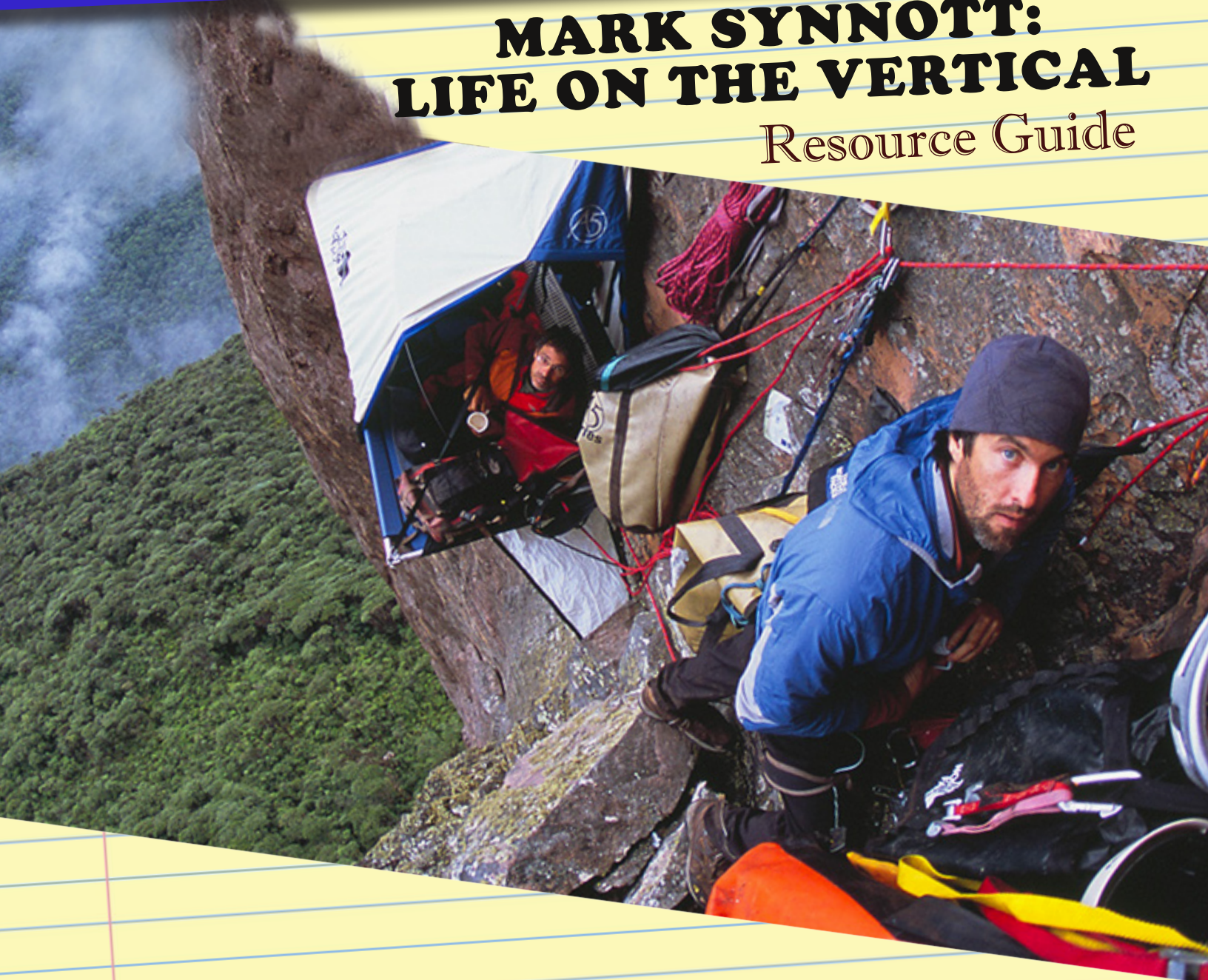


2018-2019

DISCOVERY

MARK SYNNOTT: LIFE ON THE VERTICAL Resource Guide



**Monday, March 11, 2019
10:00 a.m.**

Produced by National Geographic Live!



