

5th Grade Science Curriculum Guide

Welcome to the 5th Grade Science Curriculum Guide. Elevate Science is our adopted textbook and is available in both a consumable workbook and digitally. The Elevate platform is designed to empower students to become more self-directed, curious, and accountable by implementing a 3-dimensional instructional model. This model aligns with the NGSS framework.

The Lab Investigations (highlighted in green) are **required** as they have been mandated by NY State. These have been incorporated into the Scope and Sequence for grades 3, 4 & 5. The NYS Lab investigations and topics that need to be reviewed will be highlighted in teal. The 4 required NYS Elementary Lab Investigations will be assessed on the 5th Grade Written Exam and account for 15% of the final grade. This Computer Based Test is scheduled every year at the end of April or beginning of May.

Supplemental Resources have been provided through our district apps to ensure a deeper understanding of the content and scaffold learning. District used Apps included in this document are Science A-Z, Vocabulary A-Z, Nearpod, Discovery Education, and NewsELA.

Grade 5 Science Year at a Glance

Topic 1-Properties of Matter

ELS Investigation - "What's in the Bag"

(NY state requirement)

Topic 2 Changes in Matter

Topic 3- Earth's Systems

ELS Investigation - Cloud in the Bottle (NYS Requirement)

Topic 4-Earth's Water

Topic 5-Human Impact on Earth's Systems

ELS Investigation - "Light It Up"

(Review completed in grade 4)

Topic 8- Energy and Food

Topic 9- Matter and Energy in Ecosystems

ELS Investigation - "Circle of Life"

(Review completed in grade 4)

Topic 6- Solar Systems

NYS Exam Review

NYS Science Exam

[Sample State Test Questions](#) [Sample State Test Answers](#)

Topic 7- Patterns in Space

Elevate 5th Grade Science

Topic 1 - Properties of Matter

Essential Question: How do you describe properties of matter?

Literacy Skill: Use Evidence from Text.

5-PS1-1. Develop a model to describe that matter is made of particles too small to be seen. [Clarification Statement: Examples of evidence could include adding air to expand a basketball, compressing air in a syringe, dissolving sugar in water, and evaporating salt water.] [Assessment Boundary: Assessment does not include the atomic-scale mechanism of evaporation and condensation or defining the unseen particles.]

5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. [Clarification Statement: Examples of reactions or changes could include phase changes, dissolving, and mixing that forms new substances.] [Assessment Boundary: Assessment does not include distinguishing mass and weight.]

5-PS1-3. Make observations and measurements to identify materials based on their properties. [Clarification Statement: Examples of materials to be identified could include baking soda and other powders, metals, minerals, and liquids. Examples of properties could include color, hardness, reflectivity, electrical conductivity, thermal conductivity, response to magnetic forces, and solubility; density is not intended as an identifiable property.] [Assessment Boundary: Assessment does not include density or distinguishing mass and weight.]

3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

Vocabulary

Lesson 1 observe, measure, solubility, describe

Lesson 2 atom, atomic theory, compound, molecule, conclude

Lesson 3 temperature, mass, volume, organize

Science and Engineering Practices(SEP) SEP.3 Planning and carrying out investigations
SEP.6 Constructing explanations and designing solutions.

Disciplinary Core Ideas (DCI's)

PSI.A Structure and Properties of Matter- recognizing that matter exists as particles that are too small to see, and so matter is always conserved even if it seems to disappear.

Cross Cutting Concepts

Cause and Effect * Cause and effect relationships are routinely identified, tested, and used to explain change. (5-PS1-4) Scale, Proportion, and Quantity * Natural objects exist from the very small to the immensely large. (5-PS1-1) * Standard units are used to measure and describe physical quantities such as weight, time, temperature, and volume. (5-PS1- 2),(5-PS1-3)

Topic Overview: In this topic, students will observe and measure various properties of matter. In the STEM Quest Kickoff, students are introduced to the problem based learning project they will work on throughout the Quest: How can I plan out and design a procedure for a robot chef to follow to identify a mystery substance based on its observable properties. The UConnect Lab encourages students to use their senses to describe and identify objects. The Literacy Connection (*Use Evidence from Text*) encourages students to examine why using evidence to support explanations is important in science.

Lesson 1 Observe Matter: Pages 6-15

Lesson 2 Model Matter: Pages 16-25

Lesson 3 Properties of Matter: Pages 26-35

Quest Findings (D),pg. 34 and **Career Connection (D),** pg. 35; **Assessment Options and Remediation Options:** Assessment pg.36-37, Evidence-Based Assessment, pg.38-39; Performance-Based Assessment, pg. 40-41

Introduction to Matter- Discovery Ed Video:

Before Lesson 1- [What's in the box.docx](#) (Page 4)

Objective: Students will carry out an investigation to use their senses to describe and identify objects.

Discovery Education:

[Properties of Matter- Discovery Ed Video \(English\)](#)

[Properties of Matter- Discover Ed Video \(Spanish\)](#)

About this Video Segment

Defines the properties of matter as characteristics.

Newsela Article:

[There are three phases of matter: solid, liquid and gas \(English\)](#)¹

[Existen tres fases de la materia: sólida, líquida y gaseosa \(Spanish\)](#)

Lesson 1-Observe Matter

5-PS1-1

Develop a model to describe that matter is made of particles too small to be seen.

