

Long Beach Island Consolidated School District Curriculum Guide

Grade: 3	Content Area: Science
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Introduction

The performance expectations in third grade help students formulate answers to questions such as: “How can we design objects to balance and move in different ways?” “Why do plants only grow well in certain places, and how can we protect them?” “Why do animals look and act the way they do?” “How do changes to ecosystems affect what lives there?”

In these units of study, students explore concepts involving forces and motion, traits and life cycles, organisms and their environment, and weather. Throughout the units, students will use science and engineering practices such as asking questions and defining problems, analyzing and interpreting data, constructing explanations, and designing solutions. Crosscutting concepts include patterns, cause and effect, interdependence of science, engineering, and technology, and the influence of engineering, technology, and science on society and the natural world. Students use these practices and crosscutting concepts to demonstrate understanding of the science ideas.

Grade 3: Science
Original Adoption: October 23, 2018
Revised on: March 18, 2019
Revised by: C. McBride
Revised on: August 16, 2022
Revised by: C. McBride
Revised on: August 2026
Revised by: C. McBride

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WIDA English Language Development Standard 3 [WIDA English Language Development Standards Framework, 2020 Edition](#)

“New Jersey remains committed to supporting multilingual learners through policies and practices that promote access, equity, and academic success. The English Language Development Standards provide a framework for ensuring that multilingual learners receive the instruction and support necessary to develop English language proficiency while meeting the expectations of the New Jersey Student Learning Standards. Implementation of these standards across all content areas supports inclusive learning environments and advances New Jersey’s commitment to preparing all students for success beyond graduation. The English Language Development Standards are a shared responsibility across all content areas and support inclusive and equitable learning environments. The English Language Development standards are a foundational component of standards-aligned instruction, guiding educators in designing learning experiences that make the NJSLs accessible to all students. The English Language Development Standards are designed to be implemented by all educators who work with multilingual learners. Classroom teachers, ESL and bilingual educators, specialists, and administrators share responsibility for ensuring that multilingual learners receive appropriate linguistic and academic support. Educators are encouraged to use these resources alongside the full framework when planning instruction, identifying language expectations, and designing opportunities for multilingual learners to engage meaningfully with grade-level content.”

Recommended Pacing Guide	
Unit 1: Motion and Forces	25 Days
Unit 2: Electricity and Magnetism	25 Days
Unit 3: Weather	25 Days
Unit 4: Climate	20 days
Unit 5: Life Cycles and Traits	20 days

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Alignment with State Mandates
The following colors are used throughout this document to indicate areas in which the curriculum is aligned with the following NJSA requirements: Holocaust and genocides (N.J.S.A. 18A:35-28) History and contributions of African-Americans (Amistad Law) (N.J.S.A. 18A:35-4.43) Highlight and promote diversity and inclusion (Diversity & Inclusion Law) (N.J.S.A. 18A:35-4.36a) Climate Change - to prepare students to understand how and why climate change happens, the impact it has on our local and global communities and to act in informed and sustainable ways. Please click here New Jersey Climate Education Hub for specific examples. WIDA English Language Development Standards (N.J.S.A. 18A:35-15 to 26) are integrated with Science Standards

WIDA English Language Development Standard 3 [WIDA English Language Development Standards Framework, 2020 Edition](#)

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Unit 1: Motion and Forces	Duration: 25 days
NJSLS-S Integrated with WIDA Standards 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. ELD-SC.2-3.Explain.Expressive Construct scientific explanations that • Describe observations and/or data about a phenomenon • Develop a logical sequence between data or evidence and claim • Compare multiple solutions to a problem considering how well they meet the criteria and constraints of the design solution 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. ELD-SI.K-3.Inform • Define and classify objects or concepts • Describe characteristics, patterns, or behavior • Describe parts and wholes • Sort, clarify, and summarize ideas • Summarize information from interaction with others and from learning experiences ELD-SC.2-3.Explain.Interpretive Interpret scientific explanations by • Defining investigable questions or simple design problems based on observations, data, and prior knowledge about a phenomenon • Obtaining and combining information from observations, and using evidence to help explain how or why a phenomenon occurs • Identifying information from observations as well as evidence that supports particular points in explanations 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	
Disciplinary Core Ideas PS2.A Forces and Motion Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion. PS2.B Types of Interactions Objects in contact exert forces on each other	
Science and Engineering Practices SEP.3 Planning and Carrying Out Investigations Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.	
Crosscutting Concepts CCC.2 Cause and Effect Cause and Effect relationships are routinely identified	

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Connections to Nature of Science Science is a Human Endeavor

Scientists and engineers are guided by habits of mind such as intellectual honesty, tolerance of ambiguity, skepticism, and openness to new ideas.

Computer Science and Design Thinking Standards

8.2.5.ED.2: Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.

8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task. (3-PS2-1, 3-PS2-2)

Interdisciplinary Standards

ELA/Literacy

W.3.7 Conduct short research projects that build knowledge about a topic

W.3.8 Recall information from experiences or gather information from print and digital sources; take notes on sources and sort evidence into provided categories

Connections to other DCIs in third grade: N/A

Articulation of DCIs across grade levels: [K.ETS1.A](#), [4.ETS1.A](#), [MS.PS2.B](#)

21st Century Themes/Careers

CLKS1. Act as a responsible and contributing community member and employee.

CLKS2. Attend to financial well-being.

CLKS3. Consider the environmental, social and economic impacts of decisions.

CLKS4. Demonstrate creativity and innovation.

CLKS5. Utilize critical thinking to make sense of problems and persevere in solving them.

CLKS6. Model integrity, ethical leadership and effective management.

CLKS7. Plan education and career paths aligned to personal goals.

CLKS8. Use technology to enhance productivity, increase collaboration and communicate effectively.

CLKS9. Work productively in teams while using cultural/global competence

SEL Integration Examples

Forces & Motion

(3-PS2-1, 3-PS2-2) Planning & Carrying Out Investigations

Self-Management & Relationship Skills: Managing Frustration during Labs

When testing balanced/unbalanced forces (e.g., building a magnet-powered car), engineering builds often fail on the first try. Teach a "growth mindset micro-lesson" on how to manage frustration when data doesn't match predictions.

Ecosystems & Traits

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(3-LS2-1, 3-LS3-1)Constructing Arguments from Evidence

Social Awareness & Relationship Skills: Value of Community & Perspectives

Students argue how living in groups helps animals survive (3-LS2-1). Connect this to how human communities thrive when diverse individuals collaborate, using active listening protocols.

Weather & Climate

(3-ESS2-1, 3-ESS3-1)Asking Questions & Defining Problems

Responsible Decision-Making: Evaluating Solutions & Compassion

When studying weather hazards, have students design a solution to protect a community from a local flood or storm. They weigh the safety, ethical impact, and well-being of others

Enduring Understandings

Science investigations use a variety of methods, tools, and techniques.

Cause and effect relationships are routinely identified.

Objects in contact exert forces on each other.

Each force that acts on a particular object has both strength and a direction.

An object at rest typically has multiple forces acting on it, but they add to zero net force on the object.

Forces that do not sum to zero can cause changes in the object's speed or direction of motion

Essential Questions

What is a force and how do you describe forces?

What is net force and how does this affect an object's motion?

How do scientists and engineers use noncontact forces to move objects?

Career Readiness, Life Literacies, and Key Skills Practices

The following skills are encouraged and taught:

Demonstrate creativity and innovation.

Utilize critical thinking to make sense of problems and persevere in solving them.

Use technology to enhance productivity increase collaboration and communicate effectively

Work productively in teams while using cultural/global competence.

