Buncombe County FY2019 Strategic Partnership Grants
Application Summary Sheet

Project	**Early STEM Education**
Organization	**Asheville Museum of Science (AMOS)**

Amount Requested	$15,300* *also requested $70,000 via email	**Strategic Priority or Sustainability Goal**	Early Childhood Education
New or Renewal Request	Renewal	**Area Served**	Districts 1, 2 & 3

Organization Description	• AMOS is Western North Carolina's home for experiential science learning, discovery, and exploration. AMOS strives to spark the imagination and foster lifelong curiosity. AMOS provides education for all ages including: standards-based classes to K-8 students, high school and college internships, weekend workshops, early childhood enrichment, summer camps, homeschool classes, science birthday parties, "parent's night out," Science Pub for adults, and a science podcast. Success for the museum is reliant on strong partnerships. AMOS aims to help close the achievement gap and introduce students to STEM careers. With outreach, AMOS aims to increase access to science education.
Key Steps	• Offer STEM outreach to 1,000 preschool and Kindergarten students in Buncombe County. • Develop a new selection of outreach curriculum offerings based on evidence-based early childhood STEM curriculum to supplement current offerings of astronomy, geology and engineering for early STEM. • Pilot two (2) workshops for early childcare providers, parents, and families on techniques of how adults can support early STEM education. • Offset overall cost of Little Explorer's Club (LEC). LEC is an informal education program for ages 3-5, offered at AMOS from 9am to 10am on 2nd and 4th Fridays of each month. During club time, there is a book reading, a hands-on activity and play time with age-appropriate science equipment.
People Served	• AMOS will provide STEM outreach to 1,000 preK to K students; offer LEC to 400 preK children at AMOS; and pilot two workshops on early STEM for at least 25 adults. • AMOS educators will provide outreach funded by this grant to Head Starts and NC Pre-K sites in Buncombe County. • Workshops for adults will be offered at either AMOS or child care centers that have the interest and capacity to host. LEC attendees are primarily Buncombe County residents who have the ability to travel to the museum and are able to pay modest program fee.
Outcomes	• Achieve satisfactory reports from school leaders on program quality: 90% of evaluation respondents will score overall experience as satisfactory or higher. • Programs will inspire children's interest in science and science careers: 75% of program attendees surveyed will demonstrate an increase in STEM knowledge and interest in

Budget			
Amount Funded FY2018	$13,800	**Increase Request**	$71,500
Administrative Budget	12% (from 2016 IRS Form 990)	**Total Organization Budget**	$658,330 (projected FY2019)
Other Funding Sources: Admissions, Gift shop sales, Education revenue/fee, Special Events, Membership, Grants, Individual donations, Corporate donations, Government funding, Private foundations			

Strengths
Innovative and Creative program design
Evidence based/replicating a structured model/best practice
Diverse/Balanced funding sources

Early STEM Education

FY2019 Strategic Partnership Grants

Asheville Museum of Science (AMOS)

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Application Form

Question Group

Project Name*

Name of Project.

Early STEM Education

Amount Requested*

$15,300.00

PROJECT NARRATIVE

Area Served*

Which areas of the County will be served by this project? Which Commissioner District(s) will be served?

A Buncombe County Commissioner district map is available at THIS LINK.

For this proposed project, AMOS will serve students from all three districts within Buncombe County. As the population is highest in District 1, AMOS estimates that a majority served will be from District 1. The focus of this request is to provide outreach to Head Starts and NC Pre-K sites throughout the County.

Organization Description*

Tell us about your organization. What is your mission? Highlight two or three key facts and accomplishments that best define your organization.

AMOS is Western North Carolina's home for experiential science learning, discovery, and exploration. AMOS strives to spark the imagination and foster lifelong curiosity.

AMOS provides education for all ages including: standards-based classes to K-8 students, high school and college internships, weekend workshops, early childhood enrichment, summer camps, homeschool classes, science birthday parties, "parent's night out," Science Pub for adults, and a science podcast.

AMOS is resourceful: It was critical to AMOS to open its doors in 2016, even at partial completion, to serve as a destination for families and a resource for school field trips. The museum has installed new exhibits and purchased equipment as income allowed.

AMOS is a community member: Success for the museum is reliant on strong partnerships. AMOS aims to help close the achievement gap and introduce students to STEM careers. With outreach, AMOS aims to increase access to science education.

