Name: Luanne Nesbitt and Mary Gosselin Date: January 27, 2014 Grade Level: 8

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Teaching Context | | | | | | | | | | | | | | | | | |
| Curriculum or Content Area: Science/ Finding Energy | | | | | | | Twenty-five (25) students in my class, of which three (3) are ELLs | | | | | | | | | | |
| My ELLs’ linguistic and cultural background(s): Spanish | | | | | | | | | | | | | | | | | |
| My ELLs’ level(s) of English Proficiency: Listening – Level 5  Speaking – Level 4 and 6  Reading – Level 2, 3, and 4  Writing – Level 3 and 4 WIDA ACCESS Spring 2013[[1]](#footnote-1)  *See WIDA “Can Do” descriptors[[2]](#footnote-2) to help connect proficiency level with ACCESS scores* | | | | | | | | | | | | | | | | | |
| Student(s): | | | | | | | | | Reading | | Writing | Speaking | Listening | Literacy  [Reading 50%, Writing 50%] | Oral Language [Listening 50%, Speaking 50%] | Comprehension [Listening30%, Reading 70%] | Overall Listening 15%, Speaking 15%, Reading 35%, Writing 35%] |
| Student A | | | | | | | | | 2.9 | | 4.3 | 6.0 | 5.7 | 3.8 | 6.0 | 3.9 | 4.5 |
| Student B | | | | | | | | | 4.9 | | 3.7 | 6.0 | 5.3 | 3.9 | 5.9 | 5.1 | 4.6 |
| Student C | | | | | | | | | 3.6 | | 3.3 | 4.0 | 5.3 | 3.4 | 4.7 | 4.3 | 3.8 |
|  | | | | | | | | |  | |  |  |  |  |  |  |  |
| Other support services that my ELLs receive: None | | | | | | | | | | | | | | | | | |
| Lesson Standards and Objectives | | | | | | | | | | | | | | | | | |
| Common Core/Massachusetts State Standards (discipline, standard number, and description):MCAS Strand: Life Science  Standard # 14 – Explain the roles and relationships among producers, consumers, and decomposers in the process of energy transfer in a food web.  Standard # 16 – Recognize that producers (plants that contain chlorophyll) use the energy from sunlight to make sugars from carbon dioxide and water through a process called photosynthesis. This food can be used immediately, stored for later use, or used by other organisms. | | | | | | | | | | | | | | | | | |
| Content Objective(s):  Day 1 – Students will support the idea that food supplies energy by observing a demonstration.  Day 2 – Students will demonstrate that food provides energy by burning a cheese ball.  Day 3 – Students will calculate the amount of calories in food using heat energy.  Day 4 – Students will analyze experimental data to confirm that plants require, water, carbon dioxide, and light to increase in biomass (food).  Students will define photosynthesis as a process by which plants make food using water, carbon dioxide and light.  Day 5 – Students will explain where food comes from. | | Language Objective(s): *Language Objectives should be directly linked to the language skills students will need to be successful in achieving the content objective.*  Day 1 – Students will list possible sources of energy for their bodies.  Day 2 – Students will record results of burning a snack.  Day 3 – Students will answer questions on measuring the amount of energy in food.  Day 4 – Students will define photosynthesis as a process by which plants make food using water, carbon dioxide and light.  Day 5 – Students will summarize a reading on where food comes from.  ***Language Objectives Differentiation for Proficiency Levels:***  Listening – Level 5 – Use oral information to accomplish grade level tasks.  Speaking – Level 4 – Defend a point of view.  Level 6 – List possible sources of energy for their bodies.  Reading – Level 2 – Use L1 to support L2 cognates.  Level 3 – Answer questions about explicit information in a text.  Level 4 – Use an array of strategies.  Writing – Level 3 – Give opinions  Level 4 – Use details and examples to support ideas | | | | | | | | | | | | | | | |
| Mentor Text or Source: Populations and Ecosystems by FOSS   1. Lab notebook 2. Resource Book 3. Teacher’s Edition | | | | | | | | | | | | | | | | | |
| Targeted Tiered Vocabulary*[[3]](#footnote-3)* from Mentor Text or Source  *Tier 2 & Tier 3 words should be integrated into student product/assessment.* | | | | | | | | | | | | | | | | | |
| Tier 1 words  *Basic words most children know in their primary language: may include connectors or compounds*  energy  thermometer | Tier 2 words  *Essential to comprehension: i.e., process & transition, specificity, sophistication polysemy, transitional terms, idioms, clusters, cognates…*  organism  calorie  anchovy  chamber | | | | | | | | | Tier 3 words  *Low frequency, content specific, typically glossed in the back of the text book*  graduated cylinder  vial  dowel  flange  Calorie  photosynthesis  carbohydrate  autotroph  heterotroph | | | | | | | |
| Student Prerequisite Skills or Background Knowledge:  *What content or language knowledge or skills do my ELLs need to successfully complete the content and language objectives? What background knowledge or skills might my ELLs already have in their primary language but may need help in transferring to English?* | | | | | | | | | | | | | | | | | |
