Englewood Public School District
Science
Grade 1
Second Marking Period

Unit 2: Characteristics of Living Things

Overview: In this unit of study, students develop an understanding of how plants and animals use their external parts to help them survive, grow, and meet their needs, as well as how the behaviors of parents and offspring help offspring survive. The understanding that young plants and animals are like, but not exactly the same as, their parents is developed. The crosscutting concept of *patterns* is called out as an organizing concept for the disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in *obtaining, evaluating, and communicating information* and *constructing explanations*. Students are also expected to use these practices to demonstrate understanding of the core ideas.
This unit is based on 1-LS3-1 and 1-LS1-2.

Time Frame: 15 to 20 days

Enduring Understandings:

- *All living things share certain characteristics and needs.*
- *Adults and their offspring have similar and different characteristics and behaviors.*

Essential Questions:

- *How are young plants and animals alike and different from their parents?*
- *What types (patterns) of behavior can be observed among parents that help offspring survive?*

Standards	Topics and Objectives	Activities	Materials/Resources	Assessments
(1-LS3-1) Make observations to construct an evidence-based account that young plants and animals are like, but not exactly like, their parents. **(1-LS1-2)**	**Topics** Twenty-First Century Themes and Skills include: Environmental Literacy • The Four C's • Environmental Literacy **Objective**	Chip Off the Old Block: In this lesson students compare adult plants with young plants and then match pictures of adult animals with their young. They then are asked to identify specific physical traits of plants and animals that can be used to identify them. Note: The Parent/Offspring photo	**Text (Digital or Print):** Science Dimensions Textbook **Materials:** • Fruits for each child • Pear or fleshy fruit • Watermelon with seeds Strawberry • Lemonade • Nuts	**Formative Assessments** Unit Project p. 139 **Summative Assessments** Unit 4 Pre-test Unit 4 Lesson 1 Quiz Unit 4 Lesson 2 Quiz Unit 4 Lesson 3 Quiz Unit 4 Lesson 4 Quiz Unit 4 Test **Benchmark Assessment**

Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world.	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. Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.	collection on page three incorrectly states the offspring of a horse is a pony. **(NJSLSA.R2), (W.1.8), (1.MD.C.4), (CRP4)** Conduct a read aloud – What Makes a Bird a Bird? Then complete The Cornell Lab or Ornithology's lesson, "What Makes a Bird a Bird?" **(NJSLSA.R2), (1-LS1-2)** Select lessons from The Cornell Lab of Ornithology's lessons regarding birds: • What's in a Habitat? • Taking Flight – Flying and Migration • Move Like a Bird • Eat Like a Bird • If You Can Count, You Can Help a Scientist! • Who's That…Up the Sky? • Do You Hear What I Hear? • Nests and Chicks! **(CRP8), (8.1.2.E.1)** **Enrichment Activity**: Have the students create a class book or quilt (paper or iron-on transfers onto fabric) of pictures they construct of birds they see. (See the Bird Sleuth booklet for ideas) **(6.1.4.B.5), (9.2.4.A.3)**	• A plastic knife for each child • A paper plate for each child • Chart paper and markers • Fruit Dispersal photo collection Worksheets: • "Why So Yummy" handout- one per student • Fruit Dispersal Photo Collection • Fruit-Bearing Plant Life Cycle Video: https://youtu.be/Y3eUyDoQSRU • Bowls • Carrot tops • Crayons • Baking Soda • Salt • Hand Lens • Pictures of animals and plants • Additional materials in Kit from Science Dimensions	Exact Path **Alternative Assessment** Students will respond to oral questioning and retell the events that took place in the video. Students will tell how they created the model and then justify the approach they chose to use. Students will verbally compare each group's model and draw pictures.

Why So Yummy? In this lesson students will investigate how fruits help some plants survive. The background information is important to the overall goals of this lesson. It states, "fruit bearing plants can be distinguished from other plants, because they contain a reproductive structure that develops into an edible fruit. This reproductive structure is the shelter that protects the seeds until they are mature. This is important, because seeds are not distributed to the earth for germination until they are ripe." The teacher will need to purchase some fruits ahead of time for this lesson. Identifying a variety of fruits and especially fruits children might have less experience with will enhance the experience.

