

## Nature's Trading Post

Nature's Trading Post encourages exploration and stewardship of the natural world through respectful observation and responsible collection. In Nature's Trading Post, look, touch and ask questions to open the connection between individuals and the environment.

Nature's Trading Post is full of local and exotic display items that have been brought in from trades or are part of our museum collections. There are new items appearing all the time. Anything out in the open can be touched.

Most of the fossils for display and trade are local fossils from the Ordovician period. Cincinnati is world-famous for its fossils. The Ordovician Period was 440 to 500 million years ago. During this time, the Cincinnati area was a shallow sea. Our common fossils, including bryozoan, brachiopod and trilobites were living in that shallow sea, and our limestone and shale bedrock was layered in that sea floor. In most places of the world, the bedrock of the Ordovician Period is still buried deep in the Earth. The Tristate area is unique because geologic forces have pushed Ordovician bedrock up and erosion has worn away upper layers to expose the Ordovician in our region.

Around Nature's Trading Post are displays to explore, including objects available for trade\*\* and their point value.

\*\*DUE TO LIMITED SPACE IN THIS EXHIBIT, "TRADING" IS ONLY AVAILABLE TO GENERAL ADMISSION GUESTS.

## VOCABULARY

### EARTH CYCLES

- The complex and connected processes sustaining and changing the Earth and its life. These cycles include food webs, the water cycle, the carbon cycle, the rock cycle and more

### FOSSILS

- The preserved remains or traces of animals, plants, and other organisms from the remote past

### MINERALS

- A mineral is a naturally occurring substance, represented by a chemical formula, is usually solid, non-living, and has a crystal structure.
- It is different from a rock, which can be a combination of minerals or non-minerals and does not have a specific chemical composition.

### RESPECTFUL OBSERVATION

- Respectful observation – studying and gathering data about a specimen with little or no disturbance to the specimen or its surroundings

### RESPONSIBLE COLLECTION

- Gathering samples, examples or data on a specimen with as little disturbance to the specimen's population and surroundings as possible

#### STEWARDSHIP

- In environmental terms, the responsibility, management and sustainable use of Earth resources

#### SUSTAINABLE USE

- The consumption of resources while supporting and maintaining the resources' replenishment and continued availability

#### TAXIDERMY

- Preserving the skins of animals then stuffing and mounting them to look lifelike.

## ACTIVITIES

### TRADING NATURAL ITEMS\*\*

- About Trading
  - Nature's Trading Post encourages respectful observation and responsible collection of the natural world. We only take what we want or need, and always leave enough for replenishment and the enjoyment of future generations.
  - Bring in natural items, posters, reports, dioramas, etc. and share what you know with staff. The more you share the points you will receive.
  - Responsible collecting from the natural world involves learning to collect data and practicing stewardship and sustainable use. The most important science data to collect is the location where an object was found.
  - Staff may ask questions, show pictures or examples of similar items to encourage more discussion.
  - Items can be left for another person to "purchase" with their points or kept and taken home.
- What Nature's Trading Post will NOT accept for trade
  - Any item regulated by U.S. Endangered Species Act, Migratory Bird Conservation Act, CITES, or other local, state, national or international laws and agreements (i.e.: no eggs, feathers or bird's nests).
  - Taxidermy or "stuffed" items (i.e.: no mounted animals or bird specimens, no furs or skins).
  - Living or dead (killed, hunted or found) animals (i.e.: nothing icky or smelly and no meaty bones).
  - Nothing altered or made by people, including Native American artifacts.
  - Anything which may prove unsafe or unsanitary to people.
  - Items larger than 6 cubic inches. (About the size of a vertical Kleenex box)
  - Any questionable item the staff or volunteer does not feel comfortable accepting for trade. These items will be shared and assigned points, but then should be sent home with the trader.
  - Even if we cannot keep your object, we will still discuss and give points for sharing any natural object, but then your item must be taken home.
- What Nature's Trading Post will accept for trade

- Living natural objects from plants (leaves, seeds, pressed plants, wood) and from animals (shells, cocoons, spider webs, vacant wasps nests, teeth, antlers, snake skin, turtle shells, clean bones, exoskeletons of insects).
- Non-living natural objects such as rocks, fossils, sand, and soil.

\*\*DUE TO LIMITED SPACE IN THIS EXHIBIT, "TRADING" IS ONLY AVAILABLE TO GENERAL ADMISSION GUESTS.

### SCAVENGER HUNT

- Pick up a scavenger hunt from the desk in Nature's Trading Post.
- Complete each task listed on the back.
- Fill in your name and other information.
- Return the complete form to Natures Trading Post to earn points you can trade with.

