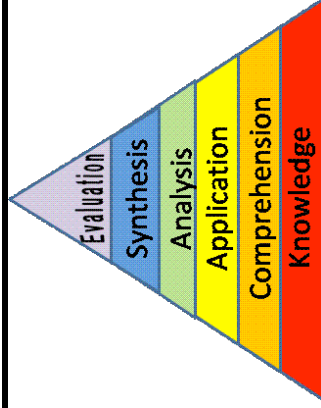
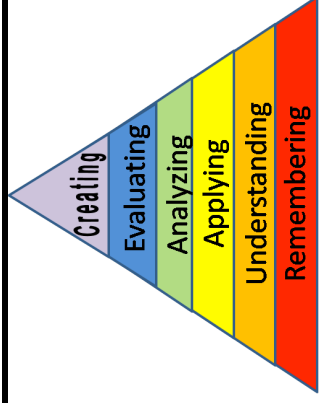


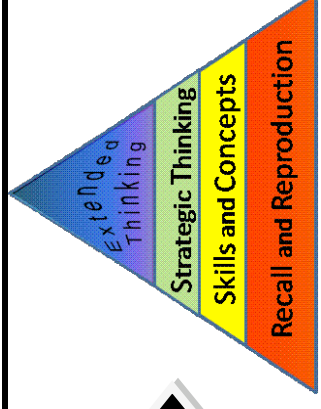
Levels of Thinking in Bloom's Taxonomy and Webb's Depth of Knowledge



Bloom's – Old Version (1956)



Bloom's - New Version (1990's)



Webb's DOK (2002)

Bloom's six major categories were changed from noun to verb forms in the new version which was developed in the 1990's and released in 2001. The knowledge level was renamed as remembering. Comprehension was retitled understanding, and synthesis was renamed as creating. In addition, the top two levels of Bloom's changed position in the revised version.

Bloom's Taxonomy		Revised Bloom's Taxonomy
Knowledge		Remembering
	<i>Recall appropriate information.</i>	
Comprehension		Understanding
	<i>Grasp the meaning of material.</i>	
Application		Applying
	<i>Use learned material in new and concrete situations.</i>	
Analysis		Analyzing
	<i>Break down material into component parts so that its organizational structure may be understood.</i>	
Synthesis		Evaluating
	<i>Put parts together to form a new whole.</i>	<i>Make judgments based on criteria and standards.</i>
Evaluation		Creating (Previously Synthesis)
	<i>Judge value of material for a given purpose.</i>	<i>Put elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.</i>

Norman L. Webb of Wisconsin Center for Educational Research generated DOK levels to aid in alignment analysis of curriculum, objectives, standards, and assessments.

Webb's Depth of Knowledge & Corresponding Verbs

**Some verbs could be classified at different levels depending on application.*

Recall and Reproduction Correlates to Bloom's 2 Lowest Levels

Recall a fact, information, or procedure.

arrange, calculate, define, draw, identify, list, label, illustrate, match, measure, memorize, quote, recognize, repeat, recall, recite, state, tabulate, use, tell who- what- when- where- why

Skill/Concept

Engages mental process beyond habitual response using information or conceptual knowledge. Requires two or more steps.

apply, categorize, determine cause and effect, classify, collect and display, compare, distinguish, estimate, graph, identify patterns, infer, interpret, make observations, modify, organize, predict, relate, sketch, show, solve, summarize, use context clues

Strategic Thinking

Requires reasoning, developing plan or a sequence of steps, some complexity, more than one possible answer, higher level of thinking than previous 2 levels.

