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## *Our Mission:*

The mission of Mountainside Education and Enrichment is to offer both children and adults *educational* and *enriching* activities focused on the environment, agriculture, wetland stewardship, best land practices, and methods to develop renewable and sustainable energy systems.

## *Facts:*

Mountainside has received over \$400,000 in grants to help fund environmental efforts on its campus.

Mountainside has partnered with many organizations such as The USDA, EPA, MEA, Monocacy & Catocin Watershed Alliance, Potomac Conservancy, and more in efforts to teach others about protecting the environment and our future.

The 115 acre Mountainside campus is home to a 10 kilowatt wind turbine, 10 kilowatt solar array, 4,000 tree riparian buffer, composting toilets, rain gardens, state of the art pond filtration system, rain water collection and irrigation system, and wetland conservation area.

Mountainside has many other amenities such as a high and low ropes course, event tent, swimming pool, fishing pond, game room, yurt villages and sports fields.

All of these initiatives have been taken to help students, educators and others learn about the environment in a fun and engaging place.



## *Contact Information*

Please call or email us anytime if you are interested in learning more about our programs, would like to schedule a tour, or book an event.

### *Address:*

**Mountainside Education & Enrichment  
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Urbana, MD 21704**

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### *Website*

**ww.meegreen.org**

# Wind & Air:

**Lesson:** Wind Dragon

**Synopsis:** Don't worry they won't bite. Each child will create their very own wind dragon. Using their dragon, students will see how hot air rises and which way the wind is blowing.

**Duration:** 1 -1.5 hours

**Grades:** K-3



**Lesson:** Windfest

**Synopsis:** Kids get to be super creative with a number of wind related activities. Making pinwheels, windsocks and weather vanes are just a few of the fun crafts kids will create during the Windfest.

**Duration:** 2-3 hours

**Grades:** K- 5

**Lesson:** Rise and Shine

**Synopsis:** Exercise and learning go hand in hand as we hike through the hills and valleys of Mountainside to find out how air moves up and down as it heats and cools.

**Duration:** 2-3 hours

**Grades:** K-12



**Lesson:** Twinkle, Twinkle, Little Star

**Synopsis:** We have all heard of water pollution. Twinkle, Twinkle, Little Star discusses light pollution. Improper use and over use of artificial light has affected everything from what we can see in the night sky to how people drive.

**Duration:** 1 hour

**Grades:** 6-12



**Lesson:** Go Fly a Kite

**Synopsis:** Where is a good place to put a wind turbine? Students explore this question and find their own answers by testing wind speeds and other

environmental factors at two different locations.

**Duration:** 1 hour

**Grades:** 6-12

**Lesson:** Blow Hard

**Synopsis:** Students are divided into small groups to build a windmill. By experimenting with blade design and wind direction each group will try to generate as much power as they can. We will find out how many small windmills it would take to generate the same amount of power as Mountainside’s 10-kilowatt turbine.

**Duration:** 1-2 hours

**Grades:** 6-12

**Lesson:** Magnetic Personality

**Synopsis:** So wind turbines create electricity...but how? In “Magnetic Personality” students learn how electric generators work by building one of their own. Students also see how Mountainside’s 10 kilowatt wind turbine makes it all happen.

**Duration:** 2-3 hours

**Grades:** 6-12



**Lesson:** Blowin’ In The Wind

**Synopsis:** Students will take a firsthand look at the benefits and drawbacks of wind power. Using the Mountainside 10-kilowatt wind turbine and the data collected by the wind turbine software, students will be able to see

trends in the wind and the power it generates. They will compare these findings with the same information collected from the Mountainside 10-kilowatt solar array. Is there a leader in the power race? We'll find out!

**Duration:** 1 hour

**Grades:** K-12

**Lesson:** Hot Air

**Synopsis:** Adventure is in the air as we take to the Mountains.

Students will hike along the Appalachian Trail to a mountaintop destination. Once there, we will watch the birds take to the air on the updrafts of the mountain.



What a great way to learn about air flow and the effects of the sun's rays on the wind. This lesson ends with a rock climbing adventure you're sure to remember.