Welcome to the 2018-2019 Discovery Series at Victoria Theatre Association. We are very excited to be your education partner in providing professional arts experiences to you and your students!

Rock climbing is a demanding sport that takes strength, endurance, focus, balance, and agility, no matter how steep the rock wall is! But for those of us who aren't experienced climbers, don't worry. There are many places you can go to learn the basics and practice climbing skills- even right here in Dayton (see the local resource page in this resource guide)! I hope that Mark Synott's story inspires the adventurer in you to explore the world around you in a new and fun way.

The information and activities in this resource guide have been carefully crafted to help you and your students explore the many ways a live theatre experience can open up learning opportunities. Grade level icons will help you determine which activities are good for students, too. And don't forget to take advantage of the local resources listed inside to extend the play-going experience and make even more curricular connections for you and your students. Thank you again and welcome!

Gary Minyard
Vice President of
Education & Engagement



Curriculum Connection



You will find these icons listed in the resource guide next to the activities that indicate curricular connections. Teachers and parents are encouraged to adapt all of the activities included in an appropriate way for your students' age and abilities. . MARK SYNNOTT: LIFE ON THE VERTICAL fulfills the following Ohio and National Education Standards and Benchmarks for third through twelfth grade:

Ohio's Learning Standards for English/ Language Arts:

- Grade 3- RL 3.1, RL 3.2, RL 3.7
- Grade 4- RL 4.1, RL 4.2, RL 4.7
- Grade 5- RL 5.1, RL 5.2, RL 5.7
- Grade 6: RL 6.1, RL 6.2, RL 6.7
- Grade 7: RL 7.1, RL 7.2, RL 7.7
- Grade 8: RL 8.1, RL 8.2, RL 8.7
- Grade 9 and 10: SL.9-10.3, SL.9-10.1
- Grade 11 and 12: SL.11-12.3, SL.11-12.1

Ohio's New Learning Standards for Math:

- Operations & Algebraic Thinking, Measurement & Data
- Solving multi-step problems
- NUMBER AND OPERATIONS—FRACTIONS
- NUMBER AND OPERATIONS IN BASE TEN

Ohio's Learning Standards for Social Studies:

- Places and Regions
- Spatial Thinking and Skills
- Regions and People of the Western Hemisphere
- Regions and People of the Eastern Hemisphere

National Core Arts Theatre Standards:

- Grade 3- VA:Cr1.2.3a, VA:Cr2.2.3a
- Grade 4- VA:Cr1.2.4a, VA:Cr2.2.4a
- Grade 5- VA:Cr1.2.5a., VA:Cr2.2.5a
- Grade 6: VA:Cr1.2.6a, VA:Cr2.2.6a
- Grade 7: VA:Cr1.2.7a, VA:Cr2.2.7a
- Grade 8: VA:Cr1.2.8a, VA:Cr2.2.8a
- Grade 9-12: VA:Cr1.2.1a, VA:Cr2.2.1a

This resource guide was created by Natalie Katona. All activities are available for distribution and use in the classroom or at home.

Table of Contents

COMPREHENSION

About the Play, Spotlight on Mark Synnott & Ohio SpotlightPage 2
 Pre-Show Conversation Starters & Famous Rock Climbing Spots.....Page 3
 Rock Climbing SafetyPage 4

CONNECTION

Vertical MathPage 5
 Vertical Math Answer KeyPage 6
 Rock Climbing Passport.....Page 7
 Your Rock Climbing AdventurePage 8

CREATIVITY

Me MountainPage 9
 Mountain Goat MaskPage 10
 No Bake Mountains.....Page 11
 Additional Resources for Students and AdultsPage 12

About the Play



MARK SYNNOTT is a man ever on the brink of new discovery. A big wall rock-climber of the highest order, he's made legendary first ascents of some of the world's tallest, most forbidding walls. He has pioneered four big wall first ascents on Baffin Island's remote east coast, including a grade VII on the 4,700-foot north face of Polar Sun Spire. In Pakistan's Karakoram Mountains, he established two grade VII big wall first ascents. One, a 6,000-foot wall topping out over 20,000 feet, is one of the longest rock climbs in the world. Closer to home, Mark has climbed Yosemite's El Capitan 22 times, including several one-day ascents. Today, he uses his skills to break scientific ground, reaching incredibly inaccessible environments in search of rare species. It's all in the spirit of adventure and exploration to educate about these sites of strange, remote beauty.