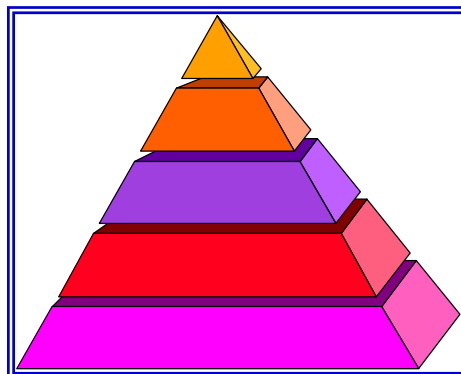
appraise, assess, cite evidence, critique, develop a logical argument, differentiate, draw conclusions, explain phenomena in terms of concepts, formulate, hypothesize, investigate, revise, use concepts to solve non-routine problems

Extended Thinking Correlates to Bloom's 2 Highest Levels

*Requires investigation, complex reasoning, planning, developing, and thinking-probably over an extended period of time. *Longer time period is not an applicable factor if work is simply repetitive and/or does not require higher-order thinking.*

analyze, apply concepts, compose, connect, create, critique, defend, design, evaluate, judge, propose, prove, support, synthesize

COGNITIVE



COMPLEXITY

BLOOM'S TAXONOMY	WEBB'S DEPTH OF KNOWLEDGE
KNOWLEDGE "The recall of specifics and universals, involving little more than bringing to mind the appropriate material"	<i>Recall</i> – Recall of a fact, information, or procedure (e.g., What are 3 critical skill cues for the overhand throw?)
COMPREHENSION "Ability to process knowledge on a low level such that the knowledge can be reproduced or communicated without a verbatim repetition."	
APPLICATION "The use of abstractions in concrete situations."	<i>Basic Application of Skill/Concept</i> – Use of information, conceptual knowledge, procedures, two or more steps, etc. (e.g., Explain why each skill cue is important to the overhand throw. "By stepping forward you are able to throw the ball further.")
ANALYSIS "The breakdown of a situation into its component parts."	<i>Strategic Thinking</i> – Requires reasoning, developing a plan or sequence of steps; has some complexity; more than one possible answer; generally takes less than 10 minutes to do (e.g., Design 2 different plays in basketball and explain what different skills are needed and when the plays should be carried out.)
SYNTHESIS AND EVALUATION "Putting together elements & parts to form a whole, then making value judgments about the method."	<i>Extended Thinking</i> – Requires an investigation; time to think and process multiple conditions of the problem or task; and more than 10 minutes to do non-routine manipulations (e.g., Analyze 3 different tennis, racquetball, and badminton strokes for similarities, differences, and purposes. Then, discuss the relationship between the mechanics of the stroke and the strategy for using the stroke during game play.)

Depth of Knowledge Consistency

Measures the degree to which the knowledge elicited from students on assessments is as complex as what students are expected to know and do as stated in the curriculum/GLEs/Show-Me Standards

Depth of Knowledge

Level 1 Recall

Recall of a fact, information, or procedure.

Level 2 Skill/Concept

Use information or conceptual knowledge, two or more steps, etc.

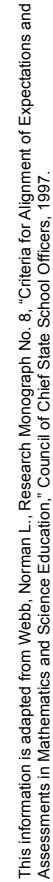
Level 3 Strategic Thinking

Requires reasoning, developing plan or a sequence of steps, some complexity, more than one possible answer.

Level 4 Extended Thinking

Requires an investigation, time to think and process multiple conditions of the problem.

Downloaded from <https://www.cambridge.org/core>. University of Cambridge, on 02 Jun 2020 at 10:00:00, subject to the Cambridge Core terms of use, available at <https://www.cambridge.org/core/terms>. <https://doi.org/10.1017/9781009051625.006>



BLOOM'S TAXONOMY

KNOWLEDGE / REMEMBERING

"The recall of specifics and universals, involving little more than bringing to mind the appropriate material"

COMPREHENSION / UNDERSTANDING

"Ability to process knowledge on a low level such that the knowledge can be reproduced or communicated without a verbatim repetition."

APPLICATION / APPLYING

"Using information in another familiar situation."

ANALYSIS / ANALYSING

"Breaking information into parts to explore understandings and relationships."

SYNTHESIS and EVALUATION / EVALUATING and CREATING

"Putting together elements & parts to form a whole, then making value judgments about the method."

WEBB'S DOK

RECALL

Recall of a fact, information, or procedure (e.g., What are 3 critical skill cues for the overhand throw?)

SKILL/CONCEPT

Use of information, conceptual knowledge, procedures, two or more steps, etc.