Career Readiness, Life Literacies, and Key Skills Standards

9.4.5.TL.3: Format a document using a word processing application to enhance text, change page formatting, and include appropriate images graphics, or symbols

Student Learning Goals/Objectives

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<i>Students will know:</i> How to observe and measure an object's motion How to use patterns to predict future motion of an object Identify forces acting on objects How scientists and engineers use non-contact forces to move objects.	<i>Students will be able to:</i> 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 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.. 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
Assessment Evidence	
Performance Tasks Use observations and measurements to explore and explain how things move Plan and conduct investigations to collect evidence for how things move and use patterns in data to predict future motion of objects Design and build a bridge using only three materials, design and build a robotic arm, or design and build a structure to hold up an object Research how scientists and engineers use gravity, magnetism, or electricity to move objects. WIDA Integration Describe observations and/or data about a phenomenon through... ■ Abstract nouns and to introduce concepts (habitat) ■ Declarative statements to present facts ■ Cohesion to reference ideas, people across text (pronouns, renaming subject, demonstratives: this, that) ■ Relating verbs to state relationships or attributes (have, be, belong to) Develop a logical sequence between data or evidence and claim through... ■ Timeless verbs to state on-going facts about phenomenon (Rain forests create oxygen.) ■ Connectors to sequence and order events across paragraphs (first, second, begins,	Other Assessments Formative: ● Lesson quizzes, and reviews ● Student investigations and models ● Language Arts writing activities ● Graphic Organizers & Guided Notes ● Directed Reading ● Cooperative Group Learning ● Homework ● Journal Entries ● Exit Tickets ● Polls/ Surveys/ Evaluation ● Jigsaw ● Think, Pair, Share ● Quizzes Alternative: ● Modified tests and quizzes ● Group work ● Peer assessments ● Labs ● Projects ● Portfolio Assessments Summative ● Unit Test/Topic Test ● Unit Project ● Performance Assessment/Tasks ● Engineering projects

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ends) ■ Causal connectors to link events (because, so that, when) ■ Prepositional phrases to provide details (where, when, how) ■ Clauses to express sequences in time (after digestion, when the air cools) ■ Comparatives to show similarities and differences Compare multiple solutions to a problem considering how well they meet the criteria and constraints of the design solution through... ■ Technical terminology (food chain, biome) to add precision ■ Comparatives to show similarities and differences ■ Connectors to sequence and order events across paragraphs (first, second, begins, ends) ■ Causal connectors to link events (because, so that, when) ■ Prepositional phrases to provide details about where, when, how ■ Clauses to express sequences in time (after digestion, when the air cools)	Benchmark Assessments: • Unit pre-test • Beginning of the year, mid year, and end of the year SGO
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Core Instructional & Supplemental Materials	
Suggested Activities/Resources: • Savvas Realize “Elevate Science” ○ Lesson explorations ○ Hands-on activities ○ Virtual Labs ○ Video based projects ○ Performance tasks ○ Engineering projects ○ Student investigations http://www-tc.pbskids.org/designsquad/pdf/parentseducators/DSN_NASA_MissionSolarSystem_RoboArm.pdf	Varied Levels of Text: • leveled readers • Newsela • Storyworks • Career Connections • Tompert, A. (1996). <i>Just a Little Bit.</i> • Walsh, E. (2010). <i>Balancing Act</i> • Waring, G. (2009). <i>Oscar and the Cricket: A Book about Moving and Rolling.</i> • Mason, A. (2005). <i>Move it! Motion, Forces, and You</i>

Modifications and Accommodations
Multilingual Learners

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- Differentiate instruction and classroom assessment as guided by the [WIDA English Language Development Standards Framework, 2020 Edition](#).
- <https://wida.wisc.edu/sites/default/files/resource/CanDo-KeyUses-Kindergarten.pdf>
- Follow the Individualized Educational Plans (IEP) for ML Special Education (SE) students.
- Encourage the ML student to use oral language. Discussions, especially pair-work, allow students to expand language usage in listening and speaking.
- Allow MLs to clarify ideas, make sense of their previous statements and elaborate on their views with specific explanations.
- Use wait time for MLs to express their ideas in class.
- Graphic organizers, color-coded anchor charts, word walls with visual imagery, and breakdown techniques for decoding dense mathematical word problems
- Structured talk protocols (Think-Pair-Share, Numbered Talks) and word banks
- Provide pictures and well labeled models
- Speak slowly and gesture when necessary
- Pre-teach vocabulary words
- Extended time on assessments
- Small group for assessment
- Review Vocabulary
- Allow for alternate responses during activities and assessments
- Literacy and language support strategies including discourse
- Use a poster, slide, or picture to support student listening in science such as GLAD pictorial input chart
- Preview science texts with students, discussing salient text features such as tables, graphs, and photographs before they read it.
- Provide summaries and include native language texts.
- Provide sentence stems for all students to use, especially to support complex verbal practices like argumentation, explanation, and communication.
- Engage ELs in authentic vocabulary exploration as they try to make their thoughts meaningful to others through writing. Provide dictionaries or [Google Translate](#). Look beyond grammar and spelling to understand student ideas.
- Home culture connections

Special Education/504 Plans/Students with Disabilities:

- Follow specific IEP/504 accommodations and modifications
- Strategic grouping
- Pre-teach concepts
- Small group for assessments
- Check in's during experiments to help refocus
- Allow alternate assignments and assessments
- Differentiated Instruction

Students at Risk of Failure:

- Strategic grouping
- Pre-teach concepts
- Small group for assessments
- Check in's during experiments to help refocus
- Incorporate social/emotional discussions

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- Encourage and monitor positive peer collaboration
- Provide academic resources for both home and school use
- Provide incentives to increase motivation and collaboration

Economically Disadvantaged:

- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere
- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input
- Connect concepts to students' sense of "place" as physical, historical, and sociocultural dimensions
- Ask questions that elicit students' funds of knowledge
- Use cultural artifacts that are meaningful
- Use project-based learning as a form of connected science
- Provide resources for science instruction

Culturally Diverse:

- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions
- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Teach study skills
- Provide students with necessary academic resources and materials
- Allow for alternative assignments
- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials Visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Use cultural artifacts that are meaningful relevant
- Integrate community involvement
- Include role models and mentors of similar racial or ethnic backgrounds

Gifted and Talented

- Peer mediated strategies
- Cooperative learning groups
- Differentiated instruction

Presentation accommodations allow a student to:

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- Vary the method of presentation: lecture, small groups, large group, demonstration, individual experimentation
- Explore real world connections
- Use technology tools to enhance content

Response accommodations allow a student to:

- Turn and Talk
- Reward risk taking while encouraging students to think “outside of the box”

Setting accommodations allow a student to:

- Use flexible seating
- Have choice in seating/grouping

Timing accommodations allow a student to:

- Have flexible pacing in terms of content, assignments, and assessments
- Explore extended activities

Scheduling accommodations allow a student to:

- Establish a timeline for completing a project
- Have rigorous Pacing

Organization skills accommodations allow a student to:

- Model executive functioning
- Utilize independent skills practices

Assignment modifications allow a student to:

- Complete enrichment tasks
- Write longer passages on essays and open ended responses including academic vocabulary
- Answer higher order thinking questions
- Cite text evidence
- Create alternate projects or assignments, student developed rubrics, student choice when completing a project or alternate labs

Curriculum modifications provide:

- Topics of interest to the student and/or relevant to how the world works
- Students access to supplemental reading materials matched to individual student lexiles
- Opportunities for open-ended, self-directed activities
- Opportunities to get graded or assessed using a different standard than the one for others