Strategic Priority*

Which of the following priorities best reflects the primary goal of your project?

Buncombe County Commissioners are dedicated to strengthening the quality of life for everyone by setting new fiscally, socially and environmentally responsible goals that will guide decisions and improve our community for future generations. The Board has committed to strategic priorities as a guide to shape partnerships and investments of resources to insure a healthy, safe, well-educated, thriving and sustainable community.

Details about the Strategic Priorities are available at THIS LINK.

Early Childhood Education

Strategic Priority - Other Sustainability Goal

If you selected "Other Sustainability Goal" from the list of Strategic Priorities, please list it here.

Details about the Sustainability Goals are available at THIS LINK.

Shared Vision*

What critical community problem or challenge are you hoping to improve through this project?

AMOS recognizes the local needs in early childhood education and workforce development. Using its expertise, AMOS can complement county efforts by providing high quality Science, Technology, Engineering, and Math (STEM) education to ages 3-5 and opportunities for teachers and parents to be involved with early STEM learning. Early STEM supports student success across all subjects. As such, AMOS can help meet the county's goals of increasing reading proficiency by 3rd grade and connecting families to educators and workforce efforts to education.

North Carolina students are falling behind in science and locals cannot compete for STEM jobs. AMOS addresses this problem through STEM enrichment using scientific inquiry to support children's academic growth, their critical thinking and reasoning skills, and enhance their appreciation of and interest in STEM careers.

AMOS is a tool for the county to help bridge the achievement gap and prepare youth for the 21st century STEM workplace.

Key Steps*

How will the project work? What are specific activities and milestones that your project entails?

With Buncombe County support, AMOS education staff will:

- Offer STEM outreach to 1,000 preschool and Kindergarten students in Buncombe County.
- Develop a new selection of outreach curriculum offerings based on evidence-based early childhood STEM curriculum for formal and informal settings. Currently the museum offers astronomy, geology and engineering for early STEM and would like to add curriculum on topics related to health, geometry, and food.
- Pilot two (2) workshops for early childcare providers, parents, and families on techniques of how adults can support early STEM education.

- Offset overall cost of Little Explorer's Club (LEC). LEC is an informal education program for ages 3-5, offered at AMOS from 9am to 10am on 2nd and 4th Fridays of each month. During club time, there is a book reading, a hands-on activity and play time with age-appropriate science equipment.

People Served*

Who are the members of our community this project will serve? How many people will be served? Include demographics, including age, area median income, race, neighborhood and/or school.

With this grant, AMOS will provide STEM outreach to 1,000 preK to K students; offer LEC to 400 preK children at AMOS; and pilot two workshops on early STEM for at least 25 adults.

AMOS educators will provide outreach funded by this grant to Head Starts and NC Pre-K sites in Buncombe County. Workshops for adults will be offered at either AMOS or child care centers that have the interest and capacity to host. LEC attendees are primarily Buncombe County residents who have the ability to travel to the museum and are able to pay modest program fee.

AMOS expects the demographics of young children served to reflect the overall ethnicity of the county with approximately 84% Caucasian, 7% African American/Black, 1% Asian, 7% Hispanic/Latino and 1% mixed/other. There are approximately 13,000 children between the ages of 0 and 5 in Buncombe County (2015 US Census quick facts) with 7,900 in licensed child care programs. Our programs will reach both those enrolled and not enrolled in child care.

Partners*

Which other organizations are you working with to reach your goals? What other local organizations provide similar services or serve similar beneficiaries, and how do you work together?

For this grant, AMOS will work with Buncombe County Head Starts and NC Pre-K sites. In scheduling and choosing themes for early childhood programs, AMOS is careful to ensure that programs do not duplicate or directly compete with partners such as the Arboretum and Nature Center. AMOS is active in a STEM education leaders collaborative, with the goal to reduce gaps and overlaps, and meet needs.

AMOS staff work closely with Pack Memorial Library librarians for age appropriate and theme-based books for early childhood programs.

Hardworking early childhood educators and teachers throughout the County are including STEM in their child care centers or schools. It is our understanding that STEM professional development is offered to early childhood educators but is optional, and often not chosen along with required courses. AMOS believes there is a niche for the museum and a need for affordable STEM education programming for children, for educators, and for families in the County.