Spotlight on Mark Synnott



Mark Synnott is an amazing rock climber who is known for his soaring heights adventures! He has been on over 30 expeditions through his search for unclimbed and unexplored rock walls. Mark is also an author and has written the book *Baffin Island: Climbing, Trekking, Skiing* as well as several articles on his rock climbing travels. He designs for the clothing company North Face. Through National Geographic he has worked in front of as well as behind the camera for such broadcasts as National Geographic Television, NBC Sports, and Warren Miller Entertainment. He is a certified mountain guide and runs his own premier guide services, Synnott Mountain Guides.

His company offers classes in rock climbing, ice climbing, mountaineering, backcountry skiing, and avalanche education. He is a member of the Mountain Rescue Service and serves on their board. To learn more about Mark and his expeditions please visit: <https://www.marksynnott.com/>.

Ohio Spotlight - Hocking Hills



Mark Synnott has made a living through climbing and scaling amazing heights and mountains. Hocking Hills State Park is a perfect spot for beginners to learn the ropes when it comes to repelling and rock climbing. They offer several classes that range in ability levels from beginner to advanced climbers. They take climbers as young as six out for climbing adventures with the one goal in mind that rock climbing is supposed to be fun! They not only provide an expert guide but also provide climbers with all needed equipment including climbing shoes. They have nature related additions

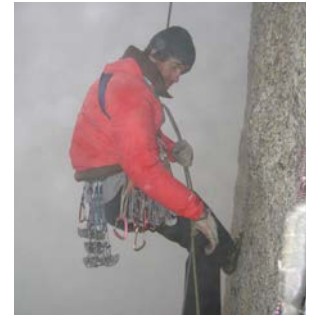
to your rock climbing package. These options include naturalist led hikes, edible forest presentations, and Native American and living history presentations. To learn more about the adventures you can have at Hocking Hills State Park please visit: <http://www.hockinghillsrockclimbing.com/home.html>.

Pre-Show Conversation Starters

ENGLISH/
LANGUAGE
ARTS

SCIENCE

MARK SYNNOTT: LIFE ON THE VERTICAL is about one man and his bravery while climbing some of the highest and most foreboding rock walls! Teachers, have your class study the images from one of Mark's climbs on Tasermiut fjord, Cape Farewell, Greenland. Then, discuss and answer the following questions about what it takes to be an extreme rock climber.



- 1) What do you notice about the location of Mark's expedition? What in the picture gives you an idea of what it would be like on this climb?
- 2) What challenges would Mark face on this climb? What makes you think that?
- 3) What personality traits can you infer about Mark based on these photos?
- 4) What kind of gear is Mark using?

Famous Rock Climbing Spots

SOCIAL
STUDIES

ENGLISH/
LANGUAGE
ARTS

Are you ready to take on climbing a rock wall? Here are some of the top rock climbing spots from around the world!



Pinnacles National Park, California: These peaks are rock that is made from volcanic breccia. Visitors may also be lucky enough to see eagles or falcons on their visit.



Red River Gorge in Stanton, Kentucky: Visitors can take classes with trained rock climbing professionals as well as explore the natural bridge, ride ziplines through the forest, and take in the wild life at this popular rock climbing spot.



Otter Cliff in Acadia, Maine: Rock climb on one of the highest headlands north of the Rio De Janeiro. This rock climbing destination is located on Mount Desert Island and has spectacular ocean views as you climb.



Frankenjura in Bavaria, Germany: This strenuous climb takes adventurers through over 8,000 established routes. It is a scenic climb in dense, lush forests. The cliffs are made of glimmering limestone.




Costa Blanca, Alicante, Spain: Not only do climbers get to enjoy these limestone cliffs but they get a variety with their climb. Costa Blanca is home to sea cliffs, mountain ridges, sunny crags, and canyon walks.

