

The Rigor/Relevance Framework and Webb's Depth of Knowledge are two ways of looking at the same thing, and that is the cognitive level of rigor (depth) demanded to achieve mastery. Both get at the depth with which students need to interact with the material. The quadrants in the Rigor/Relevance Framework match up closely with the Levels of Webb's Design. Below you will see a side-by-side of these two concepts used to examine the rigor of an instructional task.

## WEBB'S DEPTH OF KNOWLEDGE MODEL

### Level 1 - Recall and Reproduction

Curricular elements that fall into this category involve basic tasks that require students to recall or reproduce knowledge and/or skills. The subject matter content at this level usually involves working with facts, terms and/or properties.

### Level 2 - Working with Skills and Concepts

The engagement of some mental processing beyond recalling or reproducing a response. This level generally requires students to contrast or compare, convert information from one form to another, classify or sort into meaningful categories, or describe and explain. This level requires students to go beyond a description or explanation of recalled information to the "why" or "how."

### Level 3 - Short Term Strategic Thinking

Items falling into this category demand a short-term use of higher order thinking processes, such as analysis and evaluation, to solve real-world problems with predictable outcomes. Stating one's reason is a key marker of tasks that fall into this particular category. Key processes that often denote this particular level include: analyze, explain and support with evidence, generalize, and create.

### Level 4 - Extended Strategic Thinking

Curricular elements assigned to this level demand extended use of higher order thinking processes such as synthesis, reflection, assessment, and adjustment of plans over time. Students are engaged in conducting investigations to solve real-world problems with unpredictable outcomes. Key strategic thinking processes that denote this particular level include: synthesize, reflect, conduct, and manage.

## DAGGETT'S RIGOR AND RELEVANCE FRAMEWORK

### Quadrant A - Acquisition

Students gather and store bits of knowledge and information. Students are primarily expected to remember or understand this knowledge

### Quadrant B - Application

Students use acquired knowledge to solve problems, design solutions, and complete work. The highest level of application is to apply knowledge to new and unpredictable situations.

### Quadrant C - Assimilation

Students extend and refine their acquired knowledge to be able to use that knowledge automatically and routinely to analyze and solve problems and create solutions.

### Quadrant D - Adaptation

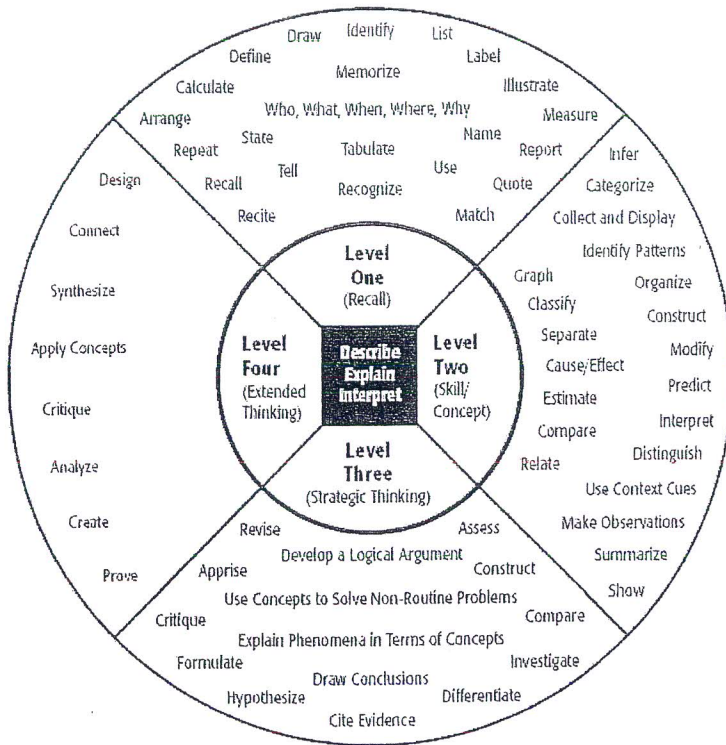
Students have the competence to think in complex ways and to apply their knowledge and skills. Even when confronted with perplexing unknowns, students are able to use extensive knowledge and skill to create solutions and take action that further develops their skills and knowledge.

## DOK GUIDING PRINCIPLES

1. The DOK level assigned should reflect the level of work required by students to attain mastery of the standard.
2. The DOK level should reflect the complexity of the cognitive processes demanded in the standard not the difficulty. Ultimately the DOK level describes the depth of thinking required by a task, not whether or not the task is "difficult."
3. If there is a question regarding which of two levels a standard addresses, it is appropriate to select the higher of the two levels.
4. The verbs in the standard are not sufficient information to assign a DOK level. You must also consider the complexity of the task, conventional levels of prior knowledge for students at the grade level, and the mental processes used to satisfy the requirements of the standard.

