I'm not a bot

RIVER BASINS, ESTUARIES AND ECOSYSTEMS OF NORTH CAROLINA PROJECTAdapted from Diane Jackson, 8th Grade Science TeacherYou will be working independently to complete a folder detailing river basins, estuaries, and ecosystems of North Carolina. The folder’s activities will count as a test grade. In other words, you will determine the next test grade you earn by completing the number of activities that equates to the grade you want to receive, so work efficiently, thoroughly and to the best of your ability. Each activity needs to be on a separate sheet. Be sure to LABEL each assignment with the NUMBER in the RIGHT HAND CORNER.BE SURE YOUR NAME IS ON EVERY SHEET BY THE NUMBER!!! You will need supplies such as paper, glue, colored pencils/crayons etc. You are responsible for keeping all work in your folder in numerical order! You may leave your folder in the labeled drawer that Ms. Crumley will show you.Objectives*To explain the structure of the hydrosphere including: Local river basins and local water availability.*To evaluate the estuaries and river basins of North Carolina as they exemplify the fact that they are reservoirs of nutrients, minerals, and life forms.*To evaluate the value and sustainability of North Carolina’s wetland ecosystems.*To illustrate how terrestrial and aquatic food webs are interconnected.*To describe how humans are affecting water quality.ActivitiesCreate your folder. Use a piece of construction paper folded in half or two sheets stapled/glued together. Design the cover of your folder with the following information:Title: RIVER BASINS, ESTUARIES AND ECOSYSTEMS OF NORTH CAROLINA Your NameClassYou may decorate your cover as you so choose.The Project Contract must be glued to the inside cover of your folder. A Parent Signature is required on the project contract.Use the Discover North Carolina’s River Basins Booklet to complete the following activities:Vocabulary: Define all of the key words in the booklet. (They are in little green boxes as you read.)Environmental Education (Choose one)Discuss in writing four reasons environmental education is important. Create a cartoon that illustrates the reasons environmental education is important. Color the cartoon.Reading Analysis Questions: Complete the worksheet as you read the booklet.Flip Chart:Use a sheet of paper to create a flip chart in which you define fully and illustrate the following terms: river basin, estuary, watersheds, groundwater, and ecosystem.Water Cycle: Draw, color, and label the water cycle. Rivers:Create a flash card that illustrates what a river is and why rivers are important. Water Quality:Make a concept web or tree map that illustrates the following: *What things positively affect the health and water quality of a river? How do they do this? What are the effects of this?*What things negatively affect the health and quality of a river? How do they do this? What are the effects of this?Government Intervention:Decline in water quality led to government involvement. Discuss some of the outcomes of this. What did North Carolina do in response to this? Paragraph form.Buffers:Draw a vegetative/riparian buffer and a river with no vegetative buffer. Below each picture, explain how it affects the river and the plants and animals living in the river.Pollution: Identify non-point source and point source (define, tree map to classify the two types of pollution).Pamphlet:What can you do to protect your water basins? Create a pamphlet that you could pass out that would encourage others to help protect these valuable areas.NC River Basins: North Carolina has 17 river basins. Draw North Carolina and color each of its river basins a different color. Locate your river basin and use a Sharpie to outline it in black.Use the “Our Living Estuaries” packet to complete the following activities: Read the “Introduction to Estuaries” and list the factors upstream that can affect the estuary.Complete the “How Are You Connected to the Estuary” activity. When you have finished, color in blue the river basin from which we get our water supply.Read the “Estuaries are Habitat” article. Then complete the “Estuaries are Habitat” activity and the “Food Chains” activity.Complete the “Word Find and Crossword”.Use the “Wetlands: Their Functions and Values in Coastal North Carolina” to do the following:Functions of Wetlands: Read the article and use a tree map to classify the functions of wetlands in North Carolina.Use the “Neuse River Basin” Article to complete the following:Make a Brochure to advertise the Neuse River Basin. Include the important features, major tributaries, size profile, its estuary, unique wildlife features, etc.Make a Flyer detailing the threats facing the Neuse River Basin.THESE ACTIVITIES MUST BE COMPLETED INDIVIDUALLY. IF YOU ARE EXPERIENCING PROBLEMS, COME AND ASK ME TO GIVE YOU CLARITY ON WHATEVER ISSUES ARE TROUBLING YOU. Contract and Grading RubricI, _____, wish to earn a(n) _____on this project in Science. I understand that I MUST work on this project in class; although I can do some work at home. I also understand that I AM RESPONSIBLE for keeping ALL my work in my FOLDER. I also understand that I am expected to do my OWN work. It is understood that I will only get full credit for each assignment that is completed accurately, thoroughly, and neatly.Student Signature _____Date _____Last day to turn in activities: _____(letter grade reduction if late)Grading Scale: Each activity is worth 5 points. You will begin with a 50A+ (100) = 10 activities / A- (95) = 9 activities / B+(90) = 8 activitiesB- (85) = 7 activities / C (80) = 6 activities / D (75) = 5 activitiesF = 4 or less (each activity is worth 5 points)Units completed and turned in:#1 / #2 / #3 / #4 / #5#6 / #7 / #8 / #9 / #10#11 / #12 / #13 / #14 / #15#16 / #17 / #18 / #19 / #20**ANYONE NOT WORKING ON THE ASSIGNMENT QUIETLY AND CONSISTENTLYEACH DAY IN CLASS WILL GET 5 POINTS DEDUCTED FROM HER FINAL GRADE FOR EACH DAY SHE DOES NOT PARTICIPATE APPROPRIATELY. NO EXCEPTIONS!Parent/Guardian signature _____ The watershed of the Albemarle-Pamlico estuarine system encompasses portions or all of six major river basins - the Neuse, Roanoke, Tar-Pamlico, Chowan, Pasquotank, and White Oak. Besides rivers, streams, sounds and marshes, the region includes the fields, forests, cities, and towns that surround them. All the water flowing across this landscape - rain and melted snow - eventually drains into the estuary. The N.C. Office of Environmental Education maintains educational materials for each of North Carolina's River Basins, including booklets, interactive Storymaps, GIS resources, and more. Learn more about North Carolina's River Basins Virginia Educators APNEP participates in the Albemarle-Chowan Watershed Roundtable, which has developed a river basin booklet highlighting the Virginia portion of the Chowan river basin. Complimentary classroom sets can be downloaded or ordered by completing the form below. Virginia's Chowan River Basin Booklet APNEP Comprehensive Conservation and Management Plan (CCMP) actions addressed: D2.2: Provide environmental education training opportunities for educators in the region. D2.3: Increase public understanding of the relationship between ecosystem health and human health advisories relating to water, fish, and game. Everyone lives in a river basin, even if you don't live near the water. The land that we live on eventually drains to a river or estuary or lake, and our actions on that land affect water quality and quantity far downstream. A river basin is the land that water flows across or under on its way to a river. Just as a bathtub catches all the water that falls within its sides, a river basin sends all the water falling on the surrounding land into a central river and out to an estuary or the sea.The topography of each basin determines the area that it drains, and for North Carolina, whether that water flows into the Atlantic Ocean or the Gulf of Mexico. Use our River Basin App to interact with all 17 river basins in North Carolina. Type your address in the search bar to find what river basin you are located in!The River Basin StoryMap describes how river basins function, explains how humans and rivers are interconnected, and demonstrates how the decisions we make everyday affect water quality.Learn more about GIS and GIS resources The Office of Environmental Education, in partnership with other DEQ divisions including the Division of Water Resources and the Wildlife Resources Commission, has created informative river basin education materials. Click the links below for .pdf versions of the materials.Discover NC's River Basins, a booklet with information on what river basins are, why they matter and how people affect them.Poster-sized map of NC's river basins (37" x 24")Discover Your Ecological Address Whether you live in a busy city, on a farm in the country or somewhere in between, you have an ecological address. This activity accompanies the lesson "Water Systems, Algal Blooms, and Their Impacts" and addresses the new NC Earth and Environmental Standard ESS.EES.5.2 Analyze and interpret data to evaluate how human use of ground and surface waters impacts water quality and availability in river basins, wetlands, estuaries, and aquifers. This lesson will investigate how groundwater (including aquifers) and surface water (river basins, lakes, wetlands, estuaries) have a reciprocal relationship (as one is dePage 2ReviewsAll ratings5 stars4 stars3 stars2 stars1 starMy students loved this resource, it was very thorough and the stations were great!

Complete 5E (Engage, Explore, Explain, Evaluate, Ellaborate) learning cycle including teacher directions, student handouts, answer keys, etc. Individual components are also listed below to download separately. ENGAGE- Students are given a cartoon showing a drainage basin similar to what you see in NC's three geographic regions: the Mountains, where the headwaters of the rivers are, the Piedmont and the Coastal Plain, where the rivers empty out into the ocean. The image at the bottom is from the “Forest to Faucets” project developed by the USDA Forest Service, and illustrates the importance of surface waters They discuss the key point behind the images. Drainage basin cartoon and GIS map.pdfEXPLORE- Students use and to answer questions about the bodies of water near their school, the river basin and watershed they are on, etc. Map My Basin webquest activity.pdf EXPLAIN- There are some great resources for students to research NC river basins, most provided by the NC Environmental Education Office. For example, the web-based River Basin StoryMaps is a good starting point. PDFs for each NC river basin can be found at . These informational pages are accessible for Middle and High School students and they can use them as background for projects such as the brochure one described below. EVALUATE- A rubric is provided below for the Bountiful Basins version of the research project, where students compare two NC river basins. Another alternative for assessment is a student-generated test, where each groups comes up with one or two questions about the basin they focused on. Bountiful Basins Template and Rubric ELABORATE- Here the focus is on understanding how river basins in NC are all interconnected and how they are different from one another due in large part to their geology. A simple slide on the aquifers of NC can be found at: (Slide 11). Students can design an investigation using different types of rock to figure out which is most porous, which holds the most water, etc. Sample activities from different sources can be found below: