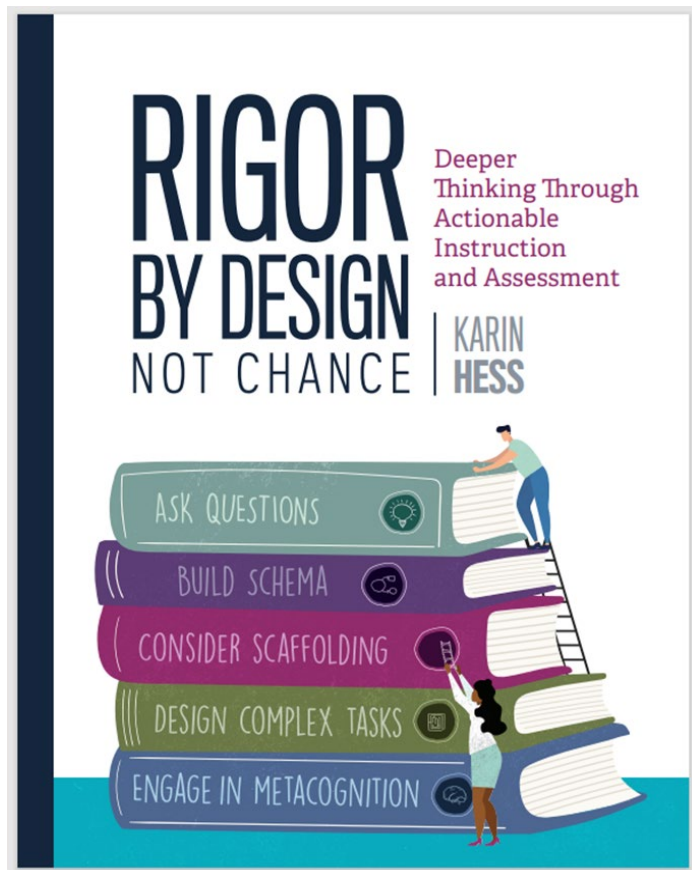


Rigor by Design, Not Chance:

Deeper Thinking Through Actionable Instruction & Assessment



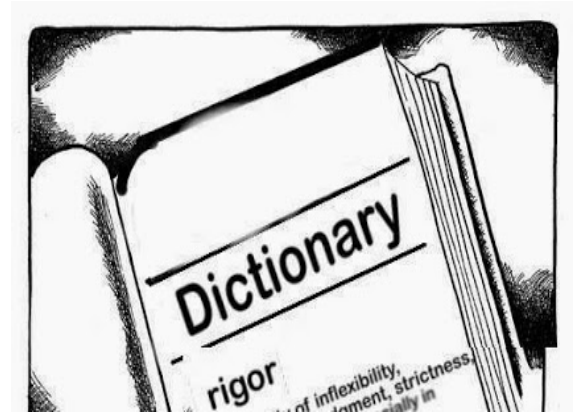
Dr. Karin Hess
Educational Research in Action

www.karin-hess.com

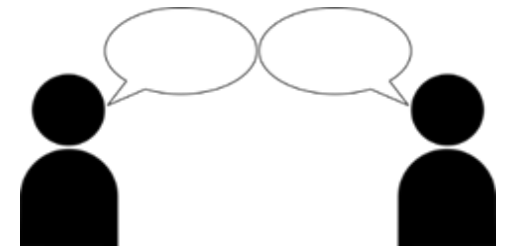
Questions We'll Begin to Explore Today

- ❑ What is deep learning and why is it important for **every** student?
- ❑ How can we move students from **surface learning** [NEAR TRANSFER] to **deeper learning** [FAR TRANSFER]?
- ❑ How do “actionable” feedback and “actionable” assessments advance learning?
- ❑ What 5 essential “**Teacher Moves**” can improve lesson or unit planning and deepen learning?

How do you know when students are doing rigorous work *and thinking deeply*?



- *Quickly* jot down 2-3 words/phrases that immediately come to mind when you think of “cognitive rigor” as it relates to instruction, learning, and/or assessment in your classroom.



Indicators of Cognitive Rigor (Hess 2018, 2023, 2025)

Cognitive Rigor and
Engagement
RbD, pp. 20-21

- Making connections to consolidate the learning
- Applying what's been learned to new or novel situations, also known as (far) transfer
- Tasks providing productive struggle - Challenge with “just right” support
- (Sometimes) Higher-order thinking: analyzing, evaluating, and creating
- Collaboration and discourse that uncovers thinking and reasoning
- Questioning that shifts student roles from taking in information to constructing meaning

The Hess Cognitive Rigor Matrix integrates **Bloom** + **Webb**

Different states/schools/teachers use different models to describe cognitive rigor. Each addresses something different, but related.

- **Bloom** – What type of thinking (verbs) is needed to complete a task?
- **Webb** – How deeply do you have to understand the content to successfully interact with it? How complex is the content?

Building Upon Webb's Depth of Knowledge Framework

- **DOK-1 – Recall & Reproduction** – **Anything you could memorize** (fact, term, rule, concept, or perform routine skill – decoding, calculating)
- **DOK-2 - Basic Application of Skills/Concepts** – **Connecting information**, conceptual knowledge, routine tasks with decision points along the way (e.g., cause-effect, main idea, summarize, observe, predict)
- **DOK-3 - Strategic Thinking** - Requires reasoning, developing an approach, making, **justifying & supporting conclusions** or solutions; abstract, complex, **non-routine**; more than one possible answer or approach (e.g., theme, bias, critique/prove reasoning, build argument)
- **DOK-4 - Extended Thinking** – **processing multiple sources or conditions** of the problem /task; developing an approach, making and **justifying & supporting conclusions** or solutions; more than one possible answer or approach (e.g., research a topic)

The Hess Cognitive Rigor Matrices Apply Webb's DOK to Bloom's Cognitive Process Dimensions

Depth + Thinking	Level 1 Recall & Reproduction	Level 2 Skills & Concepts	Level 3 Strategic Thinking	Level 4 Extended Thinking
Remember	- Recall, locate basic facts, details, events			
Understand	- Select appropriate words to use when intended meaning is clearly evident	- Specify, explain relationships - summarize - identify main ideas	- Explain, generalize, or connect ideas using supporting evidence (quote, example, data ...)	- Explain how concepts or ideas specifically relate to other content domains or concepts
Apply	- Use language structure (pre/suffix) or word relationships (synonym/antonym) to determine meaning	- Use context to identify meaning of word - Obtain and interpret information using text features	- Use concepts to solve non-routine problems	- Devise an approach among many alternatives to research a novel problem
Analyze	- Identify whether information is contained in a graph, table, text feature, etc.	- Compare literary elements, terms, facts, events - analyze format, organization, & text structures	- Analyze or interpret author's craft (literary devices, viewpoint, or potential bias) to critique a text	- Analyze multiple sources - Analyze complex/abstract themes
Evaluate	"UG" = unsubstantiated generalization		- Cite evidence and develop a logical argument for conjectures	- Evaluate relevancy, accuracy, & completeness of information
Create	- Brainstorm ideas about a topic	- Generate conjectures based on observations or prior knowledge	- Synthesize information within one source, data set, or text	- Synthesize information across multiple sources or texts

<div> <div>  </div> <div> HESS COGNITIVE RIGOR MATRIX READING-LISTENING CRM Integrating Depth-of-Knowledge Levels with Bloom's Cognitive Process Dimensions </div> <div>  </div> </div>				
Revised Bloom's Taxonomy	DOK Level 1 Recall and Reproduction	DOK Level 2 Skills and Concepts	DOK Level 3 Strategic Thinking or Reasoning	DOK Level 4 Extended Thinking
Remember Retrieve knowledge from long-term memory; recognize, recall, relate, identify.	Use these Hess CRM curricular examples with most close reading or listening assignments or assessments in any content area.			
Understand Interpret meaning, identify, paraphrase, compare, translate, describe, give an example, classify, categorize, summarize, generalize, make a logical conclusion, predict, compare/contrast, explain like this, explain, construct models.	a. Identify or describe literary elements (character, setting, response, etc.) b. Select appropriate words when asked to explain or differentiate a topic c. Identify or explain who, what, where, when, or how d. Before or describe facts, details, terms, paragraphs e. Write simple sentences	a. Identify, explain, show relationships (character, setting, response, etc.) b. Use non-sequential or sequential information to explain or differentiate a topic c. Identify how elements in a text are related to each other d. Identify how elements in a text are related to each other e. Identify how elements in a text are related to each other	a. Explain, generalize, or connect ideas using sequential or non-sequential information b. Identify how elements in a text are related to each other c. Identify how elements in a text are related to each other d. Identify how elements in a text are related to each other e. Identify how elements in a text are related to each other	a. Explain how elements in a text are related to each other b. Identify how elements in a text are related to each other c. Identify how elements in a text are related to each other d. Identify how elements in a text are related to each other e. Identify how elements in a text are related to each other
Apply Carry out or use a procedure in a given situation; carry out (apply) in an alternative task.	a. Use original or modified text to carry out or use a procedure in a given situation; carry out (apply) in an alternative task.	a. Apply original or modified text to carry out or use a procedure in a given situation; carry out (apply) in an alternative task.	a. Apply original or modified text to carry out or use a procedure in a given situation; carry out (apply) in an alternative task.	a. Apply original or modified text to carry out or use a procedure in a given situation; carry out (apply) in an alternative task.
Analyze Break into constituent parts; determine how parts relate; differentiate between relevant information; distinguish, focus, select, separate, analyze, find, determine, distinguish (e.g., for fact or point of view).	a. Identify constituent parts; determine how parts relate; differentiate between relevant information; distinguish, focus, select, separate, analyze, find, determine, distinguish (e.g., for fact or point of view).	a. Identify constituent parts; determine how parts relate; differentiate between relevant information; distinguish, focus, select, separate, analyze, find, determine, distinguish (e.g., for fact or point of view).	a. Identify constituent parts; determine how parts relate; differentiate between relevant information; distinguish, focus, select, separate, analyze, find, determine, distinguish (e.g., for fact or point of view).	a. Identify constituent parts; determine how parts relate; differentiate between relevant information; distinguish, focus, select, separate, analyze, find, determine, distinguish (e.g., for fact or point of view).
Evaluate Make judgments based on criteria, facts, ideas; assess; evaluate; select, reject, judge, critique.	a. Make judgments based on criteria, facts, ideas; assess; evaluate; select, reject, judge, critique.	a. Make judgments based on criteria, facts, ideas; assess; evaluate; select, reject, judge, critique.	a. Make judgments based on criteria, facts, ideas; assess; evaluate; select, reject, judge, critique.	a. Make judgments based on criteria, facts, ideas; assess; evaluate; select, reject, judge, critique.
Create Organize elements into new patterns or structures; generate, hypothesize, design, plan, produce.	a. Organize elements into new patterns or structures; generate, hypothesize, design, plan, produce.	a. Organize elements into new patterns or structures; generate, hypothesize, design, plan, produce.	a. Organize elements into new patterns or structures; generate, hypothesize, design, plan, produce.	a. Organize elements into new patterns or structures; generate, hypothesize, design, plan, produce.

The Hess Cognitive Rigor Matrices

<div> <div>  </div> <div> HESS COGNITIVE RIGOR MATRIX MATH-SCIENCE CRM Integrating Depth-of-Knowledge Levels with Bloom's Cognitive Process Dimensions </div> <div>  </div> </div>				
Revised Bloom's Taxonomy	DOK Level 1 Recall and Reproduction	DOK Level 2 Skills and Concepts	DOK Level 3 Strategic Thinking or Reasoning	DOK Level 4 Extended Thinking
Remember Retrieve knowledge from long-term memory; recognize, recall, relate, identify.	Use these Hess CRM curricular examples with most mathematics or science assignments or assessments.			
Understand Interpret meaning, identify, paraphrase, compare, translate, describe, give an example, classify, categorize, summarize, generalize, make a logical conclusion, predict, compare/contrast, explain like this, explain, construct models.	a. Identify or describe literary elements (character, setting, response, etc.) b. Select appropriate words when asked to explain or differentiate a topic c. Identify or explain who, what, where, when, or how d. Before or describe facts, details, terms, paragraphs e. Write simple sentences	a. Identify, explain, show relationships (character, setting, response, etc.) b. Use non-sequential or sequential information to explain or differentiate a topic c. Identify how elements in a text are related to each other d. Identify how elements in a text are related to each other e. Identify how elements in a text are related to each other	a. Explain, generalize, or connect ideas using sequential or non-sequential information b. Identify how elements in a text are related to each other c. Identify how elements in a text are related to each other d. Identify how elements in a text are related to each other e. Identify how elements in a text are related to each other	a. Explain how elements in a text are related to each other b. Identify how elements in a text are related to each other c. Identify how elements in a text are related to each other d. Identify how elements in a text are related to each other e. Identify how elements in a text are related to each other
Apply Carry out or use a procedure in a given situation; carry out (apply) in an alternative task.	a. Use original or modified text to carry out or use a procedure in a given situation; carry out (apply) in an alternative task.	a. Apply original or modified text to carry out or use a procedure in a given situation; carry out (apply) in an alternative task.	a. Apply original or modified text to carry out or use a procedure in a given situation; carry out (apply) in an alternative task.	a. Apply original or modified text to carry out or use a procedure in a given situation; carry out (apply) in an alternative task.
Analyze Break into constituent parts; determine how parts relate; differentiate between relevant information; distinguish, focus, select, separate, analyze, find, determine, distinguish (e.g., for fact or point of view).	a. Identify constituent parts; determine how parts relate; differentiate between relevant information; distinguish, focus, select, separate, analyze, find, determine, distinguish (e.g., for fact or point of view).	a. Identify constituent parts; determine how parts relate; differentiate between relevant information; distinguish, focus, select, separate, analyze, find, determine, distinguish (e.g., for fact or point of view).	a. Identify constituent parts; determine how parts relate; differentiate between relevant information; distinguish, focus, select, separate, analyze, find, determine, distinguish (e.g., for fact or point of view).	a. Identify constituent parts; determine how parts relate; differentiate between relevant information; distinguish, focus, select, separate, analyze, find, determine, distinguish (e.g., for fact or point of view).
Evaluate Make judgments based on criteria, facts, ideas; assess; evaluate; select, reject, judge, critique.	a. Make judgments based on criteria, facts, ideas; assess; evaluate; select, reject, judge, critique.	a. Make judgments based on criteria, facts, ideas; assess; evaluate; select, reject, judge, critique.	a. Make judgments based on criteria, facts, ideas; assess; evaluate; select, reject, judge, critique.	a. Make judgments based on criteria, facts, ideas; assess; evaluate; select, reject, judge, critique.
Create Organize elements into new patterns or structures; generate, hypothesize, design, plan, produce.	a. Organize elements into new patterns or structures; generate, hypothesize, design, plan, produce.	a. Organize elements into new patterns or structures; generate, hypothesize, design, plan, produce.	a. Organize elements into new patterns or structures; generate, hypothesize, design, plan, produce.	a. Organize elements into new patterns or structures; generate, hypothesize, design, plan, produce.

- **Content-specific** examples of DOK-level tasks
- Provide a range of possibilities for each DOK level: More than one way to think about DOK
- Not limited to these descriptors, but provide some guidance for instructional & assessment planning
- When you *SHIFT* DOK levels, you SHIFT student roles from taking in information to producing information and constructing knowledge

Connecting the **assessment purpose** with the ***mental processing*** required at each DOK level ...

- **DOK 1** = Acquire Foundation
- **DOK 2** = Apply, Connect, Conceptualize
- **DOK 3** = Deepen & Construct Meaning
- **DOK 4** = Extend, Transfer, Broaden Meaning

NEAR
Transfer

FAR
Transfer



DOK Levels	Teacher Roles	Student Roles
1	<ul style="list-style-type: none"> Questions to focus attention (<i>Who? What? Where? How? When?</i>) Directs, leads, demonstrates, defines Scaffolds for access & focus 	<ul style="list-style-type: none"> Acquires vocabulary, facts, rules Memorizes, recites, quotes Practices, restates
2	<ul style="list-style-type: none"> Questions to differentiate/ classify, draw out inferences, check conceptual understanding (<i>Why? What conditions? Give example/non-example?</i>) Builds conceptual schemas 	<ul style="list-style-type: none"> Explains relationships, sorts, classifies, compares, organizes Makes predictions based on estimates, observations; proposes
3	<ul style="list-style-type: none"> Questions to probe reasoning and underlying thinking (<i>How do you know? What is the hard evidence?</i>) Designs tasks requiring reasoning & proof 	<ul style="list-style-type: none"> Uncovers relevant, accurate, credible information or flaws in a design Develops supporting (hard) evidence for conclusions or claims Tests ideas, solves non-routine problems
4	<ul style="list-style-type: none"> Questions to extend thinking, explore alternative sources, broaden perspectives (<i>What are the potential biases? Can you propose an alternative model?</i>) 	<ul style="list-style-type: none"> Transfers and constructs knowledge Modifies, creates, elaborates based on new sources Investigates real-world problems and issues

FAR TRANSFER

NEAR Transfer:

Students can replicate what they have been taught in the same way they were taught (practicing drills).

