

3rd Grade Science Curriculum Guide

Welcome to the 3rd 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 for the end of April or early 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.

3rd Grade Science Year at a Glance
Topic 3-Weather
Topic 4- Climate
Topic 5- Life Cycles and Traits
ELS Investigation "Circle of Life" (NY State Requirement)
Topic 6- Adaptations and Survival
Topic 7- Fossil Evidence
Topic 1- Motion and Forces
Topic 2- Electricity and Magnetism

Topic 3-Weather

Performance Expectations:

3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.

[Clarification Statement: Examples of data could include average temperature, precipitation, and wind direction.] [Assessment Boundary: Assessment of graphical displays is limited to pictographs and bar graphs. Assessment does not include climate change.]

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

3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.* [Clarification Statement: Examples of design solutions to weather-related hazards could include barriers to prevent flooding, wind resistant roofs, and lightning]

Resources (ELA Connection):

Elevate Science Textbook, BrainPOP Jr, Newsela, Discovery Education, Nearpod

Essential Question: How do the processes of the water cycle affect weather conditions on Earth?

Literacy Skill: Main idea and details.

Language Objectives: Students will be able to express and summarize the processes of the water cycle.

Lesson 1 Vocabulary: Atmosphere, weather, humidity, evaporate, condense, precipitation, affect.

Lesson 2 Vocabulary: temperature, barometric pressure, predict.

Lesson 3 Vocabulary: storm, flood, hurricane, tornado, drought.

Science and Engineering Practices

*Planning and Carrying Out Investigations.
*Analyzing and Interpreting Data
*Obtaining, Evaluating, and Communicating Information.

Disciplinary Core Ideas

*ESS2.D
Weather and Climate

Cross Cutting Concepts

CCC.1 Patterns
CCC.2 Cause and Effect

Topic 3: Weather Lessons (Quest Lessons Optional) Lessons may take multiple days to complete. You can choose which activities work best for your class and time. **Highlighted Labs must be completed as per NYS Required Investigation**

Lesson 1- Water and Weather

- Brainstorm weather words.
- Go to Vocabulary A-Z (Under Raz-Kids in myapps) [Elevate Science/ Weather Vocabulary Activities](#) (Click on **Custom Lessons**, **Shared lessons**, **Laurel Park- Keri Patnaude**)
- Watch this video on Discovery Ed (Access through my Apps) [What is Weather?](#)
- Complete UInvestigate Lab page 91
- Read ELEVATE pgs. 92-96
- Interactive Water Cycle Nearpod Video: [Interactive Water Cycle Link](#)
- Literacy Connection: Main idea; Newsela: [How Clouds Work](#) [Clouds Spanish Version](#)

Lesson 2- Seasonal Weather Changes

- Click Link to Watch Video [Seasonal Weather Changes Video](#)
- Complete STEM Connection page 100
- UInvestigate Lab (Page 101 in student book). [City Weather Sheet](#) * Must be logged in to Savvas realize on my apps. (Math Standards: 3.MD.B.3, 3. NBT.A.2)
(Students should be able to compare the weather for a specific week of two cities from different areas)
- Read and complete pages (102-107) in the student book.
- SS/ELA Interdisciplinary Article: [Seasons](#) [Seasons Spanish Version](#)

Lesson 3- Weather Hazards

- Watch video to introduce Weather Hazards: [DEmystified: Storms](#)
- Complete pages 112-115 in student books.
- Quest Check-In on pages 116-117 *Optional Lab*
- ELA Interdisciplinary Article: [Effects of Flooding](#)
- Read Aloud: Come On, Rain! by Karen Hesse [Come On, Rain!](#)

Formative Assessments: (Optional examples to assess)

1. Topic 3 Review (Nearpod Time to Climb) [Time to Climb Weather Review](#)
2. ELEVATE Science pages 120-123
3. Watch BrainPOP Jr Video: [Water Cycle](#)
Discovery Ed. Interactive Activity: [Water Cycle Activity](#)
4. [STEM Water Cycle](#)
5. Writing: Personal Narrative- Write about a personal experience involving a storm or hazardous weather.

Lesson 2 Seasonal Weather Changes: *UInvestigate* Lab p.101 (D), Quest Check-In p.108,
Lesson 3 Weather Hazards: *UInvestigate* Lab p.111 (S), Quest Check-In p.116-117 * see materials listed
Quest Findings p.118, Career Connection p.119, Assessment p.120-123, *uDemonstrate* (D) p. 124-125

Topic 4- Climate

Performance Expectations:

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

Resources:

Elevate Science textbook, Nearpod, Vocabulary A-Z

Essential Question: What are ways to reduce the impact of hazardous weather?

Literacy Skill: Main Idea and Details

Vocabulary

Lesson 1 climate, polar, temperature, tropical, equator, latitude, elevation

Lesson 2 greenhouse effect, greenhouse gas, climate change

Lesson 3 arid, classify

Science and Engineering Practices

SEP.8 Obtaining, Evaluating, and Communicating Information

Disciplinary Core Ideas

ESS2.D Weather and Climate

Cross Cutting Concepts

CCC.1 Patterns

Elevate Lessons

Overview: STEM Quest Kickoff(D)pp. 128-129, *UConnect* Lab p. 130 * see materials listed, Virtual Lab

Before beginning topic:

Have students brainstorm what they know about weather.

Go to Vocabulary A-Z (Under Raz-Kids in myapps) [Climate Vocabulary](#)

(Click on **Custom Lessons**, **Shared lessons**, **Laurel Park- Keri Patnaude**)

Lesson 1 Climates:

- Watch video on Nearpod video [Weather Vs. Climate](#)

Have students list the differences between weather and climate.

- Read pages 132, 134-139 (In student manual) Complete lesson checks.
- Complete Quest Check-in p. 140

UInvestigate Lab p. 133 * see materials listed, Quest Check-In(D) p140, *STEM Math Connection* p. 141

Lesson 2 Climate Change:

- Brain Pop [Climate Change](#)
- Read Newsela article [Climate and climate change](#)
- Read pages 142-147
- Quest Check-in p. 148-149

UInvestigate Lab p.142, Quest Check-In(D) p. 148-149,

UEngineer It! STEM(D) p. 150-151

Lesson 3 World Climates:

- Watch video on [World Climates](#)
- Read p. 152, 154-156, 158
- Complete assessment p. 162-165

UInvestigate Lab p. 153 * see materials listed, Quest Check-In(D) p. 159

Quest Findings p.160 (D), **Career Connection** p.161, **Assessment** p.162-165, **uDemonstrate** (D) p. 166-167

Topic 5- Life Cycles and Traits

Performance Expectations:

3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles, but all have in common birth, growth, reproduction and death.

3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms.

3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment.

3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.

Resources (ELA Connection):

Elevate Science Textbook, Newsela, Discovery Education, Vocabulary A-Z, Kahoot, Nearpod

Essential Question: How do the life cycles of organisms differ while going through the same pattern (birth, growth, reproduction, death)?

Literacy Skill: Using Text Features

Language Objectives: Students will be able to describe and model the unique and diverse life cycles of organisms.

Vocabulary:

Lesson 1: organism, reproduce, diverse.

Lesson 2: trait, inherit, variation.

Lesson 3: influence.

Science and Engineering Practices

SEP.4 Analyzing and Interpreting Data
SEP.7 Engaging in Argument from Evidence.

Disciplinary Core Ideas

LS3.
Inheritance of Traits
LS3.B
Variation of Traits

Cross Cutting Concepts

CCC.1 Patterns
CCC.2 Cause and Effect

Lesson:

Topic 5: Life Cycles and Traits Lessons (Quest Lessons Optional) Lessons may take multiple days to complete. You can choose which activities work best for your class and time. **Highlighted Labs must be completed as per NYS Required Investigation**

Before you begin:

- Brainstorm what students know about life cycles.
Go to Vocabulary A-Z (Under Raz-Kids in myapps) [Vocabulary Activities for Life Cycle](#)
(Click on **Custom Lessons**, **Shared lessons**, **Laurel Park- Keri Patnaude**)