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Unit 2: Electricity and Magnetism	Duration: 25 days
NJSLS-S Integrated with WIDA Standards 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. 3-PS2-4 Define a simple design problem that can be solved by applying scientific ideas about magnets. ELD-SI.K-3.Explain • Share initial thinking with others • Follow and describe cycles in diagrams, steps in procedures, or causes and effects • Compare and contrast objects or concepts • Offer ideas and suggestions • Act on feedback to revise understandings of how or why something works 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. ELD-SI.K-3.Inform • Define and classify objects or concepts • Describe characteristics, patterns, or behavior • Describe parts and wholes • Sort, clarify, and summarize ideas • Summarize information from interaction with others and from learning experiences ELD-SC.2-3.Explain.Interpretive Interpret scientific explanations by • Defining investigable questions or simple design problems based on observations, data, and prior knowledge about a phenomenon • Obtaining and combining information from observations, and using evidence to help explain how or why a phenomenon occurs • Identifying information from observations as well as evidence that supports particular points in explanations	
Disciplinary Core Ideas PS2.A Forces and Motion Each force acts on one particular object and has both strength and a direction. An object at rest typically has multiple forces acting on it, but they add to give zero net force on the object. Forces that do not sum to zero can cause changes in the object's speed or direction of motion.	
Science and Engineering Practices SEP.3 Planning and Carrying Out Investigations Plan and conduct an investigation collaboratively to produce data to serve as the basis for evidence, using fair tests in which variables are controlled and the number of trials considered.	
Crosscutting Concepts CCC.2 Cause and Effect Cause and Effect relationships are routinely identified	
Connections to Nature of Science Science is a Human Endeavor	

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Scientists and engineers are guided by habits of mind such as intellectual honesty, tolerance of ambiguity, skepticism, and openness to new ideas.

Computer Science and Design Thinking Standards

8.2.5.ED.2: Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.

8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

Interdisciplinary Standards

ELA/Literacy

W.3.8 Recall information from experiences or gather information from print and digital sources; take notes on sources and sort evidence into provided categories

21st Century Themes/Careers

CLKS1. Act as a responsible and contributing community member and employee.

CLKS2. Attend to financial well-being.

CLKS3. Consider the environmental, social and economic impacts of decisions.

CLKS4. Demonstrate creativity and innovation.

CLKS5. Utilize critical thinking to make sense of problems and persevere in solving them.

CLKS6. Model integrity, ethical leadership and effective management.

CLKS7. Plan education and career paths aligned to personal goals.

CLKS8. Use technology to enhance productivity, increase collaboration and communicate effectively.

CLKS9. Work productively in teams while using cultural/global competence

SEL Integration Examples

Forces & Motion

(3-PS2-1, 3-PS2-2) Planning & Carrying Out Investigations

Self-Management & Relationship Skills: Managing Frustration during Labs

When testing balanced/unbalanced forces (e.g., building a magnet-powered car), engineering builds often fail on the first try. Teach a "growth mindset micro-lesson" on how to manage frustration when data doesn't match predictions.

Ecosystems & Traits

(3-LS2-1, 3-LS3-1) Constructing Arguments from Evidence

Social Awareness & Relationship Skills: Value of Community & Perspectives

Students argue how living in groups helps animals survive (3-LS2-1). Connect this to how human communities thrive when diverse individuals collaborate, using active listening

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protocols.

Weather & Climate

(3-ESS2-1, 3-ESS3-1) Asking Questions & Defining Problems

Responsible Decision-Making: Evaluating Solutions & Compassion

When studying weather hazards, have students design a solution to protect a community from a local flood or storm. They weigh the safety, ethical impact, and well-being of others

Enduring Understandings

Cause and effect relationships are routinely identified, tested, and used to explain change. Electric and magnetic forces between a pair of objects do not require that the objects be in contact.

The sizes of the forces in each situation depend on the properties of the objects and their distances apart and, for forces between two magnets, on their orientation relative to each other.

Scientific discoveries about the natural world can often lead to new and improved technologies, which are developed through the engineering design process.

People's needs and wants change over time, as do their demands for new and improved technologies.

Electric and magnetic forces between a pair of objects do not require that the objects be in contact.

The sizes of the forces in each situation depend on the properties of the objects and their distances apart.

For forces between two magnets, the size of the force depends on their orientation relative to each other.

Possible solutions to a problem are limited by available materials and resources (constraints).

The success of a designed solution is determined by considering the desired features of a solution (criteria).

Different proposals for solutions can be compared on the basis of how well each one meets the specified criteria for success or how well each takes the constraints into account.

Essential Questions

How do magnetic forces affect objects?

What factors affect the strength of magnetic forces?

What are electromagnets and how are they used?

Career Readiness, Life Literacies, and Key Skills Practices

The following skills are encouraged and taught:

Demonstrate creativity and innovation.

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Utilize critical thinking to make sense of problems and persevere in solving them.
 Use technology to enhance productivity increase collaboration and communicate effectively
 Work productively in teams while using cultural/global competence.

Career Readiness, Life Literacies, and Key Skills Standards

9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions

Student Learning Goals/Objectives	
<i>Students will know:</i> How to move objects without touching them Causes and effects of electric forces between objects How to identify and test cause-and-effect relationships in order to explain change. How to ask questions that can be investigated based on patterns such as cause and effect relationships. -How to ask questions to determine cause and effect relationships in electric or magnetic interactions between two objects not in contact with each other. -How electromagnets are used in technology	<i>Students will be able to:</i> 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. 3-PS2-4 Define a simple design problem that can be solved by applying scientific ideas about magnets. 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.
Assessment Evidence	
Performance Tasks Investigate the force between two permanent magnets; The force between an electromagnet and steel paper clips; The force exerted by one magnet versus the force exerted by two magnets. Explain cause and effect relationships such as: How the distance between objects affects the strength of the force or how the orientation of magnets affects the direction of the magnetic force Define a simple problem that can be solved through the development of a new or improved object or tool. Define a simple design problem that can be solved by applying scientific ideas about magnets to sorting objects by weight	Other Assessments Formative: ● Lesson quizzes, and reviews ● Student investigations and models ● Language Arts writing activities ● Graphic Organizers & Guided Notes ● Directed Reading ● Cooperative Group Learning ● Homework ● Journal Entries ● Exit Tickets ● Polls/ Surveys/ Evaluation ● Jigsaw ● Think, Pair, Share ● Quizzes

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Define a simple design problem that can be solved through the development of an object, tool, process, or system, and include several criteria for success and constraints on material, time, or cost. Develop and evaluate procedures to test forces Research the use of electromagnets in technology WIDA Integration Describe observations and/or data about a phenomenon through... ■ Abstract nouns and to introduce concepts (habitat) ■ Declarative statements to present facts ■ Cohesion to reference ideas, people across text (pronouns, renaming subject, demonstratives: this, that) ■ Relating verbs to state relationships or attributes (have, be, belong to) Develop a logical sequence between data or evidence and claim through... ■ Timeless verbs to state on-going facts about phenomenon (Rain forests create oxygen.) ■ Connectors to sequence and order events across paragraphs (first, second, begins, ends) ■ Causal connectors to link events (because, so that, when) ■ Prepositional phrases to provide details (where, when, how) ■ Clauses to express sequences in time (after digestion, when the air cools) ■ Comparatives to show similarities and differences Compare multiple solutions to a problem considering how well they meet the criteria and constraints of the design solution through... ■ Technical terminology (food chain, biome) to add precision ■ Comparatives to show similarities and differences ■ Connectors to sequence and order events across paragraphs (first, second, begins, ends) ■ Causal connectors to link events (because, so that, when) ■ Prepositional phrases to provide details about where, when, how ■ Clauses to express	Alternative: • Modified tests and quizzes • Group work • Peer assessments • Labs • Projects • Portfolio Assessments Summative • Unit Test/Topic Test • Unit Project • Performance Assessment/Tasks • Engineering projects Benchmark Assessments: • Unit pre-test • Beginning of the year, mid year, and end of the year SGO

