



APPALACHIAN STATE UNIVERSITY

REICH COLLEGE OF EDUCATION
**Mathematics and Science
Education Center**

AUGUST/SEPTEMBER 2024 STEM AMBASSADORS NEWSLETTER



**UPCOMING PROFESSIONAL
DEVELOPMENT**

NCSTA

THE ANNUAL CONFERENCE FOR THE NORTH CAROLINA SCIENCE TEACHERS ASSOCIATION WILL OCCUR ON NOVEMBER 7-8 AT THE BENTON CONVENTION CENTER IN WINSTON-SALEM. YOU CAN FIND MORE INFORMATION [HERE](#).

NCTM

THE ANNUAL NORTH CAROLINA TEACHERS OF MATHEMATICS CONFERENCE IS COMING UP NOVEMBER 14-15 AT THE BENTON CONVENTION CENTER. PLEASE VISIT THIS [WEBSITE](#) FOR REGISTRATION DETAILS AND ADDITIONAL INFORMATION.

MARK YOUR CALENDARS

OUR FALL STEM AMBASSADORS MEETING WILL BE HELD AT 4:00PM ON SEPTEMBER 25TH. WE WILL MEET ON ZOOM. THIS MEETING WILL BE AN OPPORTUNITY TO DISCUSS ISSUES IMPACTING STEM TEACHING IN WESTERN NORTH CAROLINA. I WILL SEND A CALENDAR INVITE TO EACH OF YOU SOON, BUT HERE IS ANOTHER WAY TO ACCESS THE LINK FOR THE MEETING:

[HTTPS://APPSTATE.ZOOM.US/J/947
65082405?
PWD=DJLDO00OE5YOAHOE42G3ZQ
XSSFEEIT2.1](https://appstate.zoom.us/j/94765082405?pwd=DJLDO00OE5YOAHOE42G3ZQXSSFEEIT2.1)

WE ARE ALWAYS LOOKING TO ADD NEW STEM AMBASSADORS TO OUR GROUP. IF YOU HAVE A COLLEAGUE WHO YOU THINK MIGHT BE INTERESTED IN JOINING, PLEASE HAVE THEM EMAIL ME AT UPSONLK@APPSTATE.EDU TO GET SIGNED UP.

Focus on the MSEC Lending Library



THE ITEM PICTURED HERE IS A BROCK MAGISCOPE. THESE MICROSCOPES ARE FANTASTIC FOR USE AT ALL GRADE LEVELS, BUT UNFORTUNATELY THEY HAVE BECOME FAIRLY EXPENSIVE TO PURCHASE. THE MAGISCOPES HAVE A 20X MAGNIFICATION, DO NOT REQUIRE ELECTRICITY, AND ARE VERY DURABLE. BECAUSE YOU FOCUS THE MICROSCOPE BY TWISTING THE TUBE UP AND DOWN, THEY ARE SIMPLE FOR STUDENTS OF ALL AGES TO FOCUS. I HAVE USED THEM WITH STUDENTS TO LOOK AT EVERYTHING FROM ROCKS TO PLANT PARTS TO CREATURES THAT WE FOUND IN A STREAM. THE MSEC LENDING LIBRARY HAS SIX OF THESE MICROSCOPES AVAILABLE FOR CHECKOUT. FOR MORE INFORMATION ABOUT OUR MATERIALS LIBRARY, PLEASE VISIT

[HTTPS://MSEC.APPSTATE.EDU/MATERIALS](https://msec.appstate.edu/materials)
IF YOU ARE INTERESTED IN WRITING A GRANT TO PURCHASE MAGISCOPES FOR YOUR OWN CLASSROOM, YOU CAN FIND MORE INFORMATION ABOUT THEM AT [HTTPS://WWW.MAGISCOPE.COM](https://www.magiscope.com).

Funding Opportunities this Fall

DUKE ENERGY SCIENCE NIGHT:

AS PART OF NCSCIFEST, WHICH HAPPENS EVERY APRIL, THE DUKE ENERGY FOUNDATION PROVIDES A NUMBER OF FREE KITS TO ELEMENTARY SCHOOLS ACROSS THE STATE. THE KITS INCLUDE DIRECTIONS AND MATERIALS FOR APPROXIMATELY 10 HANDS-ON ACTIVITIES FOR UP TO 200 PARTICIPANTS IN GRADES K-5. THE DEADLINE FOR APPLYING FOR KITS IS SEPTEMBER 25TH. THE KITS ARE DELIVERED IN FEBRUARY WITH THE EXPECTATION THAT THEY ARE USED IN APRIL DURING NCSCIFEST. FOR MORE INFORMATION ABOUT THE PROGRAM, AND TO ACCESS THE APPLICATION, PLEASE VISIT [HTTPS://NCSCIENCEFESTIVAL.ORG/DESN](https://ncsciencefestival.org/desn). THERE IS ALWAYS MORE DEMAND FOR THE KITS THAN DUKE ENERGY CAN ACCOMMODATE, SO THEY ALSO HAVE AN OPTION TO PURCHASE THE KITS FOR \$625. INFORMATION ABOUT PURCHASING THE KITS IS FOUND AT THE SAME SITE LINKED ABOVE.

