

Activity Index

Third Grade

Big Idea 1: The Practice of Science

SC.3.N.1.1 - Raise questions about the natural world, investigate them individually and in teams through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

- K-W-L
- Sun Misconceptions
- UV Beads With Sunscreen
- Making A Sundial
- Sun and Shade
- Solar Energy and Color
- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)
- Solar Still 2
- Good Day Sunshine!
- We're Heating Things Up!

SC.3.N.1.2 - Compare the observations made by different groups using the same tools and seek reasons to explain the differences across groups.

- UV Beads With Sunscreen
- Sun and Shade
- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)
- What's Cooking 2
- Good Day Sunshine!
- We're Heating Things Up!
- Remember When

SC.3.N.1.3 - Keep records as appropriate, such as pictorial, written, or simple charts and graphs, of investigations conducted.

- K-W-L
- UV Beads With Sunscreen
- Making A Sundial
- Sun and Shade
- Solar Energy and Color
- Ice Cube Race
- Insulation
- We're Heating Things Up!

- Remember When
- SC.3.N.1.4** - Recognize the importance of communication among scientists.
- Ice Cube Race
- SC.3.N.1.5** - Recognize that scientists question, discuss, and check each others' evidence and explanations.
- K-W-L
 - Sun Misconceptions
 - UV Beads With Sunscreen
 - Ice Cube Race
 - Insulation
 - We're Heating Things Up!
- SC3.N.1.6** - Infer based on observation.
- Sun Misconceptions
 - Making A Sundial
 - Sun and Shade
 - Solar Energy and Color
 - Insulation
 - Rain Machine (Solar Still)
 - Solar Still 2
 - Good Day Sunshine!
 - We're Heating Things Up!
 - Remember When
- SC3.N.1.7** - Explain that empirical evidence is information, such as observations or measurements, that is used to help validate explanations of natural phenomena.
- Solar Still 2
 - Good Day Sunshine!
 - We're Heating Things Up!

Big Idea 3: The Role of Theories, Laws, Hypotheses, and Models

SC.3.N.3.1 - Recognize that words in science can have different or more specific meanings than their use in everyday language; for example, energy, cell, heat/cold, and evidence.

- Insulation
- Rain Machine (Solar Still)
- Solar Cell Simulation
- Solar Powered System
- We're Heating Things Up!
- Triangle Game

SC.3.N.3.2 - Recognize that scientists use models to help understand and explain how things work.

- Sun Misconceptions
- Rain Machine (Solar Still)
- Solar Still 2
- Solar Cell Simulation
- Solar Powered System
- We're Heating Things Up!

SC.3.N.3.3 - Recognize that all models are approximations of natural phenomena; as such, they do not perfectly account for all observations.

- Rain Machine (Solar Still)
- Solar Still 2
- Solar Cell Simulation
- Solar Powered System
- We're Heating Things Up!

Big Idea 5: Earth in Space and Time

SC.3.E.5.2 - Identify the Sun as a star that emits energy; some of it in the form of light.

- K-W-L
- What Do We Get From Solar Energy?
- Sun Misconceptions
- UV Beads With Sunscreen
- Rain Machine (Solar Still)
- What's Cooking 2
- We're Heating Things Up!
- Poster Contest
- Triangle Game

SC.3.E.5.3 - Recognize that the Sun appears large and bright because it is the closest star to Earth.

- K-W-L

Big Idea 6: Earth Structures

SC.3.E.6.1 - Demonstrate that radiant energy from the Sun can heat objects and when the Sun is not present, heat may be lost.

- K-W-L
- What Do We Get From Solar Energy?
- Sun and Shade
- Solar Energy and Color
- Rain Machine (Solar Still)
- Solar Still 2
- What's Cooking?
- What's Cooking 2
- We're Heating Things Up!
- Poster Contest
- Triangle Game

Big Idea 8: Properties of Matter

SC.3.P.8.1 - Measure and compare temperatures of various samples of solids and liquids.