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sequences in time (after digestion, when the air cools)	
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Core Instructional & Supplemental Materials	
Suggested Activities/Resources: ● Savvas Realize “Elevate Science” ○ Lesson explorations ○ Hands-on activities ○ Virtual Labs ○ Video based projects ○ Performance tasks ○ Engineering projects ○ Student investigations	Varied Levels of Text: ● leveled readers ● Newsela ● Storyworks ● Career Connection p.377 ● <i>Hughes, M. (2015). Magnet Max.</i> ● <i>Rosinsky, N. (2002). Magnets: Pulling Together, Pushing Apart.</i> ● <i>Watley, B (1993). That Magnetic Dog.</i> ● <i>Schanzer, R. (2002). How Ben Franklin Stole the Lightning</i> ● <i>Branley, F. (2016). What Makes a Magnet?</i> ● <i>Stewart, J. (2000). Magnets</i> ● <i>Alpert, B. (2011). A Look at Magnets</i> ● <i>Weakland, M. (2011). Magnets Push, Magnets Pull</i>

Modifications and Accommodations
Multilingual Learners ● Differentiate instruction and classroom assessment as guided by the WIDA English Language Development Standards Framework, 2020 Edition. ● https://wida.wisc.edu/sites/default/files/resource/CanDo-KeyUses-Kindergarten.pdf ● Follow the Individualized Educational Plans (IEP) for ML Special Education (SE) students. ● Encourage the ML student to use oral language. Discussions, especially pair-work, allow students to expand language usage in listening and speaking. ● Allow MLs to clarify ideas, make sense of their previous statements and elaborate on their views with specific explanations. ● Use wait time for MLs to express their ideas in class. ● Graphic organizers, color-coded anchor charts, word walls with visual imagery, and breakdown techniques for decoding dense mathematical word problems ● Structured talk protocols (Think-Pair-Share, Numbered Talks) and word banks ● Provide pictures and well labeled models

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- Speak slowly and gesture when necessary
- Pre-teach vocabulary words
- Extended time on assessments
- Small group for assessment
- Review Vocabulary
- Allow for alternate responses during activities and assessments
- Literacy and language support strategies including discourse
- Use a poster, slide, or picture to support student listening in science such as GLAD pictorial input chart
- Preview science texts with students, discussing salient text features such as tables, graphs, and photographs before they read it.
- Provide summaries and include native language texts.
- Provide sentence stems for all students to use, especially to support complex verbal practices like argumentation, explanation, and communication.
- Engage ELs in authentic vocabulary exploration as they try to make their thoughts meaningful to others through writing. Provide dictionaries or [Google Translate](#). Look beyond grammar and spelling to understand student ideas.
- Home culture connections

Special Education/504 Plans/Students with Disabilities:

- Follow specific IEP/504 accommodations and modifications
- Strategic grouping
- Pre-teach concepts
- Small group for assessments
- Check in's during experiments to help refocus
- Allow alternate assignments and assessments
- Differentiated Instruction

Students at Risk of Failure:

- Strategic grouping
- Pre-teach concepts
- Small group for assessments
- Check in's during experiments to help refocus
- Incorporate social/emotional discussions
- Encourage and monitor positive peer collaboration
- Provide academic resources for both home and school use
- Provide incentives to increase motivation and collaboration

Economically Disadvantaged:

- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere
- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input

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Content Area: Science

- Connect concepts to students' sense of "place" as physical, historical, and sociocultural dimensions
- Ask questions that elicit students' funds of knowledge
- Use cultural artifacts that are meaningful
- Use project-based learning as a form of connected science
- Provide resources for science instruction

Culturally Diverse:

- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions
- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Teach study skills
- Provide students with necessary academic resources and materials
- Allow for alternative assignments
- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials Visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Use cultural artifacts that are meaningful relevant
- Integrate community involvement
- Include role models and mentors of similar racial or ethnic backgrounds

Gifted and Talented

- Peer mediated strategies
- Cooperative learning groups
- Differentiated instruction

Presentation accommodations allow a student to:

- Vary the method of presentation: lecture, small groups, large group, demonstration, individual experimentation
- Explore real world connections
- Use technology tools to enhance content

Response accommodations allow a student to:

- Turn and Talk
- Reward risk taking while encouraging students to think "outside of the box"

Setting accommodations allow a student to:

- Use flexible seating
- Have choice in seating/grouping

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Content Area: Science

Timing accommodations allow a student to:

- Have flexible pacing in terms of content, assignments, and assessments
- Explore extended activities

Scheduling accommodations allow a student to:

- Establish a timeline for completing a project
- Have rigorous Pacing

Organization skills accommodations allow a student to:

- Model executive functioning
- Utilize independent skills practices

Assignment modifications allow a student to:

- Complete enrichment tasks
- Write longer passages on essays and open ended responses including academic vocabulary
- Answer higher order thinking questions
- Cite text evidence
- Create alternate projects or assignments, student developed rubrics, student choice when completing a project or alternate labs

Curriculum modifications provide:

- Topics of interest to the student and/or relevant to how the world works
- Students access to supplemental reading materials matched to individual student lexiles
- Opportunities for open-ended, self-directed activities
- Opportunities to get graded or assessed using a different standard than the one for others

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Grade: 3	Content Area: Science
Unit 3: Weather	Duration: 25 days
Science Standards 3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. ELD-SI.K-3.Inform • Define and classify objects or concepts • Describe characteristics, patterns, or behavior • Describe parts and wholes • Sort, clarify, and summarize ideas • Summarize information from interaction with others and from learning experiences 3-ESS3-1: Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard. ELD-SC.2-3.Explain.Expressive Construct scientific explanations that • Describe observations and/or data about a phenomenon • Develop a logical sequence between data or evidence and claim • Compare multiple solutions to a problem considering how well they meet the criteria and constraints of the design solution ELD-SI.K-3.Explain • Share initial thinking with others • Follow and describe cycles in diagrams, steps in procedures, or causes and effects • Compare and contrast objects or concepts • Offer ideas and suggestions • Act on feedback to revise understandings of how or why something works 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 ELD-SC.2-3.Explain.Interpretive Interpret scientific explanations by • Defining investigable questions or simple design problems based on observations, data, and prior knowledge about a phenomenon • Obtaining and combining information from observations, and using evidence to help explain how or why a phenomenon occurs • Identifying information from observations as well as evidence that supports particular points in explanations	
Disciplinary Core Ideas ESS2.D: Weather and Climate Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years.	
Science and Engineering Practices SEP.4 Analyzing and Interpreting Data Represent data in tables and various graphical displays (bar graphs) and pictographs) to reveal patterns that indicate relationships	
Crosscutting Concepts CCC.2 Cause and Effect Cause and Effect relationships are routinely identified	

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Content Area: Science

Connections to Nature of Science Science is a Human Endeavor

Scientists and engineers are guided by habits of mind such as intellectual honesty, tolerance of ambiguity, skepticism, and openness to new ideas.

Computer Science and Design Thinking Standards

8.2.5.ED.2: Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models. (3-5 ETS1-1, 3-5 ETS1-2, 3-5 ETS1-3)

8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

Interdisciplinary Standards

ELA/Literacy

RI.3.2 Determine the main idea of a text; recount the key details and explain how they support the main idea

RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3-LS4-1), (3-LS4-2), (3-LS4-3), (3-LS4-4)

RI.3.2 Determine the main idea of a text; recount the key details and explain how they support the main idea. (3-LS4-1), (3-LS4-2), (3-LS4-3), (3-LS4-4)

RI.3.3 Describe the relationship between a series of historical events, scientific ideas or concepts, or steps in technical procedures in a text, using language that pertains to time, sequence, and cause/effect. (3-LS4-1), (3-LS4-2), (3-LS4-3), (3-LS4-4)

W.3.1 Write opinion pieces on topics or texts, supporting a point of view with reasons. (3-LS4-1), (3-LS4-3), (3-LS4-4)

W.3.2 Write informative/explanatory texts to examine a topic and convey ideas and information clearly. (3-LS4-1), (3-LS4-2), (3-LS4-3), (3-LS4-4)

W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. (3-LS4-1)

SL.3.4 Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace. (3-LS4-2), (3-LS4-3), (3-LS4-4)

Connections to NJSLS - Mathematics

3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. (3-LS4-2), (3-LS4-3)

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Content Area: Science

3.MD. B.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot, where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters. (3-LS4-1)]

Mathematics

MP.2 Reason abstractly and quantitatively

MP.4 Model with mathematics

MP.5 Use appropriate tools strategically

21st Century Themes/Careers

CLKS1. Act as a responsible and contributing community member and employee.