STRATEGIC THINKING

Requires reasoning, developing a plan or sequence of steps; has some complexity; more than one possible answer

EXTENDED THINKING

Requires an investigation; time to think and process multiple conditions of the problem or task.

When assigning the DOK level, consider

- the level of work students are most commonly required to perform
- the *complexity* of the task, rather than its *difficulty*.
 - The DOK level describes the kind of thinking involved in a task, not the likelihood that the task will be completed correctly.
- the complete domain of items that would be appropriate for completing the task.
 - Identify the DOK level of the most common of these items.

If there is a question regarding which of two levels an objective addresses, it is usually appropriate to select the higher of the two levels.

Why Depth of Knowledge?

Mechanism to ensure that the intent of the standard and the level of student demonstration required by that standard matches the assessment items
(required under NCLB)

DOK is a tool to ensure that teachers are teaching to a level that will promote student achievement

DOK (Depth of Knowledge)

Level 3: Strategic Reasoning

□ A. Focus is on reasoning & planning in order to respond (e.g., write an essay, apply in new/novel situation).
B. Complex and abstract thinking is required. C. Often need to provide support for reasoning or conclusions drawn. D. More than one "connect" response or approach is often possible.

Level 1: Recall

□ A. Focus is on specific facts, definitions, details, or using routine procedures (measure, divide, follow recipe, etc.) B. Explaining "that..."
C. Can be "difficult" without requiring "deep" content knowledge to respond to item (memorize a complex theory without being able to explain it, meaning or apply it to a real work situation)
D. Combination of level ones does NOT = level 2.
E. One right answer

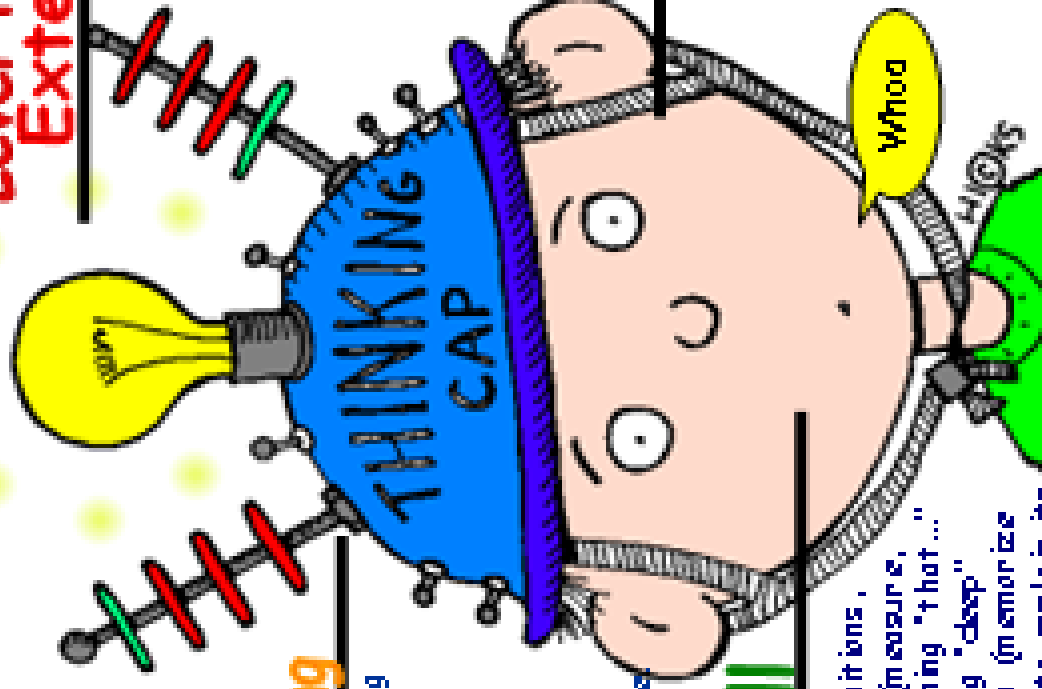
Level 4:

Extended Reasoning

□ A. Requires complex reasoning, planning, and thinking (generally over extended periods of time) for the investigation. B. Assessment activities have multiple steps with extended time provided. C. Students may be asked to relate concepts within the content area and among other content areas.
D. Students make real-world applications in new situations.

