ASTEC Charter School Weekly Lesson Plan

Name: Jill Carson Class: Biology Date: 9-24-12

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|  |  | **Monday** | **Tuesday** | **Wednesday** | **Thursday** | **Friday** |
| **1**  **6** | Standard or Pass Skill:  Objective:  Bell work  Anticipatory  set:  Lesson Line:  Product/Evaluation  Closure/Exit  Activity #: | S1.1 The Cell- Cells are composed of a variety of structures such as the nucleus, cell/plasma membrane, cell wall, cytoplasm, ribosomes, mitochondria, and chloroplasts.  List the scientists who contributed to our knowledge of the cell. List the 3 components of the cell theory. Compare prokaryote to eukaryote cells. Label a plant and animal cell. Know the functions of all cell organelles.  Microscope Quiz-label the microscope parts.  Cell Model: TW show students cell models created by previous students. Notify students of cell project requirements.  SW take notes during lecture/discussion: The Cell Overview, Early Contributions, The Cell Theory, Cell Features, Types of Cells, Cell Structures, Protein Production, Animal Cell vs. Plant Cell, Organelles.  Microscope quiz grade, notes to be used for unit activities, projects, and lab.  **Repeat the anticipatory set to review and engage the learner**  **1, 3, 10** | S1.1 The Cell- Cells are composed of a variety of structures such as the nucleus, cell/plasma membrane, cell wall, cytoplasm, ribosomes, mitochondria, and chloroplasts.  Recognize the differences between prokaryotic and eukaryotic cells. Recognize the differences between animal and plant cells. Understand the function of the organelles in these different cells.  What are the components of the cell theory?  Cell Model: TW show students cell models created by previous students. Remind students of project requirements and due date.  SW participate in Interactive Cell Structure Review with built in quizzes.  Participation in interactive cell structure review. Cell City Analogy Homework. Daily activity grades.  **Repeat the anticipatory set to review and engage the learner**  **6, 11, 12** | None  Fully understand the Biology EOI blueprint.  What does EOI stand for? How do you plan to prepare for you Biology EOI?  EOI blueprint-TW distribute the EOI blueprint to all students. SW keep this in their notebook at all times. SW check off standards as they are met and mastered.  TW display EOI blueprint on smartboard, explain terminology and expectations, and explain test structure.  SW keep EOI blueprint with them at all times to check off areas covered and mastered.  **Repeat the anticipatory set to review and engage the learner**  3, 10 | S1.1 The Cell- Cells are composed of a variety of structures such as the nucleus, cell/plasma membrane, cell wall, cytoplasm, ribosomes, mitochondria, and chloroplasts.  PS1.2 Use appropriate tools with accuracy and precision.  Students will observe human cheek cells using a light microscope.  What is purpose of methylene blue?  TW show students the microscope and remind them of the proper procedures when using a microscope in lab.  SW work in groups to complete the Human Cheek Cell lab. SW create cheek swab slides, focus the microscope on the specimen, and observe and answer lab questions.  Lab Activity grade. Homework-Animal Cells Coloring for daily activity grade.  **Repeat the anticipatory set to review and engage the learner**  5, 9, 11 | S1.1 The Cell- Cells are composed of a variety of structures such as the nucleus, cell/plasma membrane, cell wall, cytoplasm, ribosomes, mitochondria, and chloroplasts.  Students will observe plant cells using a light microscope. Two cells will be observed, one from the skin of an onion, and the other from a common aquarium water plant (anacharis). Students will compare both types of cells.  What is purpose of methylene blue?  TW show students the microscope and remind them of the proper procedures when using a microscope in lab.  SW work in groups to complete the Plant Cell lab. SW observe and report findings in the form of a written lab report.  Lab Report grade. Homework-Plant Cells Coloring for daily activity grade.  **Repeat the anticipatory set to review and engage the learner**  5, 9, 11 |

