



**Shenandoah Valley
DISCOVERY
MUSEUM**

TEACHER' S PACKET

54 South Loudoun Street P.O. Box 239 Winchester, VA 22604

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www.discoverymuseum.net

1. Background Information

The Shenandoah Valley Discovery Museum opened in April 1996, as a private, not-for-profit, tax-exempt corporation. It is supported by a combination of private, corporate, and public funds, and is governed by a Board of Directors composed of local citizens.

The Discovery Museum is an interactive learning center for adults and children. We serve visitors from northwestern Virginia and surrounding counties in West Virginia, Maryland, and Pennsylvania, as well as visitors from other regions of the country who are touring our area.

The Museum is located at 54 South Loudoun Street, Winchester, Virginia, on the Old Town Mall. It occupies 6,500 square feet of exhibit and program space and another 4,000 square feet of storage, office, and unoccupied space.

Volunteers planned and built the Discovery Museum. Four hundred families and individuals are members. Approximately 3,500 visitors per month come to the Museum as families, individuals, or with group tours.

Exhibit Descriptions

Simple Machines (Apple Packing Shed)

This is an experience with simple machines: pulleys, wheels and axles, inclined planes, wedges, and levers. The visitor moves apples through the exhibit from a truck to a weigh station using simple machines and a hand-cranked conveyor belt.

Ah-Haa! (Puzzles, Games, and Brain Teasers)

This exhibit area contains a large variety of activities including a vertical adjustable maze for golf balls, large tangrams and pattern blocks for floor play, a 4-foot by 3-foot geoboard for more experimentation with patterns and shapes, a duck-in kaleidoscope, a magnetic poetry wall, a magnetic wall for tessellations and patterns, a Roman arch puzzle, and changing table top puzzles.

Emergency Clinic and Ambulance

Using real medical equipment and Velcro dolls, visitors can pretend to perform operations in our clinic and ambulance. The clinic is equipped with an X-ray light and X-rays, models and charts of the human body, medical personnel uniforms, and a wheel chair.

Natural History & Ranger Station

Our Ranger Station has an extensive library of field guides to local flora and fauna as well as fiction based on indigenous creatures, topographical maps of the valley and ridges region, and identification charts for birds and wildlife. Discovery Drawers exhibit collections for examination, tape-recorded stories, and puppets of local wildlife. Costumes of animals and park rangers enhance the exhibit for younger children.

A large tank exhibits a king snake indigenous to our region.

Children climb through the human size honeycomb to see what it might be like to be a bee.

Art in the Making and Eagle Scout Exhibit

This program space is flexible to allow us to offer self-directed art activities and special programs. It includes a chaotic pendulum, a Roman arch for assembly and climbing, a bicycle wheel gyroscope, whisper dishes, and a holographic mirage.

Raceways

The simple physics of moving objects is highlighted with golf balls that loop, roll, spin, collide and race down roller coaster ramps demonstrating velocity, gravity, friction, acceleration and momentum.

Climbing Wall

Toddlers to adults can test their strength and agility on a vertical 10-foot climb with a horizontal span of nearly 40 feet that includes outcroppings. Safe landings are guaranteed on a cushioned bed of recycled shredded tires.

A Stop Along the Moccasin Trail

Step back in time to the world of the 18th century northeastern woodland Native Americans. Explore an Iroquois longhouse and a village diorama. Try your hand at weaving, grinding corn, and Indian games, surrounded by a mural depicting the landscape of the period.

Paleo Lab

Get a close-up look at the work of paleontologist Geb Bennett, as he prepares the fossilized bones of 65-million-year-old dinosaurs from eastern Montana as well as some of the small reptiles and amphibians of the same era.

Builder Boards

Construct your own house with slotted boards and watch the wall rise and the roof cover your head.

2. Museum Mission and Philosophy

Museum Mission

The Shenandoah Valley Discovery Museum ignites creativity, sparks curiosity and inspires learning in patrons of all ages by providing a rich variety of interactive, hands-on exhibits and programs, which focus on the sciences and mathematics, the humanities, and the arts.

All exhibits, activities and experiences provided by the Discovery Museum adhere to the following philosophical guidelines:

- Exhibits, activities and programs are interactive, participatory and informal and give visitors opportunities to experiment, play and have fun, use their imaginations and share ideas.
- Visitors are engaged at their own levels of expertise and experience.
- Activities and programs are multi-sensory, authentic, honest and factual.
- The Museum works in a spirit of cooperation and partnership with educational, cultural, governmental, and community organizations.

