WRITING STRATEGIES GUIDE
FOR CONTENT AREA TEACHERS

The following guide is intended to support the integration of writing within content area classrooms. While far from exhaustive, this guide includes strategies and graphic organizers to support writing instruction across the disciplines of math, science, and social sciences.

UVA EDUCATION

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MATH WRITING STRATEGIES

Strategy	Importance	Directions	Graphic Organizer
Know-Want to Know-Learned (KWL)	This strategy helps students identify gaps in their knowledge and supports strategic thinking, which is essential for planning to write on a topic.	Students create a chart with three columns: K, W, L. Under K they write what they already know about the topic, W they write what they want to know and after they read, they write what they learned under the topic.	**Page 08**
Compare-Diagnose-Operate (CDO)	This strategy helps students to analyze their thinking and problem-solving skills.	Students compare two or more solution strategies, equations, or explanations. Then, students diagnose or analyze mistakes in their own work or a given solution. Then they operate – here is where they correct their mistake and explain their reasoning in writing.	**Page 09**

Mathematical Reasoning: Notebook Prompts	This strategy asks students to **explain their mathematical problem solving** through the use of guided prompts. Consider doing this each time a new concept is explicitly taught as a check for understanding.	In a math journal, ask students one of the following questions after they have been explicitly taught a math concept: • How would you explain (math concept) to someone who has never learned it before? • What are two different ways to solve this problem? Which do you prefer and why? • If you were teaching today's lesson, how would you explain it to a student in the grade level below you? • What strategy did you use to solve this problem and why did you choose it? • Describe a mistake you made when learning to solve problems like this one. What did you learn from your mistake? • How can you check if your answer is correct? • Where do you see a connection to this math concept in real life? Give an example. • How is this topic connected to something else you have learned in math?	**Page 10**

Understand, Plan, Solve, Check	This strategy requires both an ability to correctly define a problem and finding the solution. This graphic organizer will help students fully understand what is being asked of them in order to answer the question accurately.	This can be used within a math journal or as a stand alone practice after teacher modeling. • Understand: student read and re read the problem. They can imagine the problem by drawing images • Plan: decide what to do and how to solve the problem (identify the operation the question is requiring to use) • Solve: carry out the plan, showing your work • Check: does the final answer make sense? Is there a better way?	**Page 11**
RACE	This strategy can be adapted for math to help students organize their reasoning and justify their answers. Can be helpful to get students to understand the language of word problems.	Students restate the question/ math problem into a statement, answer the question, cite evidence (use a mathematical formula, calculation, or example to support their answer) and explain why the solution works.	**Page 15**

SCIENCE WRITING STRATEGIES

Strategy	Importance	Directions	Graphic Organizer
Know-Want to Know-Learned (KWL)	This strategy helps students **identify gaps in their knowledge** and supports **strategic thinking**, which is essential for **planning to write** on a topic.	Students create a chart with three columns: K, W, L. Under K they write what they already know about the topic, W they write what they want to know and after they read, they write what they learned under the topic.	**Page 08**
Get the Gist	This strategy helps students identify the main idea of a sentence, paragraph, or section of a text. This will help students when **responding to text they have read** to ensure.	Students read a brief section of the text. They stop to think about who or what is the most important idea from the section. Students write a short summary of the main idea in their own words.	**Page 12**
CER	This strategy helps students think critically and support their reasoning with evidence.	Students make a claim about a scientific concept, provide evidence to support that claim, and explain their reasoning behind their claim.	**Page 13**

