Week 3 Assignments
Environmental Science

1. Read and complete the case study “Pesticides”
2. Two groups will be formed. Write your arguments for and against pesticide use and be prepared to argue your case Tuesday during class.
3. Read the Lorax by Dr. Seuss and watch the movie. Complete the work sheets

Read the chapter “Biological Communities and Species Interactions”

Answer the following questions:
1. How do tolerance limits to environmental factors determine distribution of a highly specialized species such as saguaro cactus? Compare this to the distribution of a generalist species such as cowbirds or starlings.

2. All organisms within a biological community interact with each other. The most intense interactions often occur between individuals of the same species. What concept discussed in the chapter can be used to explain this phenomenon?

3. Relationships between predators and prey play an important role in the energy transfers that occur in ecosystems. They also influence the process of natural selection. Explain how predators affect the adaptations of their prey. This relationship also works in reverse. How do prey species affect the adaptations of their predators?

4. Competition for a limited quantity of resources occurs in all ecosystems. This competition can be interspecific or intraspecific. Explain some of the ways that an organism might deal with these type of competition.

5. Each year fires burn large tracts of forest land. Describe the process of succession that occurs after a forest fire destroys an existing biological community Is the composition of the final successional community likely to be the same as that which existed before the fire? What factors might alter the final outcome of the successional process? Why may periodic fire be beneficial to a community?

6. Which world ecosystems are most productive in terms of biomass? Which are least productive?

7. Why should we be particularly concerned about the destruction of a coral reef or a tropical rainforest? Why are tundra regions vulnerable?

8. Discuss the dangers posed to existing community members when a new species is introduced into the ecosystem. What type of organism would be most likely to survive and cause problems in a new habitat?

9 . Chose an introduced species (check with the teacher to be sure it is OK) Prepare a poster describing the organism and where it can be found. Where did it come from and how was it introduced into our area. What threat does it pose? What can be done to eradicate the organism?