5-PS1-3

Make observations and measurements to identify materials based on their properties.

K-5-PS1-A-1

Matter of any type can be subdivided into particles that are too small to see, but even then, the matter still exists and can be detected by other means. A model showing that gases are made from matter particles that are too small to see and are moving freely around in space can explain many observations, including the inflation and shape of a balloon and the effects of air on larger particles or objects. (5-PS1-1)

K-5-PS1-B-2

No matter what reaction or change in properties occurs, the total weight of the substances does not change.

*See [NSGG Website for - DCI, CCC, SEP](#)

I Can Statement: I can observe and measure properties materials.

Vocabulary: observe, measure, solubility, describe

1. [Local to Global](#) page 6
2. [UInvestigate Lab](#)- Page 7
3. Readings Evaluate Science- Pages 8-13
4. [Quest Check-In Lab](#) (page 14) (This Quest Check in Lab provides an opportunity for students to develop a plan to test the physical properties of substance.)
5. Elevate Science: [Elevate Science Editable Observe Matter Quiz](#) / [Prueba-Observer la materia](#)

Supplemental Materials:

- [Infographic- Properties of Matter](#)
- Optional Discovery Education Video Activity- can be used as review/homework (English has 2 parts for Spanish students just need to continue to the 2nd part with the same link)
 - o [What's the Matter? Changing States \(English\) Part 1](#)
 - o [What's the Matter? Properties- \(English\) Part 2](#)
 - o [What's the Matter? \(Spanish Version\)](#)

Lesson 2 - Model Matter

3-5-SEP-3.c

Make observations and/or measurements to produce data to serve as the basis for evidence for an explanation of a phenomenon or test a design solution.

5-PS1-1

Develop a model to describe that matter is made of particles too small to be seen.

5-PS1-2

Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved.

I Can Statement: I can explain that matter is made of tiny particles too small to be seen.

Vocabulary: atom, atomic theory, compound, molecule, conclude

1. Engineering- Page 16
 - [Elevate Science Video about how to model matter](#) (Use this video to deepen student understanding of how to model matter.)
 2. Introduction or Review can be used as a (Homework Review) Nearpod
 - [Part\(icles\) of Your World- Video and questions](#) (In this video from Crash Course Kids, students learn about how matter is made up of small particles. They also learn how matter changes states from liquid to solid, and similarly to and from other forms.)
- (Skip page 17)
3. **BrainPop Videos:**
 - [What is an Atom? \(English\)](#) [¿Qué es un átomo?](#)
 4. Elevate Science- Pages 18-22
 5. [Hands-On Lab](#)- Page 23
 6. [Online Quiz](#): Model Matter

Lesson 3 Properties of Matter

5-PS1-3

Make observations and measurements to identify materials based on their properties.

I Can Statement: I can identify materials based on their properties.

Vocabulary: temperature, mass, volume, organize

[Matter and Its Properties- Elevate Science](#) Fill in Activity

[Properties of Matter Video- Elevate Science English](#)

Additional Resource:

(This is in Science a-z, you can reach it via Reading a-z. It will give you an option for English and **Spanish** for the leveled readers)

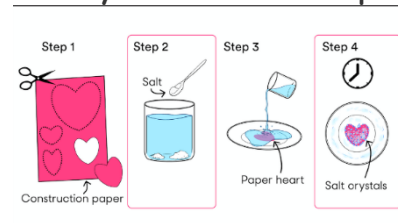
[Mixing Matter Science A-Z](#)

Skip 26

1. Page 27- [UInvestigate Lab](#). How can you use properties to identify solids?
2. Page 28- States of Matter
 - o [Video](#) (Describes the solid, liquid, and gaseous states that matter can take. The program explains the differences between solid, liquid, and gas and provides examples of how they behave.)
 - o [English Infographic](#) / [Spanish Infographic](#)
3. Elevate Science pgs. 29-31

****Extra Lab-Use in February Science & Math**

Activity: How to make evaporation crystal hearts



<https://newsela.com/read/lib-make-crystal-hearts/id/2001004889/write?collection=339>

[Make Your Own Rock Candy](#)

Writing Prompt: Describe what you think the author's purpose was for writing this text and whether they were successful in this purpose. Support your response with specific details from the text.

<https://office365.discoveryeducation.com/learn/videos/589b119b-75b0-483a-ae57-7a62fff4a4f4>

Describes the how matter changes states through the processes of melting, sublimation, freezing, boiling, condensation, and deposition.

<https://office365.discoveryeducation.com/learn/player/c17ce4f5-77e8-4d16-aa29-aab28fe53825>

In this activity, students will practice classifying matter while playing a game.

End of the Topic

Lab- What's in the Bag Mandatory Lab- See Link Below

What's in the Bag? Lab

Assessment- [Topic 1 Assessment](#)

Elevate 5th Grade Science

October-Topic 2 Changes In Matter

Essential Question: What evidence do we have that matter changes?

Literacy Skill: Use evidence from text.

5-PS1-2. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. [Clarification Statement: Examples of reactions or changes could include phase changes, dissolving, and mixing that forms new substances.] [Assessment Boundary: Assessment does not include distinguishing mass and weight.]