Rock Climbing Safety



If you're thinking of testing your bravery by rock climbing, make sure to follow these ten tips to keep yourself safe!

- 1) Always check your harness: Once you have your gear on and you've tied yourself into the rope at the base of your route, there are a couple of things to check. First, check that you and your belayer's harness buckles are double looped. Also, your leg loops should be snug and adjusted to fit your body.
- 2) Check your knots: Your knots should be a figure-8-follow-through and finished with a backup knot. Also, check that your rope is threaded through both the waist loop and legs loops of your harness. Your knot should look like this:

- 3) Wear your rock climbing helmet: Your head needs to be protected from falling rocks or the impact of falling, so always have your helmet for every climb.
- 4) Check the rope and belay device: Your rope needs to be properly threaded through the belay device before you begin climbing or repelling. The rope and belay device should be connected to the belayer's harness with a locking carabiner as well.
- 5) Make sure your rope is long enough: Your rope should be long enough to reach your anchors and lower back down the length of your route.
- 6) Pay attention to surroundings: Make sure to focus while you're climbing, watch where you're putting your hands and feet and be aware to any slight changes to the wind or rock.
- 7) Bring enough gear: Research about the route you will be climbing and know which gear you will need before you go.
- 8) Always climb with the rope over your leg: This makes falling a little bit safer and will help stop your fall.
- 9) Always properly clip your ropes:
Once your ropes are clipped it should look like this:
- 10) Always use safe anchors:
Use at least two anchors at the top of the pitch or route.



NAME: _____ **Date:** _____

Solve the word problems based on Mark Synnott's adventures in rock climbing!

- 1) Mark has climbed El Capitan in Yosemite National Park 22 times. It is 7,569 feet tall. How many feet has he climbed in all?
- 2) The Polar Sun Spire is 4,700 feet. How much taller is El Capitan at 7,569 feet?
- 3) Mark must train for 35 hours a week to be prepared for his next big climb. How many hours is the minimum amount to train per day to make his 35-hour goal?
- 4) Most climbers take a 60-meter rope with them to climb with. Mark has found a cliff that requires three times as much rope. How many meters of rope does he need?
- 5) It on average takes Mark seven hours to climb a cliff that is 6,578 feet. How many feet is that per hour?
- 6) Mark tells his rock climbing groups to pack three bottles of water for their journey. How many water bottles would 18 people need?
- 7) Mark takes 65 granola packets for himself for a month-long expedition. If a group of 25 people were going on the expedition, how many granola packets would be needed?
- 8) Barbeau Peak is 8,583 and Mount Odin is 7,044 feet. What is the different in height between the two mountains?
- 9) Mark climbed 22,769 feet at Kedarnath and 23,419 at Chaukhamba. What is the combined total of feet he climbed?
- 10) Mark wanted to do a 500 feet practice climb. He did 250 feet due to a rope issue. What fraction of his goal was he able to climb?

Solve the word problems based on Mark Synnott's adventures in rock climbing!

- 1) Mark has climbed El Capitan in Yosemite National Park 22 times. It is 7,569 feet tall. How many feet has he climbed in all?
166,518 feet
- 2) The Polar Sun Spire is 4,700 feet. How much taller is El Capitan at 7,569 feet?
2,869 feet
- 3) Mark must train for 35 hours a week to be prepared for his next big climb. How many hours is the minimum amount to train per day to make his 35-hour goal?
5 hours
- 4) Most climbers take a 60-meter rope with them to climb with. Mark has found a cliff that requires three times as much rope. How many meters of rope does he need?
180 feet
- 5) It on average takes Mark seven hours to climb a cliff that is 6,578 feet. How many feet is that per hour?
939.71 feet
- 6) Mark tells his rock climbing groups to pack three bottles of water for their journey. How many water bottles would 18 people need?
54 bottles
- 7) Mark takes 65 granola packets for himself for a month-long expedition. If a group of 25 people were going on the expedition, how many granola packets would be needed?
1,625 packets
- 8) Barbeau Peak is 8,583 and Mount Odin is 7,044 feet. What is the different in height between the two mountains?
1,539 feet
- 9) Mark climbed 22,769 feet at Kedarnath and 23,419 at Chaukhamba. What is the combined total of feet he climbed?
46,188 feet
- 10) Mark wanted to do a 500 feet practice climb. He did 250 feet due to a rope issue. What fraction of his goal was he able to climb?
1/2 of his goal

Your Rock Climbing Passport



NAME: _____ **Date:** _____

Mark Synnott has been on many rock climbing expeditions from around the world.

