**LEWISBURG AREA SCHOOL DISTRICT**

**LESSON PLAN**

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

**Topic: \_\_\_Bees Date of Lesson: \_\_Class #69**

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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) | ell Ringer- What insect pollinates plants that make 1/3 of our food?**Answer**:Honeybees |
| **KEY VOCABULARY**: | Hydrologic, volume, velocity, consumption.  |
| **RESOURCES:** | Teacher slide show, demonstration, and lecture.  |
| **TEACHING STRATEGIES**: | Discuss background on Bees.Show videosand <http://video.google.com/videoplay?docid=-5010506558221083461&q=colony+collapse+disorder&ei=BE0XSMXaDqjsrAKFu6TzBw>Longer: <http://www.ars.usda.gov/is/video/asx/ccd.broadband.asx>News Article, students read RCode<http://scientificbeekeeping.com/sick-bees-part-1/>Students use scientific method to attempt to solve the bee colony collapse problem. 1. define problem2. create hypothesis3. how would you test this? |
| **EXTENDED THINKING ACTIVITY / ASSIGNMENT:** | Chapter 16 questions |
| **SUMMARIZATION/ CLOSURE:** | Exit bell ringer- why are bees important to humans?Pollination of our crops1/3 of our food comes from pollination. Bees do 80% of that pollinating.  |