

# INSTRUCTIONAL STRATEGIES



## **CLAIM, EVIDENCE, REASONING (CER)**

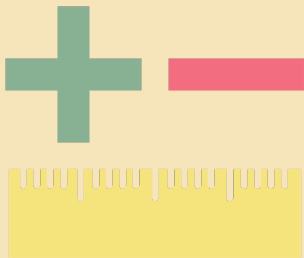
This strategy provides a scaffolded way for students to use evidence to formulate and justify their own arguments by breaking down materials and research into smaller pieces for analysis.

# CLAIM, EVIDENCE, REASONING (CER)

**SUMMARY:** This critical thinking strategy allows students to use evidence to substantiate claims from a posed question. Students will write a conclusion that justifies their claim and supported evidence.

## **PROCEDURE:**

- 1.** Present students with a question that allows them to create a claim. The claim will answer the question and will usually be one sentence.
- 2.** Then students will look for evidence to support their claim in materials and online research provided. The more relevant the evidence, the better the claim will be supported.
- 3.** Students will write their reasoning, which acts as a conclusion, providing explanations for why the data they chose counts as evidence and supports their claim. This should be a few sentences in length.
- 4.** ELA variation: Students look at a persuasive text (science journal article, newspaper column, etc.). They annotate the article by labeling the author's claim, evidence, and reasoning. Students could also write the claim, evidence, and reasoning on a large paper to allow their classmates to see if they all gathered the same components or if there were different perspectives.



## EXAMPLES AND NON-EXAMPLES

This strategy has students explore what they know about a topic or concept by generating examples of what it is and what it is not.

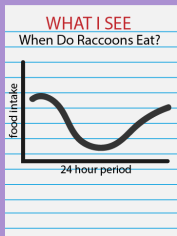
## EXAMPLES AND NON-EXAMPLES

**SUMMARY:** A concept or term is provided for students who generate examples of what the concept or term is and examples of what the concept or term is not (non-examples). This strategy is ideal for mathematics or the sciences as it gives students a chance to explore various applications of laws, theorems, and postulates so they will be easier to recognize in the future.

### **PROCEDURE:**

1. Identify a concept or term for assessment.
2. Ask students to provide examples of what the concept or term is and examples of what the concept or term is not (non-examples).
3. Allow students time and space to clearly describe the rule or definition they used to create the examples and non-examples.

# INSTRUCTIONAL STRATEGIES



## WIS-WIM

This strategy helps students interpret graphs, tables, and figures.

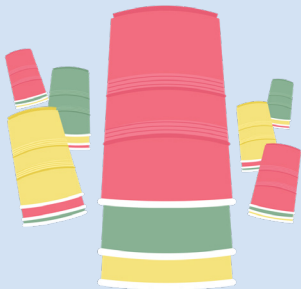
# WIS-WIM

**SUMMARY:** WIS-WIM helps students learn how to read and summarize graphs, tables, and figures. The first part, "What I See," challenges students to break down a graph into individual observations. The second part, "What It Means," guides students to create meaning from those observations and then fuse those meanings to produce a logical explanation of what the graph depicts. This strategy enables students to take given data, build a visual in their minds, and translate the visual into words. Students may complete this activity independently or in groups of 3–4.

## **PROCEDURE:**

1. Students receive a graph, table, or figure to interpret.
2. Identify ("What I See"): Students identify what they see regarding changes, trends, or differences depicted in the graph.
3. Students draw arrows and write a "What I See" comment for each arrow. Instruct students to be concise with their comments and focus on only what they observe. (They should not try to explain the meaning at this point.)
4. Interpret ("What It Means"): Students interpret the meaning of each "What I See" comment by writing a "What It Means" comment next to it. (They should not try to interpret the whole graph yet.)
5. Students write a caption in paragraph format. Have them start with a topic sentence that describes what the graph shows. Next, have them join each "What I See" comment with its corresponding "What It Means" comment to make a WIS-WIM sentence. Students should build a coherent paragraph out of their WIS-WIM sentences.

# INSTRUCTIONAL STRATEGIES



## **TRY IT, TALK IT, COLOR IT, CHECK IT**

This strategy is a quick way to scan the room and know exactly how students are feeling about their work. Students are given the opportunity to Try an approach, Talk it out with a group, display a Color of cup that reflects their understanding, and then Check their work as a whole group. While great for math classes to test out problem solving techniques, this strategy is also a great way to get scaffolded support in understanding for any content area.

# TRY IT, TALK IT, COLOR IT, CHECK IT

**SUMMARY:** Provide each group or pair of students three cups: green, yellow, and red. Green means “We got it and can teach others!” Yellow means “We are a bit uncertain.” Red means “We need help. We may be wrong.” (This could be done alternatively with sticky notes.) Provide a question or problem that you would like students to engage with, then have students follow the procedure below. Additionally, consider displaying the procedure steps in the classroom for students to reference.

## **PROCEDURE:**

- 1. TRY IT:** Work out the problem independently.
- 2. TALK IT:** Discuss your strategy to solve the problem with a partner and decide on one final answer. (Virtually, this can be done in breakout rooms.)
- 3. COLOR IT:** Place the red, yellow, or green cup at the top of the stack of cups to indicate your confidence in your final answer. (Digitally, this can be done with sticky notes through a tool like Jamboard.)
- 4. CHECK IT:** Debrief with the whole class and share your work. Ask questions and make corrections if needed.

While students are in the **TALK IT** step, circulate the room and listen to discussions. Use what you hear to inform which students you plan to call on for the **CHECK IT** step.

Use the **COLOR IT** step as a formative assessment. Check on students who display a yellow or red cup. Challenge students who display a green cup to approach the problem differently or defend their answer.



# INSTRUCTIONAL STRATEGIES



## CUBES SQUARED

CUBES Squared is a strategy to help students dissect questions in both English Language Arts (ELA) and Math. Students encounter a problem or passage and use the steps in the CUBES acronym to solve the key question.

# CUBES SQUARED

**SUMMARY:** Following the CUBES acronym, students in pairs solve a key problem or question by circling, underlining, boxing, and striking through key elements. Then, partners solve the problem or answer the question, and show and check their work

## PROCEDURE:

- 1. CIRCLE** Key Numbers and Units OR Nouns and Verbs: Given an equation or reading passage, have students work with an elbow partner to find the key numbers and units (Math) or the nouns and verbs (ELA).
- 2. UNDERLINE** the Question: Have students continue working with their partner to find and underline the question within the problem set or passage that needs to be answered.
- 3. BOX** Key Question Words: Next, have partners find the key action numbers, operators, or words within the question—that is, what this question is specifically asking them to do—and draw a box around those numbers, operators, or words.
- 4. EVALUATE** and **ELIMINATE**: Have partners find the remaining information that is not needed to help answer the question, and draw a line through it.
- 5. SHOW** Your Work and Check It: Have partners identify the steps in their math work, or the evidence in the reading passage, that support their answer to the key question,. Then ask partners to demonstrate and confirm it together.