Sentence Starters	This helps students to structure their writing and thinking while only focusing on specific elements. This especially helps students when they are **responding to texts they have read**.	**Revising Understanding After Reading:** • Initially I believed..., but now I realize.... • My current perspective on this is... • I see this differently now because.... **Reflecting and Connecting After Reading:** • The key takeaway is.... • One conclusion I'm reaching is.... • The central message here is.... **Examining Author's Craft:** • A sentence that really stands out to me is.... • The word/phrase _____ is powerful because.... • I appreciate how the author uses _____ to illustrate....	**Page 19**
PLAN	This strategy helps students during the **planning phase** of persuasive or informational writing.	Have students remember the mnemonic device PLAN. **P**ay attention to the purpose for writing/ the prompt. **L**ist your main ideas surrounding the task after you have gathered information and evaluated ideas. **A**dd supporting ideas (details, examples, text evidence, etc.) to each main idea you listed. **N**umber the order of ideas in a progression that makes sense.	**Page 14**

SOCIAL SCIENCE WRITING STRATEGIES

Strategy	Importance	Directions	Graphic Organizer
Know-Want to Know-Learned (KWL)	This strategy helps students identify gaps in their knowledge and supports strategic thinking, which is essential for planning to write on a topic.	Students create a chart with three columns: K, W, L. Under K they write what they already know about the topic, W they write what they want to know and after they read, they write what they learned under the topic.	**Page 08**
Get the Gist	This strategy helps students identify the main idea of a sentence, paragraph, or section of a text. This will help students when **responding to text they have read** to ensure.	Students read a brief section of the text. They stop to think about who or what is the most important idea from the section. Students write a short summary of the main idea in their own words.	**Page 12**
PLAN	This strategy helps students during the **planning phase** of persuasive or informational writing.	Have students remember the mnemonic device PLAN. **P**ay attention to the purpose for writing/ the prompt. **L**ist your main ideas surrounding the task after you have gathered information and evaluated ideas. **A**dd supporting ideas (details, examples, text evidence, etc.) to each main idea you listed. **N**umber the order of ideas in a progression that makes sense.	**Page 14**
RACE	This strategy helps students to **respond to text-dependent questions**.	Students restate the question as a sentence, answer the question, cite evidence from the text, and explain the evidence.	**Page 15**
MEAL	This strategy helps students to **organize their paragraphs within longer compositions**.	Students state the main idea, provide evidence, analyze the evidence, and link to the next paragraph.	**Page 16**

PERSUADE	This strategy is for persuasive and argumentative writing.	Students use the following: Power of 3 (restate the argument multiple times and provide at least 3 reasons); Emotive language; Rhetorical questions; Statistics and facts; Undermine opposing views (counterclaim); Alliteration and anecdotes; Descriptive language; Examples	**Page 17**
ARMS	This strategy is for revising and reviewing written responses/ compositions.	Students add words or sentences to improve meaning and clarity, remove unnecessary words or sentences, move words or sentences to ensure that ideas are organized in a way that makes sense, and substitute words or sentences to improve clarity.	**Page 18**
CUPS	This strategy is for editing written responses/ compositions.	Students check for: proper capitalization, understanding (does it make sense), punctuation, and spelling.	**Page 18**
Sentence Starters	This helps students to structure their writing and thinking while only focusing on specific elements. This especially helps students when they are **responding to texts they have read**.	**Revising Understanding After Reading:** • Initially I believed..., but now I realize.... • My current perspective on this is... • I see this differently now because.... **Reflecting and Connecting After Reading:** • The key takeaway is.... • One conclusion I'm reaching is.... • The central message here is.... **Examining Author's Craft:** • A sentence that really stands out to me is.... • The word/phrase _____ is powerful because.... • I appreciate how the author uses _____ to illustrate....	Various examples due to students using the sentence starts to complete their own thoughts.

Institute of Education Sciences. (2019). *Teaching secondary students to write effectively: Practice guide* (WWC 508). U.S. Department of Education, What Works Clearinghouse. https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/508_WWCPG_SecondaryWriting_122719.pdf

K-W-L

Topic: _____ **Name:** _____

What I Already Know	What I Want to Know	What I Learned

C-D-O

Math Concept/Strategy: _____ **Name:** _____

Compare	Diagnose	Operate
Guiding Question: How are these strategies/concepts similar? How are they different?	**Guiding Question:** What error was made? Why is it incorrect? How should it be fixed?	**Guiding Question:** How would you fix the error? What reasoning supports your correction?