**Duration:** 5-8 hours

**Grades:** 6-12

**Lesson:** Run Like the Wind

**Synopsis:** In this lesson we show students firsthand just how fast the wind has to move to make a wind turbine work. Then we find out if they can really "Run Like the Wind!"

**Duration:** 1 hour

**Grades:** K-5



# Water



**Lesson:** Water World

**Synopsis:** People don't like to live in dirty places and animals are no different; even small ones that live in the water. In "Water World" students collect water samples and look for micro invertebrates. Then we learn what those little creatures

can tell us about how clean or dirty the water is.

**Duration:** 1 hour

**Grades:** K-12

**Lesson:** Go Fish

**Synopsis:** What do fish eat for breakfast? How big do they get? Where do they sleep? These and many other fun facts are discovered as we "Go Fish" in the Mountainside streams and ponds.

**Duration:** 1-2 hours

**Grades:** K-3

**Lesson:** Water Water Everywhere

**Synopsis:** Students become water investigators as they try to find out where the water goes after it rains. We will learn that the answer is everywhere.... literally.

**Duration:** 1-2hours

**Grades:** K-5



**Lesson:** Mind Your Turf

**Synopsis:** What does my yard have to do with saving the Chesapeake Bay? This lesson teaches how using fertilizer and other chemicals on lawns affects the bay. How can mowing your lawn properly help, and is there

a safe way to fertilize your lawn? These questions are answered in “Mind Your Turf”.

**Duration:** 1-2 hours

**Grades:** 6-12

**Lesson:** Mix it Up

**Synopsis:** Yuck, disgusting, and cool are some of the words kids use to describe this memorable lesson on water pollution. Students will experiment with different ingredients to see how they can flow into the water we use every day. Would you drink that? Probably not.

**Duration:** 1-2 hours

**Grades:** 6-12



**Lesson:** Go with the Flow

**Synopsis:** By studying the stream banks and surrounding areas of Mountainside, students learn how powerful water really is. This lesson shows how erosion in one area can affect the surrounding area for miles.

**Duration:** 1-2 hours

**Grades:** 6-12

**Lesson:** Waste Not, Want Not

**Synopsis:** In this lesson students will learn what happens to the water that falls on our buildings and streets, where it goes, and what affects it has on our environment. Students learn how the use of rain barrels and other rain water collection and filtration systems help to improve our waterways.

**Duration:** 1 – 2 hours

**Grades:** K-12

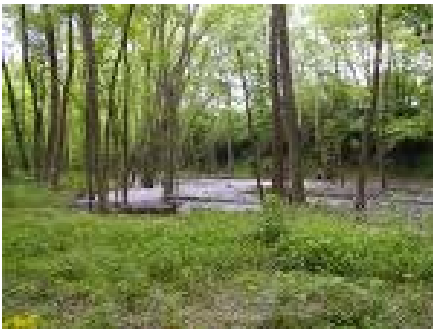


**Lesson:** Rain Garden

**Synopsis:** Students get down and dirty in this hands-on lesson, learn what a rain garden is, and how to build one themselves. By the end of the day participants will have all the knowledge they need to put this great environmental effort into effect in their own communities.

**Duration:** 3-4 hours

**Grades:** 6-12



**Lesson:** Wetlands Study

**Synopsis:** Students will learn all about wetlands by studying one in person. Mountainside has a 10 acre wetlands preservation area where students will learn about the plants and animals that call it home and why wetlands are some of nature's best water filters.

**Duration:** 3-4 hours

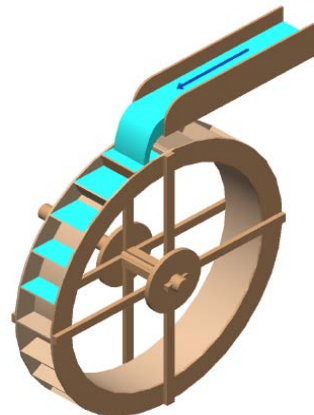
**Grades:** 6-12

**Lesson:** Water Power

**Synopsis:** Using the Mountainside streams students are shown the some of the unexpected affects of water on the environment and how water can be used as a power source.