CLKS2. Attend to financial well-being.

CLKS3. Consider the environmental, social and economic impacts of decisions.

CLKS4. Demonstrate creativity and innovation.

CLKS5. Utilize critical thinking to make sense of problems and persevere in solving them.

CLKS6. Model integrity, ethical leadership and effective management.

CLKS7. Plan education and career paths aligned to personal goals.

CLKS8. Use technology to enhance productivity, increase collaboration and communicate effectively.

CLKS9. Work productively in teams while using cultural/global competence

SEL Integration Examples

Forces & Motion

(3-PS2-1, 3-PS2-2) Planning & Carrying Out Investigations

Self-Management & Relationship Skills: Managing Frustration during Labs

When testing balanced/unbalanced forces (e.g., building a magnet-powered car), engineering builds often fail on the first try. Teach a "growth mindset micro-lesson" on how to manage frustration when data doesn't match predictions.

Ecosystems & Traits

(3-LS2-1, 3-LS3-1) Constructing Arguments from Evidence

Social Awareness & Relationship Skills: Value of Community & Perspectives

Students argue how living in groups helps animals survive (3-LS2-1). Connect this to how human communities thrive when diverse individuals collaborate, using active listening protocols.

Weather & Climate

(3-ESS2-1, 3-ESS3-1) Asking Questions & Defining Problems

Responsible Decision-Making: Evaluating Solutions & Compassion

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Grade: 3

Content Area: Science

When studying weather hazards, have students design a solution to protect a community from a local flood or storm. They weigh the safety, ethical impact, and well-being of others

Enduring Understandings

How water affects weather
Patterns of change can be used to make predictions.
People record patterns of the weather across different times and areas so that they can make predictions about what kind of weather might happen next
Climate describes the range of an area's typical weather conditions and the extent to which those conditions vary over years.

Essential Questions

How does water affect weather?
How do natural hazards affect people?
How can we design solutions to reduce the impacts of natural hazards?

Career Readiness, Life Literacies, and Key Skills Practices

The following skills are encouraged and taught:
Demonstrate creativity and innovation.
Utilize critical thinking to make sense of problems and persevere in solving them.
Use technology to enhance productivity increase collaboration and communicate effectively
Work productively in teams while using cultural/global competence.

Career Readiness, Life Literacies, and Key Skills Standards

9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions (3-ESS2-1, 3-ESS3-1)

Student Learning Goals/Objectives

Students will know:
How water affects weather
How to describe typical weather during certain seasons
How to create bar graphs to represent weather data
How to analyze and interpret weather data
Weather hazards and how they affect people

Students will be able to:
3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season.
3-ESS3-1: Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

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A variety of natural hazards result from natural processes (e.g., flooding, fast wind, or lightning). Humans cannot eliminate natural hazards but can take steps to reduce their impacts. Engineers improve technologies or develop new ones to increase their benefits, decrease known risks, and meet societal demands. How to design a possible solution to a problem that is limited by available materials and resources (constraints). The success of a designed solution is determined by considering the desired features of a solution (criteria). Different proposals for solutions can be compared on the basis of how well each one meets the criteria for success or how well each takes the constraints into account	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.
Assessment Evidence	
Performance Tasks Make predictions using patterns of change. Represent data in tables, bar graphs, and pictographs to reveal patterns that indicate relationships. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season Make predictions using patterns of change. Obtain and combine information from books and other reliable media to explain phenomena. Identify and test cause-and-effect relationships to explain change. Make a claim about the merit of a solution to a problem by citing relevant evidence about how it meets the criteria and constraints of the problem. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard. (Examples of design solutions to weather related hazards could include: Barriers to	Other Assessments Formative: • Lesson quizzes, and reviews • Student investigations and models • Language Arts writing activities • Graphic Organizers & Guided Notes • Directed Reading • Cooperative Group Learning • Homework • Journal Entries • Exit Tickets • Polls/ Surveys/ Evaluation • Jigsaw • Think, Pair, Share • Quizzes Alternative: • Modified tests and quizzes • Group work • Peer assessments • Labs • Projects • Portfolio Assessments

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prevent flooding, Wind-resistant roofs or Lightning rods)
Define a simple design problem that can be solved through the development of an object, tool, process, or system and include several criteria for success and constraints on materials, time, or cost.
Research one or two facts about a severe weather event and create a document to convey the facts.

WIDA Integration

Introduce topic/phenomenon for an issue related to the natural and designed world(s) through... ■ Generalized nouns to interpret observations and evidence (heating, cooling, temperatures, Heating butter makes it melt.) ■ Relating verbs (have, belong to, be) to define topic/phenomenon ■ Nouns and adjectives to add precise technical descriptions (solid, liquid)

Make a claim supported by relevant evidence through... ■ A variety of clause structures to connect and combine ideas (If I add heat, I can melt butter. The butter melted because it got hot.) ■ Labeled pictures, diagrams to support claim ■ Verb groups to add precision to the claim and/or evidence (soften, harden, melt, cook, burn) Establish a neutral tone through... ■ Declarative statements to state claim, observations, conclusion (Temperature changes materials.) ■ Technical nouns to add precision and details (materials, reversible/irreversible changes)

Signal logical relationships among reasoning, evidence, data, and/or a model when making a claim through... ■ Reference devices (pronouns, synonyms, renaming subject) to create cohesion across text (Ice melts when it gets heated. It becomes water. Water turns to ice when it gets cold.) ■ A variety of clause structures to explain phenomenon (because, but, when, like, so, so that)

Summative

- Unit Test/Topic Test
- Unit Project
- Performance Assessment/Tasks
- Engineering projects

Benchmark Assessments:

- Unit pre-test
- Beginning of the year, mid year, and end of the year SGO

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Core Instructional & Supplemental Materials

Suggested Activities/Resources:

- Savvas Realize “Elevate Science”
 - Lesson explorations
 - Hands-on activities
 - Virtual Labs
 - Video based projects
 - Performance tasks
 - Engineering projects
 - Student investigations

Varied Levels of Text:

- leveled readers
- Newsela articles
- Storyworks articles
- Career Connection p.377
- Rabe, T. (2004). *Oh Say Can You Say What's the Weather Today?: All about Weather*
- Gibbons, G. (1993). *Weather Forecasting*
- Dean, J. (2013). *Freddy the Frogcaster*
- DeWitt, L. (2015). *What Will the Weather Be?*
- Singer, M. (2001). *On the Same Day in March: A Tour of the World's Weather.*

