Kern County Superintendent of Schools
Write to Learn
CAHSEE Weekly Words and Writing Prompts
First Semester – Year One

Wednesday – Science Teacher – Analyze

STEP ONE: Introduce the Word: The Write to Learn word for this week is analyze.

A script might go like this:

- **Pronounce the word with a visual model:** *Our word this week is analyze.* (At this point the teacher can point to the word displayed on a whiteboard/SmartBoard/piece of paper.) *I've written the word on the board. Say it quickly after me – analyze*. (The students then repeat the word after the teacher.)

- **Clarify the part of speech:** *Analyze is a verb, an action word, something we do.*

- **Call on volunteers and non-volunteers** to give their own definitions. *Can anyone tell me what analyze means?* Call on volunteers and non-volunteers alike.

- **Review the student-friendly definition.** Here you should explain the word in everyday language, explaining how it is used in the context of science. *Analyze means to think about something carefully and in great detail, in order to understand it. When used in a science class, to analyze means to carefully examine something using the scientific method and equipment to see what it consists of or what it means. For instance, we might analyze the different types of cells by looking at them carefully under the microscope.*

    - **Give importance of the word:** Here we teach why the word is important, including personal examples, academic examples, and real life examples.

        - *On the CAHSEE, you might be asked to analyze a reading passage dealing with science and answer some questions about the article.*
        - *In the laboratory, scientists must analyze the results of trial tests before a new medicine can be released for use.*
        - *Or, we might test a hypothesis by performing several experiments; we would then analyze the data from the experiments, and then draw a conclusion.*

    Teachers can add their own personal examples and academic examples.

- **Provide examples and non-examples to clarify the meaning in everyday language,** relating to science.

    - *If my teacher asks me to analyze the differences in cells, I need to look at the cells carefully under the microscope, draw pictures of the cells, and describe the cells in detail, looking for how they are different from one another.*
    - *If I am previewing a chapter by glancing at the title, section headings, etc. of the first page only, I would not be analyzing the content of the chapter because I am not studying the chapter in detail to understand it more fully.*
    - *If I am going to analyze what makes up an organ system, I need to discuss cells, tissues, and organs that make up the organ system. I should also discuss the function of each organ and how it contributes to the organ system.*

STEP TWO: Checking for Understanding

- Here we teach the students how to use the word. These activities check students' understanding and provide informal practice through planned oral activities.
- To check for understanding, the teacher provides students with multiple opportunities to use the new words.
- The "checking for understanding" activities help students understand the words at deeper levels because of repeated and varied exposure.
- These activities can be done orally as sponge activities or in a "game" format.
- Remember to remind students to answer in complete sentences.
- The following are illustrations of the different types of checking for understanding activities. Please feel free to substitute your own examples.
- (This can be done throughout the week.)

  Processing Questions – Ask questions that require students to process the meanings of the new words:
    - After *analyzing* the four types of tissue in the body, epithelial tissue, muscle tissue, nervous tissue, and connective tissue, select one and explain the role of that tissue in the human body.
    - *Analyze* how organ systems protect and support the human body.
    - Explain how an *analysis* of blood lipids can be used to indicate the risk of disease.

Idea Completions – Provide students with sentence frames that require them to integrate a word's meaning into a context in order to explain a situation:

- After *analyzing* the sweat glands, we know that most sweat is composed of _____, _____, _____, and _____. (answer: water, salts, acids, and urea) Sweat from apocrine glands also contains _____ and _____, substances which provide a rich source of food for bacteria that live on the skin. (answer: proteins and fatty acids)
- After *analyzing* the effects of aerobic exercise, some of the benefits include _____, _____, _____ and _____. (answer: strengthening of the lungs and diaphragm muscle, strengthening of the heart as it pumps more blood in fewer beats, increasing the number of capillaries in the muscles and the number of mitochondria in the muscle cells as more oxygen is supplied to the muscles and endurance increases, and increasing of blood flow to all muscles.

Have You Ever…? – Have students associate newly-learned words with familiar contexts and experiences.

- *Analyze* your exercise routine. Think about ways to increase your resistance exercises (or aerobic exercises or anaerobic exercises). Share your ideas.

Fill in the Blank or Missing Words – Use the target word in a sentence stating the word as a "blank" for students to restate the word.

- _____ the differences between fast-twitch and slow-twitch muscles. (*analyze*) (answer: *analyze*)
- An _____ of anabolic steroids shows that they are harmful because they can stop bone growth, they can cause female-like breasts and shriveled testes in males, and facial hair and male-pattern baldness in females. (*analyze*) (answer: *analysis*)
- Yesterday, we _____ the differences in dendrites and axons in nerve cells. (*analyze*) (answer: *analyzed*)

Making Choices– Have students choose a word if it fits in a certain context. *If any of the things I say are things that you can analyze, say, 'That is something I can analyze.' If they are not, don't say anything.*

- The differences between the central nervous system and the peripheral nervous system
- The components of healthy blood
- The definition of neuron
- The way sound waves travel in the inner ear

Juxtapositions – Challenge students to answer a yes or no question containing two juxtaposed target words.

- Can you *describe* something that you *analyze*? (substitute a word you have already studied for the word *describe*)

Discussion Prompts – Use context of what you are teaching as a basis for discussing word meaning with your students.

- Science: Look at a picture of the heart muscle. *Analyze* how the human heart pumps oxygen-poor blood to the lungs and oxygen-rich blood to the rest of the body and describe the steps involved.

True/False – Provide wait time for students to process and respond to true/false statements.

- After *analyzing* the total cholesterol, the HDL, the LDL, and the triglycerides in blood, a cardiac-risk profile may indicate that you need to change your diet. (true)
- A doctor can *analyze* the condition of your bones through a bone-density test. (true)

Teachers can add their own examples.