**Duration:** 1 hour

**Grades:** K-12



# Solar



**Lesson:** Solar Power 101

**Synopsis:** Students will use the Mountainside 10-kilowatt solar array and energy tracking software to see how solar power works. If rays from outer space blasting electrons out of solar cells sounds cool to you then you'll love "Solar Power 101".

**Duration:** 1 hour

**Grades:** 6-12



**Lesson:** Cars of Tomorrow

**Synopsis:** Students learn the basics of solar power. Small groups use the knowledge they have gained to build a working model solar car. Then the race is on to see which team's car can make it across the finish line first!

**Duration:** 1-2 hours

**Grades:** 6-12

**Lesson:** Ray's Café

**Synopsis:** Using instruments like tin foil and a glass baking dish, we will show kids how to use the power of the sun to make a meal. The menu includes hot dogs, sun tea, and solar s'mores!

**Duration:** 1 hour

**Grades:** K-12





**Lesson:** Up Up and Away

**Synopsis:** Students make a working solar balloon using everyday products. This lesson demonstrates a very interesting way the sun's power can be harnessed.

**Duration:** 1-2 hours

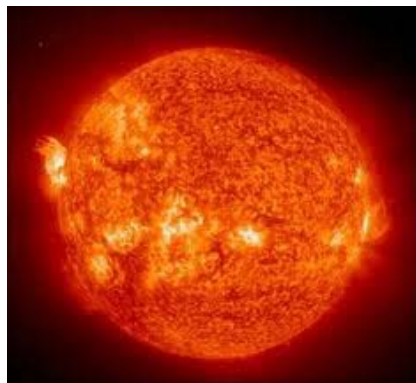
**Grades:** 6-12

**Lesson:** Don't Sweat It

**Synopsis:** How much do you know about the sun? This fun filled lesson is packed with trivia and activities that will really have you warming up to the solar power!

**Duration:** 1 hour

**Grades:** K-12



**Lesson:** The Star of the Show

**Synopsis:** In this lesson students look at how solar power was being used hundreds of years ago and some of the more interesting things we use it for today!

**Duration:** 1 hour

**Grades:** K-12



# Wildlife

**Lesson:** Follow that Groundhog!

**Synopsis:** Kids will hike through the woods finding and identifying the tracks and trails of local wildlife like deer, foxes, raccoons, and maybe even a snake or two. We will also look at where they come from, where they are going and why.

**Duration:** 2 hours

**Grades:** K-5



**Lesson:** Beak Up

**Synopsis:** Students explore the relationship between a bird's beak and its ability to find food and survive. From the curved beak of a hawk to the long beak of a woodpecker, every beak is different.

**Duration:** 1-2 hours

**Grades:** K-12

**Lesson:** Creepy, Crawly, Cool!

**Synopsis:** Many people find spiders, lizards and snakes scary or weird. During “Creepy, Crawl, Cool!” we look at why these creatures are helpful to the environment and why you may even want some of them in your house.

**Duration:** 1-2 hours

**Grades:** K-12



**Lesson:** Creatures Among Us

**Synopsis:** Students will learn what a wildlife habitat is and how to identify what animals and habitats are right under their noses. Then, each student learns how they can help create a home for local animals.

**Duration:** 2-4 hours

**Grades:** K-12



**Lesson:** Whoooo Is It?

**Synopsis:** This night time lesson teaches students what really goes bump in the night. On an evening nature hike, students will get to see and hear animals that rarely come out during the day.

**Duration:** 1-2 hours

**Grades:** 4-12

**Lesson:** The Dark Side of Bambi

**Synopsis:** Students will learn how the *Odocoileus virginianus* or white-tailed deer population has expanded out of control, why it has happened and some of the detrimental effects that have occurred because of it. Finally what can be done to help solve the problem?

**Duration:** 1-2 hours

**Grades:** 6-12



**Lesson:** Hunt or be Hunted

**Synopsis:** This lesson starts with an exciting discussion about who hunts who in the animal kingdom. Then we reinforce what we've just learned by playing a special game of tag where students become the predators and the pray.

**Duration:** 1-2 hours

**Grades:** K-5

# Forestry & Agriculture

**Lesson:** Out of Place

**Synopsis:** Observation is everything in this super engaging activity. Kids are asked to find the things that are out of place in a specified location. Some are easy, like a pencil in the grass some might be harder to find like the alligator track in the mud.