For more information about the places he has travelled please visit: <https://www.marksynnott.com/expeditions-trips/>.

Directions: Use the website and other resources to research the rock climbing locations. Select 3 locations and complete the worksheet using the research you collected about them to sketch yourself climbing in each location and provide a description of the climb.

Location Name: _____

Description: _____

Location Name: _____

Description: _____

Location Name: _____

Description: _____

Now design your own climbing gear related to one of the locations you chose!

Me Mountain

ENGLISH/
LANGUAGE
ARTS



NAME: _____ Date: _____

Directions: Fill in the mountain with information about your personal life while following the prompts given.

Describe something you felt successful at doing.

Tell about a time you felt brave.

Tell about your greatest fear and why you're afraid of it.

Tell about a time you worked hard on something.

Tell about a time you didn't get something you wanted and how you felt.

What is your first memory?

Mountain Goat Masks

ENGLISH/
LANGUAGE
ARTS

3-5
GRADES

NAME: _____ **Date:** _____

Make a mask fashioned after one of the mountain goats Mark may have seen on his adventures!

Materials Needed:

- 5 paper plates
- Cotton balls
- Black marker
- Pink marker
- Scissors
- Glue
- Elastic string
- Hole punch

Steps:

- 1) Cut off the outer rim of one of the paper plates.
- 2) Fold the outer rim in half and then cut the outer rim to make two horns for your goat.
- 3) Fold the center of the cut plate in half, cut out two almond shaped ears for your goat.
- 4) Take another plate and flip it upside down, draw the goat some eyes and cut a small hole in the middle of the drawn eyes so you can see.
- 5) Draw the goat a nose below the eye holes by making two small nostrils and aw-shape below them.
- 6) Take a few cotton balls and lightly tease and tug them with your fingers to make them a wispy beard.
- 7) Glue the cotton balls to the bottom of the plate.
- 8) Take a pink marker and color in half of the ears.
- 9) Glue the horns to the top of the outer rim of the face plate, one horn on each side.
- 10) Glue the ears to the face plate, one ear below each horn.
- 11) Use the hole punch to punch a hole below each ear.
- 12) Measure a piece of string to fit the child's head comfortable, cut the string to the correct length and tie each end of the string to the punched holes.

Finished Product:



No Bake Mountains



You can make your own edible mountains following these simple steps!
Make sure to have an adult to supervise your cooking!

Makes approximately 12 cookies

Ingredients and Materials Needed:

- 2 cups sugar
- 1/2 cup butter
- 1/2 cup milk
- 1/4 cup unsweetened cocoa powder
- 1/2 cup peanut butter
- 3 cups quick oats
- 1 teaspoon vanilla extract
- 12 medium-sized cups
- 12 small plastic bags
- 6 ounces green candy melts
- Food-safe paintbrush or pastry brush
- 1/4 cup powdered sugar



Steps:

- 1) Gather all needed materials and ingredients, place one bag in each cup forming a cone shape with a corner of the bag pointed down.
- 2) Make Cookie Mixture: In a large pan on the stove combine sugar, butter, milk, and cocoa powder. Heat on high while stirring and bring the mixture to a boil.
- 3) Remove pan from the heat, add peanut butter, oats, and vanilla extract. Stir until well combined.
- 4) Form Mountains: Use a spoon to add cookie mixture into the plastic bags to form the mountain shape. Then, have the cookies cool inside of the bag for 5-10 minutes.
- 5) Remove the cookies from the bag and shape them as needed and place them on parchment paper.
- 6) Paint your Mountains: Melt your candy melts in the microwave in 30-second. Stir after each 30-second microwave round until the candy is melted smooth. Use a pastry brush or food safe paintbrush to apply the candy onto the bottom of the mountain cookies.
- 7) Dip your mountain peaks into powdered sugar to create snowy mountain tops.
- 8) Enjoy your mountain cookies!