### READ MAGAZINES AND BOOKS

- Choose one of the many magazines or books about nature and science.
- Have a seat and read or look at the pictures.

### LOOK AT LIVE AND TAXIDERMY ANIMALS

- Watch the live animals eat, sleep and interact with their surroundings.
- Look at the taxidermy animals.
- Read the signs to learn more about the animals.
- Ask the staff questions to find more answers to your questions.

### LOOK AT FOSSILS AND MINERALS

- Look at and touch minerals and fossils.
- Read signs to find out more information.
- Use references and guides to learn more.

## **ANIMALS**

### LIVING: (subject to change)

- American toad
- Black rat snake
- Carpet python
- Cheek chubs
- Corn snake
- Eastern box turtle
- Eastern garter snake
- Grey tree frog
- Jefferson salamander
- Madagascar giant day gecko
- Madagascar hissing cockroaches
- Spotted salamander
- Walking sticks
- Wall lizards

- Whites tree frog

#### TAXIDERMY

- American wigeon
- Bobcat
- Canvasback duck
- Great blue heron
- Northern pintail duck
- Red tailed hawk
- Sea turtles
- Wood duck

#### OTHER NON-LIVING ITEMS

- Brain coral
- Conch shells
- Starfish

## DISPLAY CASES

#### SKULLS

- Eastern cottontail rabbit
- Eastern fox squirrel
- Mouse
- Muskrat
- Raccoon
- Rat
- Red fox
- Virginia opossum
- White-tailed Deer

#### FOSSILS

- Bivalves
- Brachiopods
- Bryozoan
- Cephalopods
- Echinoderms
- Gastropods
- Horn coral
- Trace fossils
- Trilobites

## ITEMS FOR TRADE\*\*

FOSSILS: (fossils on display and available for trade change regularly but may include)

- Brachiopods
- Bryozoan

- Crinoids
- Petrified wood
- Trilobites

MINERALS: (minerals on display and available for trade change regularly but may include)

- Polished and unpolished stones
- Agates
- Marbles
- Quartz

\*\*DUE TO LIMITED SPACE IN THIS EXHIBIT, "TRADING" IS ONLY AVAILABLE TO GENERAL ADMISSION GUESTS.

## SAFETY TIPS

### WALK

- Please remind students to walk at all times.

### MEETING SPOT

- Since it is often difficult to stay directly with your group, provide a meeting spot for students and do visual checks periodically. Find a staff member to help you locate lost students!

### KEEP A CLOSE EYE ON YOUTH

- This exhibit has small items in bins that youth could place in their mouth. Watch carefully to prevent choking.

### FIRST AID

- If you need first aid during your visit, please see a staff member. Staff can always be found at the entrance of the museum.

## RULES OF THE EXHIBIT

### DON'T PUT THINGS IN YOUR MOUTH

- You may look and touch the items but they are not to be tasted!

### DON'T TAP ON ANIMALS CAGES

- Be respectful of the animal's space. You may look at them but tapping on their home may upset them.

### NO RUNNING!

- Please **walk** while in Nature's Trading Post. It can get busy, but there should be no running so that no one gets hurt. If you see someone running, ask if they could please walk. If you feel as though you need assistance, please call a staff person.

## **STATE CONTENT STANDARDS (Ohio)**

*\*\*ITEMS IN ITALICS COULD BE RELEVANT TO THE TRADING PROCESS*

### **EARLY LEARNING AND DEVELOPMENT**

- Social and Emotional Development
  - NONE
- Physical Well Being and Motor Development
  - Small Muscle: Touch, Grasp, Reach and Manipulate
  - Sensory Motor
- Approaches Toward Learning
  - Initiative and Curiosity – Explore and Experiment
  - Initiative and Curiosity – Self Direction & Questioning
  - *Expression of Ideas and Feelings Through Art*
- Cognition and General Knowledge
  - *Memory*
  - *Number Sense and Counting*
  - *Group and Categorize*
  - *Describe and Compare Measurable Attributes*
  - *Spatial Relationships*
  - *Identify and Describe Shapes*
  - *Analyze, Compare and Create Shapes*
  - Inquiry
  - *Inquiry*
  - *Explorations of the Natural World*
  - *Explorations of Living Things*
- Language and Literacy
  - Receptive Language and Comprehension
  - *Expressive Language -*
  - *Writing Application and Composition*