Museum Philosophy

The Shenandoah Valley Discovery Museum was founded on three educational principles:

1. People learn by experiencing a wide variety of activities with real things.
2. People learn when all five of the senses are engaged in the learning process.
3. People enter a learning opportunity at their own level of interest and prior knowledge.

While we recognize that schools and families are the most important vehicles for education, we see the Discovery Museum as a tool for augmenting their work. We believe that in this relaxed environment children and adults will learn by playing with and in the exhibits. Museum visits will be most beneficial when adults and children interact with one another and with the exhibits, enter the exhibits together, talk about the exhibits with one another, and together solve the problems presented by the exhibits.

Planning for activities and exhibits in this Museum begins with the principle: **Visits to the Discovery Museum should be fun.**

3. Museum Hours and Fees

Hours

Monday-Saturday 9:00 am – 5:00 pm

Sunday 1:00 pm – 5:00 pm

Admission Fees

\$6.00 per person

Free per child under age 2

\$3.50 per person in groups of 10 or more people with advance reservations
(limit – approximately 75).

Additional fees apply to special presentations.

Adult:Child Ratio

Children ages 3 and under: 1 adult for every 2 children

Children ages 4 and 5: 1 adult for every 3 children

Children over age 5: 1 adult for every 4 children

Museum Capacity

The Discovery Museum is prepared to handle groups of approximately 75 children plus chaperones.

Museum Rules

1. Children under the age of 13 must be accompanied by an adult.
2. Smoking on Museum property is prohibited.
3. Food and drink are prohibited in the Museum unless as part of a planned program.
4. Groups of 10 or more people must have advance reservations in order to receive the group rate of admission.
5. Adults accompanying children to the Museum are responsible for the behavior of children in their charge. Unruly, destructive, or disorderly behavior is not allowed.
6. Shoes and shirts must be worn in the Museum.

4. Directions for Trips Arriving by Car and Bus

The Shenandoah Valley Discovery Museum is located at 54 South Loudoun Street, Winchester, Virginia, on the Loudoun Street Pedestrian Mall.

Parking for cars and vans is available in two metered lots:

- on Indian Alley, off Wolfe Street directly across Loudoun Street Mall from the Museum, and
- in one metered lot at the corner of Cork and Loudoun Streets, a one-block walk from the Museum.

Groups arriving by bus can stop at the south end of the Loudoun Street Mall on Cork Street or at the corner of Loudoun and Boscawen Streets to unload and load the bus.

The Museum is a one-half block walk from either of these corners. During trips, **buses should park in the City Yard**, and drivers should be prepared to stay with the buses. (Buses parked on city streets or any parking lot other than the City Yard will be ticketed by the Winchester Parking Authority.) The map below indicates locations of parking lots, intersecting streets, and the City Yard.



5. Exhibits Indexed by Virginia Standards of Learning

Shenandoah Valley Discovery Museum Exhibits									
Virginia Standards of Learning	A Stop Along the Moccasin Trail	Raceways	Simple Machines	Natural History (Honeycomb)	Climbing Wall	Ah-Haa!	Emergency Clinic & Ambulance	Natural History & Ranger Station	Digging into Dinosaurs
Science			*	*	*	*	*	*	*
K.1			*	*	*	*	*	*	*
K.2						*	*	*	
K.3						*			
K.4			*	*	*	*	*	*	
K.5								*	
K.6							*	*	*
K.8	*							*	*
K.9	*							*	*
1.1		*	*		*			*	*
1.2		*	*		*	*			
1.4								*	
1.5							*	*	*
1.7	*							*	*
1.8	*							*	*
2.1		*	*			*		*	*
2.2						*			
2.4								*	*
2.5	*							*	*
2.7								*	
2.8	*							*	*
3.1		*	*			*		*	*
3.2			*						
3.3								*	
3.4								*	*
3.5								*	*
3.6	*							*	*
3.7								*	*
3.8								*	
3.10	*							*	*

Shenandoah Valley Discovery Museum Exhibits (continued)