Enrichment Activity:
Students bring seeds that they find in nature and conduct web searches to identify its origins. **(8.1.2.E.1), (8.1.2.B.1)**

Lesson 1: Engineer It-What Parts Help Plants Live? P. 140-157

Digital or Print-Can you explain it? (video) Seeds twirling and helicopter propelling p. 141

Digital or Print-Can you explain it? Observing plants can give people ideas to solve problems. p. 141

Digital or Print-Plant Parts (Students view digital pictures and explore online to find out more about the parts of the plants.) p. 142

Digital or Print- Do The Math Represent Data (Students count the parts of a small plant with flowers and complete the graph.) p. 143

Print Apply What You Know (Evidence Notebook-Prompt) Students observe a real plant and draw and label it in their Evidence Notebook (Prompt); students use evidence to describe what each plant part does. p. 143

Digital or Print-Shape Up (Students explore online to discover more about how the shape of each plant part helps the plant.) p. 144-145

Print Apply What You Know (Evidence Notebook-Prompt) Students work in small groups to explain what will happen to a leaf if they cover it with dark

paper; students conduct the mini experiment and record answers in Evidence Notebook. p. 145

Digital or Print-Looking to Nature (Students explore online to find out more about how people mimic what they see in nature.) p. 146-148

Apply What You Know (Evidence Notebook) Read, Write, Share! (Students work with a partner to research pictures of plants, name solutions that look like those plants, and use evidence to support their claim.) p. 148

Digital or Print-Plant Give Ideas (Students explore online to find out more about how plants stay cool.) p. 149

Digital or Print-Apply What You Know Students work with a small group to observe a plant, talk about its shape and what each part does, and use ideas from observing the plant to think of a new solution; students draw, discuss and label their solution. p. 150

Digital or Print-Hands On Activity Engineer It: Observe Plants to Design (Students use an idea from a plant to design and build something that will

help keep them cool on hot days; students can view video online about how to set up and perform the activity.) p. 151-152

Digital or Print-Take It Further (enrich) People in Science and Engineering: Janine Benyus; Plants We Eat p. 153-154 Digital or Print-Lesson Check p. 155 Digital or Print-Self Check p. 156-157 Digital-Lesson Quiz

Lesson 2: Engineer It-What Body Parts Help Animals Stay Safe? p. 158-175

Digital or Print-Can You Solve It (video) Hedgehog rolling into a ball p. 159

Digital or Print-Can You Solve It Students identify ideas they can get from observing a hedgehog to keep something safe. p. 159

Digital or Print-Moving Away from Danger (Students view digital pictures and explore online to find out more about how animals use their parts to move away from danger.) p. 160-161

Print Apply What You Know (Evidence Notebook) Read, Write, Share! (Students work with a partner to research how animals move to stay safe and

draw pictures of the animals; students identify how the animals move using the words: runs, climbs, swims or flies.) p. 161

Digital or Print-Hiding from Danger (Students explore online to find out more about how animals use their shape and color to hide.) p. 162-163
Print Apply What You Know-Students use an idea they got from observing an animal and design something to wear that would help them hide during a game of hide-and-seek. p. 163

Digital or Print-Facing Danger (Students explore online to discover more about how animals have parts that help them face danger.) p. 164

Evidence Notebook-Students use ideas from observing animals to design a box to keep things safe. Students use evidence to explain how the parts keep it safe and record information in their Evidence Notebook. p. 164

Digital or Print-Staying Safe in Weather (Students explore online to find out more about animal parts and weather.) p. 165-166

Apply What You Know-(Evidence Notebook) Student

work with a partner to experience the insulating effect of blubber by protecting one hand with shortening and putting both hands in cold water; students tell which hand stays warmer and record their explanation in their Evidence Notebook. p. 166

Digital or Print-Observe Animals (Students explore online to learn more about how animals can be models for solutions.) p. 167-168

Digital or Print-Do The Math Students look at pictures of birds for ideas and design two paper airplanes. Students compare how far each airplane flies. p. 168

Digital or Print-Hands On Activity Engineer It: Design a Shoe (Students identify problems related to keeping feet safe and use ideas about animal body parts to develop a solution the problem.) p. 169-170

