"Our mission is to prepare each student to be a successful and responsible member of society."
North Smithfield School District

Kindergarten Science Curriculum

North Smithfield Scope and Sequence SCIENCE Curriculum: K-12

North Smithfield District Science Curriculum Committee
Clare Arnold, District Curriculum Director
Consultants: East Bay Educational Collaborative Science Specialist Team

Acknowledgments

North Smithfield District Science Curriculum Committee

Clare Arnold, North Smithfield District Curriculum Director

Jean Gaulin, Grade Two Teacher
Karen Kiment, Grade Four Teacher
Alyssa Koerner, Grade One Teacher
Monica Maroney, Grade Five Teacher
Lisa Silvestri, Kindergarten Teacher
Kristin Stone, Grade Three Teacher

Colleen Converse, Middle School
Sarah Dupre, Middle School
Jane Franklin, Middle School
Lynn Hannah, Middle School
Gale O'Keefe, Middle School
Tina Shepherd, Middle School

East Bay Educational Collaborative Consultants
Science Specialists:
Ron DeFronzo, Ronald Kahn, Jeff Soares, & Anthony Rabaiotti

Tracy Bailey-Gates, High School
Shawn Bailey-Gates, High School
Clete Garriott, High School
Bettilou LaRoche, High School
Lauren Nelson, High School
Laura Petsching, High School

Animals 2x2 Unit Design – Grade K

Animals Two by Two provides young students with close and personal interaction with some common land and water animals. Appropriate classroom habitats are established, and students learn to care for the animals. In four activities the animals are studied in pairs. Students observe and care for one animal over time, and then they are introduced to another animal similar to the first but with differences in structure and behavior. This process enhances opportunities for observation, communication, and comparison.

RI Statements of Enduring Knowledge - (Established Goals):

LS1 - All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).

Related Rhode Island GSE's (Understandings)	**RI Assessment Targets** Assessment Evidence *****High Emphasis Targets**
LS1 (K-2) –1 **Students demonstrate an understanding of classification of organisms by …** **1a** distinguishing between living and non-living things. **1b** identifying and sorting based on similar or different external features. **1c** observing and recording the external features that make up living things (e.g. roots, stems, leaves, flowers, legs, antennae, tail, shell). **LS1 (K-2)-2** **Students demonstrate understanding of structure and function-survival requirements by…** **2a** observing that plants need water, air, food, and light to grow; observing that animals need water, air, food and shelter to grow.	******LS1 (K-4) - INQ+POC –1*** *Sort/classify different living things using similar and different characteristics. Describe why organisms belong to each group or cite evidence about how they are alike or not alike.* Investigation 1, Part 2, pp. 17-21 Investigation 4, Part 4, pp. 20-23 Science Stories, pp. 3-24 Investigation 1, Part 4, pp. 26-29 Investigation 2, Part 3, pp. 18-21 Investigation 4, Part 2, pp. 12-15 Science Stories, pp. 6-7, 10-11, 14-15, 19 Investigation 1, Part 1, 4, pp. 10-16, 26-29 Investigation 3, Part 1, pp. 8-12 ***LS1 (K-4) SAE -2*** *Identify the basic needs of plants and animals in order to stay alive. (i.e., water, air, food, space).* Investigation 1, Part 2, pp. 17-21 Investigation 4, Part 4, pp. 20-23