Level 2: Skill/Concept

□ A. Focus is on applying skills and concepts (in a familiar/situated situation), relationships (compare, cause-effect), main ideas. B. Requires deeper knowledge than definition
C. Explaining how or why D. Making decisions E. Estimating, interpreting in order to respond F. One right answer



"He who learns but does not think, is lost!
He who thinks but does not learn
is in great danger." Confucius

DOK Levels

- Webb's Depth of Knowledge levels:

Level 1- Recall

**Level 2- Skills &
Concepts**

**Level 3- Strategic
Thinking**

**Level 4- Extended
Thinking**

DOK Level 1: Recall and Reproduction

Basic recall of concepts, definitions, facts,
and processes

Answering a Level 1 item can involve
following a simple, well-known procedure
or formula

Simple skills and abilities or recall
characterize DOK 1

DOK Level 1 Examples

Locate or recall facts found in text

Apply a well known formula

Use a dictionary to find the meaning of words

Represent math relationships in words, pictures, or symbols

Perform a simple science process or a set of procedures

DOK Level 2: Basic Application of Skills & Concepts

DOK 2 includes the engagement of some mental processing beyond recalling or reproducing a response.

Items require students to make some decisions as to how to approach the question or problem.

These actions imply more than one mental or cognitive process/step.

DOK Level 2 Examples

Identify and summarize the major events, problem, solution, conflicts in literary text

Explain the cause-effect of historical events

Predict a logical outcome based on information in a reading selection

Retrieve information from a table, graph, or figure and use it to solve a problem requiring multiple steps.

Level 3: Strategic Thinking

DOK 3 requires deep understanding as exhibited through planning, using evidence, and more demanding cognitive reasoning.

The cognitive demands at Level 3 are complex and abstract.

An assessment item that has more than one possible answer and requires students to justify the response they give would most likely be a Level 3.

DOK Level 3 Examples

Compare consumer actions and analyze how these actions impact the environment

Analyze or evaluate the effectiveness of literary elements (e.g. characterization, setting, point of view, conflict and resolution, plot structures)

Solve a multiple-step problem and provide support with a mathematical explanation that justifies the answer

**More DOK
Level 3
Examples...**

Develop a
scientific model
for a complex idea

Justify a response
when more than
one answer is
possible

Propose and
evaluate solutions
for an economic
problem

Level 4: Extended Thinking

DOK 4 requires high cognitive demand and is very complex.

An investigation or application that requires time to research, think or process multiple conditions of the problem.

Students are expected to make non-routine manipulations or connections across disciplines/content areas/multiple sources.

Due to the complexity of cognitive demand, DOK 4 requires an extended period of time.

NOT TESTED ON THE CRT or HSPE

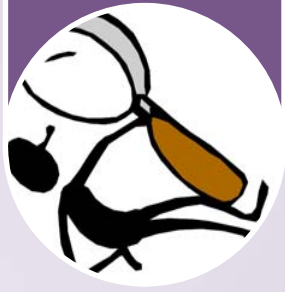
DOK Level 4 Examples

Gather, analyze, organize, and synthesize information from multiple sources to draft a reasoned report

Analyze and explain multiple perspectives or issues within or across time periods, events, or cultures

Specify a problem, identify solution paths, solve the problem, and report the results

