

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

Next Generation Science Standards (NGSS)

Science

Grade **5** - Adopted: **2013**

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

Wisconsin Academic Standards

Science

Grade **3** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
CONTENT STANDARD	C.4.2.	Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.

DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.
CONTENT STANDARD	H.4.4.	Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues.

Wisconsin Academic Standards

Science

Grade **4** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
CONTENT STANDARD	C.4.2.	Use the science content being learned to ask questions, plan investigations, make observations, make predictions, and offer explanations.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.
CONTENT STANDARD	H.4.4.	Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues.

Wisconsin Academic Standards

Science

Grade **5** - Adopted: **1998**

DOMAIN	WI.A.	Science Connections: Students in Wisconsin will understand that there are unifying themes: systems, order, organization, and interactions; evidence, models, and explanations; constancy, change, and measurement; evolution, equilibrium, and energy; form and function among scientific disciplines.
CONTENT STANDARD	A.8.1.	Develop their understanding of the science themes by using the themes to frame questions about science-related issues and problems.
DOMAIN	WI.B.	Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.
CONTENT STANDARD	B.8.6.	Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.8.6.	Earth's History: Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of

		the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.8.2.	Explain how current scientific and technological discoveries have an influence on the work people do and how some of these discoveries also lead to new careers.
CONTENT STANDARD	G.8.3.	Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.
CONTENT STANDARD	G.8.5.	Investigate a specific local problem to which there has been a scientific or technological solution, including proposals for alternative courses of action, the choices that were made, reasons for the choices, any new problems created, and subsequent community satisfaction.
CONTENT STANDARD	G.8.6.	Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to identify examples of how scientific discoveries have resulted in new technology.
CONTENT STANDARD	G.8.7.	Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.

What YOU can do to conserve energy

Next Generation Science Standards (NGSS)

Science

Grade **4** - Adopted: **2013**

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

Next Generation Science Standards (NGSS)

Science

Grade **5** - Adopted: **2013**

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

Wisconsin Academic Standards

Science

Grade **3** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.
CONTENT STANDARD	H.4.4.	Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues.

Wisconsin Academic Standards

Science

Grade **4** - Adopted: **1998**

DOMAIN	**WI.C.**	**Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.**
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	**WI.E.**	**Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.**
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
DOMAIN	**WI.G.**	**Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.**
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	**WI.H.**	**Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.**
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.
CONTENT STANDARD	H.4.4.	Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues.

Wisconsin Academic Standards

Science

Grade **5** - Adopted: **1998**

DOMAIN	**WI.A.**	**Science Connections: Students in Wisconsin will understand that there are unifying themes: systems, order, organization, and interactions; evidence, models, and explanations; constancy, change, and measurement; evolution, equilibrium, and energy; form and function among scientific disciplines.**
CONTENT STANDARD	A.8.1.	Develop their understanding of the science themes by using the themes to frame questions about science-related issues and problems.
DOMAIN	**WI.B.**	**Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.**
CONTENT STANDARD	B.8.6.	Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.
DOMAIN	**WI.E.**	**Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.**
CONTENT STANDARD	E.8.4.	Structure of Earth System: Using the science themes, analyze the influence living organisms have had on the earth's systems, including their impact on the composition of the atmosphere and the weathering of rocks.
CONTENT STANDARD	E.8.6.	Earth's History: Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources.
DOMAIN	**WI.F.**	**Life and Environmental Science: Students in Wisconsin will demonstrate an understanding of the characteristics and structures of living things, the processes of life, and how living things interact with one another and their environment.**
CONTENT STANDARD	F.8.10.	Diversity and Adaptations of Organisms: Project how current trends in human resource use and population growth will influence the natural environment, and show how current policies affect those trends.
DOMAIN	**WI.G.**	**Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.**
CONTENT STANDARD	G.8.2.	Explain how current scientific and technological discoveries have an influence on the work people do and how some of these discoveries also lead to new careers.
CONTENT STANDARD	G.8.3.	Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.
CONTENT	G.8.5.	Investigate a specific local problem to which there has been a scientific or

STANDARD		technological solution, including proposals for alternative courses of action, the choices that were made, reasons for the choices, any new problems created, and subsequent community satisfaction.
CONTENT STANDARD	G.8.6.	Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to identify examples of how scientific discoveries have resulted in new technology.
CONTENT STANDARD	G.8.7.	Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.