Personnel*

Who is responsible for the project? Briefly describe project leaders and the role each will play in the project. How do these leaders reflect the population or community that you serve?

Overall project management will be provided by the AMOS Executive Director, Anna Priest. In addition to Anna is a team of educators and support staff. Specifically, educators Christa Flores and Dani Pollard will be providing leadership in developing and implementing programs. All staff are Buncombe County residents.

Christa graduated from UC San Diego with a degree in Biological Anthropology and has a Masters from Teachers College, Columbia University. She is the author of Making Science, “a book about science literacy.” In 2012, Flores co-founded the Hillbrook School iLab for Making, a classroom designed for material and digital making. Christa has led LEC and contributed to informal and formal education at AMOS for the 2017/2018 school year.

Dani joined AMOS as an educator in May 2017. She graduated from UNC Wilmington with a BS in Secondary Math & Science Education. At Wilmington she worked with the Center for Education in STEM helping to organize the Regional Science Olympiad.

Success*

How will you measure results? What will success look like? How will you document the impact of your project? Include whether there is a model that serves as basis for project design.

Early Childhood programs at AMOS help reach the overarching goals of AMOS Education:

- Provide high quality, incremental 21st century skill building activities for local and regional students and families to meet educational and regional workforce development needs.
- Serve as a STEM learning resource for western North Carolina children, youth, and educators.

How AMOS will measure success:

1. Achieve satisfactory reports from school leaders on program quality.

* 90% of evaluation respondents will score overall experience as satisfactory or higher.

2. Programs will inspire children's interest in science and science careers.

* 75% of program attendees surveyed will demonstrate an increase in STEM knowledge and interest in STEM careers.

AMOS models its works on many inspiring museums and programs such as Bay Area Discovery Museum, Exploratorium, and Children's Center at CalTech.

Impact will be documented through a report on success measures above and qualitative feedback.

Funding*

What is your plan for finding the balance of the project budget? What is your funding timeline and what are your other sources of support?

Efforts to support and expand STEM education programs at AMOS has begun with fundraising requests and conversations with previous capital campaign contributors who already have a relationship with the museum and see the value of a long-term investment in science education.

Other sources of funding for education programming for fiscal year 2018-2019 include the Glass Foundation that supported the purchase of a laser-cutter that will be used as a tool to create curriculum supplies and to teach engineering to all ages. AMOS has established relationships with Wells Fargo and Duke Foundation. Both of those sources will be asked to support FY 18-19 education programs at AMOS. Cultivation of new donors and renewal of other sources are the focus of efforts currently and will continue to early summer 2018.

Sustainability*

How will this project be maintained? Please describe funding sources and how you plan to sustain the project in future years.

The long-term vision for early childhood education at AMOS is to offer a STEM outreach series to preK to K classes in Buncombe County and further west in the state. For example, a STEM series consists of three to four visits in which the AMOS educator engages young students in principles of engineering, allowing them to create and design. The series would expose students to STEM and the design process while also helping teachers start to see their students as engineers. Other topics to offer include space science, astronomy, water, health, and chemistry. AMOS also aims to offer professional development, coaching, and workshops for adults on techniques and activities to encourage children to problem solve and think critically.

Early Childhood education is included in efforts to expand education programs at AMOS. It is a priority for AMOS to increase access to STEM education. As such, the museum will actively seek funding that will provide scholarships or will subsidize programs.

ATTACHMENTS

Project Budget*

Download the budget form at THIS LINK.

Complete the budget form for this project and the overall organization.

Save it to your computer, then upload it.

strategic-partnership-grants-FY2019.xlsx

Financial Statements*

Upload a copy of the most recently completed financial statements.

All financial statements must be audited, reviewed or compiled by a certified public accountant and include a full balance sheet, income statement, and cash flow statement.

If your organization does not have financial statements, briefly state the reason.

Financial Report FY 16 17.pdf

IRS Form 990*

Upload a copy of the 990 nonprofit tax reporting form that you most recently completed.

If your organization does not have a 990, briefly state the reason.

AMOS 990 FY 2015 - 2016 sm.pdf

Board of Directors List*

Upload a current list of your organization's Board of Directors.

If your organization does not have a board of directors, briefly state the reason.

