



## All-School Assembly:

### Simply Shocking! GRADES K-6

Experience 100,000 volts of static electricity from the Van de Graaff generator. A Museum educator will make your hair stand on end in this dramatic demonstration that includes a discussion about lightning and the forces between charges.

Virginia Science SOLs: K.1a, K.3a, K.8a, 1.1c, 1.1f, 2.1a, 2.2a, 3.1a, 3.1j, 3.3b, 4.1b, 4.3, 4.6b, 5.1, 5.4a, 6.4a

### Hands-on Exhibits:

Curiosity-provoking hands-on exhibits include, but are not limited to: Match the Bones, Arch Bridge, Hand Battery and Bernoulli Blower.

## Classroom Workshops:

### Busy Bees GRADES K-2

Compare your community to a bee's while learning about each bee's role in the hive. How do bees communicate? Investigate the many different ways honeybees help humans.

Virginia Science SOLs: K.1, K.2, K.4, K.6, K.8, 1.1, 1.5, 1.7, 2.1, 2.4, 2.5, 2.8, 3.1, 3.4, 3.5, 3.8, 3.10

### Magnet Magic GRADES K-2

Explore the characteristics of magnets and investigate some of their everyday uses. Create your own compass to take home!

Virginia Science SOLs: K.1, K.3, 1.1, 2.1, 2.2, 3.1, 3.3a

### Forest Ecosystems GRADES 1-3

Become part of a forest ecosystem and find out how it works. Watch out for those hungry foxes! Investigate how the sun nourishes the plants that ultimately provide food for all living things.

Virginia Science SOLs: 1.4, 1.5, 1.7, 1.8, 2.1h, 2.5, 2.8, 3.4-3.6, 3.10, 3.11

### Mighty Machines GRADES 2-4

Check out what these clever levers and powerful pulleys can do! Try each of the five simple machines and see how they make work easier for you.

Virginia Science SOLs: 2.1, 3.1, 3.2, 4.1, 4.2

### Sound Science GRADES 4-5

Explore the world of music and the science behind the sounds. Construct a "musical" instrument and learn about resonance, vibration, frequency and pitch.

Virginia Science SOLs: 5.1, 5.2

### Virginia Watersheds GRADES 4-6

Take a look at Virginia's watershed systems and find out how you make an impact on them and what you can do to save these valuable resources.

Virginia Science SOLs: 3.10, 4.1, 4.8, 5.1, 6.1, 6.5, 6.7, 6.9

### Charged Up! GRADES 4-6

Investigate simple, series and parallel circuits. Examine conductors and insulators during this electrifying workshop.

Virginia Science SOLs: 4.1, 4.3, 5.1, 6.1, 6.2

### Alternative Energy GRADES 4-6

How does a photovoltaic panel convert light energy to electrical energy? Find out in this workshop that explores and highlights different renewable and nonrenewable sources of energy. Use your knowledge of circuits and solar energy to make a motor run.

Virginia Science SOLs: 4.1, 4.3, 4.8, 5.1, 6.1-6.3

### What's the Matter? GRADES 4-6

Explore states of matter, chemical symbols, atoms, molecules and conservation of matter. Put on your safety goggles and take part in an exciting chemical reaction!

Virginia Science SOLs: 4.1, 5.1, 5.4, 6.1, 6.4b

*Fee: \$500 plus travel expenses where applicable. Includes one, 45-minute all-school assembly, hands-on exhibits and 10, 50-minute classroom workshops.*



## All-School Assembly:

### The Scoop on Poop! GRADES K-8

Find out what happens to the food you eat. In this demonstration, students simulate chewing, participate in a belching contest, and get grossed out as the food travels through the digestive tract.

Virginia SOLs: Science - K.1, K.4, 1.5, 2.1, 3.1, 4.1, LS.3; Health - 1.1, 6.2

### Hands-on Exhibits:

Transform your gym or cafeteria into a life science museum! Here is a sample of the hands-on exhibits we will bring: Body Puzzle, Test your Reflexes, Cell Explorer and Steady Your Nerves.

## Classroom Workshops:

### Animal Tracks and Scat GRADES K-2

Examine the signs animals leave behind. How are they different? Identify a trait each animal needs for survival. Make a track to take home.

Virginia Science SOLs: K.1, K.8, 1.1, 1.5, 1.7, 2.1, 2.5

### Miraculous Metamorphosis GRADES 2-3

Learn about the changes some animals go through as they grow and find out how they have adapted to survive their life cycles.

Virginia Science SOLs: 2.1, 2.4, 3.1

### Awesome Adaptations GRADES 2-4

Find out how living things survive and in different environments. Learn about how changes over time have influenced the way living things look and behave today.

Virginia Science SOLs: 2.1, 2.5, 2.7, 3.4-3.6, 3.10, 4.1, 4.5, 4.8

### Fabulous Flora GRADES 3-5

Find out how plants trap the sun's energy and convert it into food energy. Investigate the different parts of a plant, and learn how plants are essential to life on Earth.

