Academy of Richmond County

Teacher: Mrs. Appajodu Subject: Science Course: Env. Science Date(s): September 8th to Sept. 12th

Standards:

- SEV1.c - Describe the cycling of matter in ecosystems.
- SEV1.e - Analyze the role of organisms in the cycling of matter.
- SEV2.a - Explain how energy and matter are transferred in ecosystems.
- SEV2.b - Evaluate the impact of human activities on ecosystems.

	Pre-Teaching **Learning Target** **Success Criteria**	**Activation of Learning** ***(5 min)***	**Focused Instruction** ***(10 min)*** ****I DO***	**Guided Instruction** ***(10 min)*** ****WE DO***	**Collaborative Learning** ***(10 min)*** ****YOU ALL DO***	**Independent Learning** ***(10 min)*** ****YOU DO***	**Closing** ***(5 min)***
Monday 09/08/2025	Students will explore the nitrogen cycle in detail, including processes such as nitrogen fixation, nitrification, and denitrification. Group presentation: Students will present a diagram of the nitrogen cycle, detailing each step	DO NOW! - "Why is nitrogen important for life?"	• Explain nitrogen fixation, where nitrogen gas is converted into ammonia by bacteria. • Introduce nitrification, where ammonia is converted to nitrites and then to nitrates. • Discuss assimilation, where plants absorb nitrates, and ammonification, where organic nitrogen is converted back to ammonia.	• Ask guiding questions starting from simple to complex: • What is the first step of the nitrogen cycle? • How do plants contribute to the nitrogen cycle? • Why is nitrification important for plant growth?	Assign students to create a detailed diagram of the nitrogen cycle, including labeled stages and a short explanation of each process. Nitrogen Cycle Graphic Organizer.pd		Review questions on today's topic.
Tuesday 09/09/2025	Students will be able to analyze the role of organisms in the phosphorus cycle and explain its importance in ecosystems. Students will create a detailed diagram of the phosphorus cycle, including the roles of different organisms, and write a brief paragraph explaining the significance of phosphorus in biological systems.	"Why do you think phosphorus is vital for life?"	• Introduce key terms: phosphorus, uptake, decomposition, and eutrophication. • Anticipate the misconception that phosphorus is abundant in the atmosphere; clarify that it primarily exists in soil and water.	Teacher led quiz on availability of phosphorous and its functions in the living cell.	Assign Students Seminar topics and guide them on the process and rubrics of evaluation. SEMINAR EVS.pdf		"Think-pair-share" – What is the human impact on Phosphorous cycle?

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Wednesday 09/10/2025	Students will be able to explain the nitrogen and phosphorus cycles and illustrate their importance to ecosystems. Students will do a worksheet that requires students to identify key processes (like nitrogen fixation, assimilation, and denitrification), and explain the significance of each cycle in ecosystem health.	Begin with a brief discussion on what nutrients are vital for plant growth.	Prep for Students Seminar SEMINAR EVS.pdf		• Assign the worksheet on the nitrogen and phosphorus cycles. • Set expectations for quiet working time and collaborative discussions if needed.		Assign students to write a short essay on how agricultural practices impact the nitrogen and phosphorus cycles.
Thursday 09/11/2025	Students will develop critical thinking and communication skills by engaging in a structured discussion and build confidence in presenting ideas, supporting arguments with evidence, and responding to peers constructively. By the end of the seminar, students will be able to: Actively contribute to the discussion at least once with a relevant idea, question, or response. Summarize key insights gained during the seminar, either verbally or in writing. Support their ideas with examples, evidence, or references to prior learning.	Instructions about the Seminars today- Instructions for classroom activity.doc			"Students led Seminar"		Quick review on all the topics presented for seminar.
Friday 09/12/2025	Students will be able to demonstrate their understanding of the key concepts, skills, and knowledge covered in this unit by applying them accurately in a test setting. By the end of the test, students should be able to: • Recall and explain the main concepts, terms, and processes studied in class. • Apply knowledge to solve problems, analyze situations, or interpret data. • Complete all questions within the given time, showing both accuracy and understanding.	Test on Biogeochemical cycles- N, P & Water https://wayground.com/join?gc=25637026					Review on the Unit