- Insulation

Big Idea 9: Changes in Matter

SC.3.P.9.1 - Describe the changes water undergoes when it changes state through heating and cooling by using familiar scientific terms such as melting, freezing, boiling, evaporation, and condensation.

- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)

- Solar Still 2
- What's Cooking?

Big Idea 10: Forms of Energy

SC.3.P.10.1 - Identify some basic forms of energy such as light, heat, sound, electrical, and mechanical.

- K-W-L
- What Do We Get From Solar Energy?
- Solar Energy and Color
- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)
- Solar Still 2
- What's Cooking?
- What's Cooking 2
- Solar Cell Simulation
- Solar Powered System
- Energy Transfer Machine
- We're Heating Things Up!
- Our Energy Smart School
- Poster Contest
- Triangle Game

SC.3.P.10.2 - Recognize that energy has the ability to cause motion or create change.

- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)
- Solar Still 2
- Solar Cell Simulation
- Solar Powered System
- Energy Transfer Machine

SC.3.P.10.3 - Demonstrate that light travels in a straight line until it strikes an object or travels from one medium to another.

- What's Cooking?

SC.3.P.10.4 - Demonstrate that light can be reflected, refracted, and absorbed.

- What Do We Get From Solar Energy?
- What's Cooking?
- What's Cooking 2

Big Idea 11: Energy Transfer and Transformations

SC.3.P.11.1 - Investigate, observe, and explain that things that give off light often also give off heat.

- Solar Energy and Color
- Triangle Game

Big Idea 17: Interdependence

SC.3.L.17.2 - Recognize that plants use energy from the Sun, air, and water to make their own food.

- K-W-L

- What Do We Get From Solar Energy?
- Food Chain Gangs

Fourth Grade

Big Idea 1: The Practice of Science

SC.4.N.1.1 - Raise questions about the natural world, use appropriate reference materials that support understanding to obtain information, conduct both individual and team investigations through free exploration and systematic investigations, and generate appropriate explanations based on those explorations.

- K-W-L
- UV Beads With Sunscreen
- Making A Sundial
- Sun and Shade
- Solar Energy and Color
- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)
- Solar Still 2
- Good Day Sunshine!
- We're Heating Things Up!

SC.4.N.1.2 - Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across groups.

- UV Beads With Sunscreen
- Sun and Shade
- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)
- What's Cooking 2
- Good Day Sunshine!
- We're Heating Things Up!
- Remember When

SC.4.N.1.3 - Explain that science does not always follow a rigidly defined method ("the scientific method") but that science does involve the use of observations and empirical evidence.

- Solar Still 2
- Remember When

SC.4.N.1.4 - Attempt reasonable answers to scientific questions and cite evidence in support.

- Sun Misconceptions
- UV Beads With Sunscreen
- Making A Sundial
- Sun and Shade
- Solar Energy and Color
- Solar Still 2
- Good Day Sunshine!

- We're Heating Things Up!
- SC.4.N.1.5** - Compare the methods and results of investigations done by other classmates.
- UV Beads With Sunscreen
 - Sun and Shade
 - Ice Cube Race
 - Insulation
 - Rain Machine (Solar Still)
 - We're Heating Things Up!
 - Remember When
- SC.4.N.1.6** - Keep records that describe observations made, carefully distinguishing actual observations from ideas and inferences about the observations.
- K-W-L
 - Making A Sundial
 - Sun and Shade
 - Solar Energy and Color
 - Ice Cube Race
 - Insulation
 - We're Heating Things Up!
 - Remember When
- SC.4.N.1.7** - Recognize and explain that scientist base their explanations on evidence.
- Insulation
 - Solar Still 2
 - We're Heating Things Up!
- SC.4.N.1.8** - Recognize that science involves creativity in designing experiments.
- Insulation
 - We're Heating Things Up!