Claims Evidence Reasoning-Students make a claim about how their preferred solution helps protect feet from the cold and cite evidence. p 170

Digital or Print-Take It Further (enrich) Careers in Science and Engineering:

Bioengineer; New Body Parts for Animals p. 171-172
Digital or Print-Lesson Check p. 173

Lesson 3: Engineer It-What Body Parts Help Animals Meet Their Needs? p. 176-195

Digital or Print-Can You Solve It? (video) Giraffe eating from a tree p. 177

Digital or Print-Can You Solve It? Students identify how they can get an idea from observing the giraffe to make a tool that reaches high places. p. 177

Digital or Print-Parts to Find Food (Students explore online to find out more about how animal eyes and ears help animals.) p. 178-180

Apply What You Know (Evidence Notebook) Student identify how they can get an idea from observing animal ears to make something that helps them hear better; students use evidence to explain and record information in their Evidence Notebook. p. 180

Digital or Print-Parts to Eat Food (Students explore online to learn more about how animals grab and eat food.) p. 181-182

Print Do The Math- Students work with class to identify how many flat and sharp teeth people have and make a tally chart. p. 182

Digital or Print-Parts to Breathe and Take in Water (Students watch videos and explore online to find out more about how animals take in oxygen and water) p. 83-185

Apply What You Know- Read, Write, Share! Students look in books with a partner and find one animal that uses lungs and one animal that uses gills; students use evidence to record their explanation p. 185.

Digital or Print-Animals as Models- Students watch video and explore online to find out more about how engineers use animals as models to solve problems. p. 186-188

Apply What You Know- (Evidence Notebook) - Students look at classroom tools to think about what animal each tool could have been modeled after; students discuss ideas with classmates and record answers in their Evidence Notebook. p. 188

Digital or Print-Hands On Activity Engineer It: Observe Animals to Design (Students use an idea from an animal to design and build a tool that would help them pick up food). Students can view video online about how to set up and perform the activity. p. 189-190

Claims Evidence Reasoning Students make a claim that identifies how their tool is like an animal part. p. 190

Digital or Print-Take It Further (enrich) Animals Can Use Tools; Hear Like a Bat p. 191-192

Digital or Print-Lesson Check p. 193 Digital or Print-Self Check p. 194-195 Digital-Lesson Quiz Print-Differentiated Instructions (ELL/RTI) p. 139 Independent Practice Extension p. 139 Independent Practice-COLLABORATION p. 139-Connecting with NGSS p. 139

Lesson 4: How Do Plants and Animals Respond to Their Environment? p. 196-211

Digital or Print-Can You Explain It? (digital pictures) Trees growing in unusual ways p. 197

Digital or Print-Can You Explain It? Why are the tree growing in unusual ways? p. 197

Digital or Print-Plant Places (Students explore online to learn about plants and their adaptations.) p. 198 Print

Do The Math- Students measure a plant accurately with connecting cubes and tell how the height of a stem might help the plant survive in its environment. p. 198

Digital or Print-Hands On Activity Change How a Plant Grows (Students make observations from an investigation to construct an evidence-based account for a plant's growth pattern; students can watch video online about how to set up and perform the activity.) p. 199-200

Claims Evidence Reasoning- Students should make a claim about why their plant grew the way it did and provide evidence. p. 200

Digital or Print-Plants and Season- Students watch video about how plants survive in the different season and explore online to find out

more about how plants change with the season. p. 201

Print Apply What You Know (Evidence Notebook-prompt)- Students describe some possible effects of a plant not getting sunlight and use evidence to explain their ideas; students draw and write about a way to test their ideas. p. 201

Digital or Print-Animals Use Senses- Students take a closer look at digital pictures online to learn how animals use different senses to gather information about their environments. p. 202-203

Print Apply What You Know (Evidence Notebook) Students work in groups and talk about how they use their eyes, ears, nose and hands to notice things around them; students use evidence to share their ideas with peers and record ideas in their Evidence Notebook. p. 203

Digital or Print-Animals on the Move -Students watch video and explore online to find out more about why animals move from place to place. p. 204-205 Print.