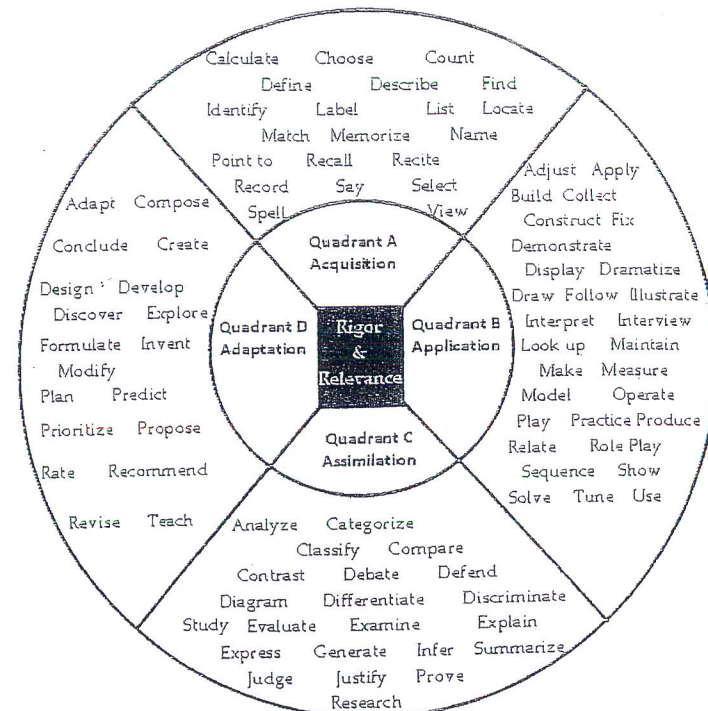
# Depth of Knowledge (DOK) Levels

## Webb's DOK Model



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
Recall elements and details of story structure, such as sequence of events, character, plot and setting.	Identify and summarize the major events in a narrative.	Support ideas with details and examples.	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/ solutions.
Conduct basic mathematical calculations.	Use context cues to identify the meaning of unfamiliar words.	Use voice appropriate to the purpose and audience.	Apply mathematical model to illuminate a problem or situation.
Label locations on a map.	Solve routine multiple-step problems.	Identify research questions and design investigations for a scientific problem.	Analyze and synthesize information from multiple sources.
Represent in words or diagrams a scientific concept or relationship.	Describe the cause/effect of a particular event.	Develop a scientific model for a complex situation.	Describe and illustrate how common themes are found across texts from different cultures.
Perform routine procedures like measuring length or using punctuation marks correctly.	Identify patterns in events or behavior.	Determine the author's purpose and describe how it affects the interpretation of a reading selection.	Design a mathematical model to inform and solve a practical or abstract situation.
Describe the features of a place or people.	Formulate a routine problem given data and conditions.	Apply a concept in other contexts.	
	Organize, represent and interpret data.		

## Daggett's Rigor Relevance Framework



Quadrant A	Quadrant B	Quadrant C	Quadrant D
Students gather and store bits of knowledge and information. Students are primarily expected to remember or understanding this knowledge.	Students use acquired knowledge to solve problems, design solutions, and complete work. The highest level of application is to apply knowledge to new and unpredictable situations.	Students extend and refine their acquired knowledge to be able to use that knowledge automatically and routinely to analyze and solve problems and create solutions.	Students have the competence to think in complex ways and to apply their knowledge and skills. Even when confronted with perplexing unknowns, students are able to use extensive knowledge and skill to create solutions and take action that further develops their skills and knowledge.

## **Bloom's Revised Taxonomy Quick Reference Sheet For Determining Thinking Level**

Remembering: Recalling Information – Key words for curricular elements assigned to this category include recognizing, listing, describing, retrieving, naming, and finding.

Understanding: Explaining ideas or concepts – Key words for curricular elements assigned to this category include interpreting, summarizing, paraphrasing, classifying, and explaining.

Applying: Using information in another familiar situation – Key words for curricular elements assigned to this category include implementing, carrying out, using, and executing.

Analyzing: Breaking information into parts to explore understandings and relationships – Key words for curricular elements assigned to this category include comparing, organizing, deconstructing, interrogating, and finding.

Evaluating: Justifying a decision or course of action – Key words for curricular elements assigned to this category include checking, hypothesizing, critiquing, experimenting, and judging.

Creating: Generating new ideas, products, or ways of viewing things – Key words for curricular elements assigned to this category include designing, constructing, planning, producing, and inventing.

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The Deconstruction Template has been modified to help prevent the assumption that the level of Bloom's determines the DOK level. Reference the Cognitive Rigor Matrix for ELA and Literacy on next page for clearer understanding of this.

# Cognitive Rigor Matrix for ELA & Literacy

This matrix from the *Smarter Balanced Content Specifications for ELA* draws from both Bloom's (revised) *Taxonomy of Educational Objectives* and Webb's *Depth-of-Knowledge Levels*.

<b>Depth &amp; Thinking</b>	<b>DOK Level 1 Recall &amp; Reproduction</b>	<b>DOK Level 2 Skills &amp; Concepts</b>	<b>DOK Level 3 Strategic Thinking/ Reasoning</b>	<b>DOK Level 4 Extended Thinking</b>
<b>Remember</b>	- Recall, locate basic facts, details, events			
<b>Understand</b>	- 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...)	- Explain how concepts or ideas specifically relate to other content domains or concepts
<b>Apply</b>	- 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
<b>Analyze</b>	- Identify whether information is contained in a graph, table, 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
<b>Evaluate</b>			- Cite evidence and develop a logical argument for conjectures	- Evaluate relevancy, accuracy, & completeness of information
<b>Create</b>	- Brainstorm ideas about a topic	- Generate conjectures based on observations or prior knowledge	- Synthesize information within one source or text	- Synthesize information across multiple sources or texts

Snapshot of Cognitive Rigor Matrix (Hess, Carlock, Jones, & Walkup, 2009)