What are energy and electricity

Next Generation Science Standards (NGSS)

Science

Grade **4** - Adopted: **2013**

STRAND	NGSS.4-PS.	PHYSICAL SCIENCE
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.

Wisconsin Academic Standards

Science

Grade **3** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.4.8.	Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **4** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.4.8.	Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that

		relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **5** - Adopted: **1998**

DOMAIN	WI.A.	Science Connections: Students in Wisconsin will understand that there are unifying themes: systems, order, organization, and interactions; evidence, models, and explanations; constancy, change, and measurement; evolution, equilibrium, and energy; form and function among scientific disciplines.
CONTENT STANDARD	A.8.8.	Use the themes of evolution, equilibrium, and energy to predict future events or changes in the natural world.
DOMAIN	WI.B.	Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.
CONTENT STANDARD	B.8.6.	Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.8.4.	Properties and Changes of Properties in Matter: While conducting investigations, use the science themes to develop explanations of physical and chemical interactions and energy exchanges.
CONTENT STANDARD	D.8.7.	Motions and Forces: While conducting investigations of common physical and chemical interactions occurring in the laboratory and the outside world, use commonly accepted definitions of energy and the idea of energy conservation.
CONTENT STANDARD	D.8.8.	Transfer of Energy: Describe and investigate the properties of light, heat, gravity, radio waves, magnetic fields, electrical fields, and sound waves as they interact with material objects in common situations.
CONTENT STANDARD	D.8.9.	Transfer of Energy: Explain the behaviors of various forms of energy by using the models of energy transmission, both in the laboratory and in real-life situations in the outside world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.8.2.	Explain how current scientific and technological discoveries have an influence on the work people do and how some of these discoveries also lead to new careers.
CONTENT STANDARD	G.8.3.	Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.
CONTENT STANDARD	G.8.6.	Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to identify examples of how scientific discoveries have resulted in new technology.
CONTENT STANDARD	G.8.7.	Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.

What are energy resources

Next Generation Science Standards (NGSS)

Science

Grade **4** - Adopted: **2013**

STRAND	NGSS.4-PS.	PHYSICAL SCIENCE
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.
STRAND	NGSS.4-ESS.	EARTH AND SPACE SCIENCE

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.

Wisconsin Academic Standards

Science

Grade **3** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.4.8.	Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **4** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.4.8.	Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.

DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.

Wisconsin Academic Standards

Science

Grade **5** - Adopted: **1998**

DOMAIN	WI.B.	Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.
CONTENT STANDARD	B.8.6.	Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.8.8.	Transfer of Energy: Describe and investigate the properties of light, heat, gravity, radio waves, magnetic fields, electrical fields, and sound waves as they interact with material objects in common situations.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.8.6.	Earth's History: Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.8.2.	Explain how current scientific and technological discoveries have an influence on the work people do and how some of these discoveries also lead to new careers.
CONTENT STANDARD	G.8.3.	Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.
CONTENT STANDARD	G.8.6.	Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to identify examples of how scientific discoveries have resulted in new technology.
CONTENT STANDARD	G.8.7.	Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.

What is and how to be Energy Efficient

Next Generation Science Standards (NGSS)

Science

Grade **4** - Adopted: **2013**

STRAND	NGSS.4-PS.	PHYSICAL SCIENCE
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.
STRAND	NGSS.4-ESS.	EARTH AND SPACE SCIENCE
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.

Next Generation Science Standards (NGSS)

Science

Grade **5** - Adopted: **2013**

STRAND	NGSS.5-ESS.	EARTH AND SPACE SCIENCE

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.

Wisconsin Academic Standards

Science

Grade **3** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.4.8.	Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.
CONTENT STANDARD	H.4.4.	Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues.