Apply What You Know- Read, Write, Share! Students

work with a partner to learn about an animal in their area that moves when the weather changes; students draw a picture of the animal, discuss why the animal moves and use evidence to support thoughts. p. 205

Digital or Print-Animals and Seasons- Students explore online to find out more about how animals change with the seasons. p. 206

Apply What You Know (Evidence Notebook- prompt) Students conduct research to learn about an animal in their area; students describe how the animal changes with the seasons and provide evidence to support their claims. p. 206

Digital or Print-Take It Further (enrich) Careers in Science and Engineering: Forest Ranger; Insects in Winter p. 207-208
Digital or Print-Lesson Check p. 20

Digital or Print-Self Check p. 210-211 Digital-Lesson Quiz Print-Differentiated Instruction (ELL/RTI) p. 139 Independent Practice-Extension p. 139 Independent Practice-Collaboration p. 139

-Connecting with NGSS p. 139

Accommodations and Modifications:

Students with special needs: Support staff will be available to aid students related to IEP specifications. 504 accommodations will also be attended to by all instructional leaders. Physical expectations and modifications, alternative assessments, and scaffolding strategies will be used to support this learning. The use of Universal Design for Learning (UDL) will be considered for all students as teaching strategies are considered.

ELL/ESL students: Students will be supported according to the recommendations for "can do's" as outlined by WIDA – https://wida.wisc.edu/teach/can-do/descriptors

This particular unit has limited language barriers due to the physical nature of the curriculum.

Students at risk of school failure: Formative and summative data will be used to monitor student success at first signs of failure student work will be reviewed to determine support. This may include parent consultation, basic skills review and differentiation strategies. With considerations to UDL, time may be a factor in overcoming developmental considerations. More time and will be made available with a certified instructor to aid students in reaching the standards.

Gifted and Talented Students: Students excelling in mastery of standards will be challenged with complex, high level challenges related to the complexity in planning and carrying out investigations and analyzing and interpreting data.

English Language Learners	**Special Education**	**At-Risk**	**Gifted and Talented**
• Speak and display terminology • Teacher modeling • Peer modeling • Provide ELL students with multiple literacy strategies. • Word walls	• Utilize modifications & accommodations delineated in the student's IEP • Work with paraprofessional • Use multi-sensory teaching approaches. • Work with a partner • Provide concrete examples	• Provide opportunities for students to connect with people of similar backgrounds (e.g. conversations via digital tool such as SKYPE, experts from the community helping with a project, journal articles, and biographies).	• Curriculum compacting • Inquiry-based instruction • Independent study • Higher order thinking skills • Adjusting the pace of lessons • Interest based content

• Use peer readers • Give page numbers to help the students find answers • Provide a computer for written work • Provide two sets of textbooks, one for home and one for school • Provide visual aides • Provide additional time to complete a task • Use graphic organizers	• Restructure lesson using UDL principals (http://www.cast.org/our-work/about-udl.html#.VXmoXcfD_UA). • Provide students with multiple choices for how they can represent their understandings (e.g. multisensory techniques-auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). • Shorten assignments to focus on mastery of key concepts	• Using visual demonstrations, illustrations, and models • Give directions/instructions verbally and in simple written format. Oral prompts can be given. • Peer Support • Increase one on one time • Teachers may modify instructions by modeling what the student is expected to do • Instructions may be printed out in large print and hung up for the student to see during the time of the lesson. • Review behavior expectations and make adjustments for personal space or other behaviors as needed. • Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.	• Real world scenarios • Student Driven Instruction • Engage students with a variety of Science and Engineering practices to provide students with multiple entry points and multiple ways to demonstrate their understandings. • Use project-based science learning to connect science with observable phenomena. • Structure the learning around explaining or solving a social or community-based issue. • Collaborate with after-school programs or clubs to extend learning opportunities.

Interdisciplinary Connections:

ELA - NJSLS/ELA:
NJSLSA.R2: Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
W.1.8: With guidelines and support from adults, recall information from experiences or gather information from provided sources to answer a question.

Social Studies:
6.1.4.B.5: Describe how human interaction impacts the environment in New Jersey and the United States.

Mathematics:
1.MD.C.4: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number category, and how Many more or less are in one category than in another.

Career Ready Practices:
CRP4: Communicate clearly and effectively and with reason.
CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.