Big Idea 3: The Role of Theories, Laws, Hypotheses, and Models

- SC.4.N.3.1** - Explain that models can be three dimensional, two dimensional, an explanation in your mind or a computer model.
- Food Chain Gangs
 - Solar Still 2

Big Idea 5: Earth in Space and Time

- SC.4.E.5.2** - Describe the changes in the observable shape of the moon over the course of about a month.
- Sun Misconceptions
- SC.4.E.5.3** - Recognize that Earth revolves around the Sun in a year and rotates on its axis in a 24-hour day.
- K-W-L
 - Sun Misconceptions
 - Good Day Sunshine!
 - Poster Contest
- SC.4.E.5.4** - Relate that the rotation of Earth and apparent movements of the Sun, Moon, and stars are connected.
- K-W-L

- Sun Misconceptions

Big Idea 6: Earth Structures

SC.4.E.6.3 - Recognize that humans need resources found on Earth and that these are either renewable or nonrenewable.

- What's Cooking?
- World Population
- Remember When
- Our Energy Smart School
- Poster Contest
- Triangle Game

SC.4.E.6.6 - Identify resources available in Florida (water, phosphate, oil, limestone, silicon, wind, and solar energy).

- K-W-L
- World Population

Big Idea 10: Forms of Energy

SC.4.P.10.1 - Observe and describe some basic forms of energy, including light, heat, sound, electrical, and the energy of motion.

- K-W-L
- What Do We Get From Solar Energy?
- Solar Energy and Color
- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)
- Solar Still 2
- What's Cooking?
- What's Cooking 2
- Solar Cell Simulation
- Solar Powered System
- Energy Transfer Machine
- We're Heating Things Up!
- Our Energy Smart School
- Poster Contest
- Triangle Game

SC.4.P.10.2 - Investigate and describe that energy has the ability to cause motion or create change.

- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)
- Solar Still 2
- Solar Cell Simulation
- Solar Powered System
- Energy Transfer Machine

Big Idea 11: Energy Transfer and Transformations

SC.4.P.11.1 - Recognize that heat flows from a hot object to a cold object and that heat flow may cause materials to change temperatures.

- Ice Cube Race
- Insulation
- What's Cooking?
- What's Cooking 2
- Triangle Game

SC.4.P.11.2 - Identify common materials that conduct heat well or poorly.

- Solar Energy and Color
- Ice Cube Race
- Insulation
- Solar Still 2
- What's Cooking?
- What's Cooking 2

Big Idea 12: Motion of Objects

SC.4.P.12.1 - Recognize that an object in motion always changes its position and may change its direction.

- Energy Transfer Machine

SC.4.P.12.2 - Investigate and describe that the speed of an object is determined by the distance it travels in a unit of time and that objects can move at different speeds.

- Energy Transfer Machine

Big Idea 17: Interdependence

SC.4.L.17.2 - Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them.

- Food Chain Gangs
- World Population

SC.4.L.17.3 - Trace the flow of energy from the Sun as it is transferred along the food chain through the producers to the consumers.

- K-W-L
- What Do We Get From Solar Energy?
- Food Chain Gangs

SC.4.L.17.4 - Recognize ways plants and animals, including humans, can impact the environment.

- Food Chain Gangs
- World Population

Fifth Grade

Big Idea 1: The Practice of Science

SC.5.N.1.1 - Define a problem, use appropriate reference materials to support scientific understanding, plan and carry out scientific investigations of various types such as: systematic observations, experiments requiring the identification of variables, collecting and organizing data, interpreting data in charts, tables, and graphics, analyze information, make predictions, and defend conclusions.

- UV Beads With Sunscreen
- Making A Sundial
- Solar Energy and Color

- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)
- Solar Still 2
- Good Day Sunshine!
- We're Heating Things Up!
- Remember When

SC.5.N.1.2 - Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across groups.

- UV Beads With Sunscreen
- Solar Still 2
- What's Cooking 2
- Remember When

SC.5.N.1.3 - Recognize and explain the need for repeated experimental trials.