DOK 1 = Acquire a Foundation

DOK Level + Purpose	Hess' DOK Visual Expanding Knowledge	Success Criteria Examples Moving from Novice to Expert I/we can...
1 Acquire a Foundation Near Transfer		<ul style="list-style-type: none">○ Follow specific steps to complete routine tasks○ Retrieve/locate/recall facts, details, terms○ Use required tools/resources for a specific purpose○ Practice and self-monitor routine skills/processes○ Perform routine operations; apply rules○ Recite/paraphrase definitions, principles

DOK 2 = Apply, Connect, Conceptualize

2 Use, Connect, Conceptualize Near Transfer		<ul style="list-style-type: none">○ Explain relationships (cause-effect; compare-contrast; if-then)○ Organize or graph information○ Summarize, sequence, sort, classify, infer○ Predict based on observations, prior knowledge○ Pose conceptual questions, problems, or topics to investigate○ Select and use tool/strategy for a specific purpose (e.g., word problem, collect data)
---	--	--

Source: Hess (2025) Applying DOK and Cognitive Rigor, Figure 4.2

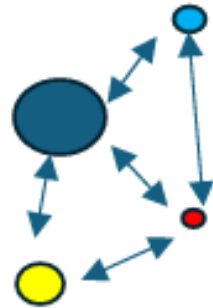
FAR Transfer:

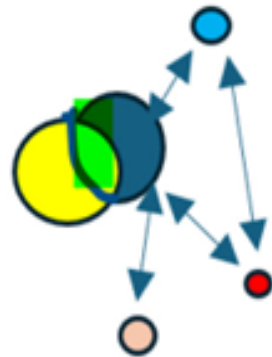
Students apply what they learn in a new way or novel situation (playing the game)

DOK 3 = Deepen & Construct Meaning

DOK 4 = Extend, Transfer, Broaden Meaning

Source: Hess (2025) Applying DOK and Cognitive Rigor, Figure 4.2

3 Deepen and Construct Meaning Far Transfer		<ul style="list-style-type: none">○ Uncover relevant, accurate, credible information, flaws in a design/claims○ Investigate questions that explore underlying or implied meanings○ Use criteria to evaluate or develop supporting evidence for conclusions, solutions, claims, point of view/POV.○ Conduct/revise/refine investigations○ Solve non-routine problems.○ Self-assess/reflect; use feedback to improve quality○ Make connections to Big Ideas, themes
---	--	---

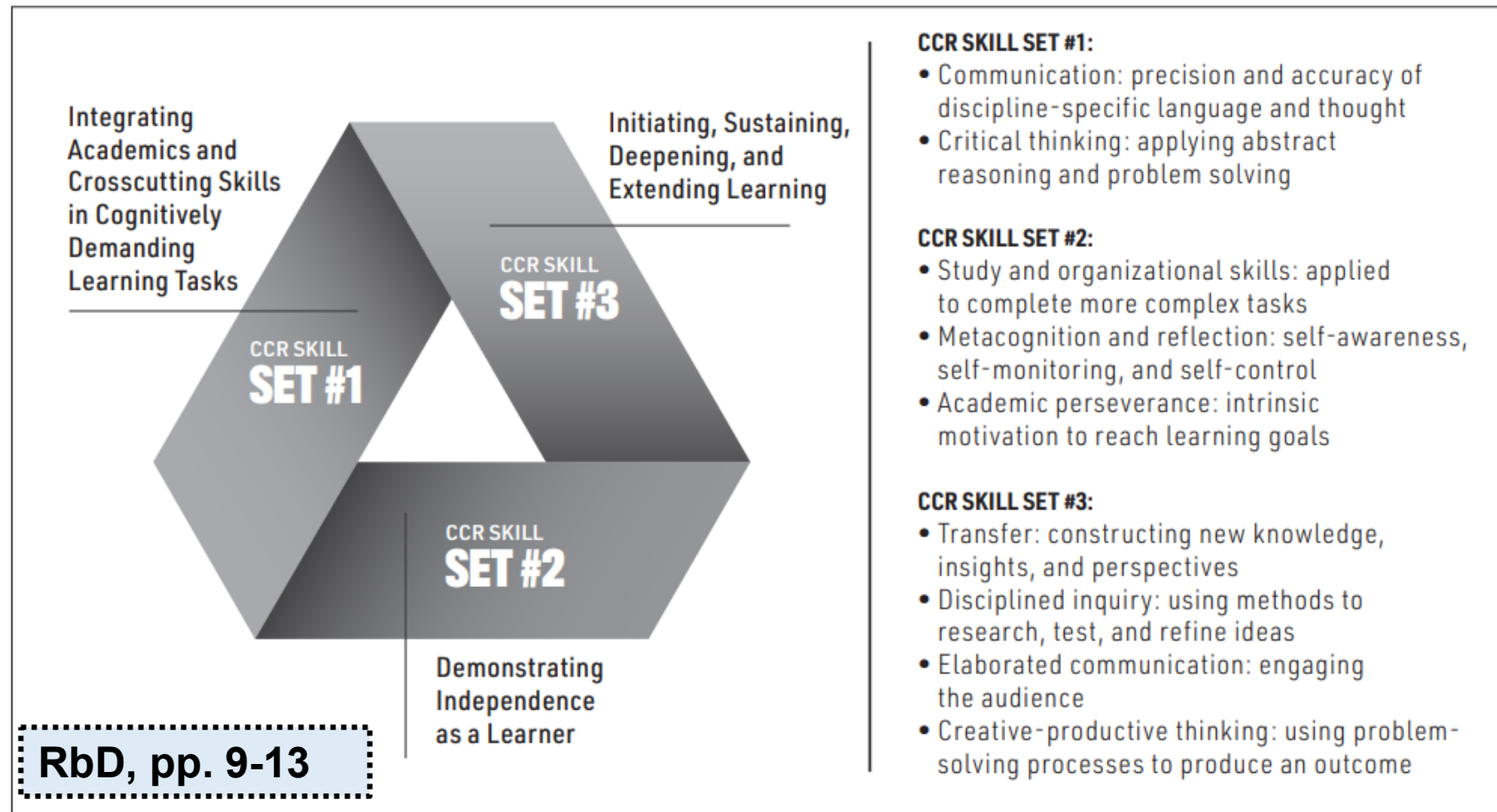
4 Extend Transfer Broaden Meaning Far Transfer		<ul style="list-style-type: none">○ Initiate, transfer, and construct new knowledge○ Modify, create, elaborate, or evaluate based on analysis or integration of information from multiple sources○ Raise novel questions, investigate multi-faceted real-world problems or issues○ Self-assess/reflect; use feedback to improve quality○ <i>Develop broader insights linked to Big Ideas, Essential Questions, or themes</i>
--	--	--

WHY Deep Learning for Every Student?

3 Interrelated College And Career-Readiness Skill Sets

FIGURE 1.1

Three Interrelated College- and Career-Readiness (CCR) Skill Sets



**Complex Tasks
Building Schema
Productive
Struggle**

**Self-Regulation
Metacognitive
Skills**

Far TRANSFER

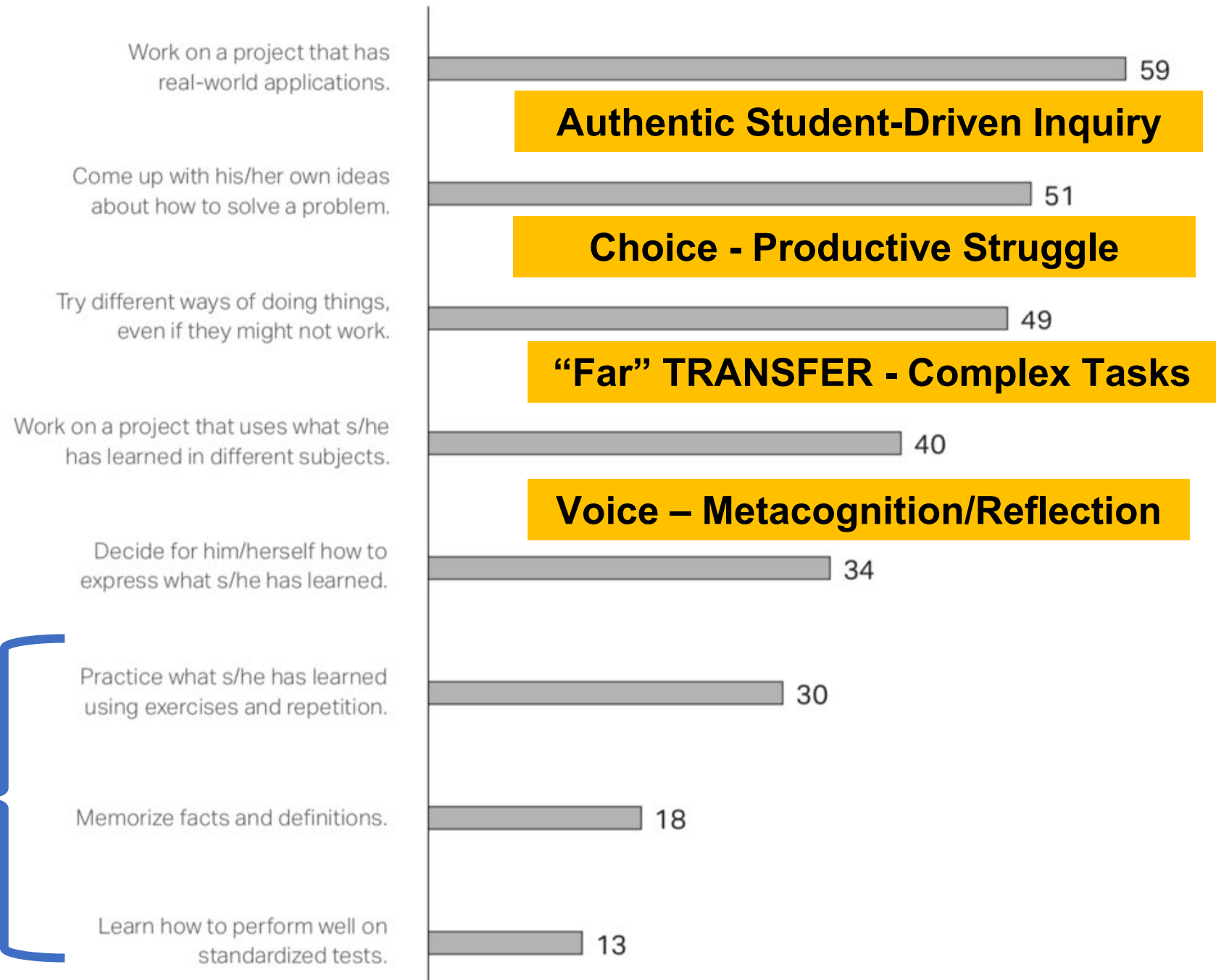
**Student-Driven
Questions/Inquiry
Voice & Choice**

Source: Adapted with permission from *Ready for College and Career? Achieving the Common Core Standards and Beyond Through Deeper, Student-Centered Learning* (p. 11), by K. Hess and B. Gong, 2014, Nellie Mae Education Foundation.

Gallup Report (2019)

How parents
ranked learning
experiences
[percentage of
parents who said
it's "very
important."]

**"Near" TRANSFER –
Routine Tasks**



A Research Tidbit... Productive Struggle

[Jo Boaler, Why Struggle is Essential, 2019]



- Research shows that struggling is absolutely critical to mastery. The highest achieving people in the world are those who have struggled the most.
- Neuroscientists have found that mistakes are helpful for brain growth and connectivity and if we are not struggling, we are not learning. Not only is struggle good for our brains but people who know about the value of struggle improve their learning potential.
- An international study of mathematics teaching found that teachers in Japan put their students in places of struggle 44 percent of the time in classrooms—they saw this less than 1 percent of the time in U.S. classrooms.

What makes assessment “**actionable**”?

1. **assessment questions and tasks are designed to “uncover” what the student is thinking**, not simply what the student remembers;
2. **assessment evidence can be interpreted in terms of where a student is “right now”** along a learning continuum (not a teaching continuum);
3. **assessment evidence can be used to provide actionable feedback to students** to develop self-reflection skills, helping them to better understand themselves as learners, in addition to understanding the content they are learning

To uncover young children's thinking - Use scribing

Kindergarten:
(Fall Benchmark)

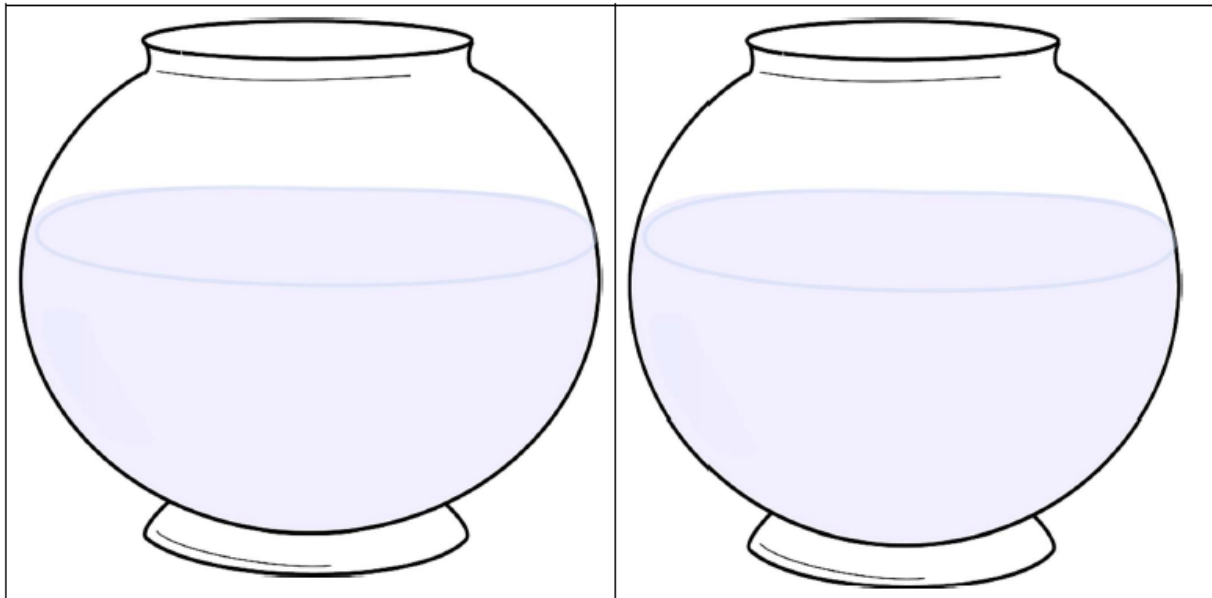
Fishbowls

Molly has 5 fish.

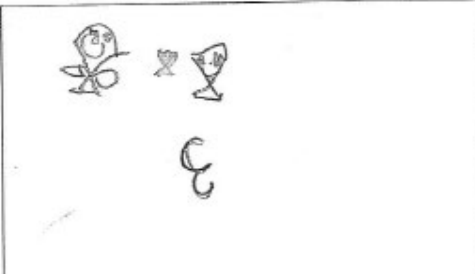
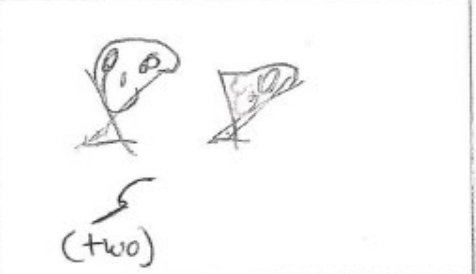
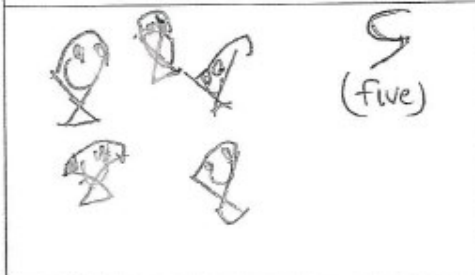
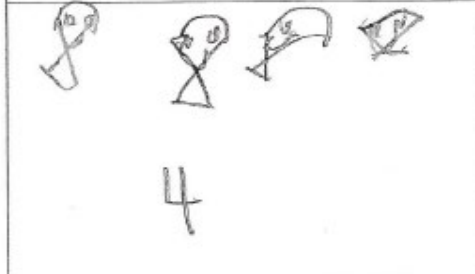
Molly has 2 fishbowls.

Use the fishbowls to show all of the different combinations that Molly can put the fish into her fishbowls.

Tell why one combination will solve the problem.



Name: CTV Date: _____

K #013
3 and 2 is 5
5 and 0 is 5
1 and 4 is 5
I just thought of them in my head and drew numbers on the fish

**DOK 1 count, subitize
DOK 2 decompose, combine, explain, build schema**

Design tasks to uncover skills, concepts, and reasoning...

DOK 1 solve, draw
DOK 2 use a model,
compare

Name _____ Date _____

57

(Grade 1 November benchmark)



Think about the number 57.

Put T after all the true statements about 57.

Explain and show all of your thinking.

Read these.	True? T	Explain and show all of your thinking.
5 tens and 7 ones		
5 ones and 7 ones		
A yellow rod and a black rod		
4 tens and 17 ones		
57 tens		
57 ones		
Write <u>another true statement</u> about the number 57.		



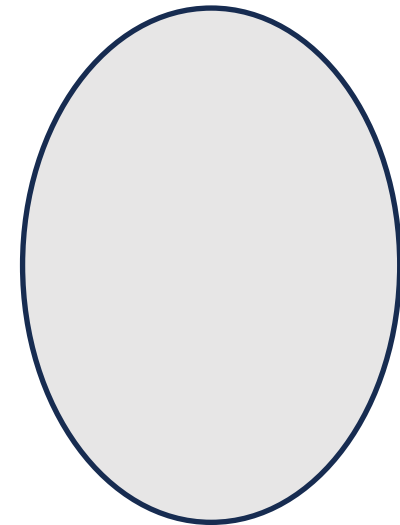
DOK 3 explain
using evidence and
reasoning

Create Character Emojis

What is the character feeling in this part? How do you know?

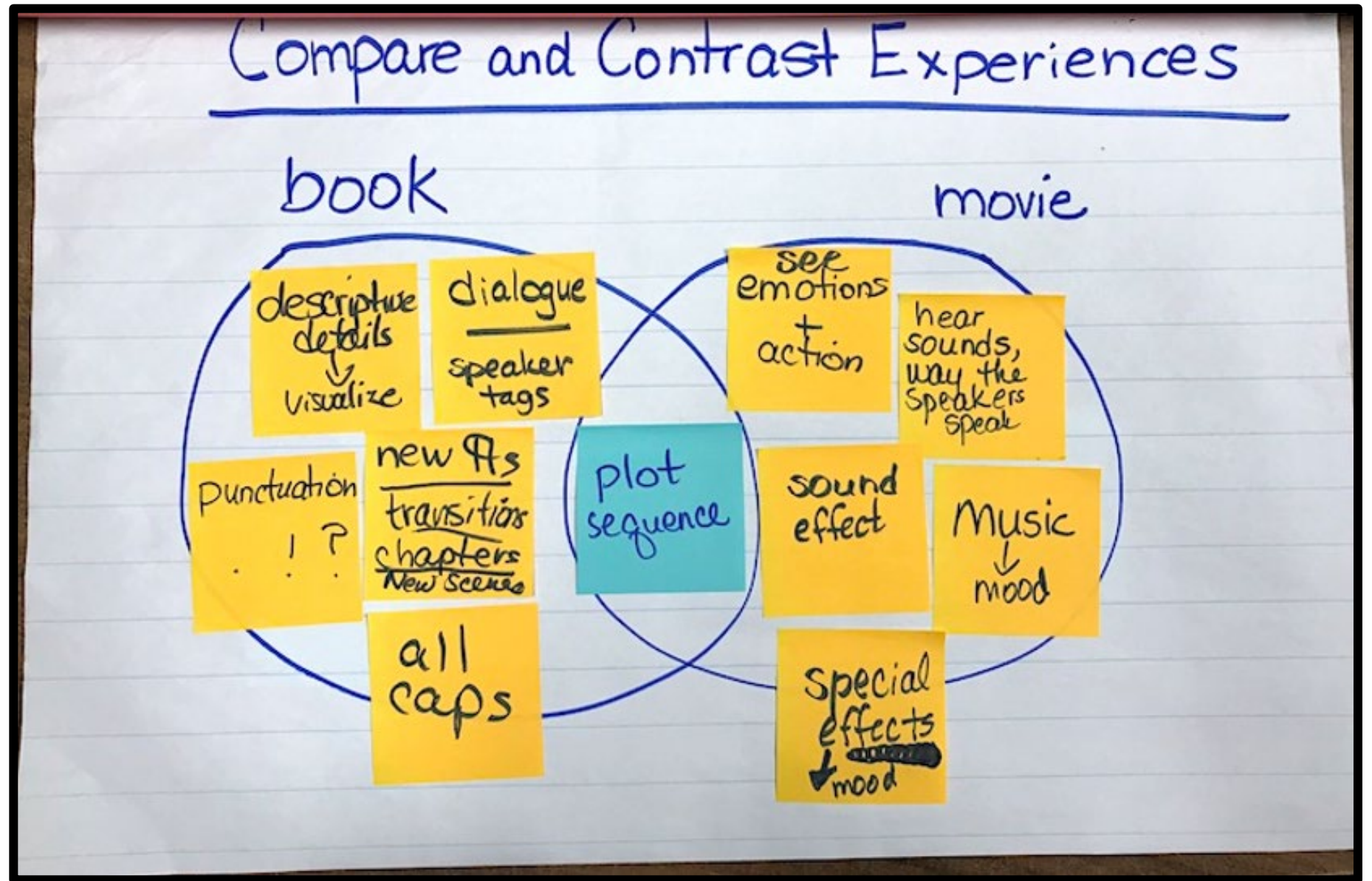
Fill in the face showing the emotion.

Find evidence in the text (pictures, words, actions, descriptions, interactions) to explain your thinking.



