Literacy Lesson #1 – Vocabulary Strategies

Lesson: Using Vocabulary Graphic Organisms to for Biomes and Ecosystems Unit
Subject: Alternative Ed Science –Biology
Grade Level: 9th Grade (can also be used with 7th grade Life Science)
Duration: Four 15-20 minute sessions plus 10-15 minute pre- and post-assessments

Lesson Objectives: In this lesson students will learn how to use glossaries, dictionaries, and online resources to learn new vocabulary through the completion of Four Square Concept Development and Object Description graphic organizers.

GLCE's:
- **B3.L3.p1A:** Provide examples of a population, community, biome and ecosystem.
- **CE 1.2.1:** Write, speak, and use images and graphs to understand and discover complex ideas.
- **CE 2.1.3**: Determine the meaning of unfamiliar words, specialized vocabulary, figurative language, idiomatic expressions, and technical meanings of terms through context clues, word roots and affixes, and the use of appropriate resource materials such as print and electronic dictionaries.

Materials: MAZE assessment, Vocabulary word list, Four Square Concept Development graphic organizer, Object Description graphic organizer, Biology textbook, computer with internet access

Resources: www.dictionary.com, www.thesaurus.com, glossary of Biology textbook

Rationale/ Background: Students will learn how to construct vocabulary meaning through the use of glossary, dictionary, thesaurus entries along with textbook readings and discussion. Students will complete Four Square Concept Development and Object Description graphic organizers to help strengthen vocabulary acquisition. While this lesson will focus on vocabulary words based related to biomes, the strategies themselves can be used by students in any subject matter to bolster vocabulary and reading comprehension.

Pre-Assessment: The student is asked to complete a MAZE assessment prior to the first lesson. This will be used to help to determine a student's risk level and need for intervention. Students with high risk need more interventions to be considered at grade level. This assessment will be used to help determine growth after all lessons are given.(Appendix pages 1-4)

Part One: The teacher explains that learning new vocabulary words is essential to both understanding the content material and to improving reading skills. The teacher also explains that there are strategies that they can use to help develop an in depth understanding of unfamiliar words. The teacher also explains that the strategies that she/he will be teaching them can be used in all subject matters and with any new or unfamiliar word. The teacher then explains how using two different graphic organizers in combination with their textbook and online resources, they can develop a better understanding of new vocabulary words.

The teacher then distributes the Four Square Concept Development graphic organizer tells the student(s) that the first word they are going to learn is "biome". The student is directed to write "Biome" in the center of the organizer. The teacher then reminds students that the word "biome" was in their reading assignment from the previous day. The student is then asked if they are familiar with the word and asks them to make predictions of what the word means. The teacher then directs the student or students to open their Biology textbook to the correct page in the textbook and the student is asked to read the section that contains the bolded word "biome", explaining that sometimes we can learn a word's meaning from the passage that it is found in. The teacher then says, "Let's pretend you still don't understand the word." This phrasing is intentional, as often the student does not want to openly admit that they do not understand something. The student is then told to go to the book's glossary and find the first word, "biome". The student(s) is then asked to read the definition out loud. The teacher the directs the student(s) to use his/her/their computer to go to www.dictionary.com. Students are asked to read the definition from that website out loud. The teacher then leads the student(s) in a discussion about the meaning of the word.

The teacher then asks the student to think of a synonym for biome, reminding the student that a synonym is word with a similar meaning. Regardless of whether or not the student can volunteer a synonym, the teacher then says, "Let's say you couldn't think of a synonym on your own. A great resource is a thesaurus. At the top of www.dictionary.com, you will see a link that says "Thesaurus". Click that link." The teacher then explains how students can find synonyms in a thesaurus and how learning the word's synonyms will help give you more clues to its meaning. The teacher also explains how the word's antonyms can also be found in the thesaurus and/or the dictionary. The student is then directed to list several synonyms and antonyms for biome on their Four Square Concept Development Map.

The teacher then leads a discussion of the word biome and has the student think of and list examples of a biome and non-examples of a biome on their Four Square Concept Development Map. The student is then asked to write a sentence that uses the word biome. The teacher explains that the sentence should show that the student understands what the word means. Finally, the teacher then explains to the student how to break down the word into parts and list its forms, which is the last square on the graphic organizer.

The student is then given a new Four Square Concept Development sheet with four new squares on it. The teacher asks the student to complete the first one using the word "grassland". The student is asked to follow the same steps shown previously and is given assistance from the teacher as needed. The student is then asked to complete the Four Square Concept Development sheet with three more words: tundra, desert, and rainforest. (Appendix page 7)

Part Two: The teacher and student meet again in a short session to review the Four Square Concept Development strategy. The teacher reviews the steps to complete the graphic organizer and the student and teacher do guided practice to complete the graphic organizer for the word "biome". The teacher then asks the student to explain how to use the strategy. The student is asked to explain how to fill out the graphic organizer using the word "climate". If the student does not seem to need further explanations or interventions, the student is asked to complete the

remaining two squares on their own using the words "environment" and "vegetation". (Appendix page 8)