AMOS Board Composition Dec 2017.pdf

Authorized Signatory

By typing in below the name of the authorized signatory and date of submittal, you acknowledge that your governing body has authorized this application, that it is true and current to your knowledge. As a condition of any grant awarded, this organization will provide all information in the manner described in the contract to be executed between the organization and Buncombe County or its designee, including program and financial reporting.

Name & Date

Alison Gooding 2/9/2018

ASHEVILLE MUSEUM OF SCIENCE

April 5, 2018

Mandy Stone
Buncombe County Manager
200 College Street, Suite 300.
Asheville, NC 28801

Subject: AMOS allocation in Buncombe County budget

Dear Ms. Stone:

It is with gratitude for your consideration that I submit this request to allocate $70,000 per year to Asheville Museum of Science (AMOS) in the Buncombe County's budget for the next three years. Support from the county validates and sustains a family-friendly destination in downtown that promotes access to Science, Technology, Engineering, and Math (STEM) education for the county's residents of all ages. Please note, AMOS submitted a funding request through the County's Strategic Partnership Fund and will retract that request if the County approves this alternative funding request.

Organization History
The seeds for AMOS were planted in 1960 when the Burnham S. Colburn Memorial Museum was founded by the Southern Appalachian Mineral Society. It was endowed through a bequest of gems and minerals from Mr. Colburn's private collection. In 1983 the museum became an independent nonprofit. Since 1992, the museum was located in the Pack Place Education, Arts, and Science Center. In September 2016 the museum launched its new name and moved to a new location at 43 Patton Avenue in downtown Asheville. The museum has expanded into a broader science center by adding exhibits and programming focused on life science and STEM.

Organization Description
The museum's mission is to serve as Western North Carolina's home for experiential science learning, discovery, and exploration. AMOS strives to spark the imagination and foster lifelong curiosity.

AMOS exhibits and programming offer interactive opportunities for museum guests and students to explore and create. AMOS provides formal and informal education for all ages including: standards-based education to K-8 students, high school and college internships, weekend workshops, early childhood development, summer camps, and evening programs for adults by local scientists. Recent additions to museum offerings include homeschool programming, science-themed birthday parties, a monthly "parent's night out," and a podcast for adults called 7 Minute Science that covers a broad range of topics. Professional development for teachers is available through AMOS on problem-based curriculum and ways to incorporate engineering concepts into the classroom.

New exhibits installed over the past year include the Southern Appalachian Forest exhibit, a virtual reality sandbox or "terrabox", a fossil dig, a mural of North Carolina's natural biodiversity, and temporary exhibits from the former Health Adventure. The French Broad River exhibit is set for installation in July 2018.

Over the past year, AMOS has welcomed and provided science education to 42,462 individuals through museum attendance and education programming.

Education at AMOS

Over the next three years, AMOS aims to enhance education offerings that provide preK to 8th grade students with hands-on experience with the scientific method, critical thinking, and creative problem solving. North Carolina students are falling behind in science and local applicants cannot compete for STEM jobs in western North Carolina. AMOS addresses such needs by offering standards-based education for students and year-round enrichment programming for all ages. Through early exposure to STEM, youth can practice critical thinking and reasoning skills and develop an interest in STEM careers. AMOS encourages curiosity and supports all ages to build confidence in asking questions and making informed decisions for future real-world experience. Overarching goals of AMOS Education programs are to:

- Provide high quality, incremental 21st century skill building activities for local and regional students and families to bridge the achievement gap and meet educational needs and regional workforce development needs.
- Increase access to STEM education opportunities for residents throughout Buncombe County.
- Serve as a STEM learning resource for western North Carolina (WNC) children, youth, and educators.
- Provide high quality trainings for WNC teachers and educators in inquiry based science education strategies.

Request of Buncombe County

The generous investment of $70,000 per year for three years enables AMOS to maintain and increase capacity for education programs and helps ensure success of the museum's efforts to meet education goals. As such, Buncombe County's investment will directly impact participants in the museum's year-round formal and informal education programs and museum floor offerings to entice locals.

Thank you for taking the time to review this request for support. Again, please note that AMOS will retract its request for County Strategic Partnership Funding if the County chooses to approve this alternative request. Please let me know if you have any questions or would like to discuss the proposal further in person.