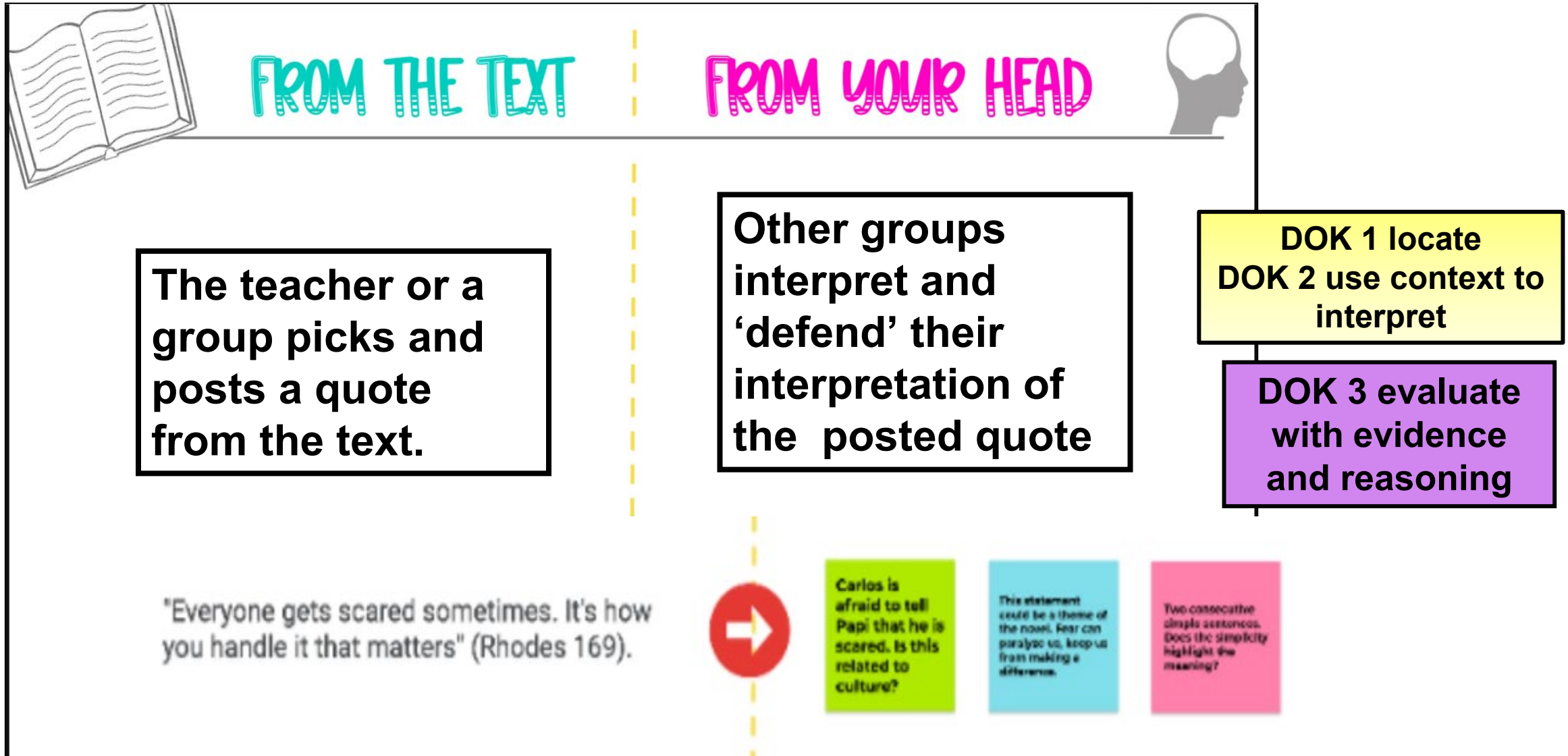
Uncovering
thinking in
small group
discussions

DOK 1 recall
DOK 2 compare,
explain, connect



Source: [15 Ways Sticky Notes Can Jazz Up Our Lessons in a Jiff \(middleweb.com\)](http://middleweb.com)

Use Sticky Notes to Practice Defending Inferences



A Research Tidbit...

[\[The effects of generating examples on comprehension and metacomprehension \(researchgate.net\)\]](#)

← Post



Daniel Willingham
@DTWillingham

Generating examples may support learning less well than is commonly assumed. [researchgate.net/publication/37...](https://www.researchgate.net/publication/37...)

Teachers and students often report using examples to support learning. Research has shown benefits of viewing provided examples and generating examples during declarative concept learning; however, there is less work showing clear benefits when learners generate their own examples on comprehension measures while students are attempting to learn from expository science texts. The present study tested whether generating examples would be useful for improving comprehension and comprehension monitoring in the context of an undergraduate science course. In a pre-post design, students completed an initial reading activity, followed by taking practice tests on each topic. Some students were assigned to complete an additional example generation activity after taking the practice tests. Some students also evaluated the quality of generated examples and received explanatory feedback. While there was an overall improvement in comprehension for all students, those who generated examples without the opportunity to evaluate the quality had the smallest overall learning gains. Students who evaluated the quality of examples showed the greatest learning gains on application-based test questions. And, although overall overconfidence decreased, there were no differences between conditions. These results suggest that example generation may not always be as helpful for improving learning as many students and teachers assume. (PsycInfo Database Record (c) 2023 APA, all rights reserved).

Tasks designed to uncover skills, concepts, and reasoning...

SEESAW



Decide which of these statements are *True* and circle your choice(s).

A. $7 + 5 = 15$

B. $8 = 5 + 13$

C. $9 = 5 + 4$

D. $10 = 10$

E. $5 + 8 = 8 + 5$

F. $6 + 4 = 10$

For each one, how can you prove you are correct?

A.

B.

C.

**DOK 1 solve
DOK 2 see patterns
[schemas], use a
model, compare**

**DOK 3 prove using
evidence and
reasoning**

Tasks designed to uncover skills, concepts, and reasoning...

112 UNCOVERING STUDENT THINKING IN MATHEMATICS



ARE THEY LINEAR?

Circle the letters of each of the examples showing a linear equation.

A. $3x + 5y - 2 = 2y + 4$

B. $x = 9y - 12$

C. $(x+2)^2 - x^2 = y$

D. $y^2 = 7x + 15$

E. $y = x^3 - x + 3$

F. $4x^2 + x - 6 = 2(2x^2 - 3x + 7)$

For each example, explain or show how you know it does or does not show a linear equation.

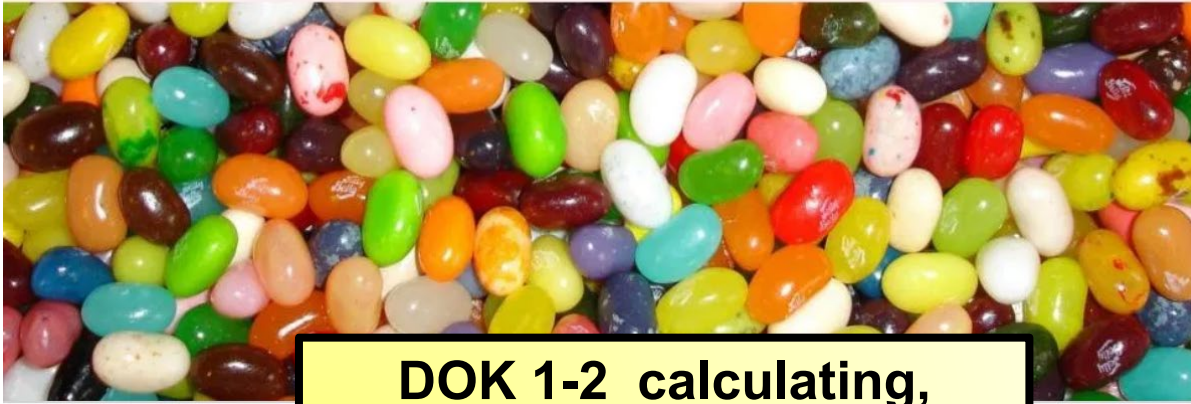
DOK 3 prove using evidence and reasoning

**DOK 1 solve, represent
DOK 2 see patterns [schemas], use a model, compare**

Would you rather... and explain why?

<https://www.wouldyourathermath.com/>

Have 364 jellybeans and give 188 to friends OR have 281 jellybeans and give 137 to friends?



DOK 1-2 calculating, estimating, explaining

Earn a dollar for every foot in 1 mile OR earn a dollar for every day you've been alive?



DOK 3 ONLY if asked for supporting evidence and reasoning: At what age might you change your mind and WHY?

Systematic
use of actionable instruction and
assessment
supports implementation of student-
centered learning

Random Acts of Rotor





5 Teacher Moves that Deepen Engagement, Self-Directed Learning, & Thinking

Ask a series of probing questions that increase in depth and complexity to uncover thinking.

Build schemas in each content domain.

Consider ways to strategically scaffold learning for different specific purposes.

Design complex tasks, emphasizing student input and evidence-based solutions.

Engage students in metacognition and reflection before, during, and after each learning opportunity or lesson.



Socratic Soccer Ball
Class Discussion Activity

Ask a Series OF PROBING QUESTIONS



2 Types of Questions: Closed and Dialogic [1]

Closed questions, or **basic, surface-level questions**, usually have one right answer. They typically focus on foundational or procedural recall or conceptual questions.

They have an important function in delivering information on what students know at a given point; but are **limited in that they cannot uncover whether students know more than what the question asks for**.

For example, a teacher may learn that the student can make an accurate observation, but can that same student graph data from observations to see emerging patterns or use observations to generate a new testable question?

2 Types of Questions: Closed and **Dialogic** [2]

Dialogic questions are open-ended, philosophical, and challenging, **sparking dialogue**. Rather than focusing on asking students to confirm what they know, dialogic questions are exploratory and focus on students' thinking.

Some examples of dialogic questions are: *What makes you say that? What evidence can you provide? Would that still be true if . . . ?*

Dialogic questions will get to the heart of critical thinking and inquiry and push students forward in their learning.

Ask a series of probing questions that increase in depth and complexity to uncover thinking.

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall & Reproduction	Webb's DOK Level 2 Skills & Concepts	Webb's DOK Level 3 Strategic Thinking/ Reasoning	Webb's DOK Level 4 Extended Thinking
Remember	What color was Red's cape? Where was Little Red Riding Hood going? What did the wolf do to trick Little Red Riding Hood? How did the story end?			
Understand	Who was the main character? What was the story's setting?	Retell or summarize the story in your own words.	Was there a lesson/message in this story? Use details/examples from the story to support your interpretation.	
Apply		Identify transitional words and phrases that help you to know the sequence of events in the story.		
Analyze		What are some examples of personification used in the story? Compare the wolf character to the character of Little Red Riding Hood. How are they alike-different?		Are all wolves (in literature) like the wolf in this story? Support your response using evidence from this and other texts.
Evaluate			What is your opinion about the intelligence or cleverness of the wolf? Justify your response using details/evidence from the text.	
Create		Write a telephone conversation/text message between Little Red Riding Hood and her mother that explains the wolf incident. (this is a creative summary)		

**Which questions
“uncover” thinking?**

Increasingly
more complex
questions can
tie lessons in a
unit of study
together and
offer CHOICE &
VOICE

Questions at different DOK levels
RbD, p. 39

FIGURE 2.1

Generating Questions at Differing Complexity/DOK Levels

Sample enduring understanding for the unit: The traditions of a group of people are influenced by their history, place of origin, and culture.				
Depth and Types of Thinking	DOK 1	DOK 2	DOK 3	DOK 4
Remember	What is a tradition? What is culture?			
Understand	What are some of your family's traditions?	How are culture, history, and traditions related?		
Apply			How does your family's history and culture influence your traditions?	
Analyze		What are the pros and cons of adopting new traditions?		Essential question: Can culture or traditions create conflicts among groups of people?
Evaluate			Do you have a family tradition that does <i>not</i> reflect your history or culture?	Essential question: Does mass immigration to a new country affect the culture and traditions of those groups of people?
Create	What questions do you have about your traditions?		How could you merge two traditions into something new and meaningful?	

Essential & Driving Questions lead to deeper understanding and uncover thinking applied in real-world contexts...

An “Essential” Question **requires *transfer of knowledge, skills, & dispositions***.

- Broad and open-ended (could use it more than once)
- Spark investigation, evidence-based support, and fine-tuning/revising current thinking
- Thought-provoking - Invite students to raise their own **probing** questions

Asking Probing Questions Every 10-15 minutes

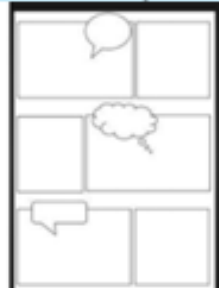
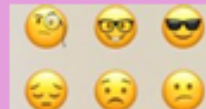
DURING a lesson to
“solidify” learning

**DOK 1 recall,
define
DOK 2 explain,
connect**

**DOK 3 if asked for
supporting evidence and
reasoning (from text,
calculations, data, etc.)**

Turn & Talk Choice Board Options

RbD, pp. 43-45

<p>In small groups, create a tableau (frozen character scene) depicting a key event for others to interpret.</p>	<p>Complete a timeline of events from today's lesson.</p> 	<p>Illustrate steps in a process using a graphic novel template.</p> 				
<p>With a partner, create text messages between 2 key characters from an event.</p>	<p>Draw and explain one example and one non example of _____.</p>	<p>Write an acrostic poem using a keyword from the</p> <p>L ... E ... S ... S ... O ... N ...</p>				
<p>Choose a quote from the story or article and create a character emoji to show what the person was thinking or feeling.</p> 	<p>Use 4 sticky notes to create a “Somebody-Wanted-But-So” quick summary of the story or event.</p> <table border="1" data-bbox="1592 1206 1987 1249"> <tr> <td>S</td> <td>W</td> <td>B</td> <td>S</td> </tr> </table>	S	W	B	S	<p>With a partner, identify and explain a song title or lyric that matches the theme, message, or big idea.</p>
S	W	B	S			

Can you explain your reasoning for each step you used to solve this problem?

WHAT did you do?

WHY did you do it?

Can you make any connections?

My Problem-Solving Steps with Reasoning		
<p>Sample Problem/Scenario/Investigation (Source: ERB middle school practice test)</p> <div> <div>I labeled each side 5 cm</div> <p>In the figure shown, $ABCF$ and $FCDE$ are squares with sides of length 5 cm, and $ABDE$ is a rectangle. What is the ratio of the perimeter of the rectangle to the sum of the perimeters of the two squares?</p> </div>		
My Solution Path	My Thinking and Reasoning	My Connections
List each step or investigation procedure (create representation, use calculations, materials, equipment, etc.).	Explain why this step makes sense in finding a final solution.	Identify the concept, rule, principle, process, formula, or model applied OR extend your thinking.
STEP 1: Read the problem and describe the challenge – what is it you need to do?	I have to compare the perimeters of two squares with perimeter of one rectangle.	Perimeter – square, rectangle Ratios Proportional reasoning
STEP 2: Show your work for each step.	Explain reasoning for each step	Make mathematical connections or extensions
I labeled all side lengths of $ABCF$ and $FCDE$ with 5	This helps me find perimeters of each square and the larger rectangle.	A square has equal side lengths.
Perimeter of square $ABCF$ $5 + 5 + 5 + 5 = 20$ cm Perimeter of square $FCDE$ $5 + 5 + 5 + 5 = 20$ cm Both squares $20 + 20 = 40$ cm Perimeter of rectangle $ABDE$ $5 + 10 + 5 + 10 = 30$ cm	I had to find and add the perimeters of the 2 squares ($20 + 20 = 40$) before I could compare them with the perimeter of the rectangle (30)	Rule - Add side lengths to find the perimeter of a quadrilateral
30:40	This means perimeter of rectangle (30) is compared to the perimeter of two squares (40)	I wrote the comparison as a ratio.
3:4	$30/40 = \frac{3}{4}$ I divided each by 10	Ratios are like fractions that can be simplified. I used proportional reasoning

Math reasoning example using template, RbD, p. 174

What **Asking Probing Questions** could look like... Pre-Post Anticipation Guides

Anticipation Guides,
RbD, p. 64

Topic:

Source 1:

Source 2:

Check Your Understanding Before-After Reading or Viewing

The Anticipation Guide: Use this anticipation guide as a self-assessment to process and reflect on your own learning. Read each statement below about this topic and decide whether you: Strongly Disagree (SD), Disagree (D), Agree (A) or Strongly Agree (SA). Indicate by putting an 'X' in the corresponding box to the left of the statement. Explain why you agree-disagree right now. After reading/viewing/discussing, make notes (to the far right) as to whether your opinion or understandings have changed and why. (Each explanation requires supporting evidence – personal observation, cite another text, etc.)

SD/ D	A/ SA	Right now, do you agree/disagree (X) with each statement below? ("?" = I'm not sure)	Explain your thinking <u>right now</u> (with supporting evidence).	After Reading/Viewing – <u>has your thinking changed?</u> Cite source + evidence to explain.
		1.		
		2.		
		3.		

DOK 1 recall

DOK 2 make connections, explain, summarize

DOK 3 – if asked for supporting evidence and reasoning

DOK 4 – evidence from multiple sources

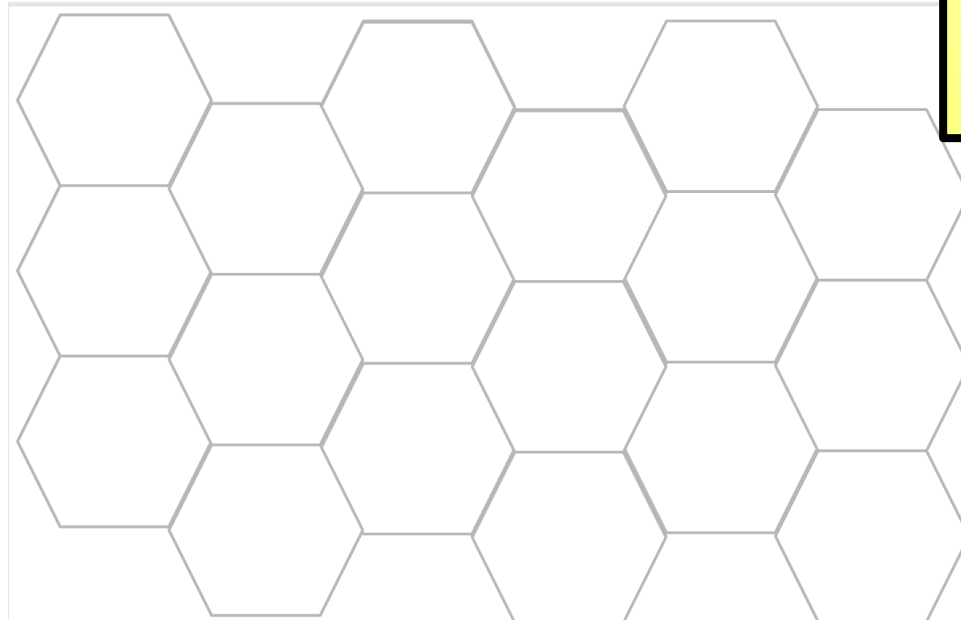
Hexagonal Thinking:

A Strategy for Making & Mapping Connections

Provide a list of words/phrases/visuals – for students to identify background knowledge, review ideas, etc. – discuss, ARRANGE, and explain connections

Today's Concepts

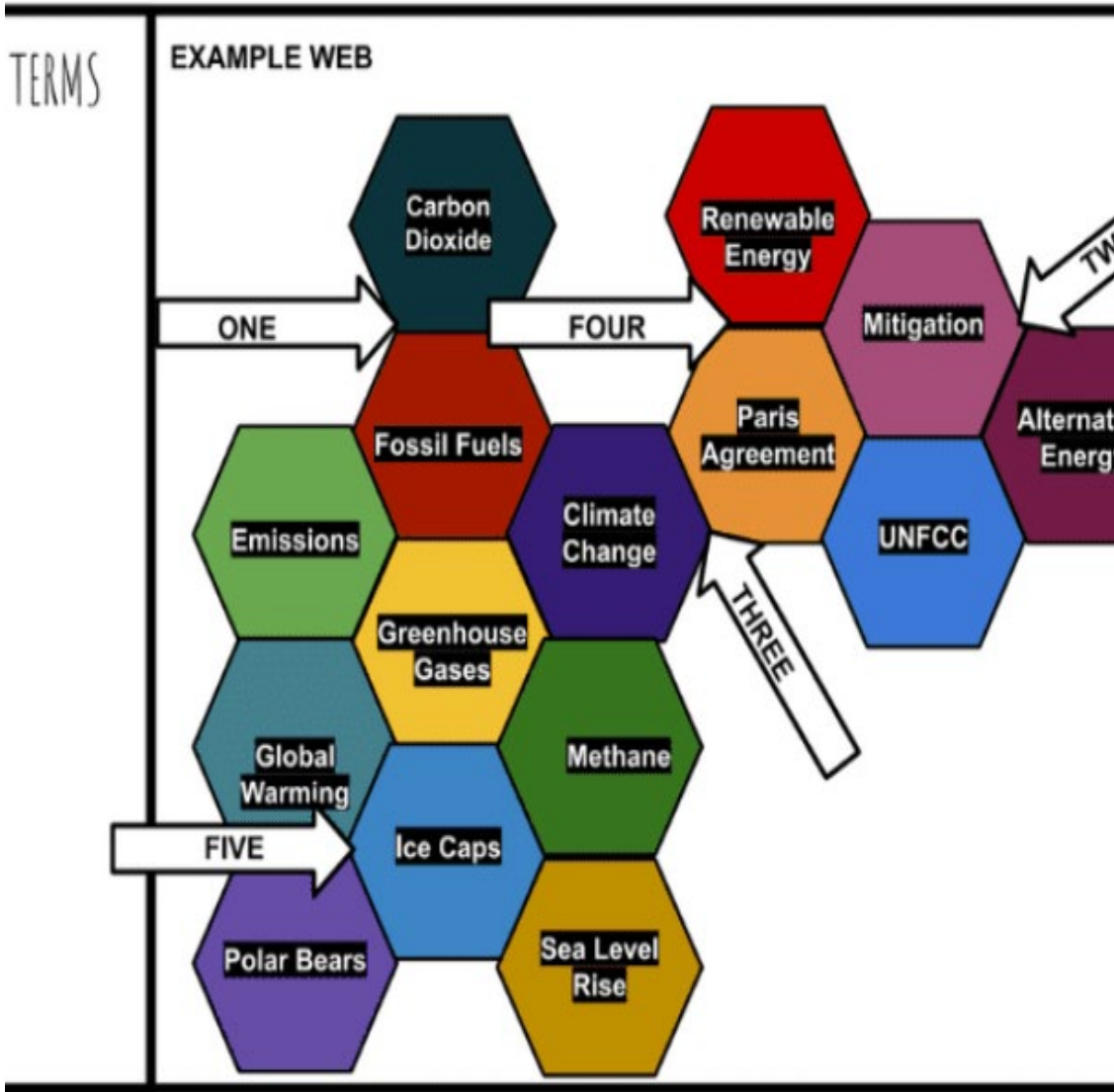
- **DOK**
- **Learning Transfer**
- **Actionable Assessment**



DOK 1 recall
DOK 2 make connections, explain, summarize

DOK 3 – if asked for supporting evidence and reasoning
DOK 4 – evidence from multiple sources

Hexagonal Thinking: How To Use It in the Classroom



EXAMPLE EXPLANATIONS

Explain your Thinking Here

Connection #1: When you burn fossil fuels, carbon dioxide is released into the air. While the existence of carbon dioxide in our atmosphere is natural, and our forests can help mitigate its negative effects, the combination of burning through our fossil fuels so quickly at the same time that we are clearcutting huge amounts of forests on the earth has led us to global warming.