5-PS1-4. Conduct an investigation to determine whether the mixing of two or more substances results in new substances.

3-5-ETS1-2. Generate and compare multiple possible solutions to a problem based on how well each is likely to meet the criteria and constraints of the problem.

3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Vocabulary

Lesson 1 solid, liquid, gas

Lesson 2 physical change

Lesson 3 chemical change,
chemical reaction, conservation of
matter, support

Science and Engineering Practices(SEP)

SEP.3 Planning and carrying out
investigations

SEP.5 Using mathematics and
computational thinking

Disciplinary Core Ideas(DCI)

**PS1.A Structure and Properties
of Matter**-understand that matter
is conserved when it changes
form.

PS1.B Chemical reactions-
identify that when substances are
mixed, a new substance with
different properties may form.

Cross Cutting Concepts(CCC)

CCC.2 Cause and effect

CCC.3 Scale, proportion, and
quantity

Overview: In this topic students will learn how to identify chemical changes. They will investigate the principal of matter conservation. STEM Quest Kickoff: How to plan and design a stepping stone, UConnect Lab, pg.46; Literacy Connection, (Use Evidence From Text),pg.47

Lesson 1 Observe Matter: Local to Global Connection, pg.48; uInvestigate Lab, pg. 49; Lesson 1 Check, 54; Quest Check-In Lab,pg. 55.

[nearpod- matter](#)

[.nearpod- What's Matter?](#)

Lesson 2 Model Matter: STEM Connection,pg. 56; uInvestigate Lab, pg. 57; Stem Quest Check-In, pg.62.

Lesson 3 Properties of Matter: STEM Connection, pg. 64; uInvestigate Lab, pg. 65; Visual Literacy connection, pg. 70; Lesson 3 Check, pg. 73, STEM Quest Check-In Lab, pg. 74, (Optional), Engineering STEM (D), pg. 76.

[Properties of Matter](#)

[Properties of Matter Spanish](#)

[Phases of Matter \(Song\) Spanish](#)

[Describing Matter and It's Properties](#)

[Describing Matter and It's Properties- Spanish](#)

Lesson 4 Mixtures and Solutions: Curriculum Connection, pg.78, uInvestigate Lab, pg. 79; Visual Literacy Connection (D),pg.82; Lesson 4 Check,pg.85; Quest Check In Lab (S), pg.86.

[Nearpod- Types of Mixtures](#)

[Nearpod Types of Mixtures-Spanish](#)

[Nearpod-Mixtures](#)

Quest Findings (D),pg. 88 and **Career Connection** (D), pg. 89; **Assessment Options and Remediation Options:** Assessment pg. 90, Evidence-Based Assessment, pg.92; Performance-Based Assessment, pg.94.

Elevate 5th Grade Science

November EARTH SCIENCE Topic 3- Earth's Systems (NY state requirement)

Essential Question: How can you model interactions among earth's systems?

Literacy Skill: Cause and effect.

Language Objectives: Students will verbally express the word meanings of geo, bio, hydro, and sphere.

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

3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

Vocabulary

Lesson 1 biosphere, geosphere, lithosphere, system

Lesson 2 atmosphere, hydrosphere,

distinguish **Lesson 3**

Greenhouse Effect, interdependent

Science and Engineering Practices(SEP) SEP.2 Developing and using models
SEP.6 Constructing explanations

Disciplinary Core Ideas(DCI)
ESS2.A Earth's Materials and Systems-understand that four major earth systems interact

Cross Cutting Concepts(CCC) CCC.4 Systems and systems models

Overview: Students will build on their understanding of earth as they explore how earth's systems interact with one another. They will develop an understanding of cause and effect relationships as they explore how the earth's systems support the existence of life. **STEM Quest Kickoff-** Develop an explanation of how acid rain can affect earth's four spheres, pgs. 4-5; **uConnect Lab**,pg. 100; **Literacy Connection-***Cause and Effect*, pg. 101.

Lesson: Choose at least ONE video, **UInvestigate Lab**, **Digital Lab** or **Interactivity** from **Elevate**. Also choose district supported resources to supplement the lesson.

Topic 3 Launch-Earth's Systems Page 96

Essential Question: How can you model interactions among Earth's systems?

Quest Kickoff-Connect the Spheres: How can acid rain affect Earth's spheres?

Video: Watch the Elevate Science video about pollution

Literacy Connection: *Cause and Effect* Page 101

Science a-z: Introduction or Review

[Atmosphere and Climate \(English and Spanish\)](#)

Atmosphere and Climate

Our atmosphere contains the air we breathe, keeps the planet at a comfortable temperature, and shields us from harmful radiation. The movement of warm and cool air triggers weather and the water cycle. Long-term weather patterns define the climate of each region. Earth's main climate zones are tropical, temperate, and polar. Scientists have concluded that recent increases in greenhouse gases are causing global warming. Many individuals, groups, and governments are taking action to slow or reverse climate change.

Lesson 3 Topic 1- Geosphere and Biosphere Page 102

I can...Describe what makes up the geosphere. Describe what makes up the biosphere.

