

## Aquatic Resources Education Center (AREC) – Education Programs

### Pre-K & Kindergarten

**Story Time** – Students will explore the AREC on a guided tour and learn about the aquatic animals of Washington, DC through a story, craft and hands-on meet and greet of one of AREC's resident animal. Below is a list of the story time topics

- Aquatic Birds
- Aquatic Mammals
- Crabs
- Fishes
- Fishing
- Frogs
- Life Cycles
- Plants
- Turtles

### Lower Elementary School (1<sup>st</sup> – 2<sup>nd</sup>)

**Amazing Adaptations** – What is an adaptation? How are aquatic animals able to survive? Students will explore the adaptations of aquatic animals found in Washington, DC and use what they learn to create their very own aquatic animal. You can choose a general adaptation lesson or an amphibian or fish specific adaptation lesson.

**Aquatic Bird Bonanza** – Birds that soar and wade in water, legs like stalks, toes with talons, and beaks and bills galore – The Anacostia River and waters of the District host an array of beautiful birds. Students learn to recognize local species, their adaptations to aquatic environments, and some of the challenges our water birds can face.

**Frog Symphony** – Did you know that not every frog goes “Rib-bit”? Students will engage in a sensory experience to learn why frogs and toads call and to receive an introduction to identifying individual species by recreating the sounds of a pond at night.

**Marvelous Mammals** – Did you know the District is home to many semi-aquatic mammals? Students will learn about the similarities and differences between different semi-aquatic mammals and what distinguishes mammals from other animals.

**River Explorers** – What's the big deal with watersheds? Why should I care about them? Students will investigate the Anacostia River watershed and learn about its importance in our environment and our role in its protection.

**Sensational Skin** – Amphibian skin holds a world of wonders, from possessing anti-microbial properties to allowing some salamanders to live without lungs! Students will practice science inquiry and investigate why amphibians can serve as indicators of environmental health.

**Story Time** – Students will explore the AREC on a guided tour and learn about the aquatic animals of Washington, DC through a story, craft and hands-on meet and greet of one of AREC's resident animal. See the list of story time topics under the Pre-K & Kindergarten section above.

**Who Am I?** – Fins for swimming and shells for safety – learn to recognize some of the District's aquatic animals and how they are born and grow. Students will investigate life cycles using fish, frogs, and turtles as models.

### **Upper Elementary School (3<sup>rd</sup> – 5<sup>th</sup>)**

**Amazing Adaptations** – What is an adaptation? How are aquatic animals able to survive? Students will explore the adaptations of aquatic animals found in Washington, DC and use what they learn to create their very own aquatic animal. You can choose a general adaptation lesson or an amphibian or fish specific adaptation lesson.

**Aquatic Bird Bonanza** – Birds that soar and wade in water, legs like stalks, toes with talons, and beaks and bills galore – The Anacostia River and waters of the District host an array of beautiful birds. Students learn to recognize local species, their adaptations to aquatic environments, and some of the challenges our water birds can face.

**Fabulous Food Webs** – What does a long nose gar eat? Or a crab? Find out! Students will explore the food webs found in the Chesapeake Bay.

**Fantastic Fishes** – Why are some fish considered minnows? What do an eel and a sunfish have in common? How does appearance influence behavior? Students will learn about typical body shapes, fin placement, mouth location, and general color patterns in order to recognize several major types (families) of fish that can be found in the streams and rivers of the District.

**Frog Symphony** – Did you know that not every frog goes “Rib-bit”? Students will engage in a sensory experience to learn why frogs and toads call and to receive an introduction to identifying individual species by recreating the sounds of a pond at night.

**Intriguing Invertebrates** – What is an invertebrate? How are they different from vertebrate animals? Did you know invertebrates make up ~97% of the animal kingdom? Students will investigate the diversity and adaptations of aquatic invertebrates.

**Marvelous Mammals** – Did you know the District is home to many semi-aquatic mammals? Students will learn about the similarities and differences between different semi-aquatic mammals and what distinguishes mammals from other animals.

**River Explorers** – What's the big deal with watersheds? Why should I care about them? Students will investigate the Anacostia River watershed and learn about its importance in our environment and our role in its protection.

**Sensational Skin** – Amphibian skin holds a world of wonders, from possessing anti-microbial properties to allowing some salamanders to live without lungs! Students will practice science inquiry and investigate why amphibians can serve as indicators of environmental health. Extension to the EiE Lesson *Just Passing Through: Designing Model Membranes*.

**Talking Trash** – Ever wonder how trash gets into our waterways? Do you know what the most common aquatic debris item is? How long does it actually take for different trash items to decompose? These questions and many more will be answered in the Talking Trash lesson.

## **Middle School**

**Amazing Amphibian Adaptations** – Amphibians can be thought of as animal action heroes — able to shift shapes (through a process called metamorphosis) and sporting “special powers” that allow them to live in and around water. Students will explore the unique adaptations and important roles of amphibians in the environment and their potential applications in bioengineering.

**Aquatic Bird Bonanza** – Birds that soar and wade in water, legs like stalks, toes with talons, and beaks and bills galore – The Anacostia River and waters of the District host an array of beautiful birds. Students learn to recognize local species, their adaptations to aquatic environments, and some of the challenges our water birds can face.

**Blue Catfish: Friend or Foe** – Blue Catfish are a trophy-sized catch for fisherman, but what other impacts do they have when introduced? Students will model the spread of Blue Catfish through an active simulation and investigate the influences of this species as well as others that have been introduced to aquatic environments in the District of Columbia.

**Careers in Fisheries** – Students will get a chance to learn about the wide variety of careers in the field of fisheries biology including government biologist, fisheries management, and law enforcement.

**CSI: Anacostia River** – Forget Las Vegas, Miami and New York, we have a mystery in our own backyard: Where have all the fish gone? Students will put their STEM skills to the test as they investigate the fishing regulations in DC.

**Fabulous Food Webs** – What does a long nose gar eat? Or a crab? Find out! Students will explore the food webs found in the Chesapeake Bay.

**Fishable Waters** – Do you enjoy fishing? Are there any regulations on fishing in your area? Discover how human activities impact fish populations.

**Herpetologist for a Day** – Students will explore the world of slithery, scaly, and slimy as they become specialized scientists that study amphibians and reptiles and learn how to recognize species local to the District.

**Macroinvertebrate Mayhem** – Students will learn about aquatic benthic macroinvertebrates and their value in determining the health of a stream.

**Marvelous Mammals** – Did you know the District is home to many semi-aquatic mammals? Students will learn about the similarities and differences between different semi-aquatic mammals and what distinguishes mammals from other animals.

**River Explorers** – What's the big deal with watersheds? Why should I care about them? Students will investigate the Anacostia River watershed and learn about its importance in our environment and our role in its protection.

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## **High School**

**Amphibian Advanced Inquiry** – Students are guided through a STEM-based investigation using local amphibian and wetland data in order to examine ecological impacts, mitigation, and conservation.

**Careers in Fisheries** – Students will get a chance to learn about the wide variety of careers in the field of fisheries biology including government biologist, fisheries management, and law enforcement.

**CSI: Anacostia River** – Forget Las Vegas, Miami and New York, we have a mystery in our own backyard: Where have all the fish gone? Students will put their STEM skills to the test as they investigate the fishing regulations in DC.

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**Working for Wildlife** – Are you interested in a career working with wildlife? Did you know that wildlife careers aren't just for scientists? They also include jobs like law enforcement officers and communication specialists. To find out more about these careers and to learn important job skills for any job, join us for our Working for Wildlife activity.