**Duration:** 1-2 hours

**Grades:** K-12



**Lesson:** Shades of Green

**Synopsis:** Students are asked to make a color chart from the darkest to the lightest shade of green they can find. This activity is fun and shows the amazing variety of color in nature.

**Duration:** 1hour

**Grades:** K-5

**Lesson:** In a Nutshell

**Synopsis:** Students will walk along the nature trail to find the nuts and seeds along the way. Together we learn their names and how each one travels.

**Duration:** 1-2 hours

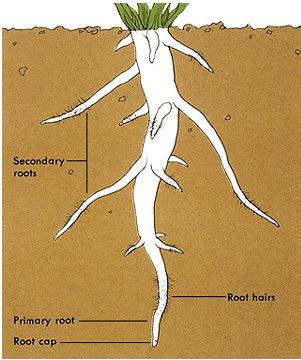
**Grades:** K-5

**Lesson:** Tree-rific

**Synopsis:** Students will learn what makes a tree a tree from leaf to root. Each child will learn first-hand how to tell the age of a tree as well as some cool new tree words like “Xylem” and “Heartwood”.

**Duration:** 1 hour

**Grades:** K-5



**Lesson:** Rooting Around

**Synopsis:** Students will learn what a root system is, what a taproot is, and how plants and trees use different root systems to get the water they need. Do you know what kind of roots a cactus has? After “Rooting Around” you will.

**Duration:** 1 hour

**Grades:** K-5

**Lesson:** Sap Sucker

**Synopsis:** Sap Sucker is one sweet lesson. Students will learn what sap is, why it’s so sticky, and even what animals eat it for breakfast. This lesson wouldn’t be complete without trying some sap yourself!

**Duration:** 1hour

**Grades:** K-5

**Lesson:** Weeds Gone Wild

**Synopsis:** Weeds (invasive species) are one of the biggest threats to the nation’s endangered plants and animals. Learn what they are, why they are dangerous, and how to stop them! Students will also take part in planting trees in our riparian buffer.

**Duration:** 1hour

**Grades:** 6-12



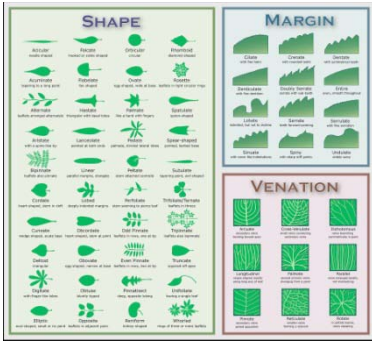
**Lesson:** Forest from the Trees

**Synopsis:** In the 1600s, 95 percent of the Potomac Watershed Area was covered by forest. Today only 60 percent remains. What happened? Why are the trees so important to the air, water, and soil? How

can we stop the destruction? All these questions are answered in “Forest from the trees”! Students will also take part in planting trees in our riparian buffer and helping remove invasive species.

**Duration:** 1-2 hours

**Grades:** 3-12



**Lesson:** Get in Shape

**Synopsis:** With the assistance of a leaf-identifying guide, small teams will venture out to see just how many types of trees they can find. Are there some out there that shouldn't be? We find out together in "Get in Shape."

**Duration:** 1-3 hours

**Grades:** K-12

**Lesson:** Going Native

**Synopsis:** This interesting look at landscaping shows the benefits of using native plants, shrubs, flowers and trees around your home and community. We will also cover some of the problems with using invasive, semi-invasive and ornamental plants for landscaping

**Duration:** 2 hours

**Grades:** 6-12

**Lesson:** Who the Heck is Steward Ship?

**Synopsis:** Students learn about laws that protect the forest and the wildlife that live there, as well as what best land practices are. Then students will see for themselves some things that are being done to protect natural spaces, such as doing some planting of their own.

**Duration:** 1 hour

**Grades:** 6-12

**Lesson:** Recycling is the Goal

**Synopsis:** After a quick information session about recycling students are split into two groups for this fast paced game to test what they have learned. The object of the game is to return to your team's goal with the correct objects from the recycling field.

**Duration:** 1 hour

**Grades:** 6-12