Publications for Students and Adults

Additional Stories by Phillip & Erin Stead

Defying Gravity! Rock Climbing (TIME FOR KIDS Nonfiction Readers), Written by Teacher Created Materials. Teacher Created Materials 2012.

Rock Climbing: Making it to the Top, Written by Cynthia A. Dean and Timothy V. Rasinski. Capstone Princ 2005.

My Side of the Mountain, Written by Jean Craighead George. Puffin Books, 2004.

Cliffhanger, Written by Jacqueline Wilson. Transworld Publishers, 1995.

Publications for Teachers and Parents:

The Impossible Climb: A Personal History of Alex Honnold's Free Solo of El Capitan and a Climbing Life, Written by Mark Synnott. Dutton, 2019.

Tears in the Wind: Triumph and Tragedy on America's Highest Peak, Written by Larry Semento. CreateSpace Independent Publishing Platform, 2016.

Alone on the Wall, Written by Alex Honnold with David Roberts. W.W. Norton & Company, 2015.

Websites for Teachers and Students:

<https://www.climbing.com/>- A website of with articles about gear, practices, and the people of rock climbing

<https://mojagear.com/>- A site where rock climbers can add photos , articles or video blogs.

<https://www.mountainproject.com/>- A site to help people map out their rock climbing adventures

Victoria Fuse's Local Resource

Would you like to try some live action rock climbing? Here in Dayton you can learn more about rock climbing at the Urban Krag Climbing Center. Urban Krag Climbing Center features 8000 square feet of textured and sculpted vertical terrain with heights ranging from 28 to 56 feet, an inclined bouldering wall for both advanced and beginner climbers, and plenty of people ready to jump in and help with a route. They also offer a variety of lessons in rock climbing, rappelling, sports climbing and top rope construction. Their website offers instructional videos as well for people who want to practice what they learn in the classes at home.

To learn more about their programs and hours please visit:

<http://urbankrag.com/index.php.exhibits/discovery-zoo/>.



Brought to you by



VICTORIA THEATRE ASSOCIATION
VICTORIA • SCHUSTER • MACLOFT • ARTS ANNEX

138 North Main
Street



The Education & Engagement programs of Victoria Theatre Association are made possible through the support and commitment of The Frank M. Tait Foundation and the following sponsors and donors whose generosity have opened the door of live theatre to the students of the Miami Valley:

PROGRAM SPONSORS

STEVE & KATE HONE

THE FRANK M. TAIT FOUNDATION

THE BERRY FAMILY FOUNDATION

ROD & REGINA CRANE CHARITABLE FUND

GREENPOINT METALS

THE KUNTZ FOUNDATION

MATHILE FAMILY FOUNDATION

RAY WYLAM

BROADWAY EDUCATION PROGRAM

EDUCATION PROGRAMS:

Broadway Camps & Intensives

Broadway Master Classes

SUPPORT FOR BROADWAY
EDUCATION PROGRAMS IS
GENEROUSLY PROVIDED BY

GREATER DAYTON REGIONAL TRANSIT
AUTHORITY

SPEEDWAY LLC



NATIONAL GEOGRAPHIC *LIVE!*

Behind every great National Geographic story there is a great storyteller: the writers, photographers, filmmakers, scientists, explorers, and adventurers who bring the world home. National Geographic Live presents these storytellers on stages worldwide. The speaker series began in 1888 with explorer John Wesley Powell who gave a presentation on the physical geography of the United States. Now, National Geographic gives a platform to photographers, explorers, journalists, scientists, filmmakers, and many other innovators who want to share their stories and findings. To learn more about the other programs National Geographic Live!

Offers please visit: <https://events.nationalgeographic.com/>.

DON'T FORGET

All schools that receive scholarships for a show and/or transportation are asked and encouraged to create thank-you letters or cards for our sponsors. Please address your students' thank-you notes to:

DISCOVERY Sponsors
c/o Victoria Theatre Association
138 North Main Street
Dayton, OH 45402