Virginia Standards of Learning	A Stop Along the Moccasin Trail	Raceways	Simple Machines	Natural History (Honeycomb)	Climbing Wall	Ah-Haa!	Emergency Clinic & Ambulance	Natural History & Ranger Station	Digging into Dinosaurs
Science 3.11								*	
4.1		*	*		*				
4.2		*	*		*	*			
4.4								*	
4.5	*							*	*
4.7									*
4.8	*		*					*	
5.1						*			*
5.2						*			
5.3						*			
5.5								*	*
5.6								*	*
5.7								*	*
6.1		*							*
6.2		*							*
6.5									*
6.7								*	
Math K.10		*	*						
K.11						*			
K.12		*	*			*			
K.13				*		*			
K.14			*	*		*			
K.17		*	*			*			
K.18		*	*			*			
1.13			*						
1.14			*						
1.15		*	*	*	*	*	*	*	
1.16						*			
1.17				*		*			
1.20			*			*			
1.21						*			
2.15			*						
3.14			*						

Shenandoah Valley Discovery Museum Exhibits (continued)

Virginia Standards of Learning	A Stop Along the Moccasin Trail	Simple Machines	Natural History (Honeycomb)	Climbing Wall	Ah-Haa!	Emergency Clinic & Ambulance	Natural History & Ranger Station	Digging into Dinosaurs
Math 3.24					*			
4.10		*						
4.21					*			
5.11		*						
Social Studies K.2	*							
K.3	*	*	*	*	*	*	*	
K.4	*	*					*	
K.5	*						*	
K.6	*	*				*		*
K.7	*							
1.1	*							*
1.2	*							
1.6	*							
1.7	*							
1.12	*							
2.2	*							
2.3	*							
2.4	*							
2.7	*							
2.8	*							
2.9	*							
2.12	*							
3.7	*							
3.12	*							
VS.1	*							
VS.2	*							
VS.4	*							
USI.4	*							
English K.2	*	*	*	*	*	*	*	*
K.3	*	*	*	*	*	*	*	*
1.1	*	*	*	*	*	*	*	*
1.2	*	*	*	*	*	*	*	
1.3	*	*	*	*	*	*	*	*
2.1	*	*	*	*	*	*	*	
2.2	*	*	*	*	*	*	*	*
3.1	*						*	*
4.1	*						*	*
4.2								*

6. 2006-2007 Special Presentations for School Field Trips

Described below are special presentations that can be combined with your Museum trip. Presentations marked with an asterisk (*) also are available as Outreach Programs, which we can bring to you at your school. Outreach trips can incorporate multiple presentations to different classes. The fee rate is listed below.

Trips can be scheduled by calling the Discovery Museum (540-722-2020). It is advisable to make reservations one month or more in advance. A 25% non-refundable deposit is required in advance of your visit. All programs are available throughout the year upon request.

Shenandoah Valley Discovery Museum Special Presentations			
Title	Grade Level	Title	Grade Level
*1. Magnet Magic	Pre-K1	*11. A World of Geography	1-6
*2. Water, Water Everywhere	Pre-K1	*12. Mind-Boggling Molecules	2-5
*3. Introduction to Seeds	Pre-K1	*13. Investigating Insects	2-4
*4. Insects: Characteristics & Life Cycle	Pre-K1	*14. Wind and Weather	2-5
*5. Five Senses	K-2	15. Digging into Dinosaurs	2-6
*6. All About Air	K-1	*16. Race Away with Physics	3-6
*7. Having Fun with Peanuts	K-3	17. A Stop Along the Moccasin Trail	K-12
*8. Masters of Adaptation—Migratory Songbirds	K-4	*18. Star Lab (multi-curriculum)	K-12
*9. Fun with Finance	K-3	*19. Kinesthetic Astronomy	3-7
*10. Reflections on Mirrors	1-6	*20. Virginia's Watershed	2-7
		*21. Earth Worms	K-5

*Available as Outreach Programs

Reservations for programs offered during the school year may be made by calling the Museum at (540) 722-2020. To hold your reservation, a deposit is required representing 25% of your estimated total, which will be deducted from your invoice.

In-Museum Fees

In-Museum fees are \$2.50 per child for special presentations (minimum \$25.00 for Pre-K and Kindergarten and \$35.00 for First Grade and older) plus \$3.50 group Museum admission per child. Adults accompanying field trips in order to satisfy the required ratio will be admitted free. Additional adults are welcome for the special group admission fee of \$3.50 per person.

Outreach Fees

A \$60.00 travel fee for each 30 miles from the Museum, applies for outreach programs in addition to the Special Presentation fee of \$2.50 per child with the exception of Star lab which is \$3.00 per child. The travel fee increases \$60.00 for every 30 miles traveled.

Content

Each special program generally will include hands-on activities presented by experts on the topic requested (see descriptions below). Educators will consult with the presenters to insure high-quality educational programming. Programs will last between 30 and 50 minutes. There will be time to explore regular Museum exhibits during the field trip in addition to the time spent in the program.