Wisconsin Academic Standards

Science

Grade **4** - Adopted: **1998**

DOMAIN	WI.C.	Science Inquiry: Students in Wisconsin will investigate questions using scientific methods and tools, revise their personal understanding to accommodate knowledge, and communicate these understandings to others.
CONTENT STANDARD	C.4.1.	Use the vocabulary of the unifying themes to ask questions about objects, organisms, and events being studied.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.4.8.	Light, Heat, Electricity, and Magnetism: Ask questions and make observations to discover the differences between substances that can be touched (matter) and substances that cannot be touched (forms of energy, light, heat, electricity, sound, and magnetism).
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.4.7.	Changes in The Earth and Sky: Using the science themes, describe resources used in the home, community, and nation as a whole.
CONTENT STANDARD	E.4.8.	Changes in The Earth and Sky: Illustrate human resources use in mining, forestry, farming, and manufacturing in Wisconsin and elsewhere in the world.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that

		relationship influences human activities.
CONTENT STANDARD	G.4.3.	Determine what science discoveries have led to changes in technologies that are being used in the workplace by someone employed locally.
DOMAIN	WI.H.	Science Applications: Students in Wisconsin will use scientific information and skills to make decisions about themselves, Wisconsin, and the world in which they live.
CONTENT STANDARD	H.4.2.	Using the science themes, identify local and state issues that are helped by science and technology and explain how science and technology can also cause a problem.
CONTENT STANDARD	H.4.4.	Develop a list of issues that citizens must make decisions about and describe a strategy for becoming informed about the science behind these issues.

Wisconsin Academic Standards

Science

Grade **5** - Adopted: **1998**

DOMAIN	WI.A.	Science Connections: Students in Wisconsin will understand that there are unifying themes: systems, order, organization, and interactions; evidence, models, and explanations; constancy, change, and measurement; evolution, equilibrium, and energy; form and function among scientific disciplines.
CONTENT STANDARD	A.8.1.	Develop their understanding of the science themes by using the themes to frame questions about science-related issues and problems.
DOMAIN	WI.B.	Nature of Science: Students in Wisconsin will understand that science is ongoing and inventive, and that scientific understandings have changed over time as new evidence is found.
CONTENT STANDARD	B.8.6.	Explain the ways in which scientific knowledge is useful and also limited when applied to social issues.
DOMAIN	WI.D.	Physical Science: Students in Wisconsin will demonstrate an understanding of the physical and chemical properties of matter, the forms and properties of energy, and the ways in which matter and energy interact.
CONTENT STANDARD	D.8.8.	Transfer of Energy: Describe and investigate the properties of light, heat, gravity, radio waves, magnetic fields, electrical fields, and sound waves as they interact with material objects in common situations.
DOMAIN	WI.E.	Earth and Space Science: Students in Wisconsin will demonstrate an understanding of the structure and systems of earth and other bodies in the universe and of their interactions.
CONTENT STANDARD	E.8.6.	Earth's History: Describe through investigations the use of the earth's resources by humans in both past and current cultures, particularly how changes in the resources used for the past 100 years are the basis for efforts to conserve and recycle renewable and non-renewable resources.
DOMAIN	WI.G.	Science Applications: Students in Wisconsin will demonstrate an understanding of the relationship between science and technology and the ways in which that relationship influences human activities.
CONTENT STANDARD	G.8.2.	Explain how current scientific and technological discoveries have an influence on the work people do and how some of these discoveries also lead to new careers.
CONTENT STANDARD	G.8.3.	Illustrate the impact that science and technology have had, both good and bad, on careers, systems, society, environment, and quality of life.
CONTENT STANDARD	G.8.5.	Investigate a specific local problem to which there has been a scientific or technological solution, including proposals for alternative courses of action, the choices that were made, reasons for the choices, any new problems created, and subsequent community satisfaction.
CONTENT STANDARD	G.8.6.	Use current texts, encyclopedias, source books, computers, experts, the popular press, or other relevant sources to identify examples of how scientific discoveries have resulted in new technology.
CONTENT STANDARD	G.8.7.	Show evidence of how science and technology are interdependent, using some examples drawn from personally conducted investigations.