Integration of Technology Standards NJSLS 8:
8.1.2.E.1: Use digital tools and online resources to explore a problem or issue.
8.1.2.B.1: Illustrate and communicate original ideas and stories using multiple digital tools and resources.

Integration of 21st Century Standards NJSLS 9:
9.2.4.A.3: Investigate both traditional and nontraditional careers and related information to personal likes and dislikes.

Key Vocabulary:

Trait – a genetically determined characteristic found in a living thing
Offspring – the child of a living thing (plant, animal, or human)
Hereditary – able to be naturally passed on to a child from the parent prior to birth

DNA – a molecule that carries all of the information from a parent to determine what the offspring will be like
Gene – a segment, or part, of DNA; the basic building block of heredity
Stem– the main body or stalk of a plant
Petal– one of the segments of the corolla of a flower, which is a leaf-like, colorful substance
Seed– the embryo or unit that reproduces into a flowering plant
Fruit– the reproductive structure of a fruit-bearing plant
Germinate– to emerge at the beginning stages of growth
Reproduction– the act of recreating itself
Disperse– to distribute or place

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data • Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS3-1) **Obtaining, Evaluating, and Communicating Information** • Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2)	**LS3.A: Inheritance of Traits** • Many characteristics of organisms are inherited from their parents. (3-LS3-1) **LS1.B: Growth and Development of Organisms** • Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2)	**Patterns** • Similarities and differences in patterns can be used to sort and classify natural phenomena. (3-LS3-1) • Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2) - ***Connections to Nature of Science*** **Scientific Knowledge is Based on Empirical Evidence** • Scientists look for patterns and order when making observations about the world. (1-LS1-2)

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Unit 3: Mimicking Organisms to Solve Problems

Overview: In this unit of study, students develop an understanding of how plants and animals use their parts to help them survive, grow, and meet their needs. Students also need opportunities to develop possible solutions. As students develop possible solutions, one challenge will be to keep them from immediately implementing the first solution they think of and to instead think through the problem carefully before acting. Having students sketch their ideas or make a physical model is a good way to engage them in shaping their ideas to meet the requirements of the problem. The crosscutting concept of structure and function is called out as an organizing concept for the disciplinary core ideas. Students are expected to demonstrate grade-appropriate proficiency in constructing explanations, designing solutions, and in developing and using models. Students are expected to use these practices to demonstrate understanding of the core ideas.

Time Frame: 15 to 20 days

Enduring Understandings:

- *All organisms have external parts.*
- *Different animals use their body parts in different ways to see, hear, grasp objects, protect themselves, move from place to place, and seek, find, and take in food, water, and air.*
- *Plants also have different parts (roots, stems, leaves, flowers, fruits) that help them survive and grow.*

Essential Questions:

- *How can humans mimic how plants and animals use their external parts to help them survive and grow***?**

Standards	Topics and Objectives	Activities	Materials/Resources	Assessments
(1-LS1-1) Use materials to design a solution to a human problem by mimicking how plants and/or animals use their external parts to help them survive, grow, and meet their needs.	**Topics** Animal and Plant Parts Themes and Skills include: Environmental Literacy • The Four C's • Environmental Literacy	Lesson 1: How Do Plants Look Like Their Parents? print 220-235 Digital and Print-Can You Explain it (digital pictures) Young plant and parent plant p. 221	**<u>Text (Digital or Print):</u>** Science Dimensions Textbook **<u>Materials:</u>** • Computer • Animal Books • Bowls	**Formative Assessments** Unit project p. 219 **Summative Assessments** Unit 5 Pre-Test Unit 5 Lesson 1 Quiz Unit 5 Lesson 2 Quiz Unit 5 Lesson 3 Quiz