### **LANGUAGE ARTS**

See National Common Core

### **MATH**

See National Common Core

### **SCIENCE**

**K-ESS-1** *Weather changes are long-term and short-term.*

**K-ESS-2** *The moon, sun and stars are visible at different times of the day or night.*

**K-LS-1** *Living things are different from nonliving things.*

**1-ESS-1** *The sun is the principal source of energy.*

**1-ESS-2** *The physical properties of water change.*

**2-ESS-1** *The atmosphere is made up of air.*

**2-ESS-2** *Some kinds of individuals that once lived on Earth have completely disappeared, although they were something like others that are alive today.*

**2-LS-1** *Living things cause changes on Earth.*

**2-LS-2** *Some kinds of individuals that once lived on Earth have completely disappeared, although they were something like others that are alive today.*

**3-ESS-1** *Earth's nonliving resources have specific properties.*

**3-ESS-2** *Earth's resources can be used for energy.*

**3-ESS-3** *Some of Earth's resources are limited.*

**4-ESS-1** *Earth's surface has specific characteristics and landforms that can be identified.*

**4-LS-2** *Fossils can be compared to one another and to present day organisms according to their similarities and differences.*

**5-ESS-1** *The solar system includes the sun and all celestial bodies that orbit the sun. Each planet in the solar system has unique characteristics.*

**5-ESS-2** *The sun is one of many stars that exist in the universe.*

**5-ESS-3** *Most of the cycles and patterns of motion between the Earth and sun are predictable.*

**6-ESS-1** *Minerals have specific, quantifiable properties.*

**6-ESS-2** *Igneous, metamorphic and sedimentary rocks have unique characteristics that can be used for identification and/or classification*

**6-ESS-3** *Igneous, metamorphic and sedimentary rocks form in different ways.*

**6-ESS-4** *Soil is unconsolidated material that contains nutrient matter and weathered rock.*

**6-LS-1** *Cells are the fundamental unit of life.*

**6-LS-2** *All cells come from pre-existing cells.*

**6-LS-3** Cells carry on specific functions that sustain life.

## **SOCIAL STUDIES**

**K-G-5** Terms related to direction and distance, as well as symbols and landmarks, can be used to talk about the relative location of familiar places.

**K-G-6** Models and maps represent places.

**K-E-11** People have many wants and make decisions to satisfy those wants. These decisions impact others.

**1-H-1** Time can be divided into categories (e.g., months of the year, past, present and future).

**1-H-2** Photographs, letters, artifacts and books can be used to learn about the past

**1-E-13** People trade to obtain goods and services they want.

**2-H-2** Change over time can be shown with artifacts, maps, and photographs.

**3-H-2** Primary sources such as artifacts, maps and photographs can be used to show change over time.

**4-E-22** Tables and charts help people to understand information and issues. Tables organize information in columns and rows. Charts organize information in a variety of visual formats (pictures, diagrams, graphs).

**5-E-13** Information displayed in circle graphs can be used to show relative proportions of segments of data to an entire body of data.

**6-H-1** Events can be arranged in order of occurrence using the conventions of B.C. and A.D. or B.C.E. and C.E.

## **NATIONAL CONTENT STANDARDS**

*\*\*ITEMS IN ITALICS COULD BE RELEVANT TO THE TRADING PROCESS*

### **LANGUAGE ARTS – Common Core**

**RI-K-2** *With prompting and support, identify the main topic and retell key details of a text.*

**RI-1-2** *Identify the main topic and retell key details of a text.*

**W-K-2** *Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic.*

**W-K-5** *With guidance and support from adults, respond to questions and suggestions from peers and add details to strengthen writing as needed*

**W-K-8** *With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.*

**W-1-2** *Write informative/explanatory texts in which they name a topic, supply some facts about the topic, and provide some sense of closure*

**W-2-5** *With guidance and support from adults and peers, focus on a topic and strengthen writing as needed by revising and editing.*

**W-2-8** *Recall information from experiences or gather information from provided sources to answer a question.*

**W-3-2** *Write informative/explanatory texts to examine a topic and convey ideas and information clearly.*

**a.** *Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.*

**b.** *Develop the topic with facts, definitions, and details.*

**c.** *Use linking words and phrases (e.g., also, another, and, more, but) to connect ideas within categories of information.*

**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.*

**W-4-2** *Write informative/explanatory texts to examine a topic and convey ideas and information clearly.*

**a.** *Introduce a topic clearly and group related information in paragraphs and sections; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.*

**b.** *Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.*

**c.** *Link ideas within categories of information using words and phrases (e.g., another, for example, also, because).*

**d.** *Use precise language and domain-specific vocabulary to inform about or explain the topic.*

**W-4-8** Recall relevant information from experiences or gather relevant information from print and digital sources; take notes and categorize information, and provide a list of sources.