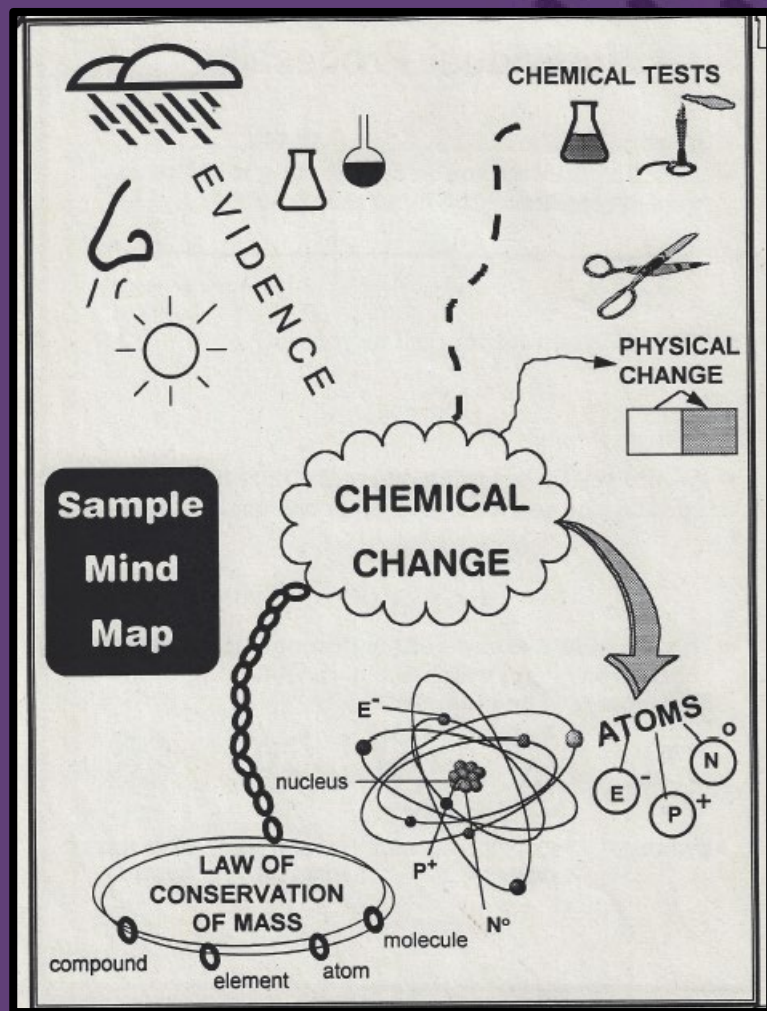
Connection #2: There are many strategies we could be taking to help mitigate the effects of global warming and climate change. Alternative energies provide one option, which is being explored by many companies but not on the level we need to stop climate change. To truly mitigate the effects of our fossil fuels, we need to pour more money into the possibility of alternative energy and prioritize it as a concept in a way that most countries just aren't doing yet.

Connection #3: The Paris Agreement seemed, for a while, to be a highly important step on the path towards stopping climate change. Many nations came together to set out goals for mitigation, and the international collaboration gave many people hope that something would change. However, the U.S. withdrew from its agreement soon after, lessening hopes that the U.S. would prioritize alternative energy and mitigation.

Connection #4: Large scale initiatives worldwide like the Paris Agreement have the potential to lead to prioritizing renewable energy sources and amped up funding for alternative energy companies. However, with the U.S. leaving the Paris Agreement, this new frontier in energy still isn't a high priority in this country.

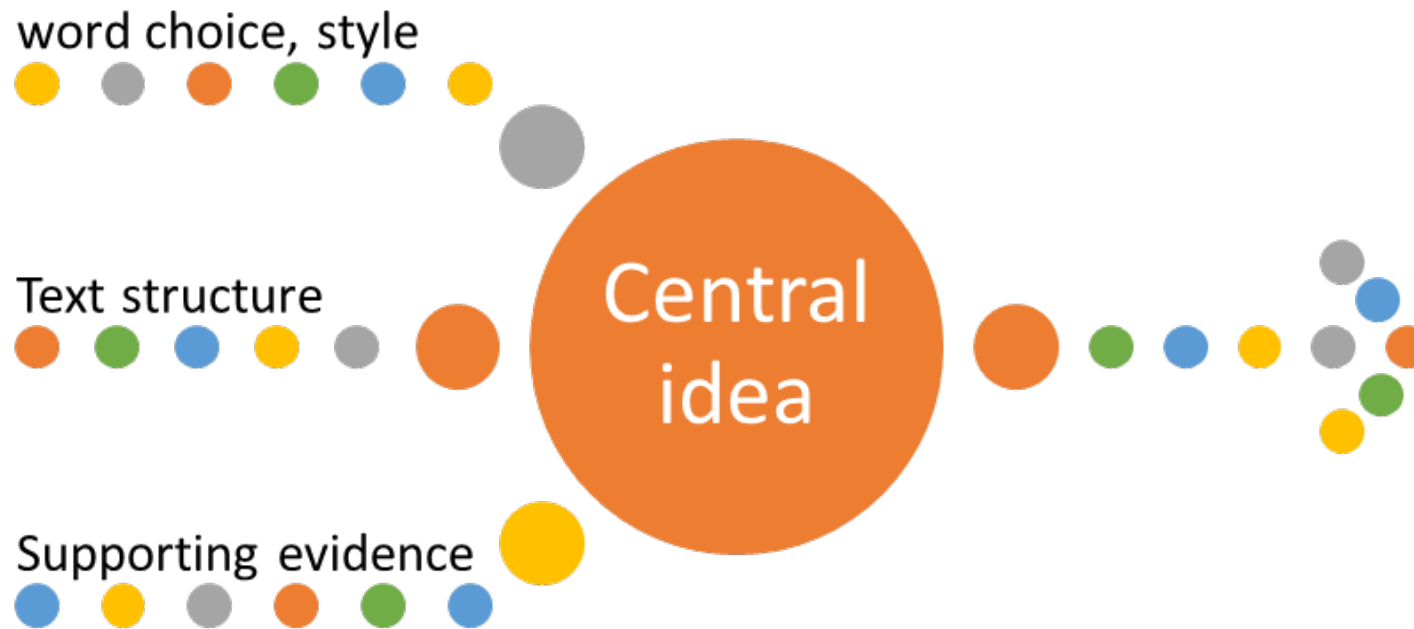
Connection #5: The melting ice caps and stranded polar bears are one of the most easily photographable, definable outcomes of rising temperatures and overall climate change in recent years. While there are many other pieces of evidence of the way our earth is being affected, polar bears are the fuzzy mascots helping children, and others who might not otherwise dive into the science otherwise, sit up and take notice. If unchecked, global warming will affect farmore species than polar bears, and it already is.

[BLANK TEMPLATE - Google Drawings](#)



Build SCHEMAS

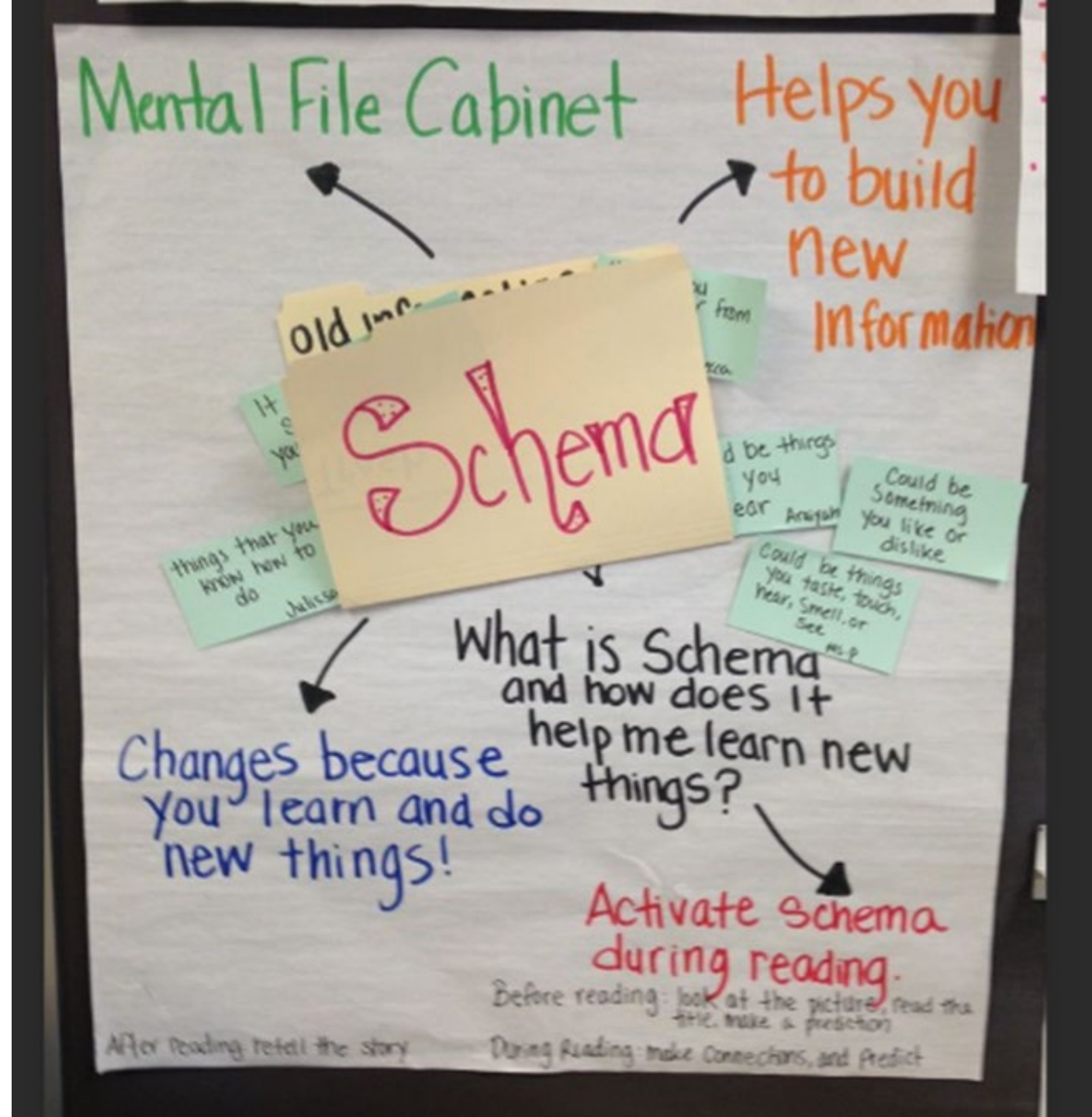
Build schemas (mental maps) in each content domain.



**Taking
something
apart to see
how the parts
work together**

Building Schema

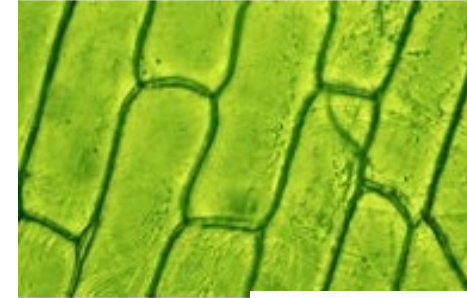
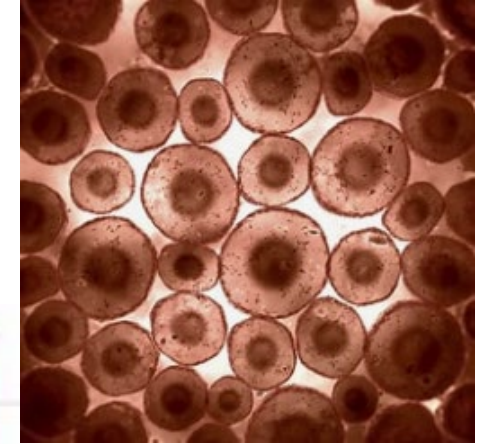
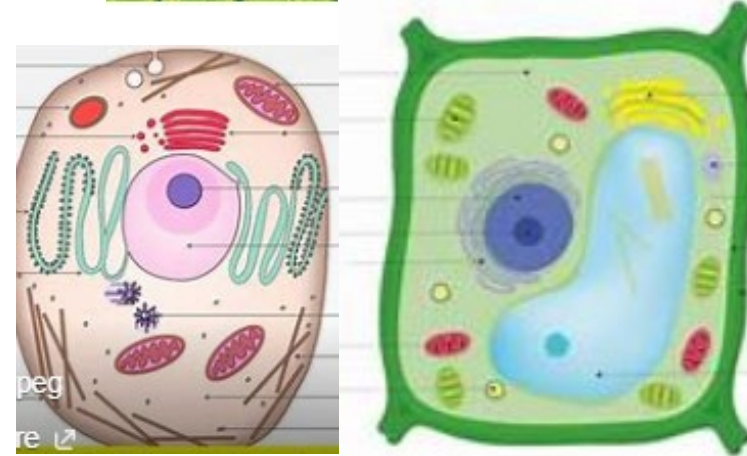
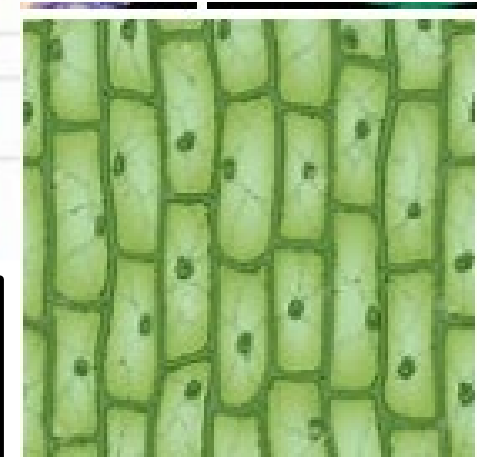
Making sense of new information - by connecting it to prior learning and experiences



Build Conceptual Schemas With a Set of Visuals

Students determine how to group them and explain their thinking.

Ask students to create their own sets of visuals for peers to analyze.



DOK 1 recall
DOK 2 make connections,
sort/classify, explain an outlier

“3 Truths & a Lie” - Students write 4 statements about a given term, concept, or process [Source: [Reading and Writing Haven](#)]

Here's an example:

Ubiquitous

1. Ubiquitous is kind of like the plague. Even if you don't like it, you can't get rid of it.
2. Ubiquitous is an adverb.
3. Ubiquitous is cousins with the words “pervasive” and “universal.”
4. If cockroaches were ubiquitous, I'd move to Mars.

Similar to “Find the Outlier”
RbD, p. 64

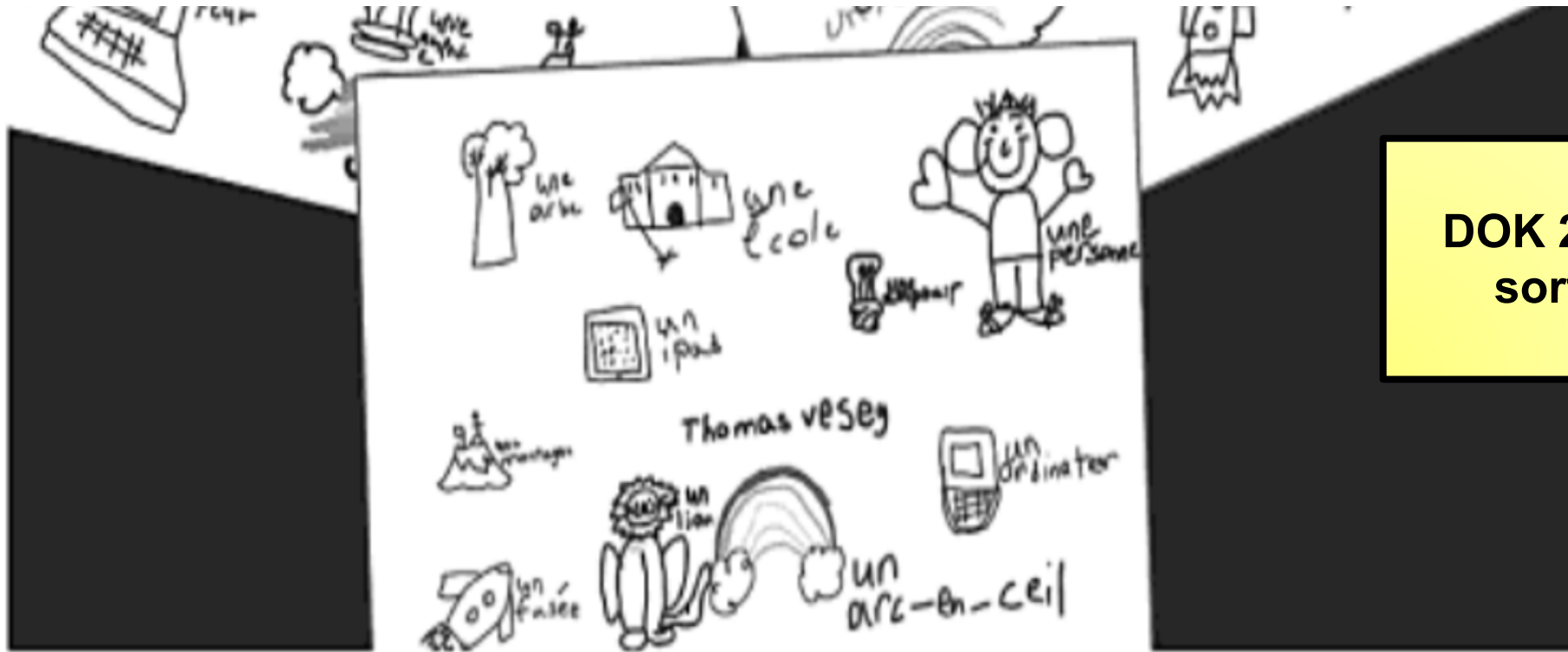
DOK 1 recall
DOK 2 make connections,
sort/classify, explain an
outlier

▲ *WHY THIS WORKS:*

1. Students are doing the thinking.
2. It can be straightforward (recall) or higher-order thinking (analytical), so it's differentiated by nature.
3. It's engaging.
4. Students will remember many of the lies and the truths, so it will help them to retain the word meanings longer.