Mathematical Reasoning: Notebook Prompts

In a math journal, ask students one of the following questions after they have been explicitly taught a math concept:

- How would you explain (math concept) to someone who has never learned it before?
- What are two different ways to solve this problem? Which do you prefer and why?
- If you were teaching today's lesson, how would you explain it to a student in the grade level below you?
- What strategy did you use to solve this problem and why did you choose it?
- Describe a mistake you made when learning to solve problems like this one. What did you learn from your mistake?
- How can you check if your answer is correct?
- Where do you see a connection to this math concept in real life? Give an example.
- How is this topic connected to something else you have learned in math?

U-P-S-CHECK

Understand

- What am I looking for?
- What do I know?

Plan

- Choose a strategy for solving
- Make an illustration or table

Solve

- Show all your work
- Label your answer

Check

- Explain and justify

GET THE GIST

Text Selection: _____

Step 1:	Step 2:	Step 3:
Who or what is this about?	What is the most important idea about the who or what?	In your own words, what's the gist?

C-E-R

Claim • State your claim in a complete sentence	
Evidence • Cite evidence (facts, statistics, information) to support the claim	
Reasoning • Explain how the evidence supports the claim	

P-L-A-N

Pay attention to the prompt • What is being asked?	
List possible main ideas in response to prompt • Brainstorm	
Add supporting details • Find support for each main idea	
Number your ideas • Determine how to order the main ideas in a way that makes sense	

R-A-C-E

Restate the question as a complete sentence • Change the question into a statement • Use words from the question to create answer	
Answer the question • Respond to all parts of the question	

Cite Evidence
• Give details and evidence from the text to support your answer
  ◦ For example...
  ◦ The text states...	

Explain how your evidence supports your answer • This evidence means... • This evidence proves... • This evidence shows...	

M-E-A-L PARAGRAPH WRITING

Main Idea • Introduce the focus of the paragraph • A small part of the larger argument within an essay	
Evidence • Supports the main idea with source information	
Analysis • Explains how evidence is relevant and contributes to main idea	
Link • Links main idea to the larger argument • Makes paragraphs more cohesive	

PERSUADE

Power of 3: State your claim at least 3 times and provide at least 3 reasons	
Emotive language: Use language that sparks an emotion	
Rhetorical questions: Use rhetorical questions to underscore your points	
Statistics and facts: Cite statistics and facts that support the claim	
Undermine opposing views: Provide counterclaims against opposing claims	
Alliteration and anecdotes: Appeal to the audience with literary devices and stories	
Descriptive language: Use convincing and descriptive word choice	
Examples: Offer examples	

REVISING CHECKLIST

Add • Descriptive language and details • Examples and evidence • Transition words	
Remove • Sentences and words that do not make sense • Extra information that does not support the main idea	
Move • Sentences and words for a clearer order	
Substitute • Words and sentences for more descriptive language • Overused words with new words	

EDITING CHECKLIST

Capitalization • Proper nouns • Sentence starters • Titles	
Usage • Does the word order within sentences make sense? • Is the verb tense consistent?	
Punctuation • Do sentences contain proper ending punctuation? • Are commas and quotations utilized correctly?	
Spelling • Check that words are spelled correctly	

SENTENCE STARTERS

Revising Understanding After Reading:

- Initially I believed..., but now I realize....
- My current perspective on this is...
- I see this differently now because....

Reflecting and Connecting After Reading:

- The key takeaway is....
- One conclusion I'm reaching is....
- The central message here is....

Examining Author's Craft:

- A sentence that really stands out to me is....
- The word/phrase _____ is powerful because....
- I appreciate how the author uses _____ to illustrate...