Lesson 1- Life Cycles

- **Elevate Science Topic 5: Life Cycles and Traits pages 168-169, *Show What You Know: How are these tulips the same and different?***
- UConnect Lab p172 (Materials: seeds, ruler, graph paper)
- *Elevate Science Literacy Connection page 173 (ELA)*
- Watch this video on Discovery Ed (Access through my Apps) [DEmystified Insect Life Cycle](#)
- Read ELEVATE pgs. 176-182
- Interactive Life Cycle Nearpod Video: [Interactive Life Cycles Nearpod](#) (This activity can be used from start to finish of lesson 1)
- Literacy Connection: Text features Newsela: [Bug Life Cycle](#) The bug cycle: From Egg to Adult [Spanish Version](#)
- Interactive Class Game [Life Cycle Game](#)
- Fun Kahoot Review [Life Cycles Kahoot Review](#)
- Lesson 1 Editable Quiz [Lesson 1 Quiz](#)

Lesson 2-Inherited Traits

- Click Link to Watch Video [DEmystified: Inherited Traits](#)
- Complete Nearpod [Lesson 2 Inherited Traits](#)
- STEM Connection p184
- UInvestigate Lab Page 185 in text. [Raccoon Footprints Sheet](#) * Must be logged in to Savvas realize on my apps.
- Elevate Textbook: Read and complete pages 186-189
- [Interactivity From Parents to Offspring](#)
- Science/ELA Interdisciplinary Article: [Giraffe Spots](#) [Spanish Version](#)
- Virtual Pre-recorded field trip [San Diego Zoo Virtual Field Trip](#)
- Enrichment: Inherited Traits [Inherited Traits](#)

- Kahoot Review [Inheritance of Traits](#)
- Lesson 2 Editable Quiz [Lesson 2 Quiz](#)

Lesson 3- Traits Influenced by the Environment

- Watch video [Traits influenced by the environment](#)
- Complete pages 196-200 in student books.
- Complete Nearpod [Lesson 3 Traits Influenced by the Environment](#)
- Newsela Interdisciplinary Article: [How Sticky Lizards Survive Storms](#)
- Lesson 3 Editable Quiz [Lesson 3 Quiz](#)

Formative Assessments:

- Writing: Informational Text- Students can choose an animal and write about its life cycle, traits, and adaptations to the environment it lives in.
- [Topic 5: Life Cycles and Traits](#) Test (This assessment can be edited on Savvas)
- UInvestigate Lab page 175 "How are life cycles similar and different?"
- 1. Students can use modeling clay to create the parts of 2 specific life cycles, (1 animal and 1 plant) using the [Life Cycle Sheet](#) as a reference.
- 2. Students will label the parts of the life cycle.
- 3. Students will compare the 2 life cycles.
- [UDemonstrate Lab p208-209 "How can you use evidence to support that a trait is inherited?" Nest Sheet](#)

ELS Investigation "Circle of Life" (NY State Requirement)

[ELS Circle of Life](#)

Topic 6- Adaptations and Survival

Performance Expectations:

3-LS1-1. Develop models to describe that organisms have unique and diverse life cycles but all have in common birth, growth, reproduction, and death. [Clarification Statement: Changes organisms go through during their life form a pattern.] [Assessment Boundary: Assessment of plant life cycles is limited to those of flowering plants. Assessment does not include details of human reproduction.]

3-LS3-1. Analyze and interpret data to provide evidence that plants and animals have traits inherited from parents and that variation of these traits exists in a group of similar organisms. [Clarification Statement: Patterns are the similarities and differences in traits shared between offspring and their parents, or among siblings. Emphasis is on organisms other than humans.] [Assessment Boundary: Assessment does not include genetic mechanisms of inheritance and prediction of traits. Assessment is limited to non-human examples.]

3-LS3-2. Use evidence to support the explanation that traits can be influenced by the environment. [Clarification Statement: Examples of the environment affecting a trait could include normally tall plants grown with insufficient water are stunted; and, a pet dog that is given too much food and little exercise may become overweight.]

3-LS4-2. Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing. [Clarification Statement: Examples of cause and effect relationships could be plants that have larger thorns than other plants may be less likely to be eaten by predators; and, animals that have better camouflage coloration than other animals may be more likely to survive and therefore more likely to leave offspring.]

Resources:

Essential Question: What happens to living things when their environments change?