DOK 3 if asked for
supporting evidence
and reasoning

Building Conceptual Schemas: Sketchnoting



DOK 1 recall
DOK 2 make connections,
sort/classify, explain,
summarize

Beth Matusciwitz (@MrsM_NL) is a kindergarten teacher who asks her students to doodle whenever she reads a story out loud. She says that her students are much more attentive to the story when they are doodling and that she is amazed at their level of engagement during this activity.

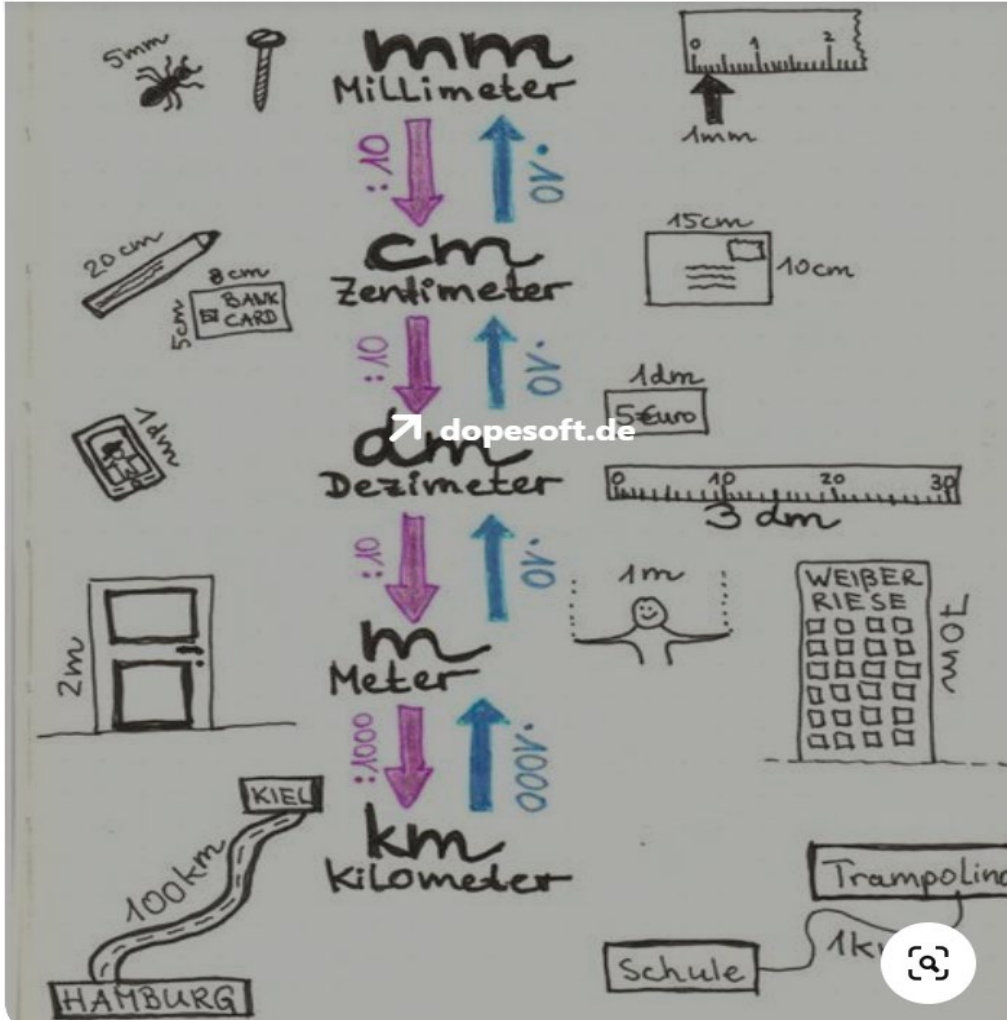
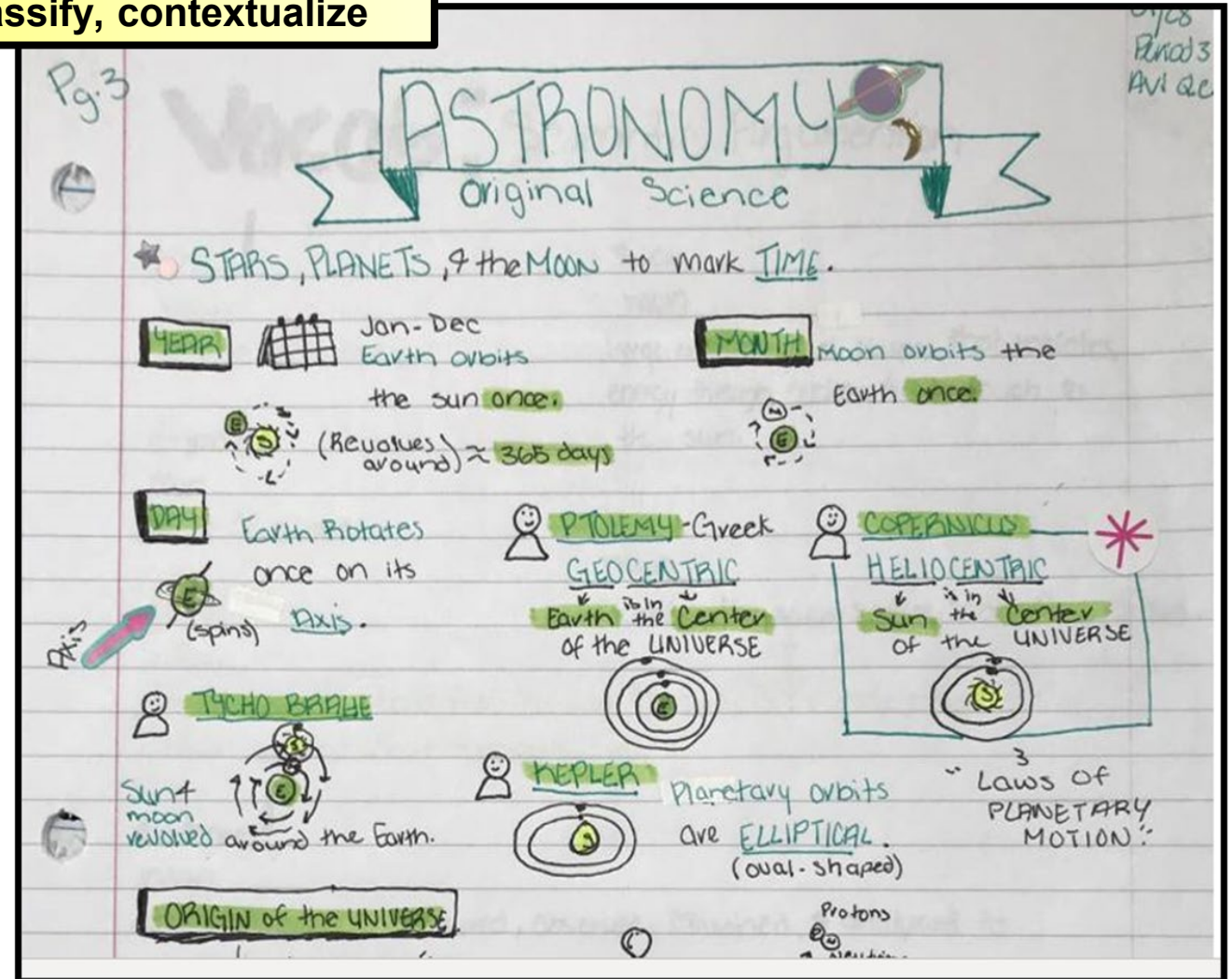
Sketchnoting
RbD p. 62

Building Conceptual Schemas

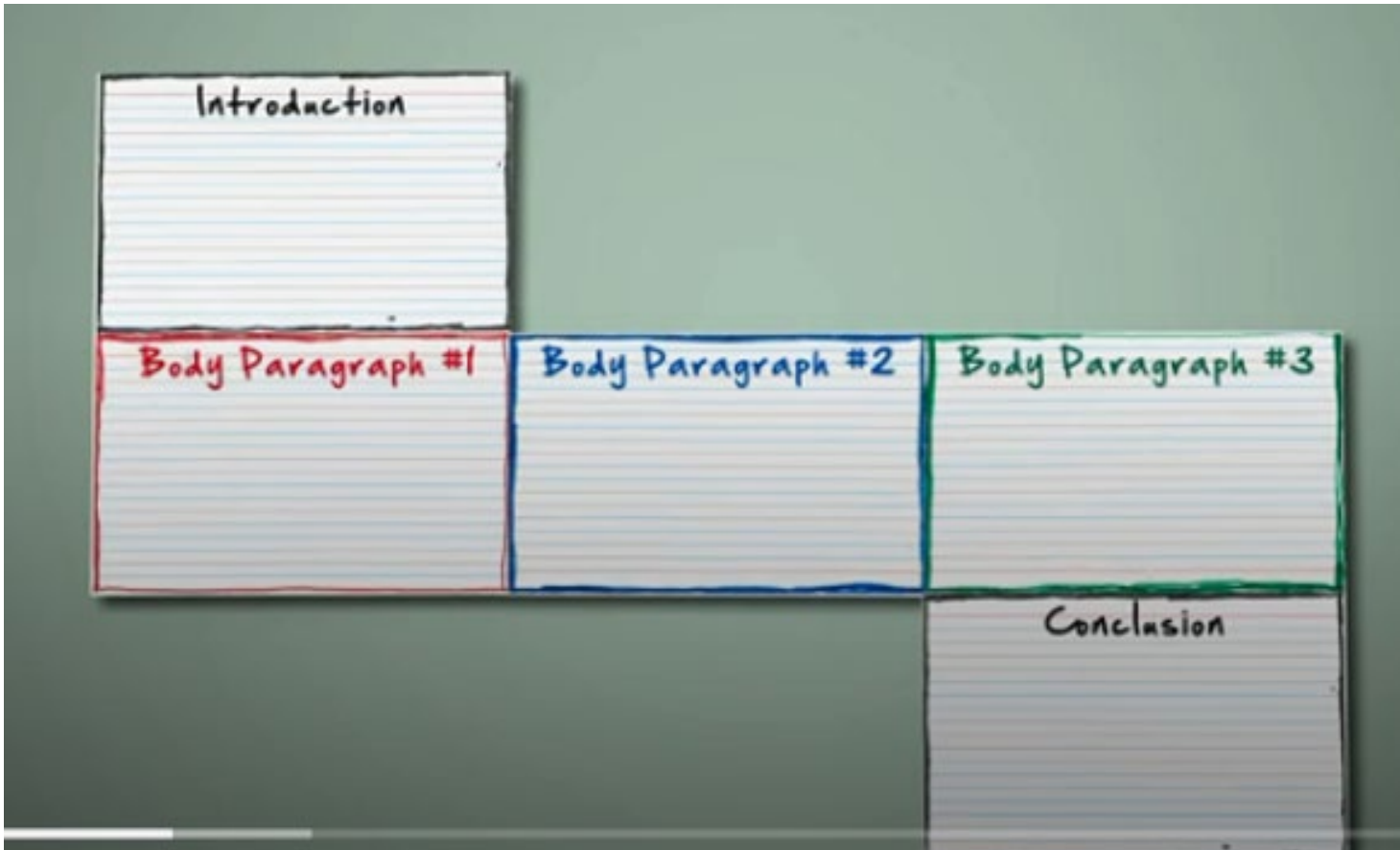
Sketchnoting RbD, p. 62

DOK 1-2
recall, make connections,
classify, contextualize

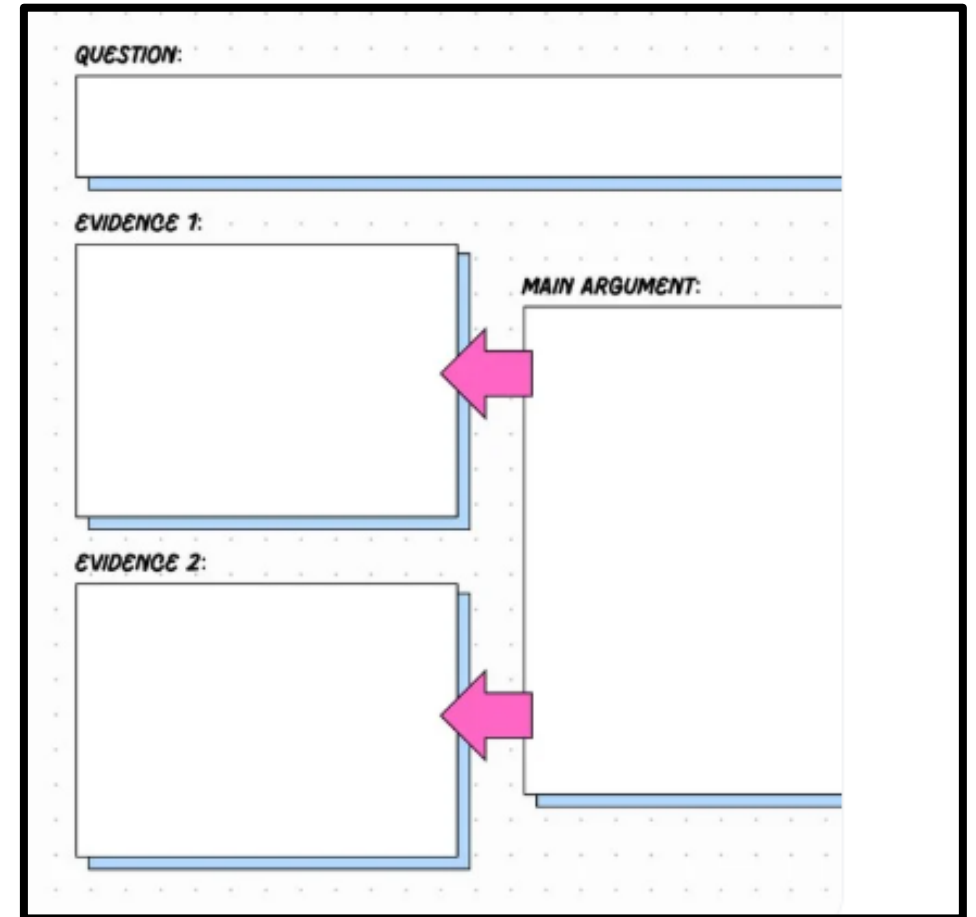
DOK 3 elaborate using
evidence
DOK 4 draw from multiple
sources



Building Structural Schemas with ... Visual Models & Graphic Organizers

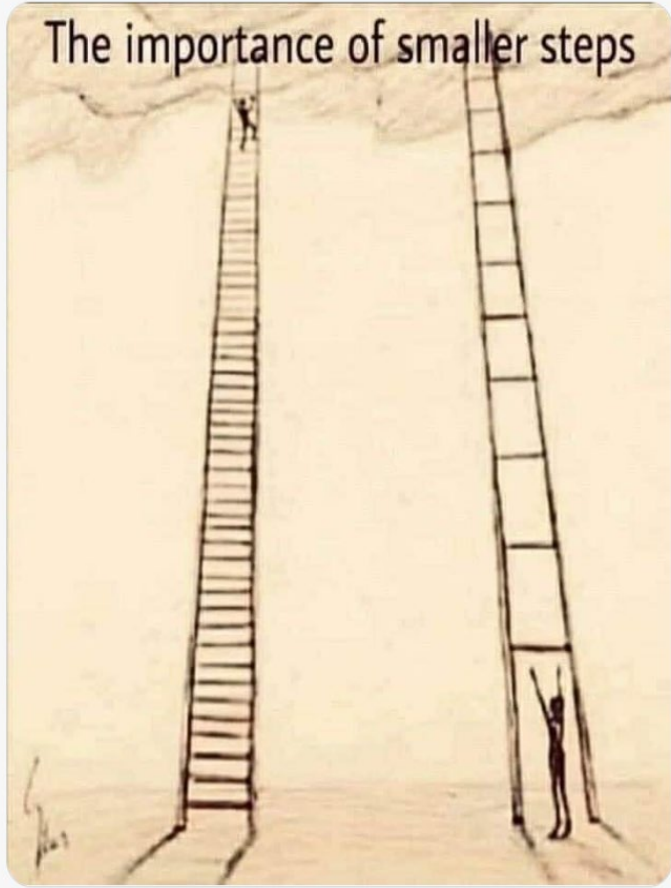


Graphic Organizers, Structural Jigsaws
RbD, pp. 66 - 67



Unknown

The importance of smaller steps



Strategically **Scaffold** **LEARNING**

Scaffolding vs. Differentiating

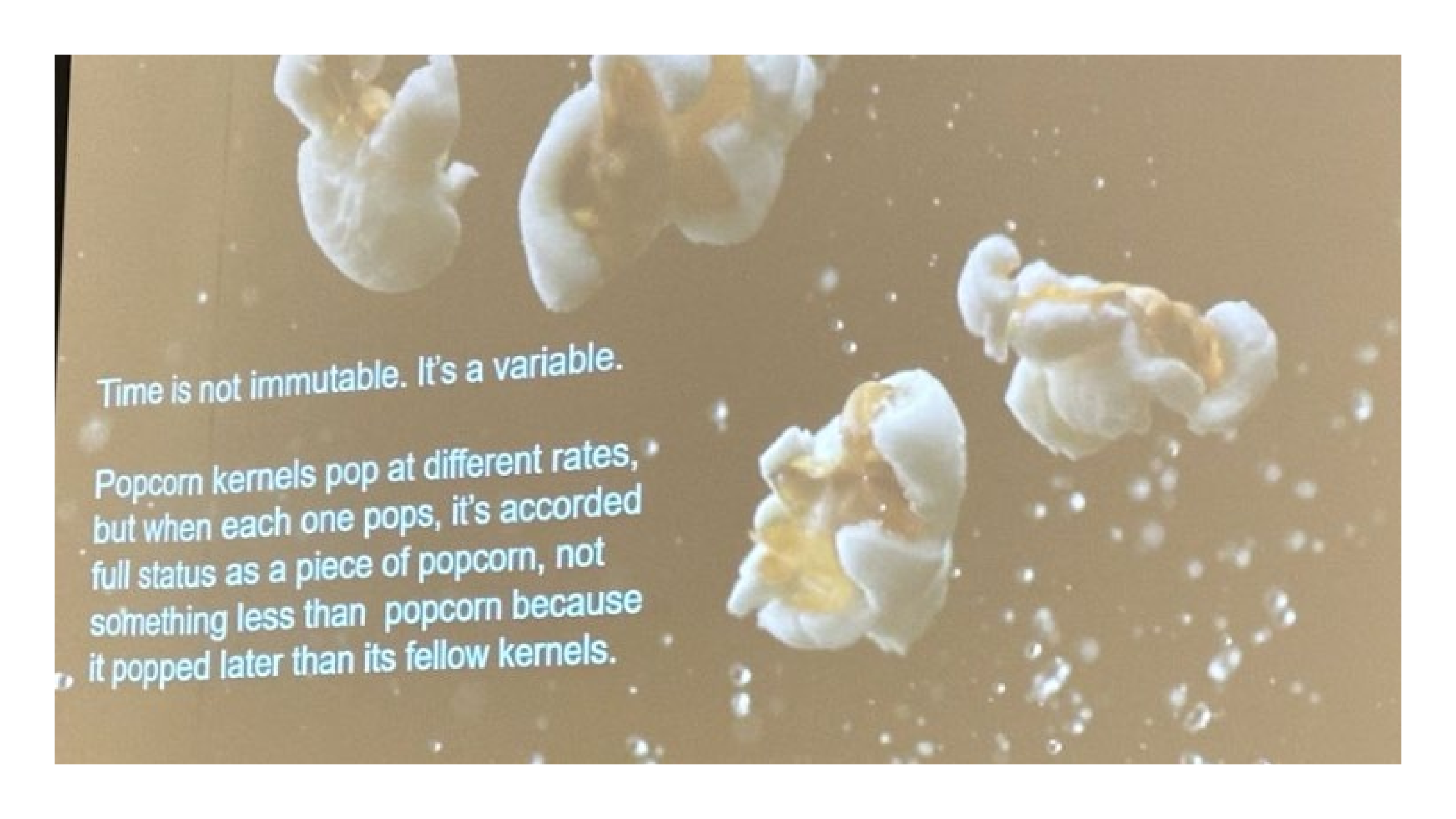
STEPS any student can use to be successful on a specific task



DIFFERENT CHOICES:

Menus/Choice Boards: Content, Processes/DOK, and/or Products

1 Create a fictional interview video with the protagonist, antagonist, or author where you play the character/author and dress the part. Write a complete script in Google Docs and submit with the video.	2 Create character trading cards using the digital tool of your choice. Remember to include: name, image, and at least five characteristics for each character.	3 Write a diary from the point of view of one of the story's main characters that they would have written before, during, or after the book's events. Remember that the character's thoughts and feelings are very important in a diary.
4 Create an interactive digital timeline of events from your book. Include important dates, character introductions, conflicts and resolution, images to represent each event and links to additional information, videos, etc.	5 Write a one paragraph summary of your novel and share on a slide in our collaborative slide deck. Add an image of the book cover and links to your other two projects. 	6 If this novel had a soundtrack , what would it be? Create a YouTube playlist with at least 10 songs that would make a great soundtrack. Explain each of your choices in a Google Doc and where they fit in the story arc.
7 Create a comic strip retelling the story in your own words. Be sure to include all of the important characters, exciting events, conflicts, and resolution.	8 Create a video book trailer using the digital tool of your choice. Remember to include music to set the tone, and tell a brief story about the central conflict and characters without revealing too much! Tease the audience!	8 Create a new book jacket for the novel. Use the digital tool of your choice, or the artistic medium of your choice (draw, paint, etc.). Remember to include a summary, about the author and an eye-catching cover image.