(K-2-ETS1-2) Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.	**Objectives** Students will be able to name at least three foods that birds eat. Students will be able to name three adaptations birds have for survival. Students will explore various methods of seed dispersal. Students will solve a human problem by mimicking the external parts of plants or animals. Students will also participate in small-group conversations. Students will work through a series of stations that allow them to look at adaptation that ants have. Students will design a wood-chopping tool based on an ant's tool to chop a blade of grass.	Digital and Print-Can You Explain it: Student identify how they can tell if two plants are the same kind of plant. p. 221 Digital and Print-Young and Old (Students explore online to find out more about parent plants and their offspring.) p. 222-223 Print- Apply What You Know (Evidence Note-Prompt) Students conduct research and draw pictures to show how a young plant may look different from its parent plant; students justify features of their drawings with evidence from the lesson or from personal observations. p. 223 **(SL.1.5), (CRP4)** Digital and Print-Compare Parts (Students explore online to compare parts of young plants and parent plants.) p. 224-225 Print- Apply What You Know Read, Write, Share! (Students work in small groups to research how an adult plant looks when it is young; students draw a	• Two carrot tops • Brine shrimp eggs • Hand lens • Construction paper	Unit 5 Test **Benchmark Assessment** Exact Path **Alternative Assessments** Students will respond to oral questioning and retell the events that took place in the video. Students will retell in their own words.

picture to compare the young plant to the adult plant.) p. 225 **(W.1.7)**

Digital and Print-Compare Adult Plants (Students watch video and explore online to learn more about how plants of the same kind are alike and different.) p. 226-227

Print-Apply What You Know (Evidence Notebook-prompt) Students work in a group to sort pictures of plants by kind and use evidence to explain how they sorted; Students record explanation in their Evidence Notebook-prompt. p. 227 **(NJSLS.RI.1.1)**

Print Do The Math-Students compare the heights of three plants, order their plants from shortest to tallest, and draw to show how they ordered their plants. p. 228 **(1.MD.C.4)**

Digital or Print-Hands On Activity Grow Carrot Tops (Students grow two carrot plants from carrot tops and record observations over a ten-day span, compare the plants, and look for patterns; students can watch video

about how to set up and perform the activity.) p. 229-230

Print-Claims Evidence Reasoning- Using the Hand On Activity, students make a claim and support claim with evidence. p. 230

Digital or Print-Take It Further (enrich) People in Science and Engineering: Gregor Mendel; Watch a Pumpkin Grow pp. 231-232

Print-Apply What You Know (Evidence Notebook-prompt) Students work in a group to sort pictures of plants by kind and use evidence to explain how they sorted; Students record explanation in their Evidence Notebook. p. 227

Print-Do The Math- Students compare the heights of three plants, order their plants from shortest to tallest, and draw to show how they ordered their plants. p. 228

Digital or Print-Hand On Activity Grow Carrot Tops (Students grow two carrot plants from carrot tops and record observations over a

ten-day span, compare the plants, and look for patterns; students can watch video about how to set up and perform the activity.) p. 229-230

Print-Claims Evidence Reasoning- Using the Hands On Activity, students make a claim and support claim with evidence. p. 230

Digital or Print-Take It Further (enrich) People in Science and Engineering: Gregor Mendel; Watch a Pumpkin Grow p. 231-232

Lesson 2: How Do Animals Look Like Their Parents? p. 236-253

Digital or Print Can You Solve It (video) Adult swan and her young p. 237

Digital or Print-Can You Solve It Students see a young animal and they want to find an adult animal that is of the same kind. Students identify what they should look for. p. 237
Digital or Print-Animals Grow (Students explore online to find out more about how a panda grows and changes.) p. 238-239

Print-Apply What You Know (Evidence Notebook-Prompt) Students work with a partner to draw pictures to show an animal when it is young and when it is an adult; students talk with partner about how their animal grows and changes, provide evidence and record evidence in their Evidence Notebook-Prompt. p. 239

Digital or Print-Compare Parts (Students watch video and explore online to compare the body features of young animals and their parents.) p. 240 (**8.1.2.E.1)**

Digital or Print-Hands On Activity Observe Brine Shrimp (Students explore how brine shrimp hatch and change as they grow into adults; student can watch video about how to set up and perform the activity.) p. 241-242

Print-Claims Evidence Reading Students write a claim that explains whether animals of the same kind look different from each other as they grow. p. 242

Print-Apply What You Know (Evidence Notebook-Prompt) Students observe animals and describe their body parts; students use evidence to support their claims and record in their Evidence Notebook-Prompt. p. 243

Digital or Print-Compare Body Coverings (Students compare and contrast the body features of young animals and their parents and explore online to learn more about body coverings of young animals and their parents.) p. 244-245