- We're Heating Things Up!

SC.4.N.1.4 - Attempt reasonable answers to scientific questions and cite evidence in support.

- UV Beads With Sunscreen
- We're Heating Things Up!

SC.4.N.1.5 - Compare the methods and results of investigations done by other classmates.

- UV Beads With Sunscreen
- Remember When

SC.5.N.1.6 - Recognize and explain the difference between personal opinion/interpretation and verified observation.

- K-W-L
- What Do We Get From Solar Energy?
- Sun Misconceptions

Big Idea 2: The Characteristics of Scientific Knowledge

SC.5.N.2.1 - Recognize and explain that science is grounded in empirical observations that are testable; explanation must always be linked with evidence.

- K-W-L
- Sun Misconceptions

SC.5.N.2.2 - Recognize and explain that when scientific investigations are carried out, the evidence produced by those investigations should be replicable by others.

- We're Heating Things Up!

Big Idea 7: Earth Systems and Patterns

SC.5.E.7.1 - Create a model to explain the parts of the water cycle. Water can be a gas, a liquid, or a solid and can go back and forth from one state to another.

- Rain Machine (Solar Still)
- Solar Still 2
- Triangle Game

SC.5.E.7.2 - Recognize that the ocean is an integral part of the water cycle and is connected to all of Earth's water reservoirs via evaporation and precipitation processes.

- Rain Machine (Solar Still)

Big Idea 9: Changes in Matter

AC.5.P.9.1 - Investigate and describe that many physical and chemical changes are affected by temperature.

- Insulation
- Rain Machine (Solar Still)
- Solar Still 2

Big Idea 10: Forms of Energy

SC.5.P.10.1 - Investigate and describe some basic forms of energy, including light, heat, sound, electrical, chemical, and mechanical.

- K-W-L
- Sun and Shade
- Solar Energy and Color
- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)
- Solar Still 2
- What's Cooking?
- What's Cooking 2
- Solar Cell Simulation
- Solar Powered System
- Energy Transfer Machine
- We're Heating Things Up!
- Our Energy Smart School
- Poster Contest
- Triangle Game

SC.5.P.10.2 - Investigate and explain that energy has the ability to cause motion or create change.

- Ice Cube Race
- Insulation
- Rain Machine (Solar Still)
- Solar Still 2
- Solar Cell Simulation
- Solar Powered System

SC.5.P.10.4 - Investigate and explain that electrical energy can be transformed into heat, light, and sound energy, as well as the energy of motion.

- Solar Cell Simulation
- Solar Powered System

Big Idea 11: Energy Transfer and Transformations

SC.5.P.11.1 - Investigate and illustrate the fact that the flow of electricity requires a closed circuit (a complete loop).

- Solar Cell Simulation
- Solar Powered System
- Our Energy Smart School

SC.5.P.11.2 - Identify and classify materials that conduct electricity and materials that do not.

- Solar Powered System

Big Idea 13: Forces and Changes in Motion

SC.5.P.13.1 - Identify familiar forces that cause objects to move, such as pushes or pulls, including gravity acting on falling objects.

- Energy Transfer Machine

SC.5.P.13.2 - Investigate and describe that the greater the force applied to it, the greater the change in motion of a given object.

- Energy Transfer Machine

SC.5.P.13.3 - Investigate and describe that the more mass an object has, the less effect a given force will have on the object's motion.

- Energy Transfer Machine

SC.5.P.13.4 - Investigate and explain that when a force is applied to an object but it does not move, it is because another opposing force is being applied by something in the environment so that the forces are balanced.

- Energy Transfer Machine

Big Idea 15: Diversity and Evolution of Living Organisms

SC.5.L.15.1 - Describe how, when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations.

- Food Chain Gangs

Big Idea 17: Interdependence

SC.5.L.17.1 - Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycle variations, animal behaviors and physical characteristics.

- Food Chain Gangs