Literacy Skill: Cause and Effect

Vocabulary Lesson 1 adaptation, survive. Lesson 2 migrate, advantage. Lesson 3 migrate, hibernate, dormant, impact	Science and Engineering Practices SEP.6 Constructing Explanations and Designing Solutions SEP.7 Engaging in Argument from Evidence	Disciplinary Core Ideas LS2.D Social Interactions and Group Behavior LS4.C Adaptations	Cross Cutting Concepts CCC.2 Cause and Effect CCC.3 Scale Proportion and Quantity
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Elevate Lessons

Overview: STEM Quest Help the Pond Organisms Survive Kickoff p. 212-213

3-LS4-4. Make a claim about the merit of a solution to a problem caused when the environment changes and the types of plants and animals that live there may change. * [Clarification Statement: Examples of environmental changes could include both natural and human-influenced changes in land characteristics, water distribution, temperature, food, and other organisms.] [Assessment Boundary: Assessment is limited to a single environmental change. Assessment does not include the greenhouse effect or climate change.],

UConnect Lab p. 214 (S), Virtual Lab(D)

Before beginning topic:

- Have students show what they know about animal adaptations.

Go to Vocabulary A-Z (Under Raz-Kids in myapps) [Adaptations and Survival](#)
(Click on **Custom Lessons**, **Shared lessons**, **Laurel Park- Keri Patnaude**)

Lesson 1 Survival of Individuals:

- Watch video [Survival of individuals](#)
- [Animal Adaptation Dr. Binocs](#)
- [Plant Adaptations Dr. Binocs](#)
- Read p. 216, 218-221

UInvestigate Lab p.217 (S), Quest Check-In p.222 * see materials listed

Lesson 2 Survival of Groups:

UInvestigate Lab(D) p. 225, Quest Check-In p.230, Solve it With Science(D) p.231

Lesson 3 Survival When Environments Change: **UInvestigate Lab(D) p.233**, Quest Check-In p. 241,

UEngineer It! STEM p.242-243

Quest Findings p.244, **Career Connection p.245**, **Assessment p.246-249**, **uDemonstrate (D) p. 250-251**

Topic 7- Fossil Evidence

Performance Expectation:

3-LS4-1. Analyze and interpret data from fossils to provide evidence of the organisms and the environments in which they lived long ago.

[Clarification Statement: Examples of data could include type, size, and distributions of fossil organisms. Examples of fossils and environments could include marine fossils found on dry land, tropical plant fossils found in Arctic areas, and fossils of extinct organisms.] [Assessment Boundary: Assessment does not include identification of specific fossils or present plants and animals. Assessment is limited to major fossil types and relative ages.]

3-LS4-3. Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some

cannot survive at all. [Clarification Statement: Examples of evidence could include needs and characteristics of the organisms and habitats involved. The organisms and their habitat make up a system in which the parts depend on each other.]

Resources:

Essential Question: How have living things and environments changed?

Literacy Skill: Use Evidence from Text

Vocabulary

Lesson 1 fossil, extinct, evidence

Lesson 2 fossil record, data

Lesson 3 argue

Science and Engineering Practices

SEP.4 Analyzing and
Interpreting Data
SEP.7 Engaging in
Argument From
Evidence

Disciplinary Core Ideas

LS4.A Evidence of
Common Ancestry and
Diversity

Cross Cutting Concepts

CCC.3 Scale
Proportion and
Quantity

Elevate Lessons

Overview: STEM Quest Kickoff p. 254-255 (D), **UConnect Lab p.256 (S)**

Lesson 1 Fossils: *UInvestigate* Lab(D) p.259, Quest Check-In p.266 (D), **STEM Math Connection p.267**

Lesson 2 Fossils as a Record: *UInvestigate* Lab p, 269 * see materials listed, Quest Check-In p. 275 (D), *UEngineer It!* STEM(D) p. 276-277

Lesson 3 Living Things and Climate Change: ***UInvestigate* Lab p. 279 (S)**, Quest Check-In (D) p. 284-285

Quest Findings p.286 (D), **Career Connection** p.287, **Assessment** p.288-291, **uDemonstrate** (D) p. 292-293

Topic 1- Motion and Forces

Performance Expectation:

3-PS2-1. Plan and conduct an investigation to provide evidence of the effects of balanced and unbalanced forces on the motion of an object.

[Clarification Statement: Examples could include an unbalanced force on one side of a ball can make it start moving; and, balanced forces pushing on a box from both sides will not produce any motion at all.] [Assessment Boundary: Assessment is limited to one variable at a time: number, size, or direction of forces. Assessment does not include quantitative force size, only qualitative and relative. Assessment is limited to gravity being addressed as a force that pulls objects down.]

