**LEWISBURG AREA SCHOOL DISTRICT**

**LESSON PLAN**

**Teacher Name: \_\_\_\_\_Van Wagner\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_\_\_AP Enviro**

**Topic: \_\_\_Land Use forestry 1 Date of Lesson: \_\_Class #71**

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| **LESSON ESSENTIAL QUESTION**: | **Big Idea:**  How do living things interact in positive and negative outcomes?  **Essential Question:**  In what ways to humans interfere with animals in the wild? |
| **STANDARD / LEARNING TARGET:** | **Core standards addressed with this lesson:**  **7.4.9.A:**  Compare and contrast the effect of the physical systems on people across **regions** of the United States.  **7.4.9.B:**  Compare and contrast the effect of people on the physical region across **regions** of the United States.  **7.4.12.A:** Analyze the global effects of changes in the physical systems.  **7.4.12.B:** Analyze the global effects of human activity on the physical systems.  **S11.D.1.3.3:** Explain factors (e.g., nutrient loading, turbidity, rate of flow, rate of deposition, biological diversity) that affect water quality and flow through a water system.  **4.8.10.C.** Analyze how human activities may cause changes in an ecosystem.  \* Analyze and evaluate changes in the environment that are the result of human activities.  \* Compare and contrast the environmental effects of different industrial strategies (e.g., energy generation, transportation, logging, mining, agriculture). |
| **ACTIVATING STRATEGIES**:  (Anticipatory Set) | Bell Ringer: What did you hypothesize is the cause of colony collapse disorder?  Discuss results / speed science. |
| **KEY VOCABULARY**: | Hydrologic, volume, velocity, consumption. |
| **RESOURCES:** | Teacher slide show, demonstration, and lecture. |
| **TEACHING STRATEGIES**: | Begin chapter 17 / land use / forestry  Bell Ringer- Much of Union County’s temperate deciduous forest has been cleared for farms and developments. What has this done to the dissolved oxygen in our streams?  Lowered it. As sun warms water, higher temps mean lower DO in water.  **TREE ID**  Deciduous- Trees that lose their leaves each year  Coniferous- Trees that keep their leaves / needles all year  **Branching patterns**  Opposite- branches come out on same spot, only opposite sides, on a branch  (MAD Horse) Maples, Ash dogwood, Horse chestnut)  Alternate- branches alternate  Have students use branch models to demonstrate both types using pencils and crayons as branches  Pass out 5 blank index cards  Head outside. Students create index cards that will help them ID 5 trees  Suggested species: Maple, Ash, Locust, Norway Spruce, Oak |
| **EXTENDED THINKING ACTIVITY / ASSIGNMENT:** | Chapter 17 questions |
| **SUMMARIZATION/ CLOSURE:** | Exit Bell Ringer- Use the branch model to demonstrate opposite branching. |