Cancellation Policy

Registration fees will be refunded if cancellation is received two weeks prior to the scheduled trip. The Museum will make every effort to reschedule field trips cancelled due to weather. If a trip cannot be rescheduled, all fees will be refunded.

Special Presentations Descriptions

1. Magnet Magic

(Offered all year as requested and available as an outreach program.)

Grades: Pre-K – 1 Time: 30 minutes

Content

Children make predictions, test what magnets attract and do not attract, examine a magnetic field and test the strength of different magnets. Several hands-on activities are included to experience first hand the attraction, push/pull, and metal/nonmetal aspect of objects.

Related Virginia SOLs: Science K.1, K.3 and K.4

2. Water, Water Everywhere

(Offered all year as requested and available as an outreach program.)

Grades: Pre-K – 1 Time: 30 minutes

Content

Kindergarteners are introduced to the water cycle through dramatic play. Also, they use scientific methods by making observations, predictions and finally testing objects that sink or float. First Graders experiment with liquid mixers and non-mixers as well as test the dissolving qualities of different solids. Water conservation is discussed briefly.

Related Virginia SOLs: Science K.1, K.5, K.6, K.10, 1.1, 1.3, 1.4, 1.5 and 1.8

3. Introduction to Seeds

(Offered all year as requested and available as an outreach program.)

Grades: Pre-K – 1 Time: 30 minutes

Content

The role of the seed in the life cycle of plants is introduced. Magnifiers are used to identify the various parts of seeds, from seed coat to embryo. Fruits are cut open to reveal the seeds inside and slices are sampled. Each child then plants a seed to take home allowing future observation of root, stem and leaf growth.

Related Virginia SOLs: Science K.1, K.6, K.8, K.9 and 1.4

4. Insects: Characteristics & Life Cycle

(Offered all year as requested and available as an outreach program.)

Grades: Pre-K – 1 Time: 20-45 minutes depending on age level

Content

Children become familiar with a variety of insects that have common characteristics, including their physical needs, life cycle, and the similarities of offspring to adults.

Activities include reading stories, making a take home model of an insect, learning to walk with six legs, and dramatic play. This program can be shortened to accommodate the attention spans of Pre-Schoolers.

Related Virginia SOLs: Science K.1, K.6, K.8, K.9, and 1.5

5. Five Senses

(Offered all year as requested and available as an outreach program.)

Grades: K – 2 Time: 30-45 minutes depending on age level

Content

The five senses of humans are identified and examined in association with the organ receptors. Students study at the connection of the central nervous system to the parts of the brain responsible for interpreting and responding to sensory information. Children participate in numerous demonstrations for each sense.

Related Virginia SOLs: Science K.1, K.2, and 1.1

6. All About Air

(Offered all year as requested and available as an outreach program.)

Grades: K – 1 Time: 30 minutes

Content

Discover what happens as air heats and expands, what air pressure does, and how people measure the movement of air (wind) and use it to accomplish work. Wind erosion is demonstrated. Students are given the opportunity to do several hands-on activities as well as make a spinning rocket to take home.

Related Virginia SOLs: Science K.1, K.6, K.8, 1.1, 1.2, 1.4, 1.5, 1.6 and 1.8

7. Having Fun with Peanuts

(Offered all year as requested and available as an outreach program.)

Grades: K – 3 Time: 30 minutes

Content

Students learn about the peanut, its economic value as a Virginia crop, its history and its uses, emphasizing the “Seed to Food Cycle.” Stages of the peanut’s growth are shown, followed by the students planting peanuts to take home or to the classroom for further observation. A short discussion of cultivation and harvesting culminates with making and tasting fresh peanut butter. Students also make pine cone/peanut butter bird feeders to take home.

Related Virginia SOLs: Science K.1, K.6, K.8, K.9, 1.4, 2.1, 2.4, 2.5, 2.7, 2.8, 3.1, 3.7, 3.8, 3.10, 4.1, 4.4 and 4.5

8. Masters of Adaptation—Migratory Songbirds

(Offered all year as requested and available as an outreach program.)

Grades: K – 4 Time: 30-45 minutes

Content

Choose from various programs tailored to fit specific grade level SOLs regarding life processes, living systems, earth cycles and resources in order to examine the life of migratory songbirds. Skits, games, and stories make instruction and discussion active fun.