| Students have prior knowledge of populations and ecosystems. They have previously learned that organisms can be consumers, producers or decomposers. In this lesson, students learn that food is produced by photosynthetic organisms to begin their study of where energy comes from. | | | | | | | | | | | | | | | | | |
| Assessment of content learning and language development:  *Have I included Tier 2 & Tier 3 words in my assessment of my student’s discourse: written or oral?* | | | | | | | | | | | | | | | | | |
| * Observations * Discussions (whole class and small group) * Monitor student performance * Thumbs up/down * Lab sheets * Summative exam at the end of unit * Exit ticket | | | | | | | | | | | | | | | | | |
| Content and Concept Language Integration  *How have I integrated all possible domains into my teaching and learning strategies and activities?* | | | | | | | | | | | | | | | | | |
| Discourse Integration:  *Which domain(s) does my strategy/activity target?* | | | | | | | | Sheltered Instruction Strategies  *How does this strategy connect my content and language objectives?*  *How does this strategy facilitate my students’ ability to access the content?*  *How does this strategy facilitate my students’ ability to comprehend the mentor text, build essential knowledge, or produce oral or written discourse connected to the content objective?*  *How does this strategy provide comprehensible input for my students?* | | | | | | | | | |
| Lesson Sequence: | | | Speaking | Writing | Listening | Reading | |
| Day One | | |  |  |  |  | |  | | | | | | | | | |
| Quick Write: How does your body get energy to do what you want to do?   * List possible energy sources with group * Discuss food as energy source * Introduce the Burning Procedure   Do you think a cheese ball will burn?   * Demonstrate burning of a cheese ball * Discuss the results and how to measure the energy produced. * Introduce Water-Heating Set-up to | | |  |  |  |  | | Quick Write  Round Table  Think-Pair-Share | | | | | | | | | |
| * measure energy * Exit Ticket – What did you learn about energy today? | | |  |  |  |  | | Exit Ticket | | | | | | | | | |
| Day Two: | | |  |  |  |  | |  | | | | | | | | | |
| Quick Write: Does a cheese ball provide energy? How do you know?   * Review outcome of burning activity * Recall the Water-Heating Set-up (student sheet pg. 22) * Introduce vocabulary * Demonstrate steps in the assembly * Distribute materials * Review safety procedures * Burn snack and record results (Lab notebook pg.23) | | |  |  |  |  | | Quick Write  Front Load vocabulary  Read directions for assembly of equipment | | | | | | | | | |
| Day Three: | | |  |  |  |  | |  | | | | | | | | | |
| Quick Write: How do we measure the amount of energy in food?   * Introduce vocabulary words with definitions for calorie and Calorie * Complete lab notebook pg. 23 on measuring food energy * Discuss calories in food * Discuss difference between calorie and Caloric * Assess student progress: Student sheet page 23 | | |  |  |  |  | | Quick Write  Front Load Vocabulary  True/False Statements | | | | | | | | | |
| Day Four | | |  |  |  |  | |  | | | | | | | | | |
| Quick Write: How do plants get energy?   1. Discuss human food web 2. Introduce Food-Producers experiment 3. Complete Student Assessment sheet Pg. 25 4. Discuss results of experiment 5. Introduce “Photosynthesis and Carbohydrate” | | |  |  |  |  | | Quick Write  Read Aloud  Small group discussion  Seven- Step Vocabulary | | | | | | | | | |
| Day Five | | |  |  |  |  | |  | | | | | | | | | |
| Quick Write: Where does food come from?   1. Introduce vocabulary:   Energy, autotroph,  heterotroph, anchovy   1. Read “Where Does Food Come From”? 2. Assessment of student understanding of the reading. | | |  |  |  |  | | Quick Write  Front-Load vocabulary  Read Aloud/ Think Aloud/Partner Read  Write Around  Cloze Activity with Word Bank | | | | | | | | | |
| Further Practice:  *Homework or extension activities: How do these activities reinforce the comprehension and discourse as well as content or language objectives I have set for my ELLs?*  To reinforce concepts taught in the lessons students will look for their favorite items at home that contain carbohydrates. Students will list the amount of calories in these foods and determine if this is a good item or bad item to have in your daily diet or if it should only be consumed for a special occasion. Students will then write what the item was and if it is good or bad for them and why.  Students will also find an application such as Myfitnesspal.com on the web that can be downloaded on their phone or home computer so they can track their daily intake of calories for one week so they can become aware of how they get energy for their body. | | | | | | | | | | | | | | | | | |