Modifications and Accommodations

Multilingual Learners

- Differentiate instruction and classroom assessment as guided by the [WIDA English Language Development Standards Framework, 2020 Edition](#).
- <https://wida.wisc.edu/sites/default/files/resource/CanDo-KeyUses-Kindergarten.pdf>
- Follow the Individualized Educational Plans (IEP) for ML Special Education (SE) students.
- Encourage the ML student to use oral language. Discussions, especially pair-work, allow students to expand language usage in listening and speaking.
- Allow MLs to clarify ideas, make sense of their previous statements and elaborate on their views with specific explanations.
- Use wait time for MLs to express their ideas in class.
- Graphic organizers, color-coded anchor charts, word walls with visual imagery, and breakdown techniques for decoding dense mathematical word problems
- Structured talk protocols (Think-Pair-Share, Numbered Talks) and word banks
- Provide pictures and well labeled models
- Speak slowly and gesture when necessary
- Pre-teach vocabulary words
- Extended time on assessments
- Small group for assessment
- Review Vocabulary

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- Allow for alternate responses during activities and assessments
- Literacy and language support strategies including discourse
- Use a poster, slide, or picture to support student listening in science such as GLAD pictorial input chart
- Preview science texts with students, discussing salient text features such as tables, graphs, and photographs before they read it.
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- Differentiated Instruction

Students at Risk of Failure:

- Strategic grouping
- Pre-teach concepts
- Small group for assessments
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- Incorporate social/emotional discussions
- Encourage and monitor positive peer collaboration
- Provide academic resources for both home and school use
- Provide incentives to increase motivation and collaboration

Economically Disadvantaged:

- Provide clear, achievable expectations, do not lower academic requirements for them.
- Build a safe and nurturing atmosphere
- Be flexible with assignments
- Offer several alternatives from which all students can choose.
- Allow students to finish assignments independently, or give them the opportunity to complete tasks at their own pace.
- Use real-world examples and create mental models for abstract idea
- Provide increased knowledge base and vocabulary use about real world experiences.
- Share the decision making in class.
- Maintain expectations while offering choice and soliciting input
- Connect concepts to students' sense of "place" as physical, historical, and sociocultural dimensions
- Ask questions that elicit students' funds of knowledge
- Use cultural artifacts that are meaningful
- Use project-based learning as a form of connected science

Long Beach Island Consolidated School District Curriculum Guide

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Content Area: Science

- Provide resources for science instruction

Culturally Diverse:

- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions
- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Teach study skills
- Provide students with necessary academic resources and materials
- Allow for alternative assignments
- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials Visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Use cultural artifacts that are meaningful relevant
- Integrate community involvement
- Include role models and mentors of similar racial or ethnic backgrounds

Gifted and Talented

- Peer mediated strategies
- Cooperative learning groups
- Differentiated instruction

Presentation accommodations allow a student to:

- Vary the method of presentation: lecture, small groups, large group, demonstration, individual experimentation
- Explore real world connections
- Use technology tools to enhance content

Response accommodations allow a student to:

- Turn and Talk
- Reward risk taking while encouraging students to think “outside of the box”

Setting accommodations allow a student to:

- Use flexible seating
- Have choice in seating/grouping

Timing accommodations allow a student to:

- Have flexible pacing in terms of content, assignments, and assessments
- Explore extended activities

Scheduling accommodations allow a student to:

- Establish a timeline for completing a project

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Content Area: Science

- Have rigorous Pacing

Organization skills accommodations allow a student to:

- Model executive functioning
- Utilize independent skills practices

Assignment modifications allow a student to:

- Complete enrichment tasks
- Write longer passages on essays and open ended responses including academic vocabulary
- Answer higher order thinking questions
- Cite text evidence
- Create alternate projects or assignments, student developed rubrics, student choice when completing a project or alternate labs

Curriculum modifications provide:

- Topics of interest to the student and/or relevant to how the world works
- Students access to supplemental reading materials matched to individual student lexiles
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- Opportunities to get graded or assessed using a different standard than the one for others

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Unit 4: Climate	Duration: 20 days
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NJSLS-S Integrated with WIDA Standards

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

ELD-SC.2-3.Explain.Expressive Construct scientific explanations that • Describe observations and/or data about a phenomenon • Develop a logical sequence between data or evidence and claim • Compare multiple solutions to a problem considering how well they meet the criteria and constraints of the design solution

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

ELD-SI.K-3.Inform • Define and classify objects or concepts • Describe characteristics, patterns, or behavior • Describe parts and wholes • Sort, clarify, and summarize ideas • Summarize information from interaction with others and from learning experiences

ELD-SI.K-3.Explain • Share initial thinking with others • Follow and describe cycles in diagrams, steps in procedures, or causes and effects • Compare and contrast objects or concepts • Offer ideas and suggestions • Act on feedback to revise understandings of how or why something works

Disciplinary Core Ideas

ESS2.D Weather and Climate Climate describes a range of an area's typical weather conditions and the extent to which those conditions vary over years

Science and Engineering Practices

SEP.2 Developing and Using Models Develop a model using an example to describe a scientific principle

SEP.8 Obtaining, Evaluating, and Communicating Information Obtain and combine information from books and reliable media to explain phenomena

Crosscutting Concepts

CCC.1 Patterns Patterns can be used to make predictions

Connections to Nature of Science Science is a Human Endeavor

Scientists and engineers are guided by habits of mind such as intellectual honesty, tolerance of ambiguity, skepticism, and openness to new ideas.

Computer Science and Design Thinking Standards

8.1.5.DA.4: Organize and present climate change data visually to highlight relationships or support a claim

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Content Area: Science

Interdisciplinary Standards

ELA/Literacy

RI.3.9 Compare and contrast the most important points and key details presented in two texts on the same topic

RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3-LS2-1)

RI.3.1 Ask and answer questions to demonstrate understanding of a text, referring explicitly to the text as the basis for the answers. (3-ESS2-2)

RI.3.9 Compare and contrast the most important points and key details presented in two texts on the same topic. (3-ESS2-2)

W.3.8 Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories. (3-ESS2-2)

Mathematics

3.MD.A.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem. (3-ESS2-1)

3.MD.B.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in bar graphs. (3-ESS2-1)]

MP.4 Model with mathematics

21st Century Themes/Careers

CLKS1. Act as a responsible and contributing community member and employee.

CLKS2. Attend to financial well-being.

CLKS3. Consider the environmental, social and economic impacts of decisions.

CLKS4. Demonstrate creativity and innovation.

CLKS5. Utilize critical thinking to make sense of problems and persevere in solving them.

CLKS6. Model integrity, ethical leadership and effective management.

CLKS7. Plan education and career paths aligned to personal goals.

CLKS8. Use technology to enhance productivity, increase collaboration and communicate effectively.

CLKS9. Work productively in teams while using cultural/global competence

Long Beach Island Consolidated School District Curriculum Guide

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Content Area: Science

SEL Integration Examples

Forces & Motion

(3-PS2-1, 3-PS2-2) Planning & Carrying Out Investigations

Self-Management & Relationship Skills: Managing Frustration during Labs

When testing balanced/unbalanced forces (e.g., building a magnet-powered car), engineering builds often fail on the first try. Teach a "growth mindset micro-lesson" on how to manage frustration when data doesn't match predictions.

Ecosystems & Traits

(3-LS2-1, 3-LS3-1) Constructing Arguments from Evidence

Social Awareness & Relationship Skills: Value of Community & Perspectives

Students argue how living in groups helps animals survive (3-LS2-1). Connect this to how human communities thrive when diverse individuals collaborate, using active listening protocols.

- **SEL Objective:** Demonstrate social awareness by recognizing diverse perspectives and practicing active listening.
 1. Students study a card deck of different organisms (e.g., honeybees, wolves, meerkats).
 2. In small groups, they must collaboratively sort the cards based on how the group dynamic helps the animal survive (e.g., defense, finding food).
 3. **The SEL Pivot:** Before starting, assign explicit team roles (Speaker, Recorder, Material Manager, Encourager). Midway through, prompt a 1-minute reflection: *"Is every voice in your group being heard right now? Quietly check in with someone who hasn't spoken yet."*

Weather & Climate

(3-ESS2-1, 3-ESS3-1) Asking Questions & Defining Problems

Responsible Decision-Making: Evaluating Solutions & Compassion

When studying weather hazards, have students design a solution to protect a community from a local flood or storm. They weigh the safety, ethical impact, and well-being of others

Enduring Understandings

Patterns of change can be used to make predictions.