**W-5-2** Write informative/explanatory texts to examine a topic and convey ideas and information clearly.

**a.** Introduce a topic clearly, provide a general observation and focus, and group related information logically; include formatting (e.g., headings), illustrations, and multimedia when useful to aiding comprehension.

**b.** Develop the topic with facts, definitions, concrete details, quotations, or other information and examples related to the topic.

**d.** Use precise language and domain-specific vocabulary to inform about or explain the topic.

**W-5-8** Recall relevant information from experiences or gather relevant information from print and digital sources; summarize or paraphrase information in notes and finished work, and provide a list of sources.

**SL-K-1** Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.

**a.** Follow agreed-upon rules for discussions (e.g., listening to others and taking turns speaking about the topics and texts under discussion).

**b.** Continue a conversation through multiple exchanges

**SL-K-2** Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.

**SL-K-3** Ask and answer questions in order to seek help, get information, or clarify something that is not understood.

**SL-K-4** Describe familiar people, places, things, and events and, with prompting and support, provide additional detail.

**SL-K-5** Add drawings or other visual displays to descriptions as desired to provide additional detail.

**SL-K-6** Speak audibly and express thoughts, feelings, and ideas clearly.

**SL-1-1** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.

**a.** Follow agreed-upon rules for discussions (e.g., listening to others with care, speaking one at a time about the topics and texts under discussion).

**b.** Build on others' talk in conversations by responding to the comments of others through multiple exchanges.

**c.** Ask questions to clear up any confusion about the topics and texts under discussion.

**SL-1-2** Ask and answer questions about key details in a text read aloud or information presented orally or through other media.

**SL-1-3** Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.

**SL-1-4** Describe people, places, things, and events with relevant details, expressing ideas and feelings clearly.

**SL-1-5** Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.

**SL-2-1** Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.

**a.** Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).

**b.** Build on others' talk in conversations by linking their comments to the remarks of others.

**c.** Ask for clarification and further explanation as needed about the topics and texts under discussion.

**SL-2-2** Recount or describe key ideas or details from a text read aloud or information presented orally or through other media.

**SL-2-3** Ask and answer questions about what a speaker says in order to clarify comprehension, gather additional information, or deepen understanding of a topic or issue.

**SL-2-4** Tell a story or recount an experience with appropriate facts and relevant, descriptive details, speaking audibly in coherent sentences.

**SL-3-1** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.

**a.** Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.

**b.** Follow agreed-upon rules for discussions (e.g., gaining the floor in respectful ways, listening to others with care, speaking one at a time about the topics and texts under discussion).

**c.** Ask questions to check understanding of information presented, stay on topic, and link their comments to the remarks of others.

**d.** Explain their own ideas and understanding in light of the discussion.

**SL-3-2** Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.

**SL-3-3** Ask and answer questions about information from a speaker, offering appropriate elaboration and detail.

**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

**SL-3-6** *Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification. (See grade 3 Language standards 1 and 3 on page 28 for specific expectations.)*

**SL-4-1** *Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 4 topics and texts, building on others' ideas and expressing their own clearly.*

**a.** *Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.*

**b.** *Follow agreed-upon rules for discussions and carry out assigned roles.*

**c.** *Pose and respond to specific questions to clarify or follow up on information, and make comments that contribute to the discussion and link to the remarks of others.*

**d.** *Review the key ideas expressed and explain their own ideas and understanding in light of the discussion.*

**SL-4-2** *Paraphrase portions of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.*

**SL-4-3** *Identify the reasons and evidence a speaker provides to support particular points.*

**SL-4-4** *Report on a topic or text, tell a story, or recount an experience in an organized manner, using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.*

**SL-5-1** *Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.*

**a.** *Come to discussions prepared, having read or studied required material; explicitly draw on that preparation and other information known about the topic to explore ideas under discussion.*

**b.** *Follow agreed-upon rules for discussions and carry out assigned roles.*

**c.** *Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others.*

**d.** *Review the key ideas expressed and draw conclusions in light of information and knowledge gained from the discussions*

**SL-5-2** *Summarize a written text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally.*

**SL-5-4** *Report on a topic or text or present an opinion, sequencing ideas logically and using appropriate facts and relevant, descriptive details to support main ideas or themes; speak clearly at an understandable pace.*

## **MATH – Common Core**

**K-MD-1** Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.

**K-MD-2** Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. For example, directly compare the heights of two children and describe one child as taller/shorter.