Literacy Skill- Cause and Effect

Skill- Cause and Effect

Science Learning Standards

5-ESS2-1, DCI ESS2.A, SEP.2, SEP.6, CCC.4

ELA Learning Standards

RI.5.3,

Mathematics Learning Standards

5.G.A.2

Vocabulary

biosphere, geosphere, lithosphere, system

Video: Nearpod- Introduction

[Biosphere and Geosphere \(English\)](#)

[La Tierra Como Sistema \(Spanish\)](#)

Newsela:

[Interactive Video Geosphere and biosphere-\(English\)](#)

Worksheet: Earth's Spheres can be found in Resources and should be used with lesson 1 and 2

Found in **English and Spanish**- Worksheet Folder

Video: Watch the Elevate Science video about the geosphere and the biosphere. Page 102

[Elevate Science video about the geosphere and the biosphere](#)

Page 103 (Handout in folder) How does water move through soil?

UInvestigate Lab

Page 104-108 Earth's Systems

Literacy Toolbox: Cause and Effect

Math Toolbox-Graphing Page 105

[Interactivity Organic Geosphere](#) Elevate Science Link

<https://newsela.com/interactive-videos/cl4h5tn8h1jio09oqgpdsehzy/>

In this episode of Crash Course Kids, Sabrina talks about two of the four spheres that make up our planet; The Geosphere and the Biosphere. What's in these spheres? How do they affect us? How do they fit into the puzzle that is Earth? All is contained within!

Video provided by Crash Course Kids, via BoClips.

Duration: 4:00

UInvestigate Lab How does water move through soil?

Materials needed:

- 2 paper clips
- 2 samples of different soils
- Graduated cylinder
- Water
- 2 small bowls

Quest Check-In [Raining Acid](#) Page 109

*Editable Quiz in folder

Formative Assessment-Lesson 1- Geosphere and Biosphere

[uInvestigate Lab: How does water move through soil?](#)

Quest Check-In eText: Raining Acid Editable Quiz: Model Matter

Lesson 3 Topic 2- Hydrosphere and Atmosphere Page 110

I can...Describe what makes up the atmosphere. Describe what makes up the hydrosphere.

Literacy Skill- Cause and Effect

Vocabulary- atmosphere, hydrosphere, distinguish

Start by showing Cloud in a Bottle and model it for the class. Tell the students that they will all create their own clouds at the end of the unit and they will use what that learn in the unit to explain the production of the cloud.

<https://safeshare.tv/x/WeXuKd0vMRk#>

<https://playingwithrain.com/make-a-cloud-in-a-water-bottle/>

Directions for how to complete this lab - REQUIRED ACTIVITY

Come back to this at the end of the unit and have the students explain why it happened.

Materials needed:

Water bottles for each student

Rubbing Alcohol

Video: Watch the Elevate Science video about the hydrosphere and the atmosphere. Page 110

[Elevate Science Video Hydrosphere and Atmosphere](#) (You must be signed in to your elevate app for this to open)

<https://office365.discoveryeducation.com/learn/videos/7dc9d4f3-4d4e-45a0-8291-38d2b37e948d>

Defines the greenhouse effect and its impact on the earth. The segment explains how the gases in our atmosphere trap heat at the earth's surface and emphasizes the consequences of an excess of greenhouse gases.

<https://playingwithrain.com/make-a-cloud-in-a-water-bottle/>

<https://www.education.com/download-pdf/science-fair/15522/>

This will demonstrate The Greenhouse Effect

uInvestigate [How does a greenhouse work?](#) Lab Page 111

Objective- Students will make a model to show how a greenhouse is like the Earth's atmosphere. Both work as a closed system and trap heat.

Materials

- Thermometer
- Window with sunlight
- Water
- Two jars, one with a lid

Videos:

[Hurricane Storm Surge](#)

[Drought](#)

[Wildfires](#)

Flood Simulation Model

Video: Nearpod

Hydrosphere and Atmosphere- (English)

Visual Literacy Connection- What are parts of Earth's hydrosphere? Page 112

Synthesize Page 114

Quest Check-In: Where are Earth's spheres? Page 116 (Hard copy in file)

Objective: Students will make a model of the four spheres of Earth that they will use in the Quest Findings activity. (Hard copy in file)

Example diorama lesson plan in file

Materials needed:

- Colored paper
- Shoe box
- Colored markers
- Glue
- Tape
- Clay
- Scissors

UEngineer It! A New Home Page 118

3-5-ETS1-1

Students address the second step in the engineering design process, developing a solution. Review the engineering design process.

<https://office365.discoveryeducation.com/learn/player/6b100a92-dc6c-4166-bb5b-e644215868ee>

In this activity students will examine the relationships between the organisms within an ecosystem and how changes that affect one affect the others.

Formative Assessment- Lesson 2- Hydrosphere and Atmosphere

uInvestigate Lab: How does a greenhouse work? Editable Quiz: [Hydrosphere and Atmosphere](#)

Lesson 3 Topic 3- Interactions Among Earth's Systems Page 120

I can...Describe how Earth's systems interact with each other

Literacy Skill- Cause and Effect

Objective: Students will describe how Earth's systems interact with each other.

Science Learning Standards

5-ESS2-1

* See [NSGG Website for - DCI, CCC, SEP](#)

SEP.6 Constructing Explanations

Video: Watch the Elevate Science video about interactions among Earth's systems.

