Chartiers Valley High School
Lesson Plans
Week of 3/21/05

Instructor: Mrs. Zieger	**Course:** Environmental Science Period # 1 Special Education Grades 9-12
Objective(s): The Students will…	Be able to describe how ecologists determine the size of a population; explain what causes populations to change in size; identify factors that limit population growth.
Related Curriculum Standard:	4.7.4 – A. Identify differences in living things B. Know that adaptations are important for survival 4.7.7 – A. Describe diversity of plants and animals in ecosystems B. Explain how species of living organisms adapt to their environment.
Activities/Procedures:	Monday – 3/21/05 - • Begin discussions on the history of the three rivers of Pittsburgh • Writing prompt – Ask the students to write the names of the three rivers and as many facts about them as they can in 15 minutes. • Share ideas out-loud • As a group discuss the three rivers and the animals that live in or around these rivers – using the captain's chest as a resource. Tuesday – • Each student will pick one animal that lives in or around one of the three rivers to begin doing research on. • Students will conduct their research in the computer lab – printing pictures and taking notes. Wednesday – • Each student will orally share their animal information with the class. • Group discussion

	Thursday – • Student will produce a written reflection - What did they find the most interesting about the animals presented and how do you think that scientists study these animals how do they know how many animals live in a specific area etc… Friday – • Prompt – What does density mean? Discuss density and estimate with the students. • Friday Activity – • Materials – 2 large plastic jars, dried beans, ruler, small beaker, timer • Time – 5-10 minutes • Fill a plastic jar with dried beans to serve as a model population. • Your goal is to determine the number of beans in the jar, but you will not have time to count every bean. You may use any of the following to help you determine the size of the bean population: a ruler, a small beaker, another large jar. Set a timer for two minutes when you are ready to begin. • After two minutes, record your answer. Then count the actual number of beans. How close was your answer? • Discuss how scientists determine river populations and how those populations are reflective to the overall environment of the river. • Discuss the Voyager Program
Materials(resources):	• Science textbook • Science notebook • Science folder/portfolio • Science work packet • Science World Magazine • Writing Utensil (student owned) • Internet • CV Library • AIU video library • Teacher-made materials & resources
Assessment:	• Teacher Observation • Weekly notebook & packet checks • Participation rubric checklist • Quiz – None

This week long lesson was created by Danielle Zieger BS Edu

	• Test – None • Project - Beans
Homework:	Observe the animals in your yard -- write a one page summary of what you see and what behavior you observed.