LS1 (K-2)–4 **Students demonstrate understanding of structure and function-survival requirements by…** **4a** identifying the specific functions of the physical structures of a plant or an animal (e.g. roots for water; webbed feet for swimming).	Science Stories, pp. 6-7, 12, 20 ***LS1 (K-4) FAF –4*** *Identify and explain how the physical structures of an organism (plants or animals) allow it to survive in its habitat/environment (e.g., roots for water; nose to smell fire).* Investigation 1, Part 1, pp. 10-16 Investigation 2, Part 1, pp. 9-13 Investigation 3, Parts 1, 3, pp. 8-12, 17-20 Science Stories, pp. 5-6, 9-10, 17-18, 21
LS2 (K-2)-5 **Students demonstrate an understanding of energy flow in an ecosystem by …** **5a** caring for plants and/or animals by identifying and providing for their needs; experimenting with a plant's growth under different conditions, including light and no light	***LS2 (K-4) – SAE–5*** *Recognize that energy is needed for all organisms to stay alive and grow or identify where a plant or animal gets its energy.* Investigation 1, Part 2, pp. 17-21 Investigation 4, Part 4, pp. 20-23 Science Stories, pp. 6-7, 12, 20
LS4 (K-2)-8 **Students demonstrate an understanding of human body systems by …**	***LS4 (K-4) – FAF–8*** *Identify what the physical structures of humans do (e.g., sense organs-eyes, ears, skin, etc.) or compare physical structures of humans to similar structures of animals.*
8a identifying the five senses and using senses to identify objects in the environment.	Investigation 1, Parts 1, 2-4, pp. 10-16, 22-29 Investigation 3, Parts 1, 3, pp. 8-12, 17-20
8b observing, identifying and recording external features of humans and other animals	Investigation 1, Part 1, pp. 10-16 Investigation 2, Part 1, pp. 9-13 Investigation 3, Parts 1, 3, pp. 8-12, 17-20
8c identifying the senses needed to meet survival needs for a given situation.	Investigation 1, Part 3, pp. 22-25 Investigation 3, Part 2, pp. 13-16

Words in **bold** are important for science vocabulary development, and should be used for word walls.

Investigation-Time (45 min. periods)	**Investigation**	**Focus Questions** (Essential Questions)	**Big Ideas** (Understandings)
1.1-(1)	The Structure of Goldfish	• What are the parts of goldfish?	Fish have identifiable **structures** All animals deserve respect and gentle care.
1.2-(1)	Caring for Goldfish	• What do goldfish need to live?	Fish have basic **needs** Fish change their **environment** Fish **behavior** is influenced by conditions in the environment
1.3-(1)	Goldfish Behavior	• What do goldfish do?	Fish **behavior** is influenced by conditions in the **environment** Fish have **senses** that help them detect objects in their environment
1.4-(1)	Comparing Goldfish to Guppies	• How are guppies and goldfish different? • How are they alike?	Each kind of fish has unique **structures** and **behavior** Different kinds of fish have similar **structures** and **behavior**
2.1-(2)	Land Snails	• What are the parts of a land snail? • What do land snails do?	Snails have identifiable **structures** Snails have **senses** Snails have basic **needs**
2.2-(1)	Snail Races	• What will get a snail to move?	Snail **behavior** is influenced by conditions in the **environment** All animals deserve respect and gentle care.
2.3-(1)	Observing Water Snails	• How are water snails and land snails different? • How are they the same?	Each kind of snail has unique **structures** and **behavior** Different kinds of snails have similar **structures** and **behavior**
2.4 -(1)	Shells	• How can shells be grouped?	There is a great **diversity** among shells
3.1-(1)	The Structure of Redworms	• What are the parts of a redworm?	Redworms have identifiable **structures** Redworms have basic **needs** All animals deserve respect and gentle care.
3.2-(1)	Redworm Behavior	• What do red worms do?	Worm **behavior** is influenced by conditions in the **environment**
3.3-(1)	Comparing Redworms to Night Crawlers	• How are red worms and night crawlers different? • How are they the same?	Each kind of worm has unique **structures** and **behavior** Different kinds of worms have similar **structures** and **behavior**
4.1-(1)	Isopod Observations	• What are isopods?	Isopods have identifiable **structures** and **behavior** All animals deserve respect and gentle care.
4.2-(1)	Identifying Isopods	• How are pill bugs and sow bugs different?	Each kind of isopod has unique **structures** and **behavior** Different kinds of isopods have similar **structure** and **behavior**
4.3-(1)	Isopod Races	• How do isopods move?	Isopod **behavior** is influenced by conditions in the **environment**
4.4-(1)	Animals Living Together	• What do animals need?	Animals have similar **needs**. They all need food, water, air and space

Investigation-Time (45 min. periods)	Investigation	Focus Questions (Essential Questions)	Big Ideas (Understandings)
5.1-(1)	Setting the Eggs	• What do eggs need to hatch into chicks?	Eggs require certain environmental conditions to hatch

Myself & Others Unit Design - Grade K

Myself & Others focuses children's attention on their physical characteristics. They look at themselves and their classmates; they gather information about characteristics such as height, eye color, and hand size; they explore similarities, differences, and variations. Thus, children will become aware that although each of them is unique, they all share many similar characteristics.

RI Statements of Enduring Knowledge - (Established Goals):

LS1 - All living organisms have identifiable structures and characteristics that allow for survival (organisms, populations, & species).

LS 4- Humans are similar to other species in many ways, and yet are unique among Earth's life forms.

Related Rhode Island GSE's (Understandings)	**RI Assessment Targets** Assessment Evidence *****High Emphasis Targets**
LS4 (LS1 (K-2) –1 **Students demonstrate an understanding of classification of organisms by …** **1b** identifying and sorting based on a similar or different external features. **K-2) –8** **LS4 (K-2)-8** **Students demonstrate an understanding of human body systems by …** **8a** identifying the five senses and using senses to identify objects in the environment, **LS4 (K-2) –9** **Students demonstrate an understanding of human heredity by …** **9a** observing and comparing their physical features with those of parents, classmates and other organisms. **PS1 (K-2)–1** **Students demonstrate an understanding of characteristic properties of matter by …** **1a** identifying, comparing, and sorting objects by similar or different physical properties (e.g., size, shape, color, texture, smell, weight).	******LS1 (K-4) - INQ+POC –1*** *Sort/classify different living things using similar and different characteristics. Describe why organisms belong to each group or cite evidence about how they are alike or not alike.* ***PS1 (K-4) INQ –1*** *Collect and organize data about physical properties in order to classify objects or draw conclusions about objects and their characteristic properties (e.g., temperature, color, size, shape, weight, texture, flexibility).*

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Investigation-Time (45 min. periods)	**Investigation**	**Focus Questions** (Essential Questions)	**Big Ideas** (Understandings)
1--(1)	Introduction to Myself & Others	• What characteristics can be used to describe people?	Using language to describe **characteristics** of oneself and others
2-(1)	Alike & Different	• What are shared physical characteristics? • What characteristics are unique to the individual?	Introduction to **classify**ing. **Sorting** and **categorize** Introduction **to graphs -charts**
3-(1)	Body Outlines	• What parts make up all people's bodies? (**Legs, arms, torso**)	Explore and observe Identifying from an outline the person **represented**
4-(1)	Measuring Height	• How are the **heights** of classmates different? • How do we measure height?	Measure heights using paper strips **Organizing information**
5-(1)	Our hands	• How do hands vary among individual people? • What uses do we have for hands?	Form and function of hands
6-(1)	Handfuls	• How can we measure hand **capacity**?	Form and function Classifying hands Graphing handfuls
7-(1)	Our Eyes	• Are all eyes of people the same?	Careful **observation** Classifying Starting to construct conclusions based on relationships
8-(1)	Our Hair	• Are there variations in people's hair?	Careful **observation** Classifying Starting to construct conclusions based on relationships
9-(1)	Our Skin	• Is there a variation in the texture of different people's skin? • Are all fingerprints alike?	Careful **observation** Classifying Starting to construct conclusions based on relationships
10-(1)	The color of our skin?	• Is there variation in people's skin color?	Compare and describe skin color Attempting to represent skin colors
11-(1)	Time	• Assessment activity	
12-(1)	Past, present & future	• How does a person's growth change the way they look?	Predicting