Print Apply What You Know Read, Write, Share! (Students research an animal to find out what its covering looks like when it is young and when it is an adult; students draw pictures to show what they found.) p. 245

Digital or Print Animals of the Same Kind (Students explore online to find out more about animals of the same kind that appear different.) p. 246-247

Digital or Print-Do the Math Compare and Order Length

(Students compare dogs from shortest to tallest.) p. 248 **(MP.2), (MP.5), (8.1.2.B.1)**

Print-Apply What You Know (Evidence Notebook-Prompt) Students work with a partner to look through books for animals of the same kind; students use evidence to show and tell how they are alike and different and draw animals in their Evidence Notebook-Prompt. p. 248

Digital or Print-Take It Further (enrich) The Butterfly Life Cycle; Pet Investigation Technology p. 249-250

Digital or Print-Lesson Check p. 251 Digital or Print-Self Check p. 252-253 Digital-Lesson Quiz

Lesson 3: How Do Animals Take Care of Their Young? p.254-269

Digital or Print-Can You Explain It (video) Frog carrying tadpole up a tree p. 255

Digital or Print-Can You Explain It

How do animals help their young survive? p. 255

Digital or Print-Staying Safe (Students explore online to find out more about how animals stay safe.) p. 256-257

Digital or Print-Do The Math

Compare Numbers (Students compare numbers to find out which number is greater.) p. 258

Print-Apply What You Know (Evidence Notebook-Prompt) Students work with classmates to find pictures of animals and their young staying safe; students talk about what the animals do to stay safe, use evidence to make a chart to show patterns and record in their Evidence Notebook-Prompt. p. 258 **(CRP4)**

Digital or Print-Finding Food (Students watch videos and explore online to learn more about how animals find food.) p. 259

Print-Apply What You Know (Evidence Notebook-Prompt) Students observe

animals around their school and identify what the animals are doing to find food and survive; students use evidence to make a chart to show patterns they observe and record information in their Evidence Notebook-Prompt. p. 260 **(6.1.4.B.5), (MP.4)**

Digital or Print-Young Animals Learn (Students explore online to find out more about what young animals learn from their parents.) p. 261

Print-Apply What You Know Read, Write, Share! With a partner, students reflect on what they have read about how parents take care of their young and make a list of ways that the parents act the same as/and differently from their young. p. 262 **(CRP8)**

Digital or Print-Hands on Activity Compare How Animals Learn (Students gather information on how polar bears and lions teach their young to find food and stay safe and use the information to construct evidence about how the

		animals are alike and different. p. 263-264 Print-Claims Evidence Reading Student write a claim that describes how polar bears and lions are similar in teaching their offspring to survive, and how they are different in teaching their offspring to survive. p. 264 Digital or Print-Take It Further (enrich) Careers in Science and Engineering: Zookeeper; On Their Own p. 265-266 Digital or Print-Lesson Check p. 267 Digital or Print-Self Check p. 268-269 **(9.2.4.A.1), (9.1.4.A.3)** Digital-Lesson Quiz

Accommodations and Modifications:

Students with special needs: Support staff will be available to aid students related to IEP specifications. 504 accommodations will also be attended to by all instructional leaders. Physical expectations and modifications, alternative assessments, and scaffolding strategies will be used to support this learning. The use of Universal Design for Learning (UDL) will be considered for all students as teaching strategies are considered.

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Students at risk of school failure: Formative and summative data will be used to monitor student success at first signs of failure student work will be reviewed to determine support. This may include parent consultation, basic skills review and differentiation strategies. With considerations to UDL, time may be a factor in overcoming developmental considerations. More time and will be made available with a certified instructor to aid students in reaching the standards.

Gifted and Talented Students: Students excelling in mastery of standards will be challenged with complex, high level challenges related to the complexity in planning and carrying out investigations and analyzing and interpreting data.