Climate describes the range of an area's typical weather conditions and the extent to which those conditions vary over years

Climate can change over time

Essential Questions

How can we describe the climate of different regions around the world?

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How can climate change over time? How can we model the greenhouse effect? How do changing glaciers show climate change?
Career Readiness, Life Literacies, and Key Skills Practices
<i>The following skills are encouraged and taught:</i> Demonstrate creativity and innovation. Utilize critical thinking to make sense of problems and persevere in solving them. Use technology to enhance productivity increase collaboration and communicate effectively Work productively in teams while using cultural/global competence.
Career Readiness, Life Literacies, and Key Skills Standards
9.4.5.IML.6: Use appropriate sources of information from diverse sources, contexts, disciplines, and cultures to answer questions (3-ESS2-2) 9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content (3-ESS2-2)

Student Learning Goals/Objectives	
<i>Students will know:</i> How to analyze patterns in temperature changes on a mountain Factors that affect climate How to describe climate in different parts of Earth How climate can change Analyze data to determine how scientists study climate change How to explain climate maps	<i>Students will be able to:</i> 3-ESS2-1 Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. 3-ESS2-2 Obtain and combine information to describe climates in different regions of the world.
Assessment Evidence	
Performance Tasks Make predictions using patterns of change. Obtain and combine information from books and other reliable media to explain phenomena. Find examples of climate maps online	Other Assessments Formative: ● Lesson quizzes, and reviews ● Student investigations and models ● Language Arts writing activities ● Graphic Organizers & Guided Notes ● Directed Reading

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Grade: 3	Content Area: Science
WIDA Integration Describe observations and/or data about a phenomenon through... ■ Abstract nouns and to introduce concepts (habitat) ■ Declarative statements to present facts ■ Cohesion to reference ideas, people across text (pronouns, renaming subject, demonstratives: this, that) ■ Relating verbs to state relationships or attributes (have, be, belong to) Develop a logical sequence between data or evidence and claim through... ■ Timeless verbs to state on-going facts about phenomenon (Rain forests create oxygen.) ■ Connectors to sequence and order events across paragraphs (first, second, begins, ends) ■ Causal connectors to link events (because, so that, when) ■ Prepositional phrases to provide details (where, when, how) ■ Clauses to express sequences in time (after digestion, when the air cools) ■ Comparatives to show similarities and differences Compare multiple solutions to a problem considering how well they meet the criteria and constraints of the design solution through... ■ Technical terminology (food chain, biome) to add precision ■ Comparatives to show similarities and differences ■ Connectors to sequence and order events across paragraphs (first, second, begins, ends) ■ Causal connectors to link events (because, so that, when) ■ Prepositional phrases to provide details about where, when, how ■ Clauses to express sequences in time (after digestion, when the air cools)	● Cooperative Group Learning ● Homework ● Journal Entries ● Exit Tickets ● Polls/ Surveys/ Evaluation ● Jigsaw ● Think, Pair, Share ● Quizzes Alternative: ● Modified tests and quizzes ● Group work ● Peer assessments ● Labs ● Projects ● Portfolio Assessments Summative ● Unit Test/Topic Test ● Unit Project ● Performance Assessment/Tasks ● Engineering projects Benchmark Assessments: ● Unit pre-test ● Beginning of the year, mid year, and end of the year SGO
Core Instructional & Supplemental Materials	
Suggested Activities/Resources: ● Savvas Realize “Elevate Science”	Varied Levels of Text: ● leveled readers

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○ Lesson explorations ○ Hands-on activities ○ Virtual Labs ○ Video based projects ○ Performance tasks ○ Engineering projects ○ Student investigations	● Newsela articles ● Storyworks articles ● Career Connection ● Morris, M. (1995). <i>Houses and Homes</i> ● Aillaud, C. (2005). <i>Recess at 20 Below</i> ● Alberti, T. (2006). <i>Climates</i> ● <i>Sven's Search for Clean Energy</i> ● <i>Kids Can Change the World</i> ● <i>Old Enough to Save the Planet</i>

Modifications and Accommodations
Multilingual Learners ● Differentiate instruction and classroom assessment as guided by the WIDA English Language Development Standards Framework, 2020 Edition. ● https://wida.wisc.edu/sites/default/files/resource/CanDo-KeyUses-Kindergarten.pdf ● Follow the Individualized Educational Plans (IEP) for ML Special Education (SE) students. ● Encourage the ML student to use oral language. Discussions, especially pair-work, allow students to expand language usage in listening and speaking. ● Allow MLs to clarify ideas, make sense of their previous statements and elaborate on their views with specific explanations. ● Use wait time for MLs to express their ideas in class. ● Graphic organizers, color-coded anchor charts, word walls with visual imagery, and breakdown techniques for decoding dense mathematical word problems ● Structured talk protocols (Think-Pair-Share, Numbered Talks) and word banks ● Provide pictures and well labeled models ● Speak slowly and gesture when necessary ● Pre-teach vocabulary words ● Extended time on assessments ● Small group for assessment ● Review Vocabulary ● Allow for alternate responses during activities and assessments ● Literacy and language support strategies including discourse ● Use a poster, slide, or picture to support student listening in science such as GLAD pictorial input chart ● Preview science texts with students, discussing salient text features such as tables, graphs, and photographs before they read it. ● Provide summaries and include native language texts. ● Provide sentence stems for all students to use, especially to support complex verbal practices like argumentation, explanation, and communication. ● Engage ELs in authentic vocabulary exploration as they try to make their thoughts

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meaningful to others through writing. Provide dictionaries or [Google Translate](#). Look beyond grammar and spelling to understand student ideas.

- Home culture connections

Special Education/504 Plans/Students with Disabilities:

- Follow specific IEP/504 accommodations and modifications
- Strategic grouping
- Pre-teach concepts
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Culturally Diverse:

- Involve families in student learning
- Provide social/emotional support
- Respect cultural traditions
- Build in more group work to encourage interaction with peers
- Show photos, videos, and definitions when possible for culturally unique vocabulary
- Teach study skills
- Provide students with necessary academic resources and materials
- Allow for alternative assignments

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- Provide visuals
- Assign peer tutor
- Support verbal explanations with non verbal cues: Gestures/ facial expressions Props, realia, manipulatives, concrete materials Visuals, graphs, pictures, maps
- Provide positive praise to increase motivation
- Provide real world connections and emphasize the value of education
- Communicate high expectations for the success of all students
- Use cultural artifacts that are meaningful relevant
- Integrate community involvement
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Gifted and Talented

- Peer mediated strategies
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Presentation accommodations allow a student to:

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Assignment modifications allow a student to:

- Complete enrichment tasks
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- Answer higher order thinking questions

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- Cite text evidence
- Create alternate projects or assignments, student developed rubrics, student choice when completing a project or alternate labs

Curriculum modifications provide:

- Topics of interest to the student and/or relevant to how the world works
- Students access to supplemental reading materials matched to individual student lexiles
- Opportunities for open-ended, self-directed activities
- Opportunities to get graded or assessed using a different standard than the one for others

