**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 biobottle  Bell Ringer: In the carbon cycle, carbon can be found in:  Limestone, animals, and plants  Biocarbonate and sugar  Carbon dioxide and coal  The atmosphere  All of these choices are correct  All 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 neat  Song/Rap - must be performed: live or through media  Children’s Book (3 short stories) - need color, text and illustrations  Comic Strip (3 separate) - text, illustrations  Essay (Tell a Story) - A Day in the Life....  Poem  Movie - text, images, voiceover  Show that the sun is the primary energy source.  Illustrate the following 3 cycles.  Black arrows for Carbon Cycle  Green arrows for Nitrogen Cycle  Red arrows for Phosphorus Cycle  Book  Title page, numbers, table of contents  Text and illustrations  Same colored arrows as the poster  Work 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?  carbon  hydrogen  nitrogen  phosphorus  water  Answer: 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. |