[Elevate Science Video Interactions Among Earth's Systems Page 120](#)

Use this video to deepen student understanding of how Earth's systems interact.

<https://office365.discoveryeducation.com/learn/videos/f1c987e0-ef77-4c20-b294-3b080c042854>

Lists Earth's four systems as the geosphere, biosphere, hydrosphere, and atmosphere, and explains that these four systems work together to store, transform, or transfer matter and energy throughout the planet. The segment also states that the geosphere is made up of all the soil, rocks, and minerals that make up the ground or surface of the earth, and includes a video quiz based on the content of the segment. [Image thumbnail: Atakan Yildiz / Shutterstock.com]

UInvestigate Lab Page 121- How does the geosphere affect the hydrosphere?

Materials Needed:

- Precipitation Map (in folder)

Interdependence of Earth's Systems Page 122-123

Visual Literacy Connection: How does the ocean affect other systems on Earth? Page 124-125

Activity:

Disrupting the Balance and Natural Disruptions Page 126-127

Career Connection- Air Pollution Analyst Page 131

UDemonstrate Lab: How are the spheres represented in a terrarium? Page 136-137

Materials:

- Glass container
- Plastic wrap
- Graduated cylinder
- Pebbles
- Rocks
- Sheet moss
- Soil
- Water
- Variety of plants
- Planting tools

Video: CK-12

Formative Assessments:

Lesson 3-Interactions Among Earth's Systems

uInvestigate Lab: How can you use properties to identify solids?

Editable Quiz: Properties of Matter

[Cloud in the Bottle Lab](#) (required)

[The 4 Spheres of the Earth- \(English\)](#)

Elevate Science: Students will create 4 theme parks

[Virtual Theme Park](#)

*** Jeopardy review found in folder labeled Printable- You must download (right click) and then you will be able to open the link. ***

Elevate 5th Grade Science

EARTH SCIENCE Topic 4-Earth's Water

Essential Question: How much water can be found in different places on earth?

Literacy Skill: Draw conclusions

5-ESS2-2. Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth. [Assessment Boundary: Assessment is limited to oceans, lakes, rivers, glaciers, ground water, and polar ice caps, and does not include the atmosphere.]

3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

Vocabulary Lesson 1 water cycle, evaporation, condensation, precipitation Lesson 2 glacier, aquifer, reservoir, distribute Lesson 3 circulation, tides, salinity, primary	Science and Engineering Practices(SEP) SEP.2 Developing and using models SEP.6 Constructing explanations	Disciplinary Core Ideas(DCI) ESS2.C The Roles of Water in Earth's Surface Processes- understand that most of Earth's water is in the ocean and much of the Earth's fresh water is in glaciers or underground.	Cross Cutting Concepts(CCC) CCC.3 Scale, proportion, and quantity
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Overview: Students will learn that water is in constant motion as part of the water cycle. Students will explore interactions among water and land. They will examine how water in lakes and rivers differs from ocean water. STEM Quest Kickoff- Students develop technology to make undrinkable water safe to drink, pgs. 140-141; **uConnect Lab**(S)- Students design a device to speed up the flow of water,pg. 142; Literacy Connection-students *Draw Conclusions* about photos based on text, pg. 143.
Lesson 1 Water Cycle: Sports Connection, pg.144; uInvestigate Lab, pg145; Visual Literacy Connection (D), pgs. 148-149; Quest Check-In, pg.151; uEngineer-It, (D) pgs. 152-153.

[Newsela Article](#)

[Interactive Water Cycle](#)

[Water Cycle In A Bag - Little Bins for Little Hands](#)

Lesson 2 Earth's Freshwater: Local to Global Connection, pg.154; UInvestigate Lab, pg. 155; Visual Literacy Connection (D), pgs. 156-157; Model It! (D), pg.159; Lesson 2 Check, pg. 159; **Stem Quest Check-In Lab**, (S), pgs. 160-161.

[Freshwater](#) / [Freshwater \(Spanish\)](#)

Lesson 3 Earth's Ocean: Local to Global Connections, pg. 162; uInvestigate Lab, pg. 163; Visual Literacy Connection (D), pgs. 166-167; Stem Quest Check-In, pg. 170; Solve It With Science (D), pg. 171.

[Know Your Ocean](#)

Quest Findings (D), pg.172 and **Career Connection** (D), pg.173; **Assessment and Remediation Options:** Online topic assessment, Text Assessment and Remediation, 174-177; uDemonstrate Lab, pg. 178-179.

Elevate 5th Grade Science

EARTH SCIENCE Topic 5- Human Impact on Earth's Systems (Light it Up)

Essential Question: How can we protect Earth's resources and environments?

Literacy Skill: Compare and contrast.

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

Vocabulary

Lesson 1 natural resource, non-renewable resource, renewable resource, mineral, rock, classify, efficient
Lesson 2 natural gas, hydroelectric energy, transform
Lesson 3 pollution, effects

Science and Engineering Practices(SEP)

SEP.6 Constructing explanations
SEP.8 Obtaining, evaluating, and communicating information

Disciplinary Core Ideas(DCI)

ESS3.C Human Impacts on Earth Systems-understand that human activities have had major effects on the land, ocean and atmosphere; and that human activities can also help protect Earth's resources and environments.