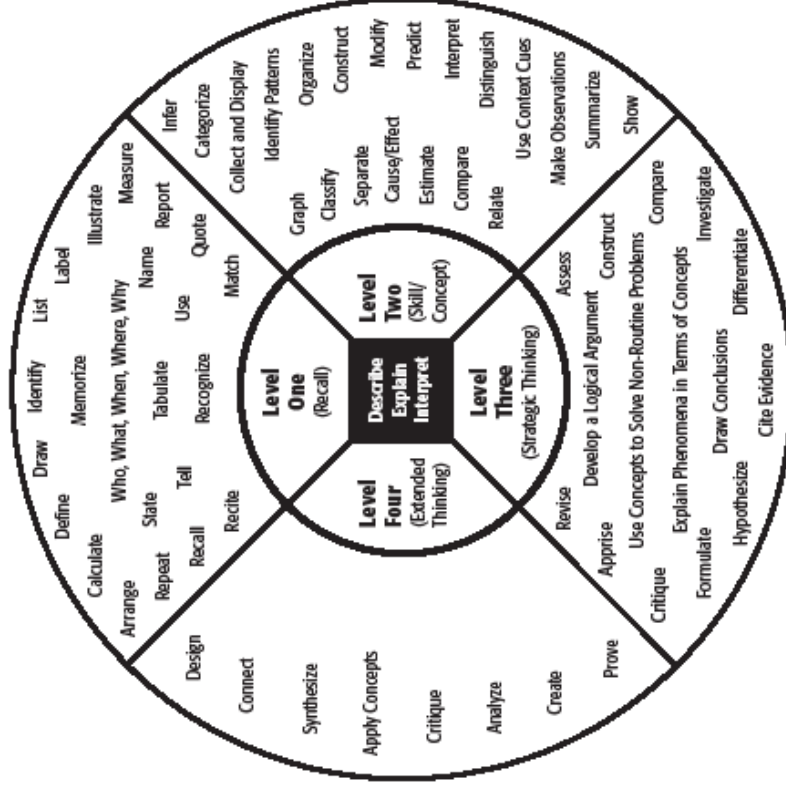
Write and produce an original play



However, extended time alone is not the distinguishing factor of a Level 4.

Task	Thinking
Collecting data samples over several months	Recall
Organizing the data in a chart	Skills/ concepts
Using this chart to make and justify predictions	Strategic Thinking
Developing a generalized model from this data and applying it to a new situation	Extending Thinking

Depth of Knowledge (DOK) Levels



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.		



Is DOK different from Bloom's Taxonomy?

- The Depth of Knowledge is NOT determined by the verb, but the context in which the verb is used and the depth of thinking required.

DOK 3- Describe a model that you might use to represent the relationships that exist within the rock cycle. **(Requires deep understanding of rock cycle and a determination of how best to represent it)**

DOK 2- Describe the difference between metamorphic and igneous rocks. **(Requires cognitive processing to determine the differences in the two rock types)**

DOK 1- Describe three characteristics of metamorphic rocks. **(Simple recall)**

Same verb—used at all three DOK levels

DL on DOK Levels

- DOK levels can be cumulative
 - An item/standard written to DOK 3 often contains DOK 1 and DOK 2 level demands
- Not all standards can be assessed at a level 3 or 4.
- DOK 1 + DOK 1  DOK 2
- Field tested in 2009 and implemented in 2010



To Summarize...

Depth of Knowledge (DOK) is a scale of cognitive demand.

DOK requires looking at the assessment item/standard in order to determine the level. DOK is about the item/standard-not the students' ability.

The context of the assessment item/standard must be considered to determine the DOK- not just a look at what verb was chosen.

Hess' Cognitive Rigor Matrix & Curricular Examples: Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions – *Math/Science*