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Grade: 3	Content Area: Science
Unit 5: Life Cycles and Traits	Duration: 20 days
NJSLS-S integrated with WIDA Standards 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 ELD-SI.K-3.Explain • Share initial thinking with others • Follow and describe cycles in diagrams, steps in procedures, or causes and effects • Compare and contrast objects or concepts • Offer ideas and suggestions • Act on feedback to revise understandings of how or why something works 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 ELD-SC.2-3.Explain.Interpretive Interpret scientific explanations by • Defining investigable questions or simple design problems based on observations, data, and prior knowledge about a phenomenon • Obtaining and combining information from observations, and using evidence to help explain how or why a phenomenon occurs • Identifying information from observations as well as evidence that supports particular points in explanations 3-LS3-2 Use evidence to support the explanation that traits can be influenced by the environment ELD-SC.2-3.Explain.Expressive Construct scientific explanations that • Describe observations and/or data about a phenomenon • Develop a logical sequence between data or evidence and claim • Compare multiple solutions to a problem considering how well they meet the criteria and constraints of the design solution	
Disciplinary Core Ideas LS1.B Growth and Development of Organisms Reproduction is essential to the continued existence of every kind of organism. Plants and animals have unique and diverse life cycles. LS3.B Variation of Traits Different organisms vary in how they look and function because they have different inherited information.	
Science and Engineering Practices SEP.2 Developing and Using Models Develop models to explain phenomena SEP.4 Analyzing and Interpreting Data Analyze and interpret data to make sense of phenomena using logical reasoning SEP.7 Engaging in Argument from Evidence Construct and/or support an argument with evidence, data or a model	
Crosscutting Concepts CCC.1 Patterns Patterns can be used to make predictions	

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CCC.2 Cause and Effect Cause and effect relationships are routinely identified and used to explain change

Connections to Nature of Science Science is a Human Endeavor

Scientists and engineers are guided by habits of mind such as intellectual honesty, tolerance of ambiguity, skepticism, and openness to new ideas.

Computer Science and Design Thinking Standards

8.2.5.ED.2: Collaborate with peers to collect information, brainstorm to solve a problem, and evaluate all possible solutions to provide the best results with supporting sketches or models.

8.2.5.ED.3: Follow step by step directions to assemble a product or solve a problem, using appropriate tools to accomplish the task.

Interdisciplinary Standards

ELA/Literacy

RI.3.7 Use information gained from illustrations and the words in a text to demonstrate understanding of the text.

Mathematics

MP.2 Reason abstractly and quantitatively

21st Century Themes/Careers

CLKS1. Act as a responsible and contributing community member and employee.

CLKS2. Attend to financial well-being.

CLKS3. Consider the environmental, social and economic impacts of decisions.

CLKS4. Demonstrate creativity and innovation.

CLKS5. Utilize critical thinking to make sense of problems and persevere in solving them.

CLKS6. Model integrity, ethical leadership and effective management.

CLKS7. Plan education and career paths aligned to personal goals.

CLKS8. Use technology to enhance productivity, increase collaboration and communicate effectively.

CLKS9. Work productively in teams while using cultural/global competence

Enduring Understandings

Life cycles follow the same pattern

Living things inherit characteristics from their parents

Traits vary in a group of similar organisms

The environment can influence the characteristics of living things

Essential Questions

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How are life cycles similar?

How can we use evidence to show that traits vary in groups of similar organisms?

How can the environment influence the characteristics of living things?

Career Readiness, Life Literacies, and Key Skills Practices

The following skills are encouraged and taught:

Demonstrate creativity and innovation.

Utilize critical thinking to make sense of problems and persevere in solving them.

Use technology to enhance productivity increase collaboration and communicate effectively

Work productively in teams while using cultural/global competence.

Career Readiness, Life Literacies, and Key Skills Standards

8.1.5.DA.3: Organize and present collected data visually to communicate insights gained from different views of the data

8.1.5.DA.4: Organize and present climate change data visually to highlight relationships or support a claim (3-LS3-2)

SEL Integration Examples

Forces & Motion

(3-PS2-1, 3-PS2-2) Planning & Carrying Out Investigations

Self-Management & Relationship Skills: Managing Frustration during Labs

When testing balanced/unbalanced forces (e.g., building a magnet-powered car), engineering builds often fail on the first try. Teach a "growth mindset micro-lesson" on how to manage frustration when data doesn't match predictions.

Ecosystems & Traits

(3-LS2-1, 3-LS3-1) Constructing Arguments from Evidence

Social Awareness & Relationship Skills: Value of Community & Perspectives

Students argue how living in groups helps animals survive (3-LS2-1). Connect this to how human communities thrive when diverse individuals collaborate, using active listening protocols.

Weather & Climate

(3-ESS2-1, 3-ESS3-1) Asking Questions & Defining Problems

Responsible Decision-Making: Evaluating Solutions & Compassion

When studying weather hazards, have students design a solution to protect a community from a local flood or storm. They weigh the safety, ethical impact, and well-being of others.

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Grade: 3	Content Area: Science
Student Learning Goals/Objectives	
<i>Students will know:</i> -How life cycles are similar -How offspring compare to their parents -How the environment influences characteristics of organisms -Ecologist careers	<i>Students will be able to:</i> 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
Assessment Evidence	
Performance Tasks Compare life cycles to determine patterns Explain how offspring compare to their parents and how they inherit traits Conduct research to explain the effect of climate change on different environments Design a mystery creature with unique traits Research ecologist careers WIDA Integration Describe observations and/or data about a phenomenon through... ■ Abstract nouns and to introduce concepts (habitat) ■ Declarative statements to present facts ■ Cohesion to reference ideas, people across text (pronouns, renaming subject, demonstratives: this, that) ■ Relating verbs to state relationships or attributes (have, be, belong to) Develop a logical sequence between data or evidence and claim through... ■ Timeless verbs to state on-going facts about phenomenon (Rain forests create oxygen.) ■ Connectors to sequence and order events across paragraphs (first, second, begins, ends) ■ Causal connectors to link events	Other Assessments Formative: ● Lesson quizzes, and reviews ● Student investigations and models ● Language Arts writing activities ● Graphic Organizers & Guided Notes ● Directed Reading ● Cooperative Group Learning ● Homework ● Journal Entries ● Exit Tickets ● Polls/ Surveys/ Evaluation ● Jigsaw ● Think, Pair, Share ● Quizzes Alternative: ● Modified tests and quizzes ● Group work ● Peer assessments ● Labs ● Projects ● Portfolio Assessments Summative ● Unit Test/Topic Test

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Amistad Focus: Dr. Roger Arliner Young (The first African American woman to receive a Ph.D. in zoology, known for her research on marine organisms).

The Activity: "Dr. Young's Marine Lab"

Metamorphosis Dioramas: Dr. Roger Arliner Young, who conducted groundbreaking research on marine animals and cells at the Woods Hole Marine Biological Laboratory.

Students study the life cycle of a marine organism or amphibian that undergoes metamorphosis (such as a sea urchin, crab, or frog). **The Amistad Integration:** Following the NJ Amistad Commission's actual project recommendations, students construct a **simplified shoebox diorama**. Inside the diorama, they use clay or drawings to model the unique stages of the marine life cycle (e.g., egg, larva, juvenile, adult). On the outside of the box, they attach a 2-sentence description of the life cycle and a label honoring Dr. Young's legacy as a pioneer in marine science.

Varied Levels of Text:

- leveled readers
- Newsela articles
- Storyworks articles
- Career Connection
- Kimura, K. (2011). 999 Tadpoles.
- Guiberson, B. (1991). *Cactus Hotel*
- Aston, D. (2011). *A Butterfly is Patient*
- Patent, D. (1989) *Grandfather's Nose: Why We All Look Alike or Different*
- Leedy, L. (1993) *Tracks in the Sand*
- Eastman, P. (1998). *Are You My Mother?*
- Jenkins, S. (2008) *What Do You Do with a Tail Like This?*
- Bardoe, C. (2015). *Gregor Mendel: The Friar Who Grew Peas*
- Miller, D. (2007) *Arctic Lights, Arctic Nights*
- Peters, L. (2003). *Our Family Tree: An Evolution Story*

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