Virginia Science SOLs: 2.4b, 2.8, 3.10a, 3.11a, 4.4

### Owl-mazing Food Webs GRADES 3-6

In this activity learn how food chains are linked together by animals such as barn owls. Design and build a giant food web and see how the barn owl fits into it by dissecting an owl pellet.

Virginia Science SOLs: 3.1, 3.5, 3.6, 4.5, 4.8, LS.6, LS.8, LS.9, LS.11, BIO.9

### Fun with Microscopes GRADES 5-8

Learn how to use lenses and microscopes to make tiny things more visible. What lives in pond water? Can you actually see your skin cells? Explore the microscopic world through a variety of biological specimens.

Virginia Science SOLs: 3.1, 3.3, 3.7, 4.1, 5.1, 6.1, LS.2

### You've Got Some Nerve! GRADES 5-8

How do neural signals get from your brain to your toes? Test your reflexes and build a neuron that maps out the path that messages travel in your body.

Virginia SOLs: Science - 3.1, 4.1, 5.1, 5.5, 6.1, LS.1, LS.2, BIO.1; Health - 1.1, 6.2

### Science Sleuth GRADES 6-8

Forensic scientists use biological evidence to solve a crime. Become a detective as you gather information and analyze clues from skeletons, fingerprints and DNA.

Virginia Science SOLs: 4.1, 5.1, 6.1, LS.1, LS.13, LS.14, PS.1, PS.2, BIO.1, BIO.6

### It's in the Genes GRADES 6-8

Do you look like your relatives? Step into the mind of Gregor Mendel and create your own plant "offspring" to learn more about how genes, heredity and environmental factors influence the way organisms look.

Virginia SOLs: Science - LS.2, LS.13, LS.14, BIO.2, BIO.6; Health - 2.3, 4.4

### Biomedical Technology GRADES 6-8

Step into the world of biotechnology and find out how technology is taking science to the next level of understanding. Extract DNA from seeds and learn about DNA's structure and role. Use tools found in high-tech laboratories and learn about what goes on behind the scenes in a hospital.

Virginia Science SOLs: 6.1, LS.1, LS.2, LS.13, BIO.1, BIO.2, BIO.6

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## A guided look at constellations, planets, moon phases, tides and seasons.

### Planetarium Presentations:

#### The Night Sky GRADES 3-8

Who in the universe are Andromeda, Pegasus and Orion? Meet characters from Greek mythology, find them represented in the constellations, and learn how the Ancient Greeks believe they got there.

Virginia SOLs: Science - 3.8, 4.7, 6.8, ES.14; History - 3.1, WHI.5b, WHI.6b

#### MoonLab GRADES 3-6

Watch how the Earth, sun and moon create moon phases. Explore the lunar cycle and discover how it affects our oceans.

Virginia Science SOLs: 3.8, 4.7, 6.8, ES.4, ES.14

#### African Stories GRADES 3-8

Learn the names of the constellations as seen by tribes and cultures in Ancient Africa.

Virginia SOLs: Science - 3.8, 4.7, 6.8, ES.14; History - 3.1, 3.2, USI.4, WHI.10d

#### Native American Mythology GRADES 3-8

Native American life experiences were often associated with the position of the stars. Investigate Native American legends and fables as told through the night sky.

Virginia SOLs: Science - 3.8, 4.7, 6.8, ES.14; History - 2.2, 2.4d, VS.2e

### Classroom Workshops:

#### Earth, Sun and Moon GRADES 3-6

Discover the reasons for the seasons, what causes tides and why we have night and day. Learn why the moon remains in orbit around the Earth and how it seems to change shape throughout the month.

Virginia Science SOLs: 3.1, 3.8, 4.1, 4.7, 5.1, 6.1, 6.8

#### Weather Wizards GRADES K-2 OR 3-5

How and why does weather change? Find out and then build weather instruments to test current climatic conditions at your school. Explore weather concepts including weather observations, weather symbols and wind power.

Virginia Science SOL's: K.1, K.5, K.8, K.9, 1.1, 1.6, 2.1, 2.3, 2.6, 3.9, 4.6

#### Stars & Constellations GRADES K-2

Explore the wonders and drama of the night sky. Create a mini telescope focused on the Big Dipper.

Virginia SOL's: Science -K.7, 1.6, 3.8; History - K.2, 1.1, 3.1

#### Rocket Propulsion GRADES 4-8

Experiment with Newton's laws of motion. Learn about the applications of rockets: what they do and how they work. Construct and launch your own Newton Cart!

Virginia Science SOL's: 4.1, 4.2, 5.1, 6.1, PS.10

#### Forces of Flight GRADES 3-6

Students learn the four forces of flight: lift, gravity, thrust and drag. Learning and practicing different aspects of each force, students construct and test different model airplanes.

Virginia Science SOL's: 3.1, 4.1, 4.2, 5.1, 6.1, 6.2

*Fee: \$500 plus travel expenses where applicable. Includes five, 50-minute STARLAB Planetarium shows and five, 50-minute classroom workshops.*