Time is not immutable. It's a variable.

Popcorn kernels pop at different rates, but when each one pops, it's accorded full status as a piece of popcorn, not something less than popcorn because it popped later than its fellow kernels.

Consider ways to strategically scaffold learning for different specific purposes.

1. Supporting Language & Vocabulary Development
2. Facilitating Executive Functioning
3. Deepening Content Knowledge/Connecting to Big Ideas and Essential Questions

Different Sentence Stems for Different Purposes

FIGURE 4.2

Sentence Stems: Scaffolding for Different Purposes

RbD, p. 81

Reinforcing Language and Vocabulary Skills	Supporting Executive Functioning	Deepening Learning
This is a fact _____, and this is an opinion _____.	An example that supports my idea or opinion is _____. This example shows _____.	I agree/disagree with this point about _____ because _____.
I solved this using _____. My first step was _____. My graph or diagram shows _____.	My investigation question is _____. I want to find out _____. I will use this tool _____ to measure and record _____.	This part _____ was interesting/ confusing to me because _____.
When I put this noun _____ with this verb _____, I can make this sentence _____.	Today I observed _____, and now I wonder _____.	This problem _____ reminds me of _____ because _____.

Supporting Language & Vocabulary Development

“Say It Another Way” Word Wall

Christy McClain,
April 2022

@christy_clain

https://twitter.com/christy_clain

3.10A - Explore how structures and functions of plants and animals allow them to survive in a particular environment

Say It Another Way				
Structures	Functions	Plants	Animals	Environments
Parts Piece Types: <u>animals</u> - legs - feet - ears - tails - eyes Types: <u>plants</u> - stem/trunk - roots - leaf/leaves - seed - flower	Purpose Job needs - eat/drink - protection - breathe - needs - water - light - air - space - nutrients	Producers (4th grade) Vegetation Types of: - herbs - flowers - shrubs - bushes - weeds - trees	Creature critter types of: - mammals - birds - fish - reptiles - insects - spiders - worms	- habitat types - forest - rainforest - water (aquatic) - ocean - fresh - river - lake - desert - tundra - grassland

Let
students
give the

Supporting Language Skills with ... Pre-Mid-Post Word Splashes

Topic: Immigration

"a better life"

economic migrant

emigration

population ecology

"green card"

Huddled Masses

exodus

What do you know NOW about immigration?
Answer this question using some or all of these words, making connections among them.

DOK 1
define, recall
DOK 2 make
connections, explain
infer

DOK 3 elaborate
using evidence
DOK 4 draw from
multiple sources

Word Splash
RbD, pp. 64-65

Support Executive Functioning by...

Chunking Texts with Focusing Questions for Each Chunk

A Tough Day for Thomas

By Shannon Rigney Keane

Thomas often lost things. Sometimes, he lost his toys. Sometimes, he lost books. Sometimes, he lost things that you might think would be difficult to lose. One night at dinner, he tried to take a bite of mashed potatoes but he had lost his fork!

1A. Close Reading/Monitoring for sense:
What have you learned about Thomas so far?

Losing things did not bother Thomas. His parents shook their heads at him. “Good thing your shoes are tied on to your feet,” they told him, “or you would never make it to school!” But he just laughed and said, “I’m sure I’ll find it sooner or later.”

And he would play with a different toy, or read a different book – or eat with his fingers! – until he found the thing he had lost. Often, he found the lost thing in a very unusual place. A plastic dinosaur in the freezer, his favorite book under the bathroom sink, his fork in the dog’s bowl.

1 B. Close Reading/Monitoring for sense:
What more have you learned about Thomas?

New Ways to Breathe: Cystic Fibrosis and Gene Therapy

by

Charlie W. Zhao, Kevin Xo, and Tom L. Haffie
Western University, London, ON, Canada

The Case

At age 9, Lucas was doing very well in the classroom, but not so well on the playground. He was small for his age and not very interested in sports. Lucas preferred to burrow into his fort and build his imaginary world than to play and kicked balls around.

There was something about Lucas that his parents and teacher noticed. "After a while, we realized that Lucas had been diagnosed with cystic fibrosis (CF), a genetic disease in which the body accumulates large amounts of mucus," the doctor had said. "While the mucus buildup is present throughout the body, but its effect on the respiratory tract is the most detrimental."

What are some of your questions?

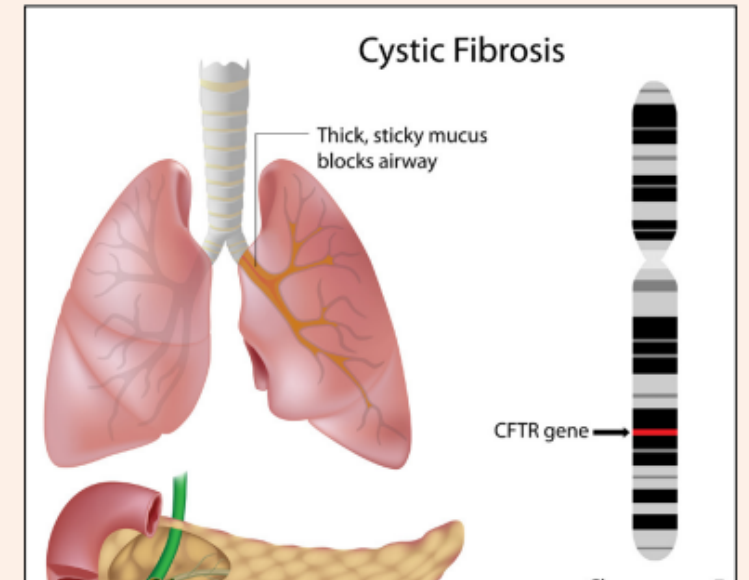
What information can you get from each chunk?

What Causes Cystic Fibrosis?

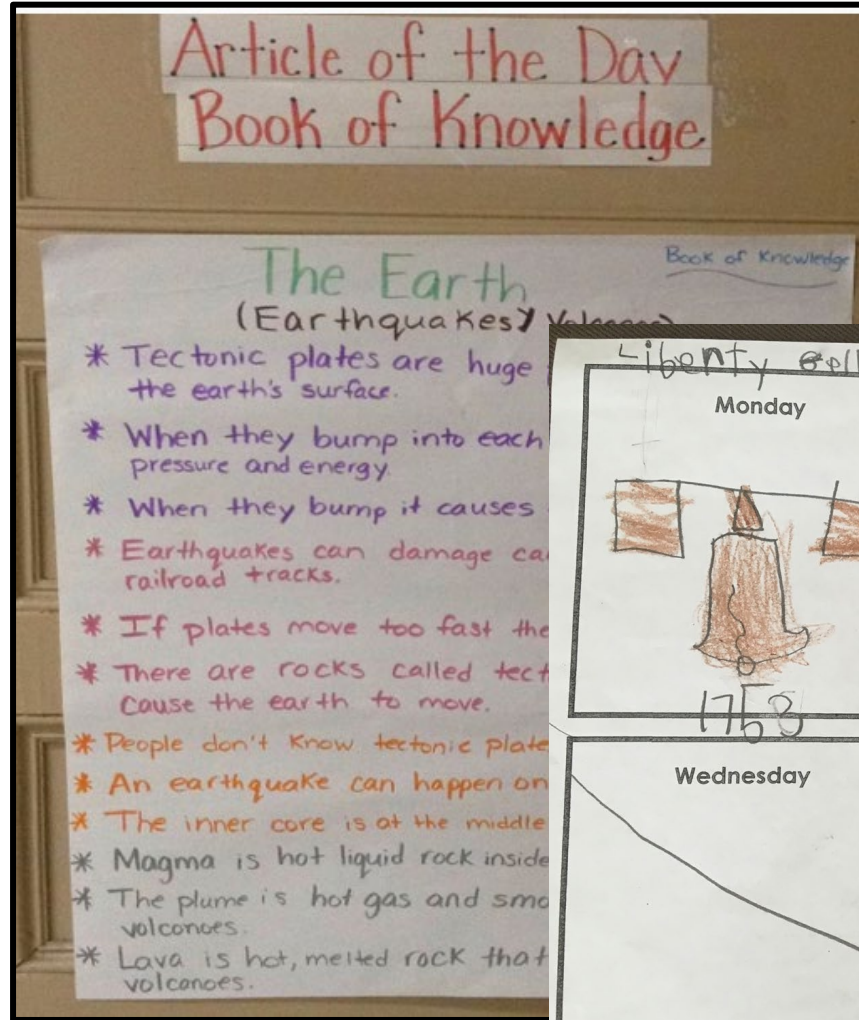
After Lucas's diagnosis, the first thing his parents did was to attempt to better understand their son's condition. They stumbled across the following explanatory segment in a CF foundation website:

The gene responsible for CF symptoms is the cystic fibrosis transmembrane conductance regulator (CFTR). In a healthy person, the CFTR protein functions as an ABC transporter that uses ATP to pump chloride ions out of epithelial cells in the lungs and the gastrointestinal and urinary tracts, keeping extracellular and intracellular salinity balance in check. When an individual's CFTR is defective, ion concentrations cannot be regulated properly and cells expressing this protein have difficulty transporting water, ultimately leading to a buildup of mucus and bacteria.

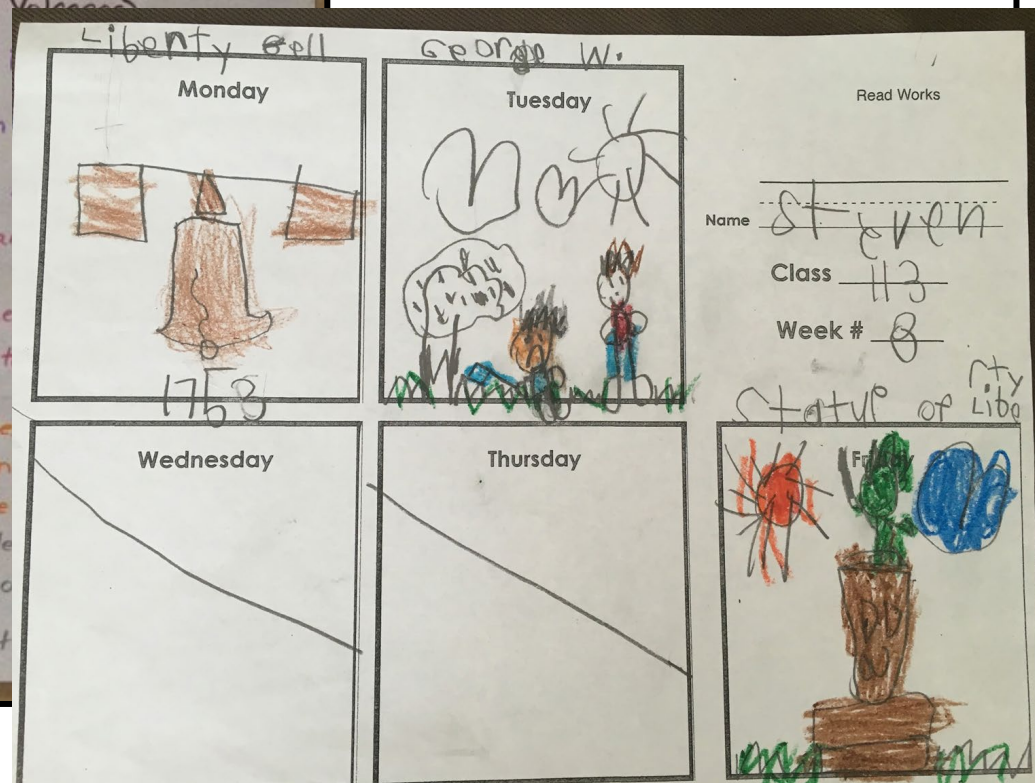
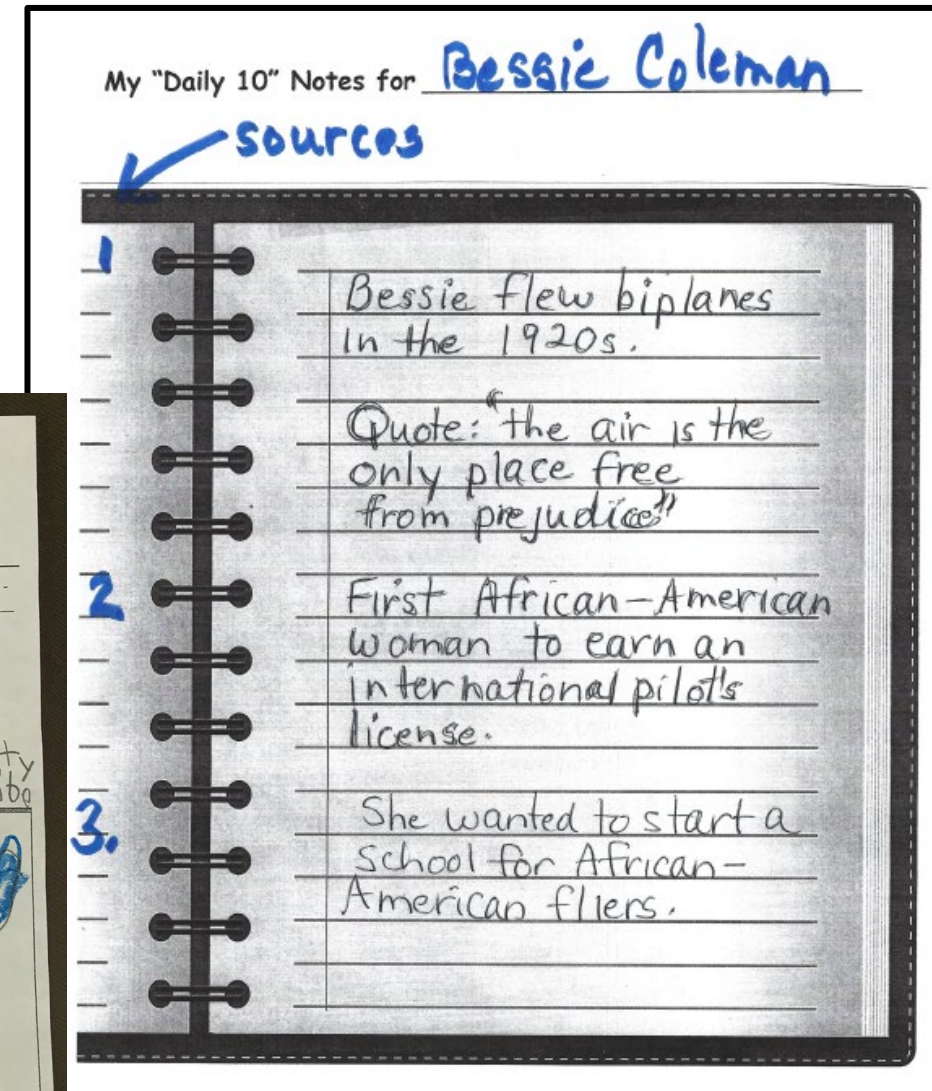
There are over 800 possible amino acid mutations known to lead to a malfunctioning CFTR channel. The most common of these is $\Delta F508$, which is a deletion (Δ) of phenylalanine



The “Daily 10” Playlist (10 min/day) – Building Background Knowledge



Whole class,
small groups,
or individually





How do characters' actions and decisions reveal their personalities?

Harry Potter's decision to try to save the sorcerer's stone reveals that he is brave.



When Hagrid tells the stranger the secrets of how to put Fluffy to sleep, it shows that he is naive.

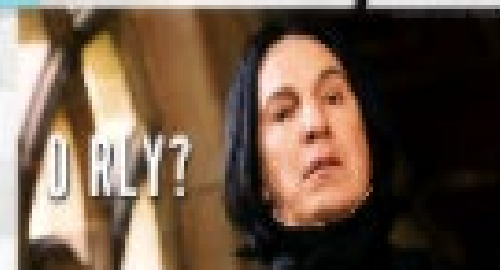


Voldemort is desperate to get the stone and is willing to destroy someone else to have it. We can infer he is cruel and selfish.



Because Hermione studies so much and vocalizes how she wants to do well, we can infer she has a serious, hardworking personality.

Graffiti Wall



Deepening Knowledge with Collaboration

Using a Graffiti Wall to “take content apart”

©ReadingandWritingHaven.com



Design **COMPLEX TASKS**



Design complex tasks, emphasizing student input and evidence-based solutions.

PBAs 1.0	PBAs 2.0	PBAs 3.0
Engaging projects and problem-solving tasks <i>related</i> to curriculum	Projects and problem-solving tasks <i>embedded</i> in curriculum	Real-world problems addressing complex open-ended questions
Teacher designed and teacher directed	Teacher designed and teacher directed with some student choice and voice	Engaging, student-driven, teacher facilitated
Rarely assessed, if at all	Products = summative assessments of learning	Processes <u>and</u> products are assessed with clear criteria
Subjective criteria (e.g., participation, creativity)	Success criteria and exemplars shared with students	Student voice/choice, self-assessment, and peer-assessment valued as evidence of learning
Missed opportunities to document learning		

2 Types of Performance-Based Assessments

Problem-Based Learning - Performance Tasks

A **student-centered** approach in which students learn about a subject by working in groups to **solve an open-ended problem**. This problem is what drives the motivation and the learning. The approach is also **inquiry-based** when students are active in creating/identifying the problem.