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 Retrieve knowledge from long-term memory, recognize, recall, locate, identify	- Recall, observe, & recognize facts, principles, properties - Recall/ identify conversions among representations or numbers (e.g., customary and metric measures)	- Specify and explain relationships (e.g., non-examples/examples, cause-effect) - Make and record observations - Explain steps followed - Summarize results or concepts - Make basic inferences or logical predictions from data/observations - Use models /diagrams to represent or explain mathematical concepts - Make and explain estimates	- Use concepts to solve <u>non-routine</u> problems - Explain, generalize, or connect ideas using <u>supporting evidence</u> - Make and <u>justify</u> conjectures - Explain thinking when more than one response is possible - Explain phenomena in terms of concepts	- Relate mathematical or scientific concepts to other content areas, other domains, or other concepts - Develop generalizations of the results obtained and the strategies used (from investigation or readings) and apply them to new problem situations
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion (such as from examples given), predict, compare/contrast, match like ideas, explain, construct models	- Evaluate an expression - Locate points on a grid or number on number line - Solve a one-step problem - Represent math relationships in words, pictures, or symbols - Read, write, compare decimals in scientific notation	- Select a procedure according to criteria and perform it - Solve routine problem applying multiple concepts or decision points - Retrieve information from a table, graph, or figure and use it solve a problem requiring multiple steps - Translate between tables, graphs, words, and symbolic notations (e.g., graph data from a table) - Construct models given criteria	- Design investigation for a specific purpose or research question - Conduct a designed investigation - Use concepts to solve non-routine problems - Use & show <u>reasoning, planning, and evidence</u> - Translate between problem & symbolic notation when not a direct translation	- Select or devise approach among many alternatives to solve a problem - Conduct a project that specifies a problem, identifies solution paths, solves the problem, and reports results
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (apply) to an unfamiliar task	- Follow simple procedures (recipe-type directions) - Calculate, measure, apply a rule (e.g., rounding) - Apply algorithm or formula (e.g., area, perimeter) - Solve linear equations - Make conversions among representations or numbers, or within and between customary and metric measures	- Retrieve information from a table - Identify whether specific information is contained in graphic representations (e.g., table, graph, T-chart, diagram) - Identify a pattern/trend	- Compare information within or across data sets or texts - Analyze and draw <u>conclusions from data, citing evidence</u> - Generalize a pattern - Interpret data from complex graph - Analyze similarities/differences between procedures or solutions	- Analyze multiple sources of evidence - analyze complex/abstract themes - Gather, analyze, and evaluate information
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct	- Retrieve information from a table - Identify whether specific information is contained in graphic representations (e.g., table, graph, T-chart, diagram) - Identify a pattern/trend	- Categorize, classify materials, data, figures based on characteristics - Organize or order data - Compare/ contrast figures or data - Select appropriate graph and organize & display data - Interpret data from a simple graph - Extend a pattern	- Cite evidence and develop a <u>logical argument</u> for concepts or solutions - Describe, compare, and contrast solution methods - Verify reasonableness of results	- Gather, analyze, & evaluate information to draw conclusions - Apply understanding in a novel way, provide argument or justification for the application
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique				
Create Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, construct, produce	Brainstorm ideas, concepts, or perspectives related to a topic	Generate conjectures or hypotheses based on observations or prior knowledge and experience	- Synthesize information within one data set, source, or text - Formulate an original problem given a situation - Develop a scientific/mathematical model for a complex situation	- Synthesize information across multiple sources or texts - Design a mathematical model to inform and solve a practical or abstract situation

Hess' Cognitive Rigor Matrix & Curricular Examples: Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions - *Reading*