Cross Cutting Concepts(CCC)

4 Systems and system models

Overview: Students will describe renewable and non-renewable resources on earth. In the Quest Kickoff students will identify how their school can become more energy efficient, pgs. 182-183; The uConnect Lab, pg.184, invites students to design and evaluate a product to meet specific criteria; The Literacy Connection reviews *Comparing and Contrasting*, pg.185.
Lesson 1 Earth's Natural Resources: Local-to-Global Connection, pg. 186; uInvestigate Lab, pg. 187; Quest Check-In, pg.193; Engineer-It(D), pgs.194-195

[Natural Resources Video](#)

[Understanding Natural Resources Nearpod](#)

To Be Completed after Lesson Completion:

[Renewable vs. Non Renewable Resources](#)

[Renewable Energy Time to Climb](#)

[Renewable vs. Nonrenewable Drag and Drop](#)

Lesson 2 Earth's Energy Resources: Engineering Connection, pg.196; uInvestigate Lab, pg.197, Visual Literacy Connection (D), pgs. 200-201; Quest Check-In, pg. 203

[Nearpod Renewable energy](#)

[Nearpod When fossil fuel disappears](#)

[Discovery - Interactive resources activity](#)

[Brainpop Energy Resources](#)

Lesson 3 Human Activity and Earth's Systems: STEM Connection, pg. 204; uInvestigate Lab (S), pg. 205; Visual Literacy Connection (D), pgs. 206-207; STEM Quest Check-In Lab (optional), pgs. 210-211.

[Air Pollution](#)

[Human Activity and Earth's Systems](#)

[5 Human Impacts on the Environment](#)

[Sustainability](#)

Lesson 4 Protection of Earth's Resources: Curriculum Connection, pg.112; UInvestigate Lab (optional), pg.213; Visual Literacy Connection(D), pgs.216-217; Quest Check-In, pg. 220; Quest Findings (D), pg.222 and Career Connection(D), pg.223; **Assessment and Remediation Options:** Online Topic Test; Text Assessment and Remediation, pgs.224-227, uDemonstrate Lab, pgs.229-229.

[Protecting the Water Cycle Assessment - Science A-Z - Projectable View](#) Page 212

[Going Green on Earth Day - Science A-Z - Projectable View](#) Page 216

[Discovery Ed: Guardians of Trees](#) Page 220

[Green Towns - Science A-Z - Projectable View](#) Page 222

[Earth's Systems: Alternate Energy Nearpod](#)

End of topic lab: [ELS Investigation "Light It Up"](#)

Elevate 5th Grade Science

Life Science Topic 8-Energy and Food

Essential Question: Where does food's energy come from and how is food used?

Literacy Skill: Use Evidence From Text.

5-PS3-1. Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun. [Clarification Statement: Examples of models could include diagrams, and flow charts.]

5-LS1-1. Support an argument that plants get the materials they need for growth chiefly from air and water. [Clarification Statement: Emphasis is on the idea that plant matter comes mostly from air and water, not from the soil.]

5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. [Clarification Statement: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.] [Assessment Boundary: Assessment does not include molecular explanations.]

3-5-ETS1-3. Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

Vocabulary

Lesson 1 herbivore, carnivore, omnivore

Lesson 2 photosynthesis, chlorophyll, obtain

Lesson 3 endotherm, ectotherm, metabolism, maintain

Science and Engineering Practices(SEP)

SEP.2 Developing and using models

SEP.7 Engaging in argument from evidence

Disciplinary Core Ideas(DCI)

DCI PS3.D Energy in Chemical Processes and Everyday life-recognizing that energy can be “produced”, “used”, or “released” by converting stored energy.

DSI LS1.C Organization for Matter and Energy Flow in Organisms-understanding that food provides animals with the materials and energy they need for body repair, growth, warmth, and motion.

Cross Cutting Concepts(CCC)

CCC.5 Energy and Matter

Overview: Students will learn how energy is used to make food and how energy is transferred throughout the environment. **STEM Quest Kickoff**-Students will ultimately construct a dinner plate, choosing foods that provide energy

to complete basic tasks, pgs. 316-317; In the uConnect Lab students model how energy, activity, and food are related, pg. 318; The Literacy Connection revisits *Using Evidence From Text*, pg. 319

Lesson 1 Energy in Food: Curriculum Connection, pg.320; uInvestigate Lab, pg. 321; Teach with Visuals (D), pgs.324-325; QuestCheck-In, pg.327.

[Energy Pyramid](#)

[Science A-Z Food Web](#)

[Consumers](#)

Lesson 2 How Plants Make Food: Stem Connection, pg.328; uInvestigate Lab (S), pg.329; Stem Quest Check-In Lab(S), pgs.334-335; Engineer It! pgs. 336-337.

[Background Builder Photosynthesis](#)

[Photosynthesis](#)

[How Plants Grow](#)

Lesson 3 How Animals Use Food: Sports Connection, pg.338; uInvestigate Lab, pg. 339; Quest Check-In, pg. 344; Extreme Science (D), pg. 345. **Quest Findings** (optional), pg. 346 and **Career Connection**, pg. 347;

[Metabolism](#)

[Endotherm and Ectotherm](#)

Assessment and Remediation Options: Online Topic test; Text Test and Remediation, pgs.348-351; uDemonstrate Lab, pgs. 352-353.