English Language Learners	**Special Education**	**At-Risk**	**Gifted and Talented**
• Speak and display terminology • Teacher modeling • Peer modeling • Provide ELL students with multiple literacy strategies. • Word walls • Use peer readers • Give page numbers to help the students find answers • Provide a computer for written work • Provide two sets of	• Utilize modifications & accommodations delineated in the student's IEP • Work with paraprofessional • Use multi-sensory teaching approaches. • Work with a partner • Provide concrete examples • Restructure lesson using UDL principals (http://www.cast.org/our-work/about-udl.html#.VXmoXcfD_UA). • Provide students with multiple choices for how they can represent their	• Provide opportunities for students to connect with people of similar backgrounds (e.g. conversations via digital tool such as SKYPE, experts from the community helping with a project, journal articles, and biographies). • Using visual demonstrations, illustrations, and models • Give directions/instructions verbally and in simple	• Curriculum compacting • Inquiry-based instruction • Independent study • Higher order thinking skills • Adjusting the pace of lessons • Interest based content • Real world scenarios • Student Driven Instruction • Engage students with a variety of Science and Engineering practices to provide students with

textbooks, one for home and one for school ● Provide visual aides ● Provide additional time to complete a task ● Use graphic organizers	understandings (e.g. multisensory techniques- auditory/visual aids; pictures, illustrations, graphs, charts, data tables, multimedia, modeling). ● Shorten assignments to focus on mastery of key concepts	written format. Oral prompts can be given. ● Peer Support ● Increase one on one time ● Teachers may modify instructions by modeling what the student is expected to do ● Instructions may be printed out in large print and hung up for the student to see during the time of the lesson. ● Review behavior expectations and make adjustments for personal space or other behaviors as needed. ● Structure lessons around questions that are authentic, relate to students' interests, social/family background and knowledge of their community.	multiple entry points and multiple ways to demonstrate their understandings. ● Use project-based science learning to connect science with observable phenomena. ● Structure the learning around explaining or solving a social or community-based issue. ● Collaborate with after-school programs or clubs to extend learning opportunities.

Interdisciplinary Connections:

ELA - NJSLS/ELA:
NJSLS.RI.1.1: Ask and answer questions about key details in a text.
SL.1.5: Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
W.1.7: Participate in shared research and writing projects (e.g., explore a number of "how-to" books on a given topic and use them to write a sequence of instructions).

Social Studies:
6.1.4.B.5: Describe how human interaction impacts the environment in New Jersey and the United States.

Mathematics:
MP.2: Reason abstractly and quantitatively.
MP.4: Model with mathematics.
MP.5: Use appropriate tools strategically.
1.MD.C.4: Organize, represent, and interpret data with up to three categories; ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.

Career Ready Practices:
CRP4: Communicate clearly and effectively and with reason.
CRP8: Utilize critical thinking to make sense of problems and persevere in solving them.

Integration of Technology Standards NJSLS 8:
8.1.2.E.1: Use digital tools and online resources to explore a problem or issue.
8.1.2.B.1: Illustrate and communicate original ideas and stories using multiple digital tools and resources.

Integration of 21st Century Standards NJSLS 9:
9.2.4.A.1: Identify reasons why people work, different types of work, and how work can help a person achieve personal and professional goals.
9.2.4.A.3: Investigate both traditional and nontraditional careers and related information to personal likes and dislikes.

Key Vocabulary:
Stem– the main body or stalk of a plant
Petal– one of the segments of the corolla of a flower, which is a leaf-like, colorful substance
Seed– the embryo or unit that reproduces into a flowering plant
Fruit– the reproductive structure of a fruit-bearing plant
Habitat: environmental area an animal lives in
Environment: animal's surrounding
Survival: live in an environment

Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
Analyzing and Interpreting Data • Analyze and interpret data to make sense of phenomena using logical reasoning. (3-LS3-1)	**LS3.A: Inheritance of Traits** • Many characteristics of organisms are inherited from their parents. (3-LS3-1)	**Patterns** • Similarities and differences in patterns can be used to sort and classify natural phenomena. (3-LS3-1)

Obtaining, Evaluating, and Communicating Information • Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world. (1-LS1-2)	**LS1.B: Growth and Development of Organisms** • Adult plants and animals can have young. In many kinds of animals, parents and the offspring themselves engage in behaviors that help the offspring to survive. (1-LS1-2)	• Patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence. (1-LS1-2) - ***Connections to Nature of Science*** **Scientific Knowledge is Based on Empirical Evidence** • Scientists look for patterns and order when making observations about the world. (1-LS1-2)