Part Three: In the next session, the teacher explains to the student that another way to learn new vocabulary words is by using Object Description. The teacher explains that using Object Description is like checking your work in math and that if they are having a problem completing this activity, it might be a sign that they are confused about the word. The teacher models how to complete the Object Description graphic organizer using the word "grassland". The teacher uses a Think Aloud method to complete the questions for "grassland" to demonstrate the strategy. The teacher then uses guided practice and has the student try to fill out the next Object Description graphic organizer using the word tundra. The student is then asked to complete the last two Object Description boxes using the words "rainforest" and "desert". (Appendix page 5)

Part Four: The teacher and student meet again in a short session to review the Object Description strategy. The teacher reviews the steps to complete the graphic organizer and the student and teacher do guided practice to complete the graphic organizer for the word "biome". The teacher then asks the student to explain how to use the strategy. The student is asked to explain how to fill out the graphic organizer using the word "climate". If the student does not seem to need further explanations or interventions, the student is asked to complete the remaining two squares on their own using the words "environment" and "vegetation". (Appendix page 6)

Assessment: After all four sessions are completed the teacher will give the MAZE post assessment to look for improvement. ((Appendix pages 9-10)

Literacy Lesson #2 – Reading Comprehension Strategies

Lesson: Using SQ3R to read about Biomes and Ecosystems
Subject: Alternative Ed Science –Biology
Grade Level: 9th Grade (can also be used with 7th grade Life Science)
Duration: Two 20-30 minute sessions plus 40-50 minute pre- and post-assessments

Lesson Objectives: In this lesson students will learn how to use the SQ3R method to preview a text and activate prior knowledge before reading.

GLCE's:
- **B3.L3.p1A:** Provide examples of a population, community, biome and ecosystem.
- **CE 2.1.1:** Use a variety of pre-reading and previewing strategies (e.g., acknowledge own prior knowledge, make connections, generate questions, make predictions, scan a text for a particular purpose or audience, analyze text structure and features) to make conscious choices about how to approach the reading based on purpose, genre, level of difficulty, text demands and features.
- **CE 2.1:** Make supported inferences and draw conclusions based on informational print and multimedia features (e.g., prefaces, appendices, marginal notes, illustrations, bibliographies, author's pages, footnotes, diagrams, tables, charts, maps, timelines, graphs, and other visual and special effects) and explain how authors and speakers use them to infer the organization of text and enhance understanding, convey meaning, and inspire or mislead audiences.

Materials: Oral Assessment of Comprehention Thinking Strategies, SQ3R sheets, Life Science textbook, and "Variety of Biomes on Earth" article

Rationale/ Background: Students will learn how to use the SQ3R method to preview a text and activate prior knowledge before reading. Students will also practice summarizing a text in their own words to demonstrate understanding. It is important to activates students' prior knowledge prior to reading so that they can "match what they read to what they already know in order to construct meaning".(Ehren, 2005, p.311)

Pre-Assessment: The student is asked to complete an Oral Assessment of Comprehension Strategies prior to the first lesson. This will be used to help to determine which strategies the student already uses for comprehension. It will also give understanding as to whether or not a student uses metacognition when reading. (Appendix pages 11-19)

Part One: The teacher explains just like an athlete warms up and stretches before exercising or a game, a reader must also warm up before reading. The teacher also explains that thinking about what you already know about a subject and previewing the text can help you have a better understanding about what you read in the end. The teacher then explains that one way to "warm up" and preview a text is by using the SQ3R. The teacher then quickly explains what each letter in the title stands for: Survey, Question, Read, Recite, Review. The teacher also explains that sometimes there might only be two "R's" – Retell and Review, but the general strategy is to

preview the text, think of questions about the text, read it, and then express what you learned from the text and if applicable, answer the questions you created.

The teacher then distributes an article and the SQ3R sheet. The teacher then explains that the very first step is to determine the source of the article, its title, and the topic of the article. The teacher explains that based on the title "A Variety of Biomes on Earth", that the topic can be summed up with just the word "biomes". The teacher then explains that the next step is to survey the article. The teacher explains that students should look at section headings, pictures, captions, bold or italicized words, etc. The teacher then explains that by doing this, the student should then be able to list three things they already know about biomes or three things that they think they will learn about from the article. Next the teacher asks the student to think of three questions about biomes that they think the article will answer for them. The teacher models the creation of the first question by using a think aloud strategy. The student is then asked to create two more questions. The student is then asked to read the article, while the teacher provides help for pronunciation as necessary.

After reading the article, the teacher then explains that it is helpful to recite or retell facts that you learned. The teacher also explains that this would be the place to answer the questions that they created earlier. The teacher should also emphasize that while that are being asked to retell what they learned, it is important to put it into their own words.   Finally the teacher explains that on the review step, the student should look over everything they learned and look over the entire reading again and summarize all of it. The teacher then models how to do so using a think-aloud strategy in which the teacher creates a topic sentence that summarizes the entire article. The teacher also explains that it is also helpful to do the final step later on, sometimes the next day, so see what you have really learned and what you can remember. The review step should also be repeated each day and students should quiz themselves about the material to check for understanding.

Part Two: In the next session, the student is asked to complete the SQ3R method on their own, explaining each step out loud as they complete it. The teacher will provide support and assistance where needed, though the worksheet itself will be the most helpful in reminding students of the steps. If student does not show understanding, provide review for the student and perhaps additional sessions.

Assessment: Repeat the Oral Assessment of Comprehension Strategies to check for growth.