Elevate 5th Grade Science

Life Science Topic 9-

Matter and Energy in Ecosystems Lab Circle of Life (4th grade review)

Essential Question: How can you model the interaction of living things in an ecosystem?

Literacy Skill: Compare and Contrast.

5-LS2-1. Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment. [Clarification Statement: Emphasis is on the idea that matter that is not food (air, water, decomposed materials in soil) is changed by plants into matter that is food. Examples of systems could include organisms, ecosystems, and the Earth.] [Assessment Boundary: Assessment does not include molecular explanations.]

[NSGG Website for DCL, CCC, SEP](#)

Vocabulary Lesson 1 ecosystem, abiotic, biotic, community, interact Lesson 2 producer, decomposer, microbe, consumer, food chain, food web, transfer Lesson 3 succession, competition, stable Lesson 4 cycle	Science and Engineering Practices(SEP) SEP.2 Developing and using models SEP.4 Analyzing and Interpreting Data	Disciplinary Core Ideas(DCI) LS1.A Interdependent Relationships in Ecosystems -recognizing that the food of almost any animal can be traced back to plants. LS2.B Cycles of Matter and Energy Transfer in Ecosystems -identifying how matter cycles between the air and soil and among organisms as they live and die.	Cross Cutting Concepts(CCC) CCC.4 Systems and Systems Modeling
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Overview: Students will learn how living and non-living components of an ecosystem interact. **STEM Quest Kickoff:** Students will ultimately create a video to improve an animal's public reputation, pgs. 356-357; In the **UConnect Lab(S)** students construct a model to understand how the parts of a fish tank interact to make up the environment; The **Literacy Connection** revisits *Compare and Contrast*.

Lesson 1 Matter and Energy in Ecosystems: Sports Connection, pg. 360; **uInvestigate Lab(S)**, 361; Visual Literacy Connection(D), pgs. 364-365; **Quest Check-In**, pg.367

[Nearpod ecosystems](#)

[Pond Ecosystem Assessment - Science A-Z - Projectable View](#)

[Discovery Ed Ecosystems Page 360](#)

[DiscoveryEd Ecosystems Spanish](#)

[Discovery Ed Abiotic and Biotic Factors of Ecosystem Page 363](#)

[DiscoveryEd-Bee Communities: Colonies](#)

Lesson 2 Organisms Within Ecosystems: uInvestigate Lab, pg. 369; Visual Literacy Connection(D), pgs. 372-373; Stem QuestCheck-In, pg. 376; STEM Math Connection (D), pg. 377

[Food Webs of Land and Sea](#)

[Nearpod-Food chains and food webs](#)

[Discovery- Food Chains and Webs](#)

[Interactivity- Food Chain and Food Web](#)

Lesson 3 Change Within Ecosystems: Local to Global Connection, 378; uInvestigate Lab, pg. 379; Visual Literacy(D), pgs.380-381; Stem Quest Check-In Lab, pgs. 384-385

[Discovery STEM experiment - Healthy ecosystem](#)

[Nearpod ecosystems](#)

[Newsela- 10 fun facts about ecosystems](#)

[Newsela - The Art of Living Together](#)

Lesson 4 Matter and Energy Transfer Within Ecosystems: Engineering Connection, pg.386; uInvestigate Lab (S), pg.387; Visual Literacy Connection(D), pgs. 390-391; Quest Check-In, pg.393; Engineer It! Pgs. 394-395.

Quest Findings-pg.396 and **Career Connection**-pg. 397 **Assessment and Remediation Options:** Online Topic test; Text Test and Remediation, pgs. 398-401; uDemonstrate Lab, pgs. 402-403.

[Ecosystems "Circle of Life" Required Lab-Review](#)

[Circle of Life Review Lab](#)

Elevate 5th Grade Science

Earth Science Topic 6-Solar Systems

Essential Question: What is earth's place in space?

Literacy Skill: Use text features

5-ESS1-1. Support an argument that differences in the apparent brightness of the sun compared to other stars is due to their relative distances from Earth. [Assessment Boundary: Assessment is limited to relative distances, not sizes, of stars. Assessment does not include other factors that affect apparent brightness (such as stellar masses, age, stage).]

3-5-ETS1-1. Define a simple design problem reflecting a need or a want that includes specified criteria for success and constraints on materials, time, or cost.

Vocabulary Lesson 1 star, apparent Lesson 2 solar system, inner planets, orbit, moon Lesson 3 outer planet, asteroid, comet	Science and Engineering Practices(SEP) SEP.2 Developing and using models SEP.3 Planning and Carrying Out Investigations SEP.7 Engaging in Argument from Evidence	Disciplinary Core Ideas(DCI) ESS1.A The Universe and It's Stars-recognizing that stars range greatly in size and distance from Earth and this can explain their relative brightness.	Cross Cutting Concepts(CCC) CCC.3 Scale, proportion, and quantity
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Overview: Students will explore our solar system. They will develop models to observe the relative brightness of stars, planetary orbit, and the size of objects in space. The **STEM Quest Kickoff** introduces the problem based activity of creating a solar system model for the school lobby,pgs.232-233; The **uConnect Lab** asks how we can use a model to compare the size of the sun relative to other objects, pg.234; The **Literacy Connection** revisits *Use Text Features*, pg.235.