Project-Based Learning & Extended Projects

A **student-centered** approach to learning focusing on developing content knowledge through **extended projects** addressing a **real-world problem or answering a complex question**. Students develop a public product or presentation (beyond the classroom) to share their learning.

One-Pagers

Summarize
key ideas

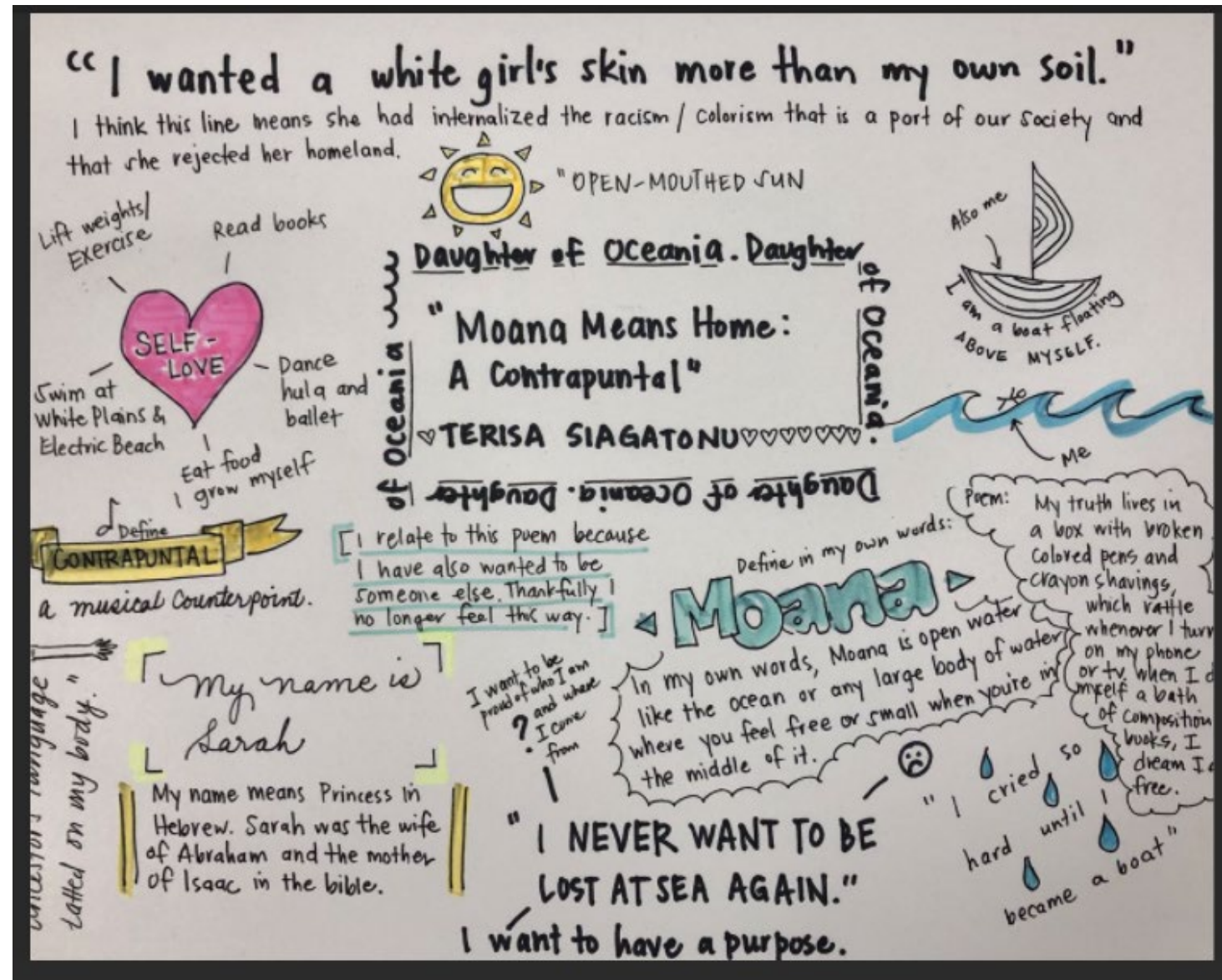
Interpret 1 or
more quote

Make
personal
Connections



What **Complex Tasks** could look like... **the One-Pager**

- ✓ Choose & interpret 1 or more quotes
- ✓ Make personal connections
- ✓ Show it visually
- ✓ Connect to themes or Essential Questions



#overjoyed

BY: J.K. Rowling



Platform 9^{3/4},
The Train to
Hogwarts

name

Be careful what
you wish for, the
ghost may come back
to haunt you!

Conflicts

Harry's son, Albus, is struggling at Hogwarts because he isn't like his father. Harry struggles because his son is making irresponsible choices!

Character

Albus Potter is Harry's youngest son. He is the main character. He befriends the young Malfoy son.

Personal Response:

Personal Response:

I am a huge fan of Harry Potter so I was SOOOO excited when this new book came out! I was like seeing old friends again!

Harry, Ron
and Hermione
back together
again

**THE
AWAKENING
FICTION NOVEL
BY RATE SHOPIN**

99 The voice of the sea is seductive, never ceasing, whispering, clamoring, murmuring, inviting the soul to wander in abysses of solitude. 99 (p. 112)

WHY DOES THE AUTHOR
CONTRAST THE CHARACTER

...she had all
her life long been

Kate Chapman used clothing

"Mrs. Penzler was beginning to realize her position in the country as a woman being, and to compare her individual as a individual to the normal woman, and about her." (pg. 18)

WHAT QUESTION WOULD YOU ASK IN AN INTERVIEW WITH EDNA PENNELLER
I would ask to talk with Edna about the situation of the women in the house, how they were treated, and if they were allowed to work outside the house.

② Some applications of the text

[illegible]

Speed Dating?

Create One-Pager Dating Profiles

Source: Posted in a
biology classroom
(2024) in St. Louis, MO



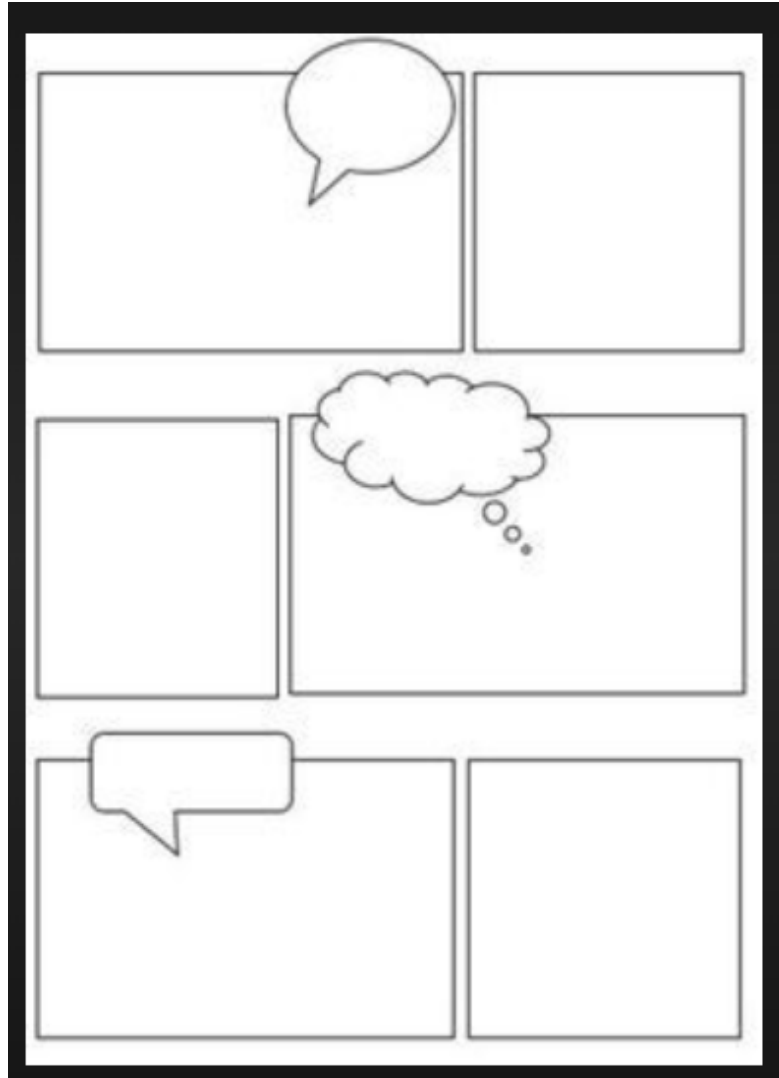
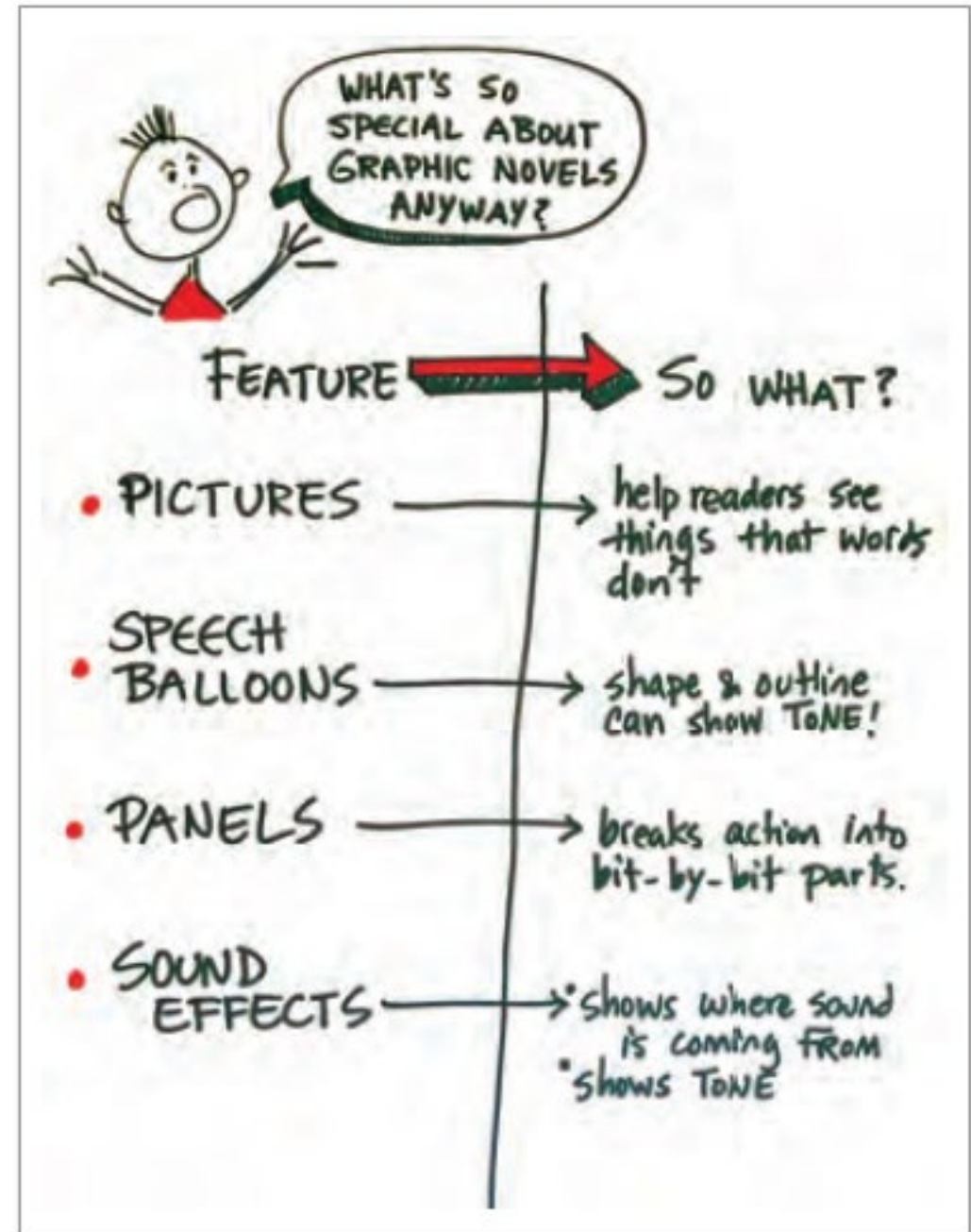
Create **Text Decks** illustrating the analysis of shorter texts (poems, famous quotes, etc.)

- ✓ Break text into shorter phrases
- ✓ Identify the key word in each phrase
- ✓ One phrase per slide
- ✓ Illustrate each phrase visually
- ✓ Check for continuity and flow of ideas

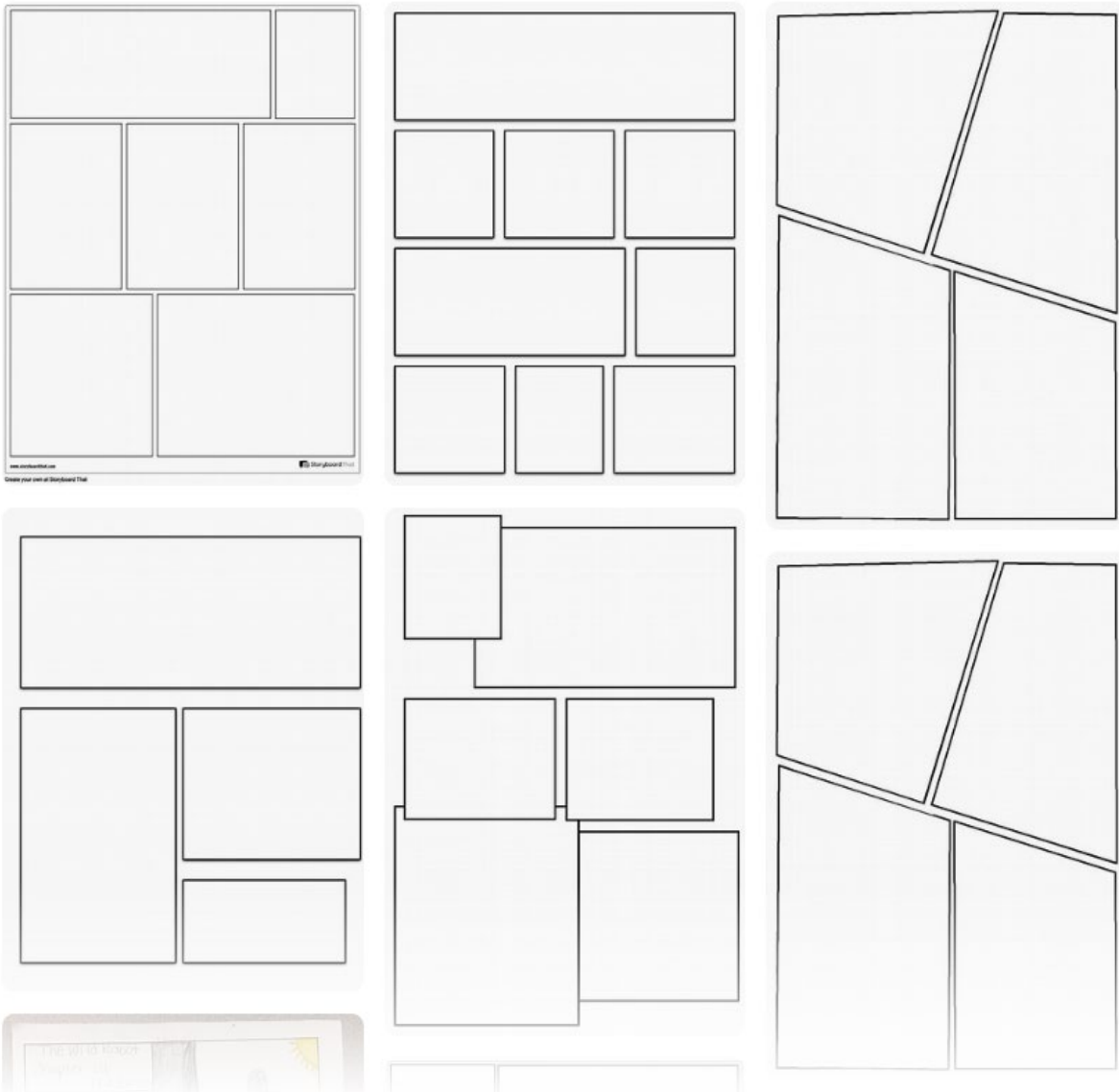
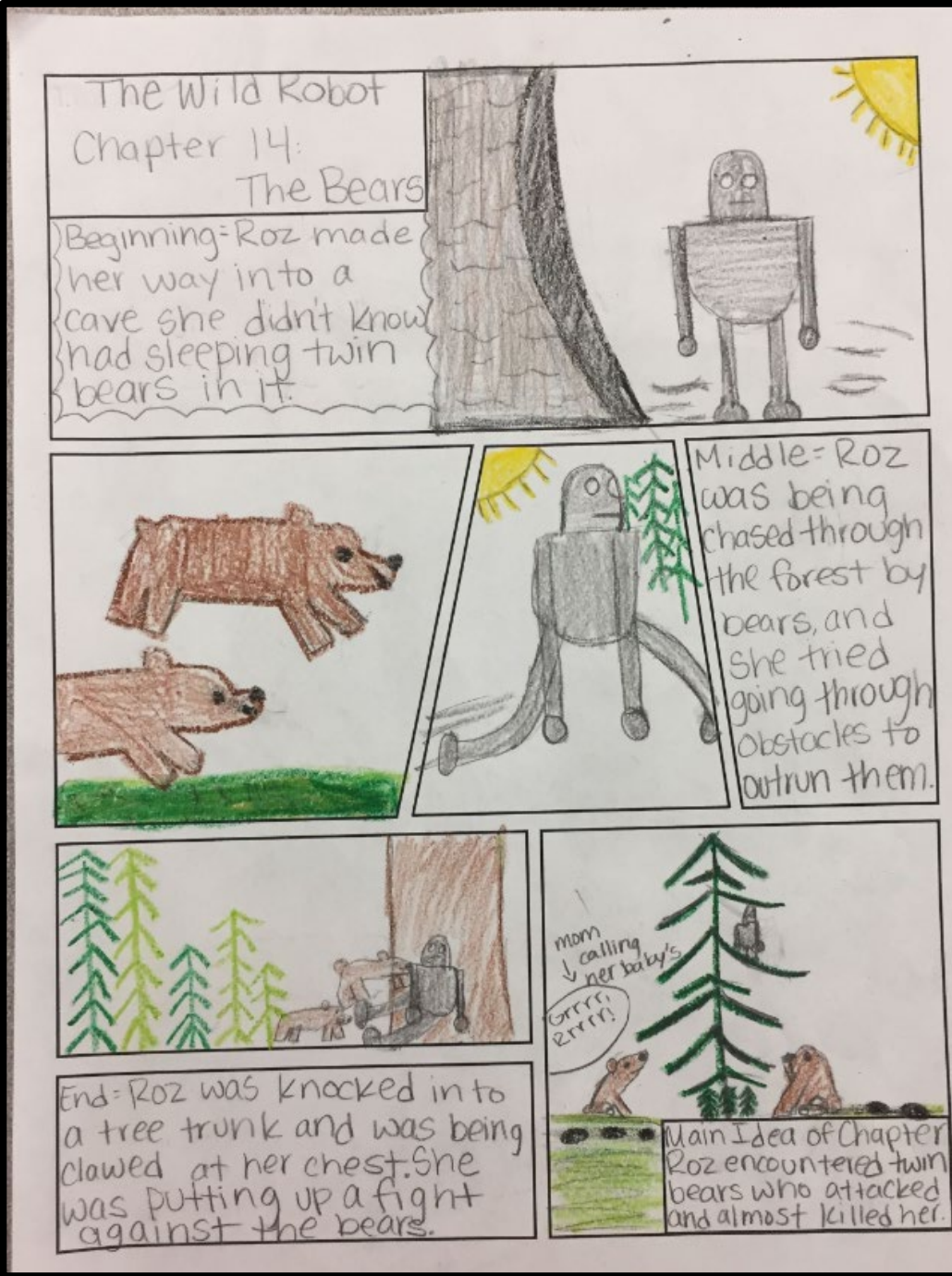


