

## Grades 9<sup>th</sup> - Adult: Distance Learning Lab Guide

On the Distance Learning Lab webpage, watch the videos and do the activities listed below. Answer the review questions after each video or activity. Some activities require a printer or craft supplies, if you don't have those simply watch the videos instead.

### Clean Water section:

- Watch: "Tour of SE Office" and "Tour of New Hanover County Arboretum"
  - How does a rain garden help protect local waterways?
  - What kind of plants are in the rain gardens?
  
- Watch: "North River Wetlands Preserve Drone Footage"
  - How has the conversion of farm fields back into forested freshwater wetlands, creeks, and saltmarsh helped to protect water quality in surrounding waterways?
  
- Watch: "Reduce Runoff: Slow It Down, Spread It Out, Soak It In"
  - What is a rain garden?
  - What is a rain barrel?
  
- Do: Look through the "Walk the Loop for Clean Water" webpage.
  - What is the #1 polluter of coastal creeks and sounds?
  - Watch the videos in the Station 1 section, "How to build a rain garden", "How to install rain barrels" and "Pervious pavement in action"
    - What are some benefits to building a rain garden?
    - What can you use the water in a rain barrel for?
    - Did the permeable pavement absorb the rain water quickly?
  
- Do: "A Crumpled Watershed Model" activity and questions.

- Do: Look through the “SmartYards” publication.
  - What are some ways we can help reduce polluted stormwater in our yards?
  - Are there any methods in the publication that you use at your home?

### Coastal Exploration & Investigations section:

- Watch: “Lady Swan Boat Tour”
- Watch: Hammocks Beach State Park videos
  - “Frogs and Toads”, “Seashells”, “Sea Turtles”
  - What is something new you learned about the animals that live on our coast?
  - Why is it important to take care of these animals and their homes?
  - \*For additional videos, check out the Hammocks Beach State Park Facebook page. They are posting nature videos and crafts weekly!
- Watch: Jennette’s Pier Videos
  - Squid Dissection
    - What kind of animal is a squid?
    - What do squid use their fins for?
    - What do squid like to eat?
    - What do squid use their ink sac for?
  - Beach Explorations
    - What kinds of shells are common on NC beaches?
    - What were some bivalves (2 shelled animals) they showed in the video?
    - What is a fulgurite?
    - Name your favorite seashell: \_\_\_\_\_

- Plankton Investigations
  - Are plankton able to swim?
  - What are the two types of plankton?
  - Why is plankton important?
- Watch & Do: Watch the “Marine Quest QuaranSTEAM” video, and do the experiments outlined. Have an adult in your home help with the 5 different experiments. If you do not have permission from an adult to do an activity, just watch the video.
  - What are water molecules made of up?
  - What allowed the paper clip to stay on top of the water?
  - Why is water considered the Universal Solvent?
  - What happened in the experiment when the fresh water flowed into the salty water?
- Watch: “N.C. Sea Grant Beachcombing Program”
  - How many shells does a bivalve have?
  - How do many marine snails use their operculum?
  - What are some different types of crabs you may find on NC beaches?
  - What are sea beans?

### Oysters section:

- Watch: “Oyster Display at Down East Earth Day”
  - What was different about the tank with the oysters vs. the one without the oysters?
- Watch: “Oyster Shell Bagging” Video
  - How many gallons of water can one oyster filter in a day?

- Watch: “UNC-TV- Oyster Farming” Video
  - What do oysters feed on?
  - Why are oysters important?
  
- Do: Visit [www.ncoysters.org](http://www.ncoysters.org) and check out their educational page for more oyster related activities.

### Estuaries and Living Shorelines section:

- Do: Print “Salt Marsh Data Sheet” and circle any animals or plants you see while watching the videos below.
  - Watch: “Estuaries!: Exploring NC-Edge of Life”, “Waters of Life” and “Aqua Kids visit the Rachel Carson Reserve”
    - Why are estuaries so important?
    - What are some animals found in an estuary?
    - What is brackish water?
    - Which plant did the Aqua Kids eat in the salt marsh?
  
- Watch: “UNC-TV Living Shorelines”, “Living Shoreline Construction at Trinity Center”, “Moor Shore Rd. Living Shoreline”, “Steepy Interview” and “Living Shoreline Life” videos.
  - What is a living shoreline?
  - What did they use to build a living shoreline in the video at Trinity Center?
  - Why did they use recycled oyster shells?
  - What kinds of animals can live in a living shoreline?
  
- Do: Visit [www.livingshorelinesacademy.org](http://www.livingshorelinesacademy.org)
  - For more background on living shorelines complete the learning modules under the “Learn” tab of the webpage. You can choose to learn from a homeowner or contractor perspective.

## Marine Debris section:

- Watch: NOAA Marine Debris Program videos
  - What is Marine Debris?
  
  - What are some impacts of marine debris?
  
  - What are some things we can do to reduce marine debris?
  
- Watch & Do: “Rubber Band Game”
  - Did you escape from the marine debris?
  
  - Can animals who are entangled in marine debris still be affected even if they escape?
    - How so?
  
- Watch: “Crab Pot Videos”
  - Why are abandoned crab pots dangerous to wildlife?
  
  - Why did the watermen want to help remove the crab pots?
  
- Do: Look through the “NC Marine Debris Strategic Plan” document
  - What are the main goals laid out in the plan?
  
  - What are some ways that you can become involved in reducing marine debris along our coast?
  
- Optional: Walk around your yard to collect and throw away any trash you may see. Download and use the Marine Debris Tracker App to record data on your findings. Be sure to practice safe social distancing and stay at least 6 feet away from others. Use the “Marine Quest- Turtle Trash Collectors” program to submit photos of trash you find for badges.