3-PS2-2. Make observations and/or measurements of an object's motion to provide evidence that a pattern can be used to predict future

motion. [Clarification Statement: Examples of motion with a predictable pattern could include a child swinging in a swing, a ball rolling back and forth in a bowl, and two children on a see-saw.]

[Assessment Boundary: Assessment does not include technical terms such as period and frequency.]

Resources: Elevate Science book, Vocabulary A-Z,

Essential Question: How do forces on an object affect its motion?

Literacy Skill: Draw Conclusions

Vocabulary Lesson 1 position, direction, motion, distance, speed, relative Lesson 2 predict Lesson 3 force, contact forces, tension force, spring force, friction, noncontact forces, gravity, exert Lesson 4 balances forces, net force, equation	Science and Engineering Practices SEP.3 Planning and Carrying Out Investigations	Disciplinary Core Ideas PS2.A Forces and Motion PS2.B Types of Interactions	Cross Cutting Concepts CCC.1 Patterns CCC.2 Cause and Effect
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Elevate Lessons

Overview: STEM Quest Kickoff(D) p. 2-3, *UConnect* Lab p. 4 * see materials listed, Virtual Lab(D)

Lesson 1 Motion: *UInvestigate* Lab(D) p.7, Quest Check-In p.13 (D), *Engineering STEM* p. 14-15

Lesson 2 Patterns in Motion: *UInvestigate* Lab p.17 (S) , Quest Check-In(D) p. 23

Lesson 3 Forces and Motion: *UInvestigate* Lab p.25 (S), Quest Check-In(D) p.32, *STEM Math Connection* p.33

Lesson 4 Balanced and Unbalanced Forces: *UInvestigate* Lab(D) p.35, Quest Check-In(D) p.40-41

Quest Findings p. 42 (D), *Career Connection* p. 43, *Assessment* p. 44-47, *uDemonstrate* (D) p. 48-49

Topic 2- Electricity and Magnetism

Performance Expectation:

3-PS2-3. Ask questions to determine cause and effect relationships of electric or magnetic interactions between two objects not in contact with each other.

[Clarification Statement: Examples of an electric force could include the force on hair from an electrically charged balloon and the electrical forces between a charged rod and pieces of paper; examples of a magnetic force could include the force between two permanent magnets, the force between an electromagnet and steel paperclips, and the force exerted by one magnet versus the force exerted by two magnets. Examples of cause-and-effect relationships could include how the distance between objects affects strength of the force and how the orientation of magnets affects the direction of the magnetic force.] [Assessment Boundary: Assessment is limited to forces produced by objects that can be manipulated by students, and electrical interactions are limited to static electricity.]

3-PS2-4. Define a simple design problem that can be solved by applying scientific ideas about magnets. * [Clarification Statement: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.]

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.

Resources:

Essential Question: How can you describe the way matter changes?

Literacy Skill: Sequence

Vocabulary

Lesson 1 electric charge, neutral, repel, attract, electric force, conductor, insulator, static discharge, source.

Lesson 2 natural magnet, permanent magnet, electromagnet, magnetic pole, magnetic field, interact

Science and Engineering Practices

SEP.1 Asking Questions
SEP.1 Defining Problems

Disciplinary Core Ideas

PS2.B Types of Interactions

Cross Cutting Concepts

CCC.2 Cause and Effect

Elevate Lessons

Overview: STEM Quest Kickoff p. 52-53

3-PS2-4. Define a simple design problem that can be solved by applying scientific ideas about magnets.* [Clarification Statement: Examples of problems could include constructing a latch to keep a door shut and creating a device to keep two moving objects from touching each other.]

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.

UConnect Lab p.54, Virtual Lab(D)

Lesson 1 Electric Forces: *UInvestigate* Lab(D) p. 57, *Quest Check-In* p. 62, *STEM Math Connection* p. 65

Lesson 2 Magnetic Forces: *UInvestigate* Lab p. 67 * see materials listed, *Quest Check-In* p. 72-73 (S),

UEngineer It! STEM p.74-75 (D)

Quest Findings p.76, *Career Connection* p.77, *Assessment* p.78-81, *uDemonstrate* (D) p. 82-83