Sincerely,

Anna Priest
Executive Director

Attachment: AMOS Fact Sheet
AMOS Partnerships

AMOS
ASHEVILLE MUSEUM OF SCIENCE

Calendar Year 2017

42,462: AMOS Visitors Served

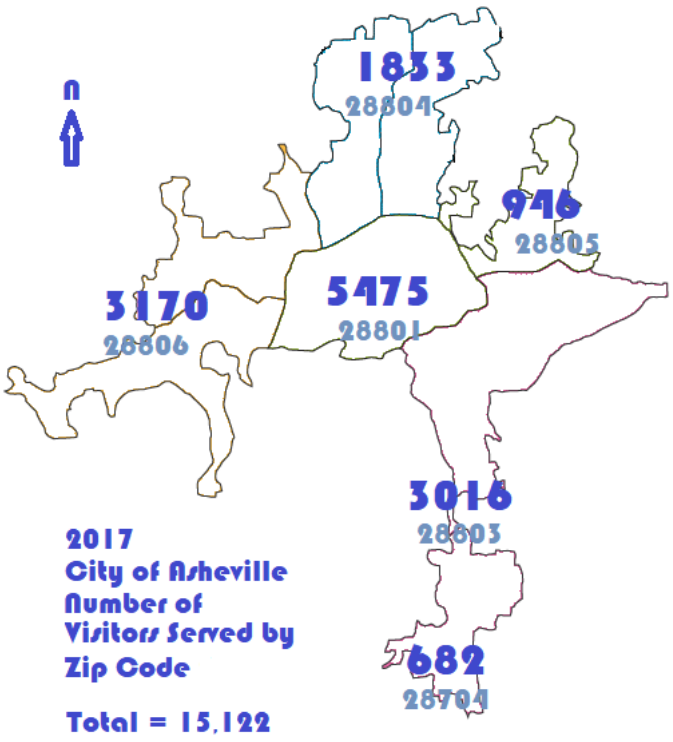
18,483: Visitors from Buncombe County

15,122: Visitors from City of Asheville

2,778: Buncombe County Students Served

1,222: Asheville City Students Served

AMOS Visitor Data for the City of Asheville 2017:



Past County and City Support for Colburn Earth Science Museum and AMOS:

- Colburn operated in the Pack Place building **rent free for 24 years** with support from Buncombe County and City of Asheville.
- Buncombe County funded Pack Place **$390,000** in 2015 and **$250,000** in 2016.
- Buncombe County funded AMOS **$50,000** and **$75,000** in 2016 for capital expenses.
- AMOS is now paying $15,000 per month in rent to remain a **safe, family-friendly education center** in the heart of downtown Asheville.

Current AMOS Support Breakdown w/ Average Comparison:

	Average Mix of Funding Sources for US Museums (2009)	AMOS Mix of Funding (2017) - $850,000 Budget
Government Support (all levels)	24.4%	3.6%
Private Giving	36.5%	59.9%
Earned Income	27.6%	36.4%
Investment Income	11.5%	0%

AMOS Government support (all levels) 2017 detail:

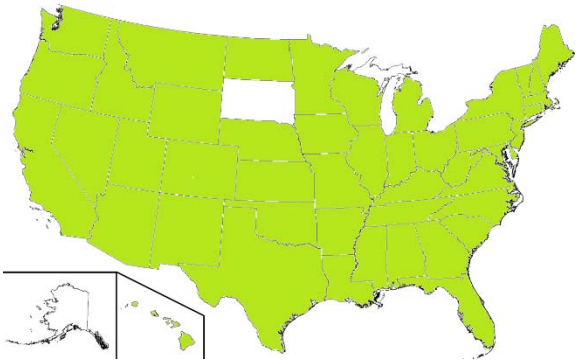
- $18,075 – State of NC (**cut from $52,000 in 2017, and $60,000 in 2016**)
- $11,200 – Buncombe County (out of $13,800 FY 17/18 grant)

Other Science Museum and Municipality Partnerships across the State of NC:

According to data from the North Carolina Science Museums Network, **nearly all Science Centers in NC receive significant funding from City or County** for a portion, if not all facility expenses. Three nearby examples:

Museum of Life & Science has 80-acres of land and a 30,000 sq ft building **paid for** by the City of Durham through bonds.
Catawba Science Center has a 50,000 sq ft building **paid for** and maintained by City of Hickory through bonds.
Gem and Lapidary Museum of Henderson pays **$1 per year** for rent Subsidized by City of Hendersonville.