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| **3**  **4**  **7** | Standard or Pass Skill:  Objective:  Bell work  Anticipatory  set:  Lesson Line:  Product/Evaluation  Closure/Exit  Activity #: | Explain the structure and function of ecosystems and relate how ecosystems change over time.  Describe ways that human activity can later effect biogeochemical cycles as well as food webs and energy pyramids.  Water cycle poem: “Water” SW read poem and use to create their own diagram of the water cycle.  SW present water cycle diagrams and discuss reasoning behind the structure.  Teacher guided notes with imbedded interactive activities. Guided practice built into the presentation. SW perform “Smart Notebook Interactive Assignment” Water Sources and Water Cycle on smart board  SW participate in interactive smart board activities as part of daily activity grade  **Repeat the anticipatory set to review and engage the learner**  3, 6, 11, 12 | Explain the structure and function of ecosystems and relate how ecosystems change over time.  Describe ways that human activity can later effect biogeochemical cycles as well as food webs and energy pyramids.  What is an aquifer?  Water cycle cubes: TW explain the 9 cubes that will be used in today’s lab activity.  SW perform water cycle project “The Incredible Journey” SW pretend to be a water molecule moving through 9 different stations clouds, plants, animals, rivers, ocean, lakes, ground water, soil, and glaciers. Students will follow the scientific method and answer activity questions.  **S**W complete “The Incredible Journey” lab activity and complete critical thinking questions for lab activity grade.  **Repeat the anticipatory set to review and engage the learner**  **6, 7, 9, 11** | Explain the structure and function of ecosystems and relate how ecosystems change over time.  Describe ways that human activity can later effect biogeochemical cycles as well as food webs and energy pyramids.  What are appropriate places to research information for an experiment? Google? Encyclopedia? Wikipedia? Scholarly journal databases?  Scholarly journal article: TW pass out a scholarly journal article and explain what it is, the differences between it and other articles, Wikipedia, and google.  Skimming and Scanning: SW 1.work in pairs to skim and scan the assigned reading: look at titles, headings, visuals, boldfaced words, and the first and last paragraph. 2.discuss with each other what they think the reading will be about. 3.will compile questions: this is to be placed in the First Impressions column. 4examine the first impressions and write down several facts they discovered during their limited reading. 5.compile the facts in the Fast Facts column. 6.look at the first impressions and fast facts, to determine what they think the important points or questions that may be answered by the reading. 7.read the article, answering all questions posed by the prereading activity and correcting any fast facts that may be incorrect. 8.complete the Final Thoughts column, summarizing the article and correcting misconceptions.  Daily activity grade.  **Repeat the anticipatory set to review and engage the learner**  **11, 13** | Explain the structure and function of ecosystems and relate how ecosystems change over time.  Describe ways that human activity can alter biogeochemical cycles (e.g., carbon dioxide and nitrogen  cycles) as well as food webs and energy pyramids (e.g., pest control, legume rotation crops vs. chemical fertilizers)  What do you think a biogeochemical cycle is? Break down the word.  Green Plant: plants use CO2 to make glucose. Consumers and Producers use glucose in respiration where they release CO2 into the atmosphere.  Explanation: TW will explain carbon cycle diagrams.  SW answer questions using the diagram for daily activity grade  **Repeat the anticipatory set to review and engage the learner**  3, 10 | Explain the structure and function of ecosystems and relate how ecosystems change over time.  Describe ways that human activity can alter biogeochemical cycles (e.g., carbon dioxide and nitrogen  cycles) as well as food webs and energy pyramids (e.g., pest control, legume rotation crops vs. chemical fertilizers)  What is Nitrogen? Where does it come from? What is it used for?  Cup of milk: why is the nitrogen cycle important to this cup of milk? SW discuss possible reasons.  Virtual Interactive Farm: SW discover the role of Nitrogen in a farm. Smartboard activity.  Quiz-10 multiple choice questions, 2 critical thinking questions  **Repeat the anticipatory set to review and engage the learner**  6, 11, 12 |

Indicate all that apply: 1. Lecture 4. Demonstration 7. Role Play 10. Teacher-Centered 13. Computer 16. Flip Cameras

2. Overhead 5. Hands-on 8. Drama 11. Student-Centered 14. Responders 17. Digital Camera

3. Discussion 6. Simulation 9. Experiment/lab 12. SMART Board 15. NEO2 18. Other