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 Retrieve knowledge from long-term memory, recognize, recall, locate, identify	- Recall, recognize, or locate basic facts, details, events, or ideas explicit in texts - Read words orally in connected text with fluency & accuracy - Define terms			
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion), predict, compare/contrast, match like ideas, explain, construct models	- Identify or describe literary elements (characters, setting, sequence, etc.) - Select appropriate words when intended meaning/definition is clearly evident - Describe/explain who, what, where, when, or how	- Specify, explain, show relationships; explain why, cause-effect - Give non-examples/examples - Summarize results, concepts, ideas - Make basic inferences or logical predictions from data or texts - Identify main ideas or accurate generalizations of texts - Locate information to support explicit-implicit central ideas	- Explain, generalize, or connect ideas using supporting evidence (quote, example, text reference) - Identify/ make inferences about explicit or implicit themes - Describe how word choice, point of view, or bias may affect the readers' interpretation of a text	- Explain how concepts or ideas specifically relate to <i>other</i> content domains or concepts - Develop generalizations of the results obtained or strategies used and apply them to new problem situations
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (apply) to an unfamiliar task	Use language structure (pre/suffix) or word relationships (synonym/antonym) to determine meaning of words	- Use context to identify the meaning of words/phrases - Obtain and interpret information using text features	Apply a concept in a new context	Illustrate how multiple themes (historical, geographic, social) may be interrelated
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct (e.g., for bias or point of view)	Identify whether specific information is contained in graphic representations (e.g., map, chart, table, graph, T-chart, diagram) or text features (e.g., headings, subheadings, captions)	- Categorize/compare literary elements, terms, facts, details, events - Identify use of literary devices - Analyze format, organization, & internal text structure (signal words, transitions, semantic cues) of different texts - Distinguish: relevant-irrelevant information; fact/opinion - Identify characteristic text features; distinguish between texts, genres	- Analyze information within data sets or texts - Analyze interrelationships among concepts, issues, problems - Analyze or interpret author's craft (literary devices, viewpoint, or potential bias) to critique a text - Use reasoning, planning, and evidence to support inferences	- Analyze multiple sources of evidence, or multiple works by the same author, or across genres, time periods, themes - Analyze complex/abstract themes, perspectives, concepts - Gather, analyze, and organize multiple information sources - Analyze discourse styles
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique			- Cite evidence and develop a logical argument for conjectures - Describe, compare, and contrast solution methods - Verify reasonableness of results - Critique conclusions drawn	- Evaluate relevancy, accuracy, & completeness of information from multiple sources - Draw & justify conclusions - Apply understanding in a novel way, provide argument or justification for the application
Create Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, produce		Generate conjectures or hypotheses based on observations or prior knowledge and experience	- Synthesize information within one source or text - Develop a complex model for a given situation - Develop an alternative solution	- Synthesize information across multiple sources or texts - Articulate a new voice, alternate theme, new knowledge or perspective

Hess' Cognitive Rigor Matrix & Curricular Examples: Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions - *Writing*

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 Retrieve knowledge from long-term memory, recognize, recall, locate, identify				
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion), predict, compare/contrast, match like ideas, explain, construct models	- Describe or define facts, details, terms - Select appropriate words to use when intended meaning/definition is clearly evident - Write simple sentences	- Specify, explain, show relationships; explain why, cause-effect - Give non-examples/examples - Take notes; organize ideas/data - Summarize results, concepts, ideas - Identify main ideas or accurate generalizations of texts	- Explain, generalize, or connect ideas using supporting evidence (quote, example, text reference) - Write multi-paragraph composition for specific purpose, focus, voice, tone, & audience	- Explain how concepts or ideas specifically relate to <i>other</i> content domains or concepts - Develop generalizations of the results obtained or strategies used and apply them to new problem situations
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (apply) to an unfamiliar task	- Apply rules or use resources to edit specific spelling, grammar, punctuation, conventions, word use - Apply basic formats for documenting sources	- Use context to identify the meaning of words/phrases - Obtain and interpret information using text features - Develop a text that may be limited to one paragraph - Apply simple organizational structures (paragraph, sentence types) in writing	- Revise final draft for meaning or progression of ideas - Apply internal consistency of text organization and structure to composing a full composition - Apply a concept in a new context - Apply word choice, point of view, style to impact readers' interpretation of a text	- Select or devise an approach among many alternatives to research a novel problem - Illustrate how multiple themes (historical, geographic, social) may be interrelated
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct (e.g., for bias, point of view)	Decide which text structure is appropriate to audience and purpose	- Compare literary elements, terms, facts, details, events - Analyze format, organization, & internal text structure (signal words, transitions, semantic cues) of different texts - Distinguish: relevant-irrelevant information; fact/opinion	- Analyze interrelationships among concepts, issues, problems - Apply tools of author's craft (literary devices, viewpoint, or potential dialogue) with intent - Use reasoning, planning, and evidence to support inferences made	- Analyze multiple sources of evidence, or multiple works by the same author, or across genres, or time periods - Analyze complex/abstract themes, perspectives, concepts - Gather, analyze, and organize multiple information sources
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique			- Cite evidence and develop a logical argument for conjectures - Describe, compare, and contrast solution methods - Verify reasonableness of results - Justify or critique conclusions	- Evaluate relevancy, accuracy, & completeness of information from multiple sources - Draw & justify conclusions - Apply understanding in a novel way, provide argument or justification for the application
Create Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, produce	Brainstorm ideas, concepts, problems, or perspectives related to a topic or concept	Generate conjectures or hypotheses based on observations or prior knowledge and experience	- Develop a complex model for a given situation - Develop an alternative solution	- Synthesize information across multiple sources or texts - Articulate a new voice, alternate theme, new knowledge or perspective