BURROUGHS WELLCOME STEM CAREER AWARDS:

THE BW STEM CAREER AWARDS GRANT PROVIDES \$175,000 OVER THE COURSE OF 5 YEARS FOR TEACHERS “WHO HAVE AN OUTSTANDING PERFORMANCE RECORD IN EDUCATING CHILDREN AND WHO DEMONSTRATE SOLID KNOWLEDGE OF STEM CONTENT” (BURROUGHS WELLCOME WEBSITE). THE MONEY IS USED FOR TEACHERS TO CONTINUE TO BUILD THEIR EXPERTISE AND TO ENABLE THEM TO COLLABORATE WITH OTHERS. THE DEADLINE FOR SUBMITTING THE GRANT MATERIALS IS SEPTEMBER 29TH AT 3:00 PM. FOR MORE INFORMATION, PLEASE VISIT THE BW [WEBSITE](#). PLEASE NOTE THAT THE HOMEPAGE FOR THE GRANT SAYS THAT IT IS DUE ON SEPTEMBER 30TH, BUT MULTIPLE OTHER PLACES IN THE GRANT MATERIALS INDICATE THAT THE DEADLINE IS SEPTEMBER 29TH.

NORTH CAROLINA TEACHERS OF MATHEMATICS MINI-GRANTS:

THE NORTH CAROLINA TEACHERS OF MATHEMATICS (NCTM) OFFER MINI-GRANTS OF UP TO \$750 FOR CLASSROOM PROJECTS THAT “ENHANCE TEACHING, LEARNING, AND ENJOYMENT OF MATHEMATICS.” THE PRIMARY CRITERIA USED TO DETERMINE IF A PROJECT IS ELIGIBLE IS THAT STUDENTS BENEFIT FROM THE PROJECT. THE DEADLINE FOR SUBMITTING THIS APPLICATION IS SEPTEMBER 30TH. YOU DO HAVE TO BE A MEMBER OF NCTM IN ORDER TO APPLY. PLEASE MAKE SURE TO CHECK THE MAP ON THEIR WEBSITE TO ENSURE THAT YOU APPLY IN THE CORRECT REGION. FOR MORE INFORMATION VISIT [HTTPS://WWW.NCCTM.ORG/GRANTS-SCHOLARSHIPS/MINI-GRANTS/](https://www.ncctm.org/grants-scholarships/mini-grants/).

Free Teacher Resources:

For Math:

Please visit the “Math Sightings” [PAGE](#) of the National Council of Teachers of Mathematics website for ideas about connecting math concepts to students’ everyday lives. The group of activities featured in this edition includes an activity for using flattened cans to explore volume and a lesson that can be adapted for different grade levels in which students practice calculations related to determining the accuracy of weather forecasts.

For Math and Science:

PBS has a great [WEBSITE](#) for teachers. The website includes videos, lesson plans, and other resources. It is searchable by grade level and topic and includes resources for math and science from Pre-K through 12th grade, along with ELA and social studies. For example, a quick search for 3-5 lesson plans for science brings up lesson plan ideas for soil, plant life cycles, and force and motion. The site also includes images, videos, and interactive experiences.



Tornado Damage in Wilson County

ON THURSDAY AUGUST 8TH, AN EF-3 TORNADO STRUCK IN WILSON COUNTY. THE ROOF WAS TORN OFF OF ONE OF THE MIDDLE SCHOOLS THERE. FOUR OF THE MATH TEACHERS LOST ALL OF THEIR SUPPLIES, INCLUDING MANIPULATIVES. CATHERINE WALTSON, WHO IS THE SECONDARY MATH SCIENCE COORDINATOR FOR THE COUNTY, IS LOOKING FOR RESOURCES TO HELP THE TEACHERS. SHE SPECIFICALLY MENTIONED NEEDING ALGEBRA TILES, TWO-SIDED CHIPS, AND OTHER MANIPULATIVES. IF YOU KNOW OF ANY PLACE THE TEACHERS MIGHT GET THESE ITEMS, PLEASE CONTACT CATHERINE AT CATHERINE.WALSTON@WILSONSCHOOLSNC.NET

Teaching Tip: Back Pocket Questions



IN THE BOOK *AMBITIOUS SCIENCE TEACHING*, THE AUTHORS INTRODUCE THE IDEA OF BACK POCKET QUESTIONS (BPQS) THAT I THINK CAN WORK FOR TEACHERS IN ANY CONTENT AREA. THE IDEA IS THAT YOU HAVE AN INDEX CARD IN YOUR POCKET WITH QUESTIONS THAT YOU CAN ASK AS YOU MOVE FROM TABLE TO TABLE WHILE STUDENTS ARE WORKING. YOU WOULD INCLUDE AT LEAST TWO QUESTIONS THAT YOU COULD ASK TO STUDENTS WHO ARE STRUGGLING THAT WOULD HELP THEM GET STARTED. FOR EXAMPLE, YOU MIGHT HELP THEM IDENTIFY WHICH PART OF THE TASK TO WORK ON FIRST, OR HELP THEM IDENTIFY EARLIER PARTS OF THE LESSON THAT ARE RELATED TO THE TASK AT HAND. YOU WOULD ALSO INCLUDE TWO QUESTIONS FOR STUDENTS WHO ARE SPEEDING THROUGH THE TASK AND NEED MORE CHALLENGE. YOU MIGHT ASK HOW THE TASK CONNECTS TO REAL WORLD APPLICATIONS OR TO OTHER CONTENT FROM THE CLASS. FINALLY, IT IS A GOOD IDEA TO LIST A FEW GENERIC QUESTIONS THAT WOULD HELP UNCOVER STUDENTS' THINKING. SIMPLE PROMPTS LIKE "WHY DO YOU THINK THAT?," "DO YOU ALL AGREE?," OR "CAN YOU UNPACK THAT FOR ME?" ARE GOOD EXAMPLES OF THESE TYPES OF QUESTIONS. THINKING OF THE QUESTIONS AHEAD OF TIME HELPS YOU BE MORE PREPARED TO FOSTER GOOD STUDENT CONVERSATION, AND PRIMES YOU TO COME UP WITH OTHER QUESTIONS SPONTANEOUSLY AS THE LESSON PROGRESSES.

CONNECT WITH THE MATHEMATICS AND SCIENCE EDUCATION CENTER

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