Related Virginia SOLs: Science K.1, K.6, K.8, K.9, 1.1, 1.5, 1.7, 1.8, 2.4, 2.5, 2.7, 2.8, 3.4, 3.5, 3.6, 3.10, 4.5 and 4.8

9. Fun with Finance

(Offered all year as requested and available as an outreach program.)

Grades: K – 3 Time: 30-50 minutes

Content

After discussion and demonstration of the evolution and use of barter and money, students role play the parts of producers (sellers) and consumers (buyers) of goods and services. They face choices in their selections, including the challenge of saving money and recognizing the specialization of and interdependence on individuals in a community.

Related Virginia SOLs: History and Social Science K.6, K.7b, 1.7, 1.8, 1.9, 2.7, 2.8, 2.9, 3.7, 3.8, and 3.9

10. Reflections on Mirrors

(Offered all year as requested and available as an outreach program.)

Grades: 1 – 6 Time: 50 minutes

Content

Students explore the nature of mirrors: What is a reflection? What makes a good mirror? Mirror symmetry is demonstrated with table top group activities. Our program room will be filled with experiments and demonstrations using mirrors (reflecting lenses). Children take home their own pocket mirror.

Related Virginia SOLs: Science 5.1, 5.3, PS.6, and PS.9

11. A World of Geography

(Offered all year as requested and available as an outreach program.)

Grades: 1 – 6 Time: 1 hour

Content

Geographer Therese Krause will tailor this program to meet the SOLs of the grade level of the students. Skills addressed can include map reading, map making, compass reading and orienteering, and using landmarks to give directions, depending upon the ages of the participants.

Related Virginia SOLs: Social Science K.2, K.3, K.4, 1.6, 1.8, 2.5, 3.5, 3.6, 4.1, 4.2; general Social Studies requirements Grades 5, 6, and 7, and ES.3

12. Mind-Boggling Molecules

(Offered all year as requested and available as an outreach program.)

Grades: 2 – 5 Time: 45 minutes

Content

Through the use of scientific investigation, reasoning, and logic, students explore motion, energy, and the three states of matter. Students pretend to be the three states—solid, liquid, and gas—demonstrating the relative density of each state. The presentation includes experiments with liquid mixers and non-mixers, dissolving and non-dissolving solids, movement of molecules in water and air with temperature change, and the surface tension of water molecules.

Related Virginia SOLs: Science 1.1, 1.2, 1.3, 2.1, 2.3, 3.1, 3.3, 3.10, 5.2 and 5.4

13. Investigating Insects

(Offered all year as requested and available as an outreach program.)

Grades: 2 – 4 Time: 50 minutes

Content

Students become familiar with insect characteristics, needs, life cycles (metamorphosis), varying habitats and how adaptations to changing environments occur. After a process of brainstorming and examination of photographs, students create their own insect that is physically adapted to a specific environment.

Related Virginia SOLs: Science 2.4, 2.5, 2.7, 3.4, 3.5, 3.8, 3.10, and 4.5

14. Wind and Weather

(Offered all year as requested and available as an outreach program.)

Grades: 2 – 5 Time: 45 minutes

Content

This program explores the relationship of the sun, earth and atmosphere in the production of wind and other phenomena of weather including the water cycle, seasons, and climate. Experiments will explore the nature of heated gasses and the formation of high- and low-pressure areas as well as different methods to measure and record weather. Students will make simple tools of measurement such as an anemometer.

Related Virginia SOLs: Science 2.1, 2.3, 2.6, 2.7, 3.1, 3.8, 3.9, 3.10, 3.11, 4.1, 4.6, and 5.7

15. Digging into Dinosaurs

(Offered all year as requested.)

Grades: 2 – 6 Time: 30 minutes

Content

Geb Bennett, our fossil preparer, will lead the students through a hands-on exploration of what a paleontologist does through the study of fossils. It includes discussion of fieldwork, library research, lab preparation, and cast reproduction.

Related Virginia SOLs: Science 2.5, 2.7, 3.4, 3.5, 3.6, 4.8, and 5.7

16. Rolling Along: Exploring the Physics of Position & Motion of Objects

(Offered all year as requested and available as an outreach program.)

Grades: 3 – 6 Time: 30-45 minutes

Content

Students discover the physics of motion in a series of hands-on experiments. The concepts underlying position and motion of objects are explored by observing the behavior of objects as they are pushed, pulled, thrown, dropped or rolled.

Related Virginia SOLs: Science 1.1, 1.2, 2.1, 4.1, 4.2, 6.1, and 6.2

17. A Stop Along the Moccasin Trail

(Offered all year as requested, in-house only.)

