

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

Thursday – Math 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 math. *Analyze means to think about something carefully and in great detail, in order to understand it.*
 - **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 math problem and determine the reasonableness of the answer.*
 - *In math, we can speed up the analysis process by estimating the numbers to get an answer instead of working out the problem using the given numbers.*

Teachers can add their own personal examples and academic examples.

- **Provide examples and non-examples to clarify the meaning in everyday language**, relating to math.
 - *If my teacher asks me to analyze the steps I used to solve a math word problem, I need to look carefully at each step, underline the question, circle the key information, select the operations, check my calculations, and select the best answer.*
 - *If I look at the first page of the CAHSEE and I shut the book without trying to solve any problems, I have not analyzed the work on the test.*
 - *If I am at the grocery store and I can buy a large 64 oz. container of Tide detergent sale-priced for \$12.95, or three 20 oz. containers for 3 for \$12.00, I need to analyze the deal by determining the price per ounce. Just because the detergent is advertised as a sale price does not make it a good deal.*

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:

- How does analyzing problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, and sequencing and prioritizing information, and observing patterns help you to solve math problems?
- Draw models for the following fractions, using graph paper: $\frac{2}{14}$, $\frac{1}{7}$, $\frac{4}{28}$. *Analyze* the models and explain how you can visually tell that the fractions are equivalent.

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 past scores of the Dodgers and the Padres, I would predict that _____ has a better chance of winning the World Series.
- After *analyzing* the slope and a point on a line, write the correct equation: the line passes through (2,3) and the slope is $-\frac{5}{2}$. (answer: $y-3=-\frac{5}{2}(x-2)$)

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

- *Analyze* your chances of passing the CAHSEE. Think about your knowledge of Number Sense, Statistics and Probability, Measures and Geometry, Algebra and Functions, and Algebra I. How could you improve your chances?
- *Analyze* your chances of having that dream car and that dream house by the time you are 25 years old. What obstacles might stand in the way of achieving your dream? How could you make it happen?

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.

- _____ how to solve a linear system using a graph and check method includes writing each equation in a form that is easy to graph, graphing both equations in the same coordinate plane, estimating the coordinates of the point of intersection, and checking whether the coordinates give a solution by substituting them into each equation of the original linear system. (*analyze*) (answer: *analyzing*)
- _____ the steps involved in graphing a linear inequality. (*analyze*) (answer: *analyze*)
- An _____ of the test scores of all of the math classes showed that no one knew how to solve multi-step inequalities. (*analyze*) (answer: *analysis*)

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.*

- Given the information that Old Faithful geyser in Yellowstone National Park erupts every day at intervals of less than two hours and has for the past 100 years, and the last eruption that just ended had a length of five minutes, can you *analyze* this data and estimate the time until the next eruption?
- The following problem: A cheetah running 90 feet per second is 100 feet behind a gazelle running 70 feet per second. How long will it take the cheetah to catch up to the gazelle?
- The word mathematics

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.

- *Analyze* the following information: You have \$2.65 in your pocket. You have a total of 16 coins, with only quarters and dimes. Let q equal the number of quarters and d equal the number of dimes. Complete the following equations:
 - _____ + _____ = 16 (answer: q, d)
 - $25q$ + _____ = 265 (answer: $10d$)
 - Using the above equations, find out how many of each coin you have. (answer: 7 quarters and 9 dimes)

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

- After *analyzing* the scores on the test, the teacher could tell the average of the class by calculating the mean. (true)
- *Analysis* of test data is never helpful. (false)
- After *analyzing* an equation and calculating the input and the output for x and y , you can draw a line graph to represent the function given by the input and output table and predict the next three input and output numbers. (true)
- Four ways to represent functions and *analyze* the data include an input-output table, a statement using words, an equation, and a graph. (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.
- **Math 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.)

- *Error Analysis:* In the following problem find and correct the error.

$$\begin{aligned} 3x &= 12x + 45 \\ 3x - 12x &= 12x - 12x + 45 \\ \frac{9x}{9} &= \frac{45}{9} \\ x &= 5 \end{aligned}$$

solution: $3x - 12x = -9x$ and
 $x = -5$

Now, write about how you would correctly solve this problem.

- *Analyze* the steps involved in solving the following problem: You are ordering softballs for two softball leagues. The size of a softball is measured by its circumference. The Pony League uses an 11 inch softball priced at \$3.50. The Junior League uses a 12 inch softball priced at \$4.00. The bill smeared in the rain, but you know the total was 80 softballs for \$305. How many of each size did you order? (answer: 30 11-inch softballs and 50 12-inch softballs)

Now, write about the steps used to find a solution.

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 *analyze*, 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.
It is difficult to know why someone does something without *analyzing* his or her behavior.
In math you might be given pictures of 2 triangles and you might be asked to *analyze* their similarities and differences.

- **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