STEP THREE: Independent Work

- **Independent Practice:** Here the students will practice what the teacher has just taught. At this point, if some students need help, teachers assist them individually.

- **Science Writing Prompt:** This is where the teacher will give the students the **writing prompt** to practice the word. For example, the teacher may ask the students to write in their journals the following journal topic: (Teachers may use their own journal topics, tied to the Sequenced Pattern of Instruction or the courses assigned from the Course of Study Binder for Independent Study, or they may use the following writing prompts.)
  - *Analyze* the causes and effects of osteoporosis. Now, write about some of the measures you can take to insure that your bones remain healthy. (Students may mention that as bone tissue becomes less dense after age 40, a person should increase the amount of regular exercise. Exercise can increase the amount of minerals deposited in the bones. People should also eat a nutritious diet, rich in the minerals like calcium, magnesium, manganese, and potassium. Diet should also include protein and vitamin D. OR
  - *Analyze* the steps involved in digestion. Explain the role of the major organs as food is digested. (Students may explain how digestion begins in the mouth as food is chewed, broken apart, mixed with saliva and enzymes, and swallowed, aided by the movement of the tongue. Then, food is squeezed into the esophagus where it moves down the esophagus by muscle contractions called peristalsis. Then, food passes into the stomach where it is mixed with hydrochloric acid, lipase, and pepsin. Food remains in the stomach for about four hours where it is reduced to a thin liquid. From there, the liquid moves into the small intestine, where the remainder of digestion takes place. In the duodenum, carbohydrates and proteins are broken down. As the liquid moves through the remainder of the small intestine, nutrients are absorbed and

transferred into the blood. The liver and pancreas are responsible for secreting digestive enzymes. These enzymes break down carbohydrates into simple sugars and split proteins into amino acids and fats into fatty acids. The pancreas also secretes bicarbonate that helps to neutralize the stomach acids and protects the intestinal walls. The liver also secretes bile which emulsifies fat globules so they can be broken down and absorbed. Once digested food molecules are absorbed into the bloodstream, they go first to the liver where the molecules are filtered. At this point, the undigestible food, called cellulose, is moved into the large intestine.)

Teachers can make up their own journal topics or use the ones provided.

- **Homework:** For **classroom students**, they might be encouraged to look for the word or examples of how the word is used after they leave class for the day. They might bring to class newspaper articles, books, or magazines with the target word used in the text. **Independent Study students** might be asked to use the word in their assignments or to find the word or examples in their reading outside the class.

STEP FOUR: Review Periodically Through Games/Activities

- **Periodic Review**: Active Engagement with Words/Checking for Understanding/In-Depth Word Knowledge (refer to the *Core Vocabulary Handbook* page 26, pages 44 – 46 and PowerPoint notes from Staff Development Day). These in-depth word knowledge techniques can be used throughout the week to increase students' exposure to the chosen word. Hence, the students are receiving ongoing encounters with the target word.

    - **Questions**:
      Sam thought it might be fun to *analyze* the contents of my backpack. What might he find that would be of interest? Why might he want to look closely at what I have put in my backpack? What might the contents reveal about me?

    - **Examples/Non-examples**:
      Which one of these two sentences best describes how I might *analyze* something?
      I looked through the microscope to discover the movement of the microorganism, how it ingested food, what its relationship was to the other microorganisms. I then drew pictures of what I saw and wrote down what I had observed. OR I briefly looked through the microscope and noticed that the microorganism was moving. I then returned to my seat and spent a minute drawing what I had observed.

- **Finish the Ideas**:
  After reading the story about birds migrating to the south in the winter, we *analyzed* their flight pattern and discovered _____. OR After *analyzing* all of the snacks I have eaten this past week, I discovered that my snacks are _____ (healthy choices/unhealthy choices) because_____.

- **Have You Ever…?:**
  If someone asked you to *analyze* the steps involved in keeping a plant alive, what would you tell the person?

- **Choices:** If what I say is something that you could a*nalyze*, say "That is something I can *analyze.*"
  - Steps involved in solving a mystery
  - A quick glance down the street to check for traffic
  - A look at the menu to decide what to order for lunch
  - The reasons why your business has declined for 12 straight months

- **Discussion Prompts:**
  Analyze what characteristics make a person a good friend. Write them down and discuss why these characteristics are important. Now, compare your list with your elbow partner. After *analyzing* both lists, together pick five characteristics that are necessary for a good friend to possess.

- **Juxtapositions:**
  Can you *analyze* things that you *describe*? (You may substitute another word that you have taught for the word *describe*.)

- **Missing Words:**
  Detectives are still _____ the DNA evidence at the crime scene. (analyze) (answer: analyzing)
  The evidence was sent to the lab for _____. (analyze) (answer: analysis)
  In the story "To Build a Fire", we _____ why the man continued to travel through the snow when he was warned to stop. (analyze) (answer: analyzed)

- **True/False:**
  To *analyze* something takes only a few seconds. (false)
  It is difficult to know why someone does something without *analyzing* his or her behavior. (true)
  In math you might be given pictures of 2 triangles and you might be asked *to analyze* their similarities and differences. (true)

- **Word Association:**
  Which word goes with looking at something carefully in order to understand it? (analyze)
  Which word refers to analyzing something yesterday? (analyzed)

- Games include:
  - Scattergories
  - Jeopardy
  - Word Charades
  - Word Concept Sorts
  - Pyramids
  - Pictionary
  - Word Form Sorts
  - Word Form Charts
  - Thinking Maps
  - Word Walls
  - Antonym Scales
  - Poetry Word Play (Diamante Poems, Cinquain Poems)
  - Vocabulary Hotshot Notebooks

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