Grades: K – 12 Time: 30 minutes-1 hour

Content

The life and culture of eastern woodland Native Americans is revealed through discussion and hands-on experience with shelter, clothing, tools, toys, music, and foods. The Iroquois longhouse, village diorama, and exhibit mural provide a truly sensorial immersion into the 18th century world of the people encountered by European settlers. A make-and-take activity concludes the program.

Related Virginia SOLs: Science K.8, K.10, 1.7, 1.8, 2.5, 2.8, 3.6, 3.10, 4.5, and 4.8;
Social Studies K.1, K.3, K.5, K.6, K.7, 1.1, 1.4, 1.6, 1.7, 1.10, 1.12, 2.2, 2.3, 2.4, 2.7, 2.8,
2.9, 2.12, 3.7, 3.10, 3.12, 4.1, 4.2, 4.3, 5.1, 5.2, 5.9, 11.1, VS.1, and VS.2

18. Star Lab

(Offered all year as an outreach program only.)

Grades: K – 12 Time: 30-45 minutes

Content

This portable planetarium sets up in your school's gym or cafeteria, accommodating up to six individual classes per day. Possible program topics include exploring earth's longitude and latitude; the relationships among the earth, moon, sun, and planets in our solar system; constellations and their seasonal changes; plate tectonics, and cell biology. Our program presenters will discuss your specific curriculum needs. Please note that the program fee per child for Star Lab is \$3.00.

Related Virginia SOLs: Science 1.6, 3.8, 4.7, and 6.10

19. Kinesthetic Astronomy

(Offered all year as an outreach program only.)

Grades: 3 - 7 Time: 30-45 minutes

Content

This program graphically demonstrates some otherwise hard to grasp concepts through the use of students' physical bodies; the movement of the sun and earth in relation to one another and surrounding constellations, how the sun appears to rise and set and why the tilt of the Earth results in Earth's seasons. It begins with a scale model of sun, Earth and the nearest star to relate actual distances and sizes. A large open space such as a gym, cafeteria or stage is necessary.

Related Virginia SOLs: 3.8, 4.7, 6.8

20. Virginia's Watershed

(Offered all year as requested and available as an outreach program.)

Grades: 2 – 7 Time: 40 minutes-1 hour

These four programs below are offered singly or in combination to meet your needs. This well-tested curriculum was developed by the Chesapeake Bay Foundation and provides a solid, engaging exploration of the watershed we share.

a. Your Virginia Watershed

Content

Students define and identify major tributaries in Virginia's Chesapeake Bay watershed by using state and local maps. Then, they write directions from their school's local waterways to the Bay in order to gain an understanding of their ultimate connection to the Chesapeake Bay.

Related Virginia SOLs: Math Measurement, Geography 2.5, 3.6, 6.5, 6.7, and 6.9; Science 4.8, LS.7, VS.2, and ES.3

b. Bay-sic Ratios

Content

Students learn an important concept about the Chesapeake Bay watershed that will help them understand why the Bay is an especially productive, but vulnerable ecosystem.

Related Virginia SOLs: Math Number & Number Sense, Probability and Geometry, Geography 3.6, and VS.2; Science 3.10, 4.8, 5.6, 6.5, 6.7, 6.9, and LS.1

c. When Rain Hits the Land

Content

Students conduct an experiment to determine how land surfaces affect rainwater as it flows through the watershed. Then, they apply their knowledge to their own schoolyard.

Related Virginia SOLs: Math Probabilities & Statistics, Measurement Science 2.7, 3.6, 3.7, 3.9, 3.10, 4.8, 5.7, 6.1, 6.5, 6.7, and LS.12

d. What's In Your Lunch?

Content

Students examine the contents of their lunches to analyze product packaging and to distinguish between renewable and nonrenewable resources. In addition, students write a plan to reduce the amount of trash they throw away.

Related Virginia SOLs: Resources 3.10, 3.11, 6.9, LS.12 and ES.7

21. Earth Worms - Makers of Soil & Recyclers of Waste

(Offered all year as requested.) Grades: Pre K - 4

Time: 30-40 minutes

Content

What does an earthworm eat? How does it reproduce, make soil, recycle nutrients? Students will examine live worms with magnifiers, make compost for a classroom mini-bin with red wigglers to care for throughout the school year.

Related Virginia SOLs: Resources k.6, k.8, k.9, k.10, 1.5, 1.7, 1.8, 2.4, 2.5, 3.5, 3.6, 3.7, 3.8, 3.10, 3.11, 4.5, 4.8, 5.5