Graphic Novels:

Writing in Pictures & Words (Kahn & Hand)



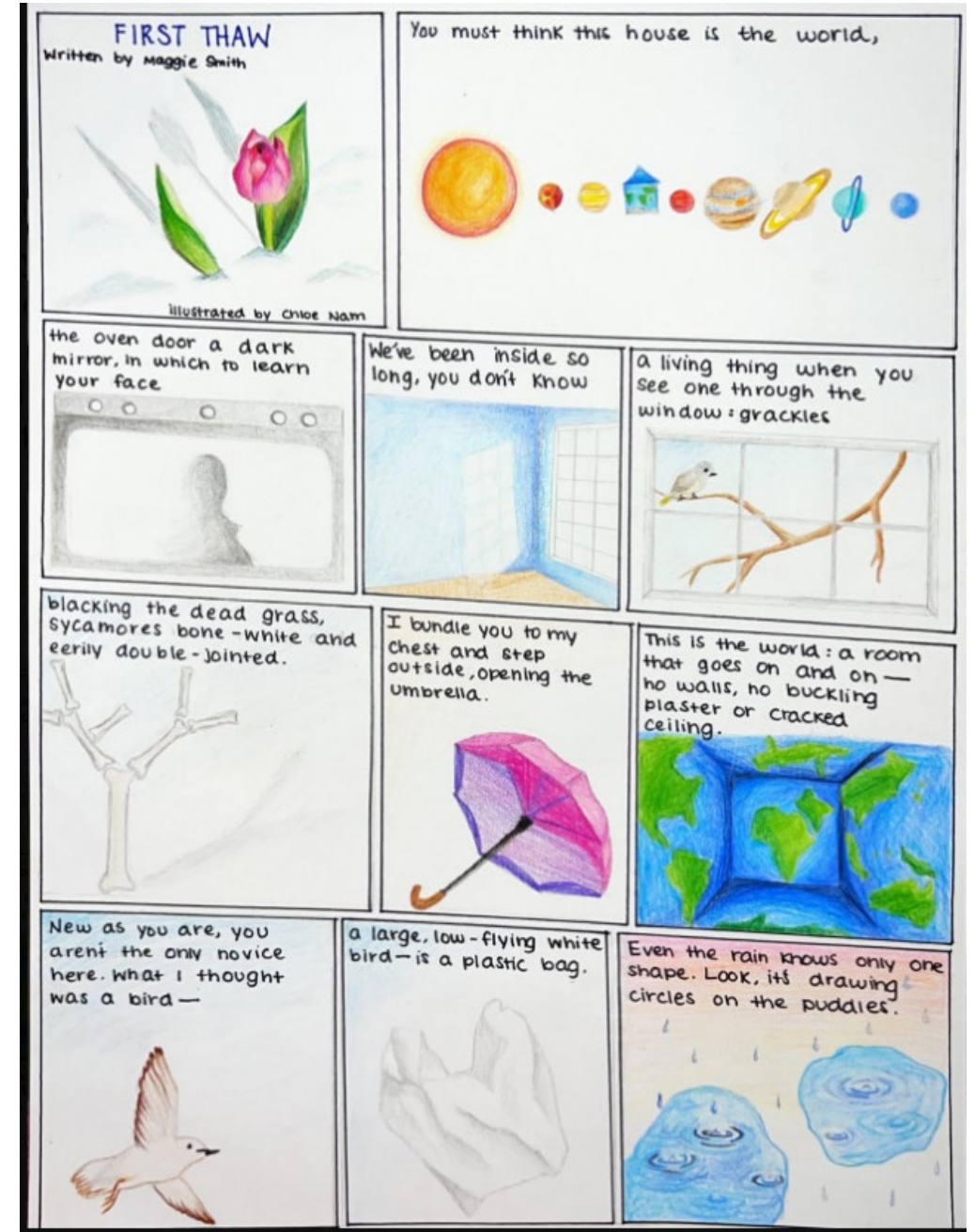
Use graphic novel templates to retell/ summarize a story or write a story



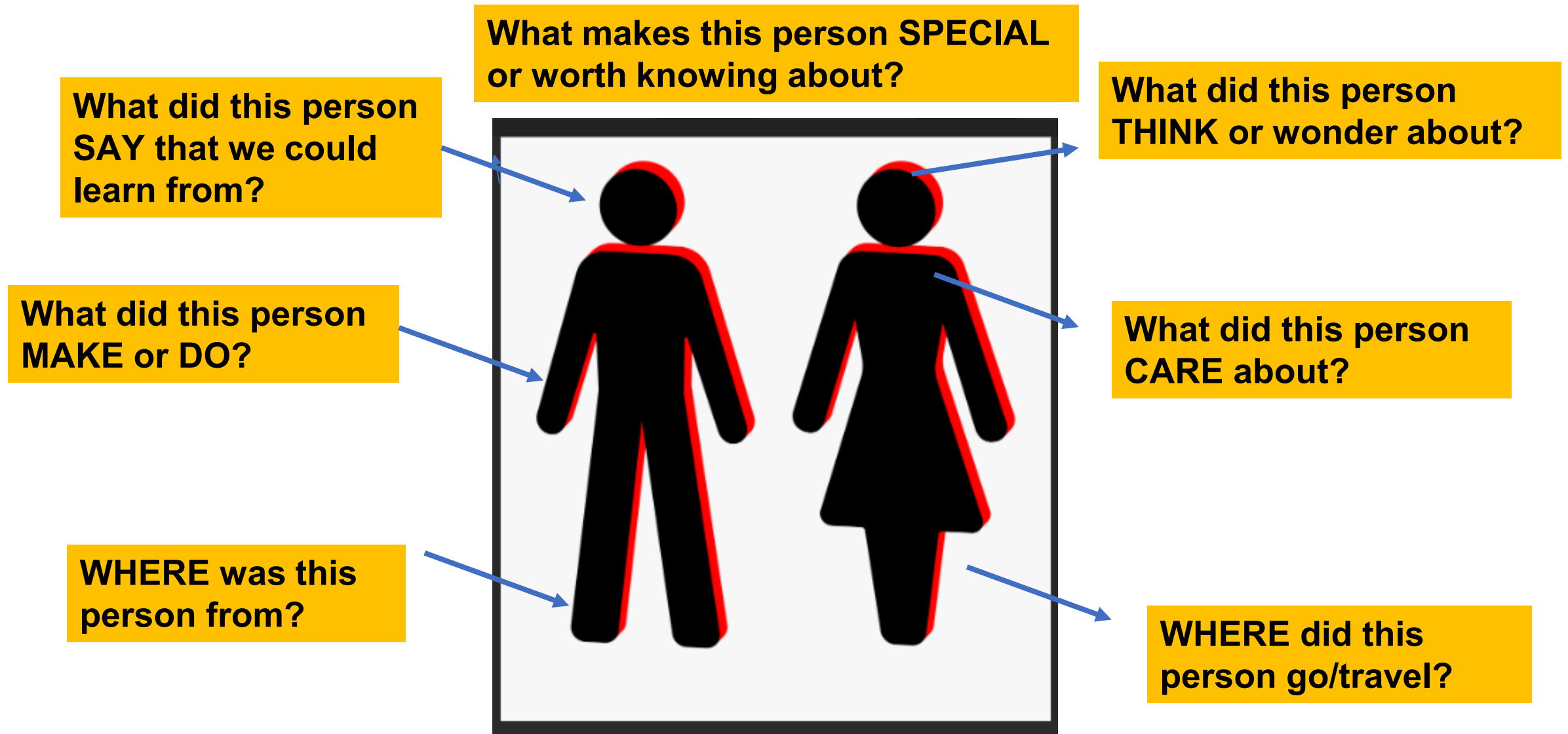
Interpret Poetry as a Comic Strip

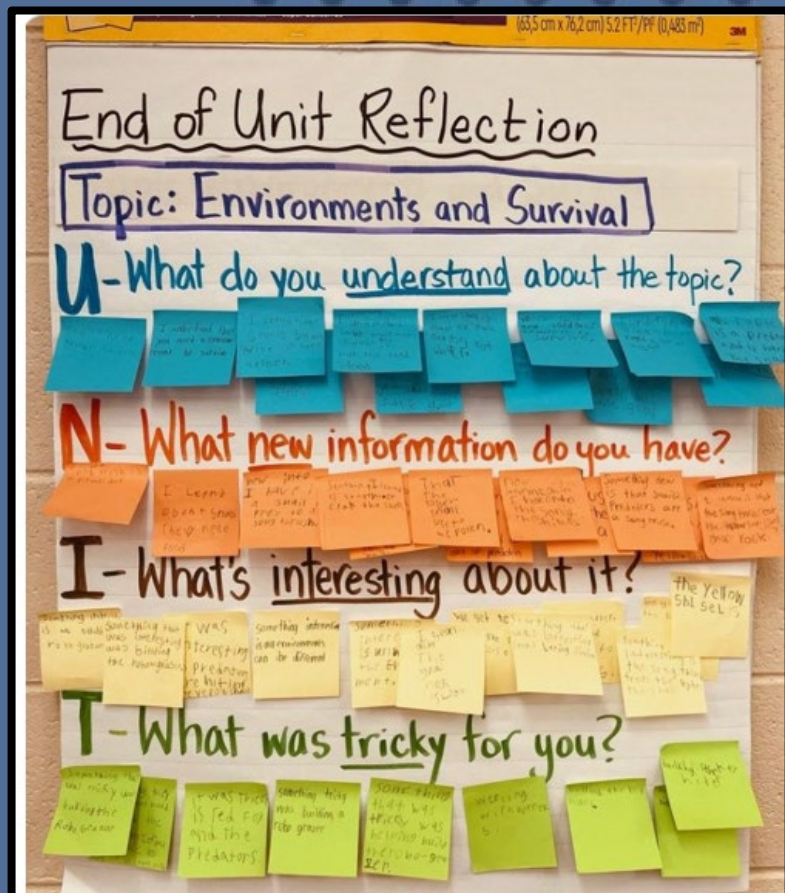
 Brett Vogelsinger @theVogelman · 17h

As part of their study of a poetry collection of their choice, my #aplit students could choose to transform a poem into a comic ala @grantdraws.



Create an Infographic Based a Range of Biographical Questions





Engage Students in
Metacognition and
SELF-REFLECTION

Creating Engagement with 6-Word Memoirs:

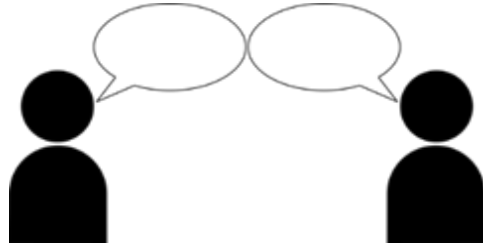
Write 6 words describing a (story, character, event, process, etc.)

WORD	WORD	WORD	WORD	WORD	WORD
VISUAL	VISUAL	VISUAL	VISUAL	VISUAL	VISUAL

Video projects
RbD, p. 117



Turn & Talk...



The 6-Word Memoir

Name:	Project:	Date:	Period:
<div></div>	<div></div>	<div></div>	<div></div>
Shot Type: _____ Word: _____	Shot Type: _____ Word: _____	Shot Type: _____ Word: _____	
<div></div>	<div></div>	<div></div>	<div></div>
Shot Type: _____ Word: _____	Shot Type: _____ Word: _____	Shot Type: _____ Word: _____	

- How can a 6-word memoir create **personal engagement** with the content you are teaching?
- How can a 6-word memoir strategy **lead to students thinking more deeply?**
- You can download a 6-word memoir planning tool [here](#).

A Collaborative Approach to Mistake Analysis

[A Collaborative Approach to Mistake Analysis With Older Students | Edutopia](#)



Investigation Components	What to Look For		Notes / Feedback
Testable Question	<ul style="list-style-type: none"> The question is clearly stated and can be answered using data from an investigation. 		
Hypothesis	<ul style="list-style-type: none"> A prediction is stated that can be tested using observations or investigation. 		
Investigation Procedures	<ul style="list-style-type: none"> The design (materials and procedures) matches the stated hypothesis. The variables are clearly identified – which variables stay the same, and what will be measured. Procedures are clear enough so that others can replicate it. 		
Data Displays	<ul style="list-style-type: none"> Data are well organized and accurate Data are clearly labeled using charts, tables, graphs, or diagrams 		
Analysis and Conclusions	<ul style="list-style-type: none"> Analyses or conclusions relate to the testable question and hypothesis. Conclusion(s) are accurate - supported by the data analysis. Specific data are used to support conclusions. 		
New Questions or Claims	<ul style="list-style-type: none"> A new question or claim is considered that can extend thinking and investigation 		

FIGURE 6.5

Actionable Feedback Stems

Clarity

- Your description of _____ was easy to picture/follow because _____.
- Your use of (color, spacing, symbols, etc.) added clarity because _____.
- We understood this part _____, but _____.
- We weren't sure what you meant by _____. Did you mean _____?
- We were confused by this wording: _____. Maybe you can say it this way: _____.
- Can you say more about/provide examples of/add a quote to support _____?

Form/Format

- All parts have been completed.
- The format for _____ is correct and complete.
- This part _____ seems to be missing. Try checking with this resource/example _____ to get ideas.

Planning/Researching/Constructing

- Your plan was thorough. All parts were completed.
- The investigation design was effective in the following ways: _____. It led to successful completion of _____.

It looks like (step 3, citations, etc.) are missing. Do you want some help with this part?

Accuracy

- The facts/terms/diagrams are accurate and compelling because _____.
- You might want to fact-check this point _____ because we think _____. Try using this source: _____.
- Your interpretations of _____ lack supporting evidence.
- We think you missed this problem-solving step because _____.

Impact

- This was an interesting/surprising idea _____.
- We agree/disagree with your solution/conclusions because _____.
- I think our perspective is different from yours because _____. Did you consider this (e.g., data, limitation) _____?
- So, do you recommend or think this _____?

Using Peer-to-Peer Feedback to Improve Work Quality

Use with short-cycle formative tasks or parts of longer performance-based tasks that integrate multiple academic skills and concepts with personal skills (creativity, collaboration, self-direction).

Date of Feedback:

Feedback Provided by _____ for _____

* Please remember to specifically connect your feedback to the criteria in the Project Rubric.

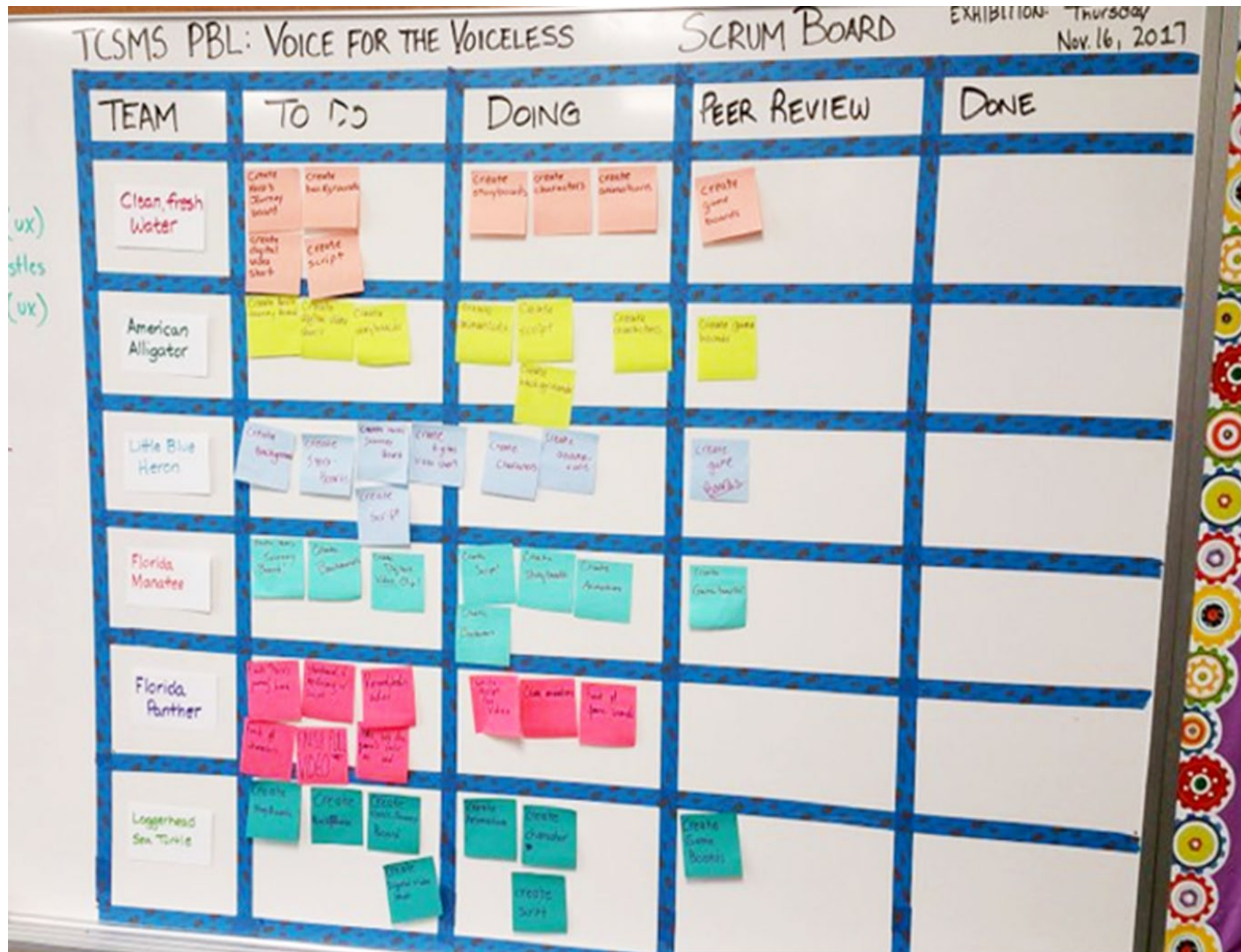


Be Kind: In what specific ways does the work you reviewed show excellence or potential for excellence?	Be Specific: In what specific ways does the work you reviewed show a need for improvement?	Be Helpful: What specific ideas and potential action steps do you have to help improve the work you reviewed?

Build in Peer Group Critique/ Feedback for Complex Tasks DURING LEARNING

Multi-Step Project-Based Scrum Boards

Scrum Boards
RbD, pp. 88-89



Using Reflective Journaling for Complex Tasks

RbD, pp. 136-137

Sample Prompts - *Daily Writing/Responding*

- How did you determine your focus and develop your ideas?
- What prior knowledge /skills did you apply (transfer)?
- How will your_____ reflect what you learned?
- What decisions did you make to create OR IMPROVE your final product?
- What new insights are you starting to develop about the topic?
- What connections can you make to the Essential Question?

Related Resources

- **Hess Cognitive Rigor Matrices** - [Cognitive Rigor and DoK | Karin Hess, PhD \(karin-hess.com\)](#)
- **Hess Blogs (rubrics, scaffolding, etc.)** [BLOG | Karin Hess, PhD \(karin-hess.com\)](#)
- [Let's STOP and THINK about New Ways to Use Exit Tickets](#) and more **Turn & Talk examples** - [NHCTE_Packet_Final_May5th \(1\).pdf \(karin-hess.com\)](#)
- **6 ways Poster/Task Cards** [Microsoft Word - final_Hess rigor task cards_2021_task_cards \(1\) \(karin-hess.com\)](#)
- **Excerpts from *Rigor by Design, Not Chance* (2023)** [Rigor by Design Excerpts | Karin Hess, PhD \(karin-hess.com\)](#)
- **Problem-solving with reasoning template (ratio example)**
[5e86bd_d9d8e2a4e1394069842a264c782205f3.pdf](#)
- RESEARCH: <https://www.edsurge.com/news/2019-10-28-why-struggle-is-essential-for-the-brain-and-our-lives>