

# Educational Opportunities: Grades K-12



# Who We Are



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Charlotte-Mecklenburg Storm Water Services (CMSWS) is a joint City/County utility to manage the runoff from rainfall, reduce flooding, restore floodplains and protect the water quality of surface waters county-wide.

One way that we do this is by providing **FREE** educational presentations to students. We can tailor any of our content to your curriculum needs. This year, we have added a bilingual educator, Angelica Moncada, to our team who is fluent in Spanish. Please contact us if you have any questions!

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# Elementary School

## Applicable Standard Course of Studies

- Kindergarten
  - Understand the characteristics of living organisms and nonliving things. Understand change and observable
  - patterns of weather that occur from day to day throughout the year.
- First Grade
  - Understand the basic needs of a variety of plants and animals in different ecosystems.
  - Understand that natural resources are important to humans.
- Second Grade
  - Understand properties of solids and liquids and the changes they undergo.
  - Understand animal life cycles.
  - Understand patterns of weather and factors that affect weather.
- Fourth Grade
  - Understand changes caused by human impact on the environment.
- Fifth Grade
  - Understand the interdependence of plants and animals within their ecosystem.
  - Understand how Earth systems (hydrosphere and atmosphere) impact patterns of weather and climate.

# Elementary School Offerings

- Common Water
  - This activity pairs with the book "One Well". Students learn how water usage in our area has changed over time, how water has become polluted, & why we need to conserve it.
- Ecosystems
  - Staff will talk about our stream ecosystems and the different organisms that live in them. Local benthic macroinvertebrates (bugs) that our monitoring team collect & use can be brought in vials to pass around.
- Enviroscope
  - Students will learn about point and non-point sources of stormwater pollution that can be found in a watershed with the use of this model.
- Journey of a Raindrop
  - Students will learn about all of the different forms and phases of water while participating in this hands-on activity.
- Storytime
  - We have several books related to pollution, the water cycle, and stormwater. After the story, students can complete an activity or craft to take home.
- Stormy the Mascot is also available for appearances!



# Middle School

## Applicable Standard Course of Studies

- Seventh Grade
  - Understand the atmosphere and how the cycling of water relates to Earth's water and climate.
- Eighth Grade
  - Understand how organisms interact with and respond to the biotic and abiotic factors in their environment.
  - Understand the hydrosphere including freshwater, estuarine, ocean systems.
  - Understand the reciprocal relationship between the hydrosphere and humans.





# Middle School

## Offerings

- Career Talk
  - Our staff will give an introduction to CMSWS and what we do. Then students will watch a video we have prepared that shows our staff in the field and what their day-to-day routine looks like. After watching the video, our staff will answer any questions.
- Ecosystems
  - Staff will talk about our stream ecosystems and the different organisms that live in them. Local benthic macroinvertebrates (bugs) that our monitoring team collect & use can be brought in vials to pass around.
- Enviroscope:
  - Students will learn about point and non-point sources of stormwater pollution that can be found in a watershed with the use of this model.
- Sediment Model:
  - Watch a demonstration using soil from three different areas and how that effects the type of erosion and water quality that comes from those areas.
- Water Cycle
  - Students will learn about all of the different forms and phases that water goes through. We will also discuss all of the water resources we have in Charlotte-Mecklenburg.

# High School

## Applicable Standard Course of Studies

- Biology
  - Understand ecosystem dynamics, functioning, and resilience.
- Earth and Environmental Science
  - Analyze the connections between the biosphere and other Earth systems (geosphere, hydrosphere, atmosphere).
  - Evaluate how human consumption patterns impact Earth's systems.



# High School

## Offerings

- Benthic Macroinvertebrates:
  - Our staff will give an introductory presentation about biological indicators in our local streams and how we use them to tell us about water quality. Students will then work separately or in small groups to identify local Benthic Macroinvertebrates (bugs) in vials and complete a worksheet to calculate the biotic index of a local watershed.
- Water Cycle
  - Students will learn about all of the different forms and phases that water goes through. We will also discuss all of the water resources we have in Charlotte-Mecklenburg.
- Career Talk
  - Our staff will give an introduction to CMSWS and what we do. Then students will watch a video we have prepared that shows our staff in the field and what their day-to-day routine will look like. After watching the video, our staff will answer any questions.



# Volunteer

Are your students looking for an extra credit activity, volunteer hours, or maybe just a classroom competition? Students can monitor a stream, label storm drains that remind people the drain is only for rain, or perform a litter pickup. Students can do activities on their own, with family, or friends, or they can attend one of our volunteer activities hosted the second Saturday or last Thursday of every month. More info can be found on our website ([StormWater.CharMeck.org](http://StormWater.CharMeck.org)) or sign-up to receive our monthly volunteer newsletter.