**Lesson Integration Checklist:**

* My Content and Language Objectives support each other.
* I differentiated my language objectives to accommodate my students’ proficiency levels.
* I used my students’ proficiency levels when choosing my instructional strategies to support their content and language learning.
* I chose activities that integrate speaking, writing, reading, and listening to the extent possible.
* I differentiated my assessment to accommodate my students’ proficiency levels.
* My assessment reflects the targeted language from my lesson’s mentor text or source.

**Capstone Reflection – Luanne Nesbitt**

When implementing my capstone lesson, all of the strategies I used worked well for English Language Learners as well as for the Special Education students. I found that strategies working with vocabulary were very beneficial. Teachers need to consider the time involved when implementing this lesson. Day three of the lesson involved a lab sheet for calculating calories in food. It was math based and I would definitely give them an easier example at first when doing this activity in the future.

**Capstone Reflection – Mary Gosselin**

I believe the strategies that were implemented during this course were helpful not only to the ELL students and myself but to the other students and teachers who observed the strategies being used in the classroom. The students responded positively to each of the strategies that were implemented. Some strategies were easy to use, while others took some time but in the end, it was these best practices that had students asking to do a word wheel, partner reading, read-aloud, round table or sentence frames during each lesson.

After learning so many strategies, the Capstone was fairly easy to implement. The Capstone allowed me to work together with a RETELL colleague to plan and carry out this unit using many of the strategies we had learned. Working with the same class for many days in a row was very beneficial as it allowed me the consistency and continuity to see how much background knowledge the students had, what strategies they needed to be successful to comprehend this unit and what differentiation of assessments was needed so students could demonstrate their comprehension of the topic in different ways whether through think-alouds, quick writes, sentence frames, roundtable/write around or cloze activities.

The strategies presented in this RETELL course have changed my way of teaching. All students can benefit from implementation of these strategies embedded in my lessons. It is evident that ELL students need more time to work on English Language Development. However, if students are listening, speaking, reading and writing on a daily basis through the use of these strategies, they will develop the skills necessary to catch up to and in some cases exceed their native language speaking peers.

1. For more information about WIDA ACCESS Scores and levels, see <http://www.wida.us/assessment/ACCESS/> “Interpretive Guide for Score Reports” [↑](#footnote-ref-1)
2. http://www.wida.us/standards/CAN\_DOs/ [↑](#footnote-ref-2)
3. For more information on Tiered vocabulary, see Beck & McKeon (1985), Calderón (2007). [↑](#footnote-ref-3)