**LEWISBURG AREA SCHOOL DISTRICT**

**LESSON PLAN**

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

**Topic: \_\_\_Biochem cycles \_\_\_\_ Date of Lesson: \_\_Class #11\_\_**

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| **DESIGN QUESTION FOCUS** | Introducing New Knowledge | Deepening or Practicing | Generating & Testing Hypotheses |

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| **LESSON ESSENTIAL QUESTION**: | How do we balance human needs and wants with limited natural resources available?  |
| **STANDARD / LEARNING TARGET:** | * Describe the resource use by students in highly developed countries
* Contrast this with resource use by people in less developed countries.

Describe the three most important factors that determine human impact on the environment. |
|  **ACTIVATING STRATEGIES**:(Anticipatory Set) | Reminder\*\*\* make journal entry for biobottleBell Ringer: In the carbon cycle, carbon can be found in:Limestone, animals, and plantsBiocarbonate and sugarCarbon dioxide and coalThe atmosphereAll of these choices are correctAll of these choices are correct |
| **KEY VOCABULARY**: | observation, hypothesis, variable, independent variable, qualitative observation, quantitative observation, data, conclusion, scientific law, scientific theory, constant, inference, prediction, |
| **RESOURCES:** | Teacher slide show, demonstration, and lecture.  |
| **TEACHING STRATEGIES**: | Chapter 4 power point on cycles.Keynote cycle assignment (rap, story, skit)*Must include 3 cycles (C, P & N) and their parts! Must show or acknowledge that the sun is the primary energy source!*Choose from one of the following: BE CREATIVE!!Poster - needs color, illustrations, be neatSong/Rap - must be performed: live or through media Children’s Book (3 short stories) - need color, text and illustrationsComic Strip (3 separate) - text, illustrationsEssay (Tell a Story) - A Day in the Life....PoemMovie - text, images, voiceoverShow that the sun is the primary energy source.Illustrate the following 3 cycles.Black arrows for Carbon CycleGreen arrows for Nitrogen CycleRed arrows for Phosphorus CycleBook Title page, numbers, table of contentsText and illustrationsSame colored arrows as the posterWork session |
| **EXTENDED THINKING ACTIVITY / ASSIGNMENT:** | Chapt 4 questions even |
| **SUMMARIZATION/ CLOSURE:** | Exit Bell Ringer: Which of the following is not one of the biogeochemical cycles considered of particular importance for organisms?carbonhydrogennitrogenphosphoruswaterAnswer: B |
| **ADAPTATIONS for****HISTORICALLY UNDERPERFORMING STUDENTS** | Instructions will be given orally as well as in written form.I will continue to develop close personal relationships with my students to better identify ways to reach each learner.  |
| **FORMATIVE ASSESSMENT** | Unit 1 exams are returned today and students are to correct mistakes for partial credit.  |