Lesson 1 Brightness of the Sun and Other Stars: **Local to Global Connection**, pg. 236; **uInvestigate Lab**, pg.237; **Quest Check-In**, pg.243; **uEngineer It! (D)**, pgs. 244-245.

[Nearpod - Crash Course- The sun and how it works](#)

[Nearpod Types of stars](#)

[Discovery Sun and stars](#)

Lesson 2 Inner Solar System: **Sports Connection**, pg. 246; **uInvestigate Lab**, pg. 247; **Visual Literacy Connection**, pgs. 248-249; **Stem Quest Check-In Lab** pgs. 252-253,

[Video List](#)

[Nearpod](#)

[All About Inner Planets Video](#) (Grades 6-8, Preview before sharing)

Lesson 3 Outer Solar system: **Curriculum Connection**, pg.254; **Investigate Lab(D)**, pg.255; **Visual Literacy Connection**, pgs. 258-259; **Stem Quest Check-In Lab** (S), pg. 262; **STEM Math Connection(D)**, pg.263

[Science A-Z Outer Planets](#)

[Outer Planets](#)

[Why Pluto is No Longer a Planet](#) (If your students inquire about Pluto, show this)

Quest Findings (optional), pg. 264 and **Career Connection** pg. 265; **Assessment and Remediation Options:** On line Topic Test; Text Test and Remediation, pgs.266-269; **uDemonstrate Lab**, pgs.-270-271

Elevate 5th Grade Science

EARTH SCIENCE Topic 7- Patterns in Space

Essential Question: How do patterns change from day to day and season to season?

Literacy Skill: Sequence.

5-PS2-1. Support an argument that the gravitational force exerted by Earth on objects is directed down. [Clarification Statement: "Down" is a local description of the direction that points toward the center of the spherical Earth.] [Assessment Boundary: Assessment does not include mathematical representation of gravitational force.]

5-ESS1-1. Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth. [Assessment Boundary: Assessment is limited to relative distances, not sizes, of stars. Assessment does not include other factors that affect apparent brightness (such as stellar masses, age, stage).

5-ESS1-2. Represent data in graphical displays to reveal patterns of daily changes in length and direction of shadows, day and night, and the seasonal appearance of some stars in the night sky. [Clarification Statement: Examples of patterns could include the position and motion of Earth with respect to the sun and selected stars that are visible only in particular months.]

[NSGG Website for DCL, CCC, SEP](#)

Vocabulary

Lesson1 gravity, exert

Lesson2 axis, rotation, revolution, pattern

Lesson3 shadow, constellation, related

Science and Engineering Practices(SEP)

SEP.2 Developing and using models

SEP.4 Analyzing and Interpreting Data

SEP.6 Constructing explanations

Disciplinary Core Ideas(DCI)

ESS1.B Earth and the Solar System- recognizing that the Earth's orbit and rotation, and the orbit of the moon around the Earth cause observable patterns.

Cross Cutting Concepts(CCC)

CCC.1 Patterns

CCC.2 Cause and effect

Overview: Students will learn how patterns in the natural world contribute to the understanding of the phases of the moon, the movement of stars, and the rotation and revolution of the earth. STEM Quest Kickoff- students will make a brochure that explains the patterns they observed at each of the stops (Quest Check-Ins), pgs. 274-275; The uConnect Lab asks how to make a model to show how spinning affects earth, pg.276; The Literacy Connection reviews Sequence, pg. 277.

Lesson 1 Earth's Gravitational Forces: STEM Connections, pg. 278; uInvestigate Lab (S), p. 279; Quest Check-In Lab, pg.283.

Lesson 1- Earth's Gravitational Forces

[DiscoveryEd What is the force of gravity?](#)

[DiscoveryEd What is the force of gravity? Spanish](#)

[DiscoveryEd- Gravity Around Us Spanish](#)

[Nearpod](#) defining gravity

Lesson 2 Earth's Movement in Space: Local to Global Connection, pg. 284; uInvestigate Lab (M) pg. 285; Visual LiteracyConnection (D), pgs. 288-289 Stem Quest Check-In, pg.292: STEM Math Connection (D) pg.293.

[Nearpod Crash Course Earth's Rotation](#)

[Nearpod Earth's Rotation vocabulary game](#)

[Newsela - Why is Earth rotating?](#)

[Brainpop Phases of the Moon](#)

Lesson 3 Patterns Over Time: Curriculum Connection, pg. 294, UInvestigate Lab, pg. 295; Visual Literacy (D), pgs. 298-299;Stem Quest Check-In, pg. 303; Engineer It! (optional), pgs. 304-305.

[Moon Phases](#)

[Shadows](#)

[Night Sky Through Seasons](#)

[Moon Sightings](#)

Quest Findings (optional), pg. 306 and **Career Connection**, pg.307; **Assessment and Remediation Options:** Online Topic Test; Test and Remediation, pgs.308-311; uDemonstrate Lab, pgs. 312-313.