AMOS 2017 Visitor Data:



Non-US Visitors:

Australia	Austria
Canada	Denmark
Finland	Germany
Ireland	Italy
Netherlands	Spain
United Kingdom	

Survey Data shows **57%** of out-of-town visitors seek AMOS out.

ASHEVILLE MUSEUM OF SCIENCE

Partnerships AMOS holds with the Buncombe County, City of Asheville, and other community organizations

Buncombe County Partnerships

- AMOS served over 2,700 students in 2017 through formal science education programming
- Zoom Pass – through county library system, AMOS provided free entry to over 500 Buncombe residents
- Buncombe County Teacher PD – free for 800 teachers
- STEM fairs at Buncombe Schools
- AMOS (formerly Colburn Earth Science Museum) has provided science education to County school students for over 25 years
- Programming includes geology, weather & climate, forces & motion, astronomy, chemistry, math, matter & energy, engineering, and computer science

Buncombe County Headstart Programs and Asheville City Preschool:

- AMOS will serve 600 students from these preschools promoting early childhood development through with AMOS' Little Explorers Club and an astronomy program, sponsored by a Buncombe County grant.

Planned partnerships for Spring 2018:

- Duke Energy Education Grant provides AMOS the opportunity to reach underserved students and populations through:
    - Homework Diners – county schools
    - Rec Centers – pop-up science events
    - Public Housing events
    - Green Opportunities
    - Delta House

AMOS Weekend, Summer Camps and Programs:

- AMOS provides summer science programming through UNCA's federal NSF Gear Up grant to middle school first generation future college attendees.

- For AMOS' summer camps, hosted at UNC-Asheville, we host the following groups to be guest speakers and provide real life science career exposure to students:
    - Riverlink
    - Green works
    - Asheville Makers Group
    - Radio museum
    - Mountain true
    - Muddy sneakers
    - Pisgah field school
    - NC Wildlife Commission
- AMOS serve City of Asheville's Parks & Rec groups through discounted rate
- SEOS/Collider – AMOS partners with these organizations to provide High School space camp summer experience

AMOS works with the following partners to provide field trip students with a downtown experience:

- Thomas Wolfe House
- Collider and Climate Interactive
- NOAA – CICS
- Riverlink
- NC State Mineral Research Lab

2017 Solar Eclipse Festival

- AMOS co-hosted Asheville's 2017 solar eclipse festival with City of Asheville Schools, Buncombe County Schools, and UNC Asheville
- AMOS gave away 4,000 eclipse glasses to the following:

YWCA of Asheville	Asheville City Preschool
Family Justice Center - Buncombe County	Green Opportunities
Children's First	Elida Children's Home
Girls and Boys Club	Children Home in Black Mtn
YMCA of Asheville	Asheville City School jump start program
Shiloh Rec Center	WNC Baptist Retirement Home
Stevens Lee Rec Center	United Way
Montford Rec Center	Avery children's center
YMCA mobile food program	Vance Rec Center
YTL nonprofit program	Burton Street Rec Center

Asheville City Schools

- AMOS served over 1,200 city students in 2017 through formal science education programming
- AMOS (formerly Colburn Earth Science Museum) has provided science education to City school students for over 25 years

IRL (In Real Life) Asheville Middle School's afterschool program

- AMOS has provided free STEM programming through 70 teaching hours to nearly 400 students

CAYLA (City of Asheville Youth Leadership Academy)

- AMOS hosted a CAYLA intern last summer who helped with museum administration and education.

AMOS provides a community science seminar once a month called Science Pubs. We have partnered with the following organizations:

- Humane society
- Chestnut Foundation
- NOAA – CICS
- WNC Nature Center
- UNC-Asheville professor's topics include: Astronomy and Racism & Inclusion

YMCA Afterschool Science Programs

- AMOS partners with YMCA to provide middle school afterschool programs
- Grant provided by United Way's 21st Century grant - Middle School Initiative

Western Carolina University

- Western region science & engineering fair for 800 middle school students

AmeriCorps through Children's First

- AMOS has hosted 3 AmeriCorps teaching members over the past two years to help provide science education to the community

WNC Nature Center

- Membership Reciprocity benefits
- Science Education featured at annual Hay Day
- Annual geology educational program
- AMOS adult seminar - Science Pub speaker on capital plan and endangered species