**LEWISBURG AREA SCHOOL DISTRICT**

**LESSON PLAN**

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

**Topic: \_\_\_Land Use forestry 2 Date of Lesson: \_\_Class #72**

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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- Identify the diameter in the drawing  semicrcl  Answer Distance from E - F  Part 2- How do you measure the diameter of a tree without cutting it down?  Circumference / 3.14 |
| **KEY VOCABULARY**: | Hydrologic, volume, velocity, consumption. |
| **RESOURCES:** | Teacher slide show, demonstration, and lecture. |
| **TEACHING STRATEGIES**: | Term: DBH Diameter at Breast Height- diameter of tree 3-4 feet from ground level.  Go outside and have students complete Forestry Lab worksheet  Return to class. Review lab results.  Check Chapter 17 questions.  Have students measure circumference of cookies in class then calculate diameter.  On the back of lab paper write  Circumference  Estimated Diameter  Actual Diameter  % error  Aging a tree: count rings on stump or increment borer.  Demo increment borer. |
| **EXTENDED THINKING ACTIVITY / ASSIGNMENT:** | Chapter 17 questions |
| **SUMMARIZATION/ CLOSURE:** | Exit Bell Ringer- about how old was the tree that our cookies came from?  (count ringers) |