**K-G-1** Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.

**K-G-2** Correctly name shapes regardless of their orientations or overall size.

**K-G-3** Identify shapes as two-dimensional (lying in a plane, “flat”) or three dimensional (“solid”).

**K-G-4** Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).

**1-MD-1** Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

**1-MD-2** Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.

**1-MD-4** Understand subtraction as an unknown-addend problem. For example, subtract  $10 - 8$  by finding the number that makes 10 when added to 8.

**1-G-1** Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes.

**1-G-2** Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape.

**2-MD-1** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

**2-MD-3** Estimate lengths using units of inches, feet, centimeters, and meters.

**2-MD-4** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

## **SCIENCE – Next Generation**

**K-LS1-1** Use observations to describe patterns of what plants and animals (including humans) need to survive.

**K-ESS2-1** Use and share observations of local weather conditions to describe patterns over time.

**K-ESS2-2** Construct an argument supported by evidence for how plants and animals (including humans) can change the environment to meet their needs.

**K-ESS3-1** Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.

**1-LS1-2** Read texts and use media to determine patterns in behavior of parents and offspring that help offspring survive.

**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-ESS1-1** Use observations of the sun, moon and stars to describe patterns that can be predicted

**1-ESS1-2** Make observations at different times of year to relate the amount of daylight to the time of year.

**2-PS1-1** Plan and conduct an investigation to describe and classify different kinds of materials by their observable properties.

**2-LS2-1** Plan and conduct an investigation to determine if plants need sunlight and water to grow.

**2-LS4-1** Make observations of plants and animals to compare the diversity of life in different habitats.

**2-ESS1-1** Use information from several sources to provide evidence that Earth events can occur quickly or slowly.

**3-LS2-1** Construct an argument that some animals form groups that help members survive.

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

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

**4-LS1-1** Construct an argument that plants and animals have internal and external structures that function to support survival, growth, behavior, and reproduction.

**4-LS1-2** Use a model to describe that animals receive different types of information through their senses, process the information in their brain, and respond to the information in different ways.

**4-ESS1-1** Identify evidence from patterns in rock formations and fossils in rock layers to support an explanation for changes in a landscape over time.

**5-PS3-1** Use models to describe that energy in animals' food (used for body repair, growth, motion, and to maintain body warmth) was once energy from the sun.

**5-LS1-1** Support an argument that plants get the materials they need for growth chiefly from air and water.

**5-LS2-1** Develop a model to describe the movement of matter among plants, animals, decomposers, and the environment.

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

**5-ESS2-2** Describe and graph the amounts and percentages of water and fresh water in various reservoirs to provide evidence about the distribution of water on Earth.

**MS-LS1-1** Conduct an investigation to provide evidence that living things are made of cells; either one cell or many different numbers and types of cells.

**MS-LS1-2** Develop and use a model to describe the function of a cell as a whole and ways parts of cells contribute to the function.

**MS-LS1-3** Use argument supported by evidence for how the body is a system of interacting subsystems composed of groups of cells.

**MS-LS1-4** Use argument based on empirical evidence and scientific reasoning to support an explanation for how characteristic animal behaviors and specialized plant structures affect the probability of successful reproduction of animals and plants respectively.

**MS-LS1-5** Construct a scientific explanation based on evidence for how environmental and genetic factors influence the growth of organisms

**MS-LS1-6** Construct a scientific explanation based on evidence for the role of photosynthesis in the cycling of matter and flow of energy into and out of organisms.

**MS-LS4-1** Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past.

**MS-LS4-2** Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to interfere evolutionary relationships.

**MS-ESS1-1** *Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.*

**MS-ESS2-1** *Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process.*

**MS-ESS2-3** *Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions.*

**MS-ESS2-4** *Develop a model to describe the cycling of water through Earth's systems driven by energy from the sun and the force of gravity.*

## **SOCIAL STUDIES – National Standards**

**EC.K-4.1.1** *People make choices because they can't have everything they want. Whenever a choice is made, something is given up.*

**EC.K-4.1.2** *Economic wants are desires that can be satisfied by consuming a good, service, or leisure activity.*

**EC.K-4.1.3** *Goods are objects that can satisfy people's wants; services are actions that can satisfy people's wants.*

**EC.K-4.1.4** *People's choices about what goods and services to buy and consume determine how resources will be used.*

**EC.K-4.5.1** *Exchange is trading goods and services with people for other goods and services or for money.*

**EC.K-4.5.2** *The oldest form of exchange is barter the direct trading of goods and services between people.*

**EC.K-4.5.3** *People voluntarily exchange goods and services because they expect to be better off after the exchange.*

**EC.5-8.1.1** *Scarcity is the condition of not being able to have all of the goods and services that one wants. It exists because human wants for goods and services exceed the quantity of goods and services that can be produced using all available resources.*