Hess' Cognitive Rigor Matrix & Curricular Examples: Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions - ELA

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 Retrieve knowledge from long-term memory, recognize, recall, locate, identify	- Recall, recognize, or locate basic facts, details, events, or ideas explicit in texts - Read words orally in connected text with fluency & accuracy			
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion), predict, compare/contrast, match like ideas, explain, construct models	- Identify or describe literary elements (characters, setting, sequence, etc.) - Select appropriate words when intended meaning/definition is clearly evident - Describe/explain who, what, where, when, or how - Define/describe facts, details, terms, principles - Write simple sentences	- Specify, explain, show relationships; explain why, cause-effect - Give non-examples/examples - Summarize results, concepts, ideas - Make basic inferences or logical predictions from data or texts - Identify main ideas or accurate generalizations of texts - Locate information to support explicit-implicit central ideas	- Explain, generalize, or connect ideas using supporting evidence (quote, example, text reference) - Identify/ make inferences about explicit or implicit themes - Describe how word choice, point of view, or bias may affect the readers' interpretation of a text - Write multi-paragraph composition for specific purpose, focus, voice, tone, & audience	- Explain how concepts or ideas specifically relate to <i>other</i> content domains or concepts - Develop generalizations of the results obtained or strategies used and apply them to new problem situations
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (apply) to an unfamiliar task	- Use language structure (pre/suffix) or word relationships (synonym/antonym) to determine meaning of words - Apply rules or resources to edit spelling, grammar, punctuation, conventions, word use - Apply basic formats for documenting sources	- Use context to identify the meaning of words/phrases - Obtain and interpret information using text features - Develop a text that may be limited to one paragraph - Apply simple organizational structures (paragraph, sentence types) in writing	- Apply a concept in a new context - Revise final draft for meaning or progression of ideas - Apply internal consistency of text organization and structure to composing a full composition - Apply word choice, point of view, style to impact readers' /viewers' interpretation of a text	- Illustrate how multiple themes (historical, geographic, social) may be interrelated - Select or devise an approach among many alternatives to research a novel problem
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct (e.g., for bias or point of view)	- Identify whether specific information is contained in graphic representations (e.g., map, chart, table, graph, T-chart, diagram) or text features (e.g., headings, subheadings, captions) - Decide which text structure is appropriate to audience and purpose	- Categorize/compare literary elements, terms, facts/details, events - Identify use of literary devices - Analyze format, organization, & internal text structure (signal words, transitions, semantic cues) of different texts - Distinguish: relevant-irrelevant information; fact/opinion - Identify characteristic text features; distinguish between texts, genres	- Analyze information within data sets or texts - Analyze interrelationships among concepts, issues, problems - Analyze or interpret author's craft (literary devices, viewpoint, or potential bias) to create or critique a text - Use reasoning, planning, and evidence to support inferences	- Analyze multiple sources of evidence, or multiple works by the same author, or across genres, time periods, themes - Analyze complex/abstract themes, perspectives, concepts - Gather, analyze, and organize multiple information sources - Analyze discourse styles
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique			- Cite evidence and develop a logical argument for conjectures - Describe, compare, and contrast solution methods - Verify reasonableness of results - Justify or critique conclusions drawn	- Evaluate relevancy, accuracy, & completeness of information from multiple sources - Apply understanding in a novel way, provide argument or justification for the application
Create Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, produce	Brainstorm ideas, concepts, problems, or perspectives related to a topic or concept	Generate conjectures or hypotheses based on observations or prior knowledge and experience	- Synthesize information within one source or text - Develop a complex model for a given situation - Develop an alternative solution	- Synthesize information across multiple sources or texts - Articulate a new voice, alternate theme, new knowledge or perspective