

Tool 1 in Hess's Rigor Matrices

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall and Reproduction	Webb's DOK Level 2 Skills and Concepts	Webb's DOK Level 3 Strategic Thinking and Reasoning	Webb's DOK Level 4 Extended Thinking
<p>Remember</p> <p>Retrieve knowledge from long-term memory, recognize, recall, locate, and identify.</p>	<ul style="list-style-type: none"> Recall, recognize, or locate basic facts, terms, details, events, or ideas explicit in texts. Read words orally in connected text with fluency and accuracy. 	<p>Use these curricular examples with most close reading or listening assignments or assessments in any content area.</p>		
<p>Understand</p> <p>Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion, predict, compare and contrast, match like ideas, explain, and construct models.</p>	<ul style="list-style-type: none"> Identify or describe literary elements (characters, setting, sequence, and so on). Select appropriate words when intended meaning or definition is clearly evident. Describe or explain who, what, where, when, or how. Define or describe facts, details, terms, and principles. Write simple sentences. 	<ul style="list-style-type: none"> Specify, show relationships, and explain why (such as with cause and effect). Give nonexamples and examples. Summarize results, concepts, and ideas. Make basic inferences or logical predictions from data or texts. Identify main ideas or accurate generalizations of texts. Locate information to support explicit and implicit central ideas. 	<ul style="list-style-type: none"> Explain, generalize, or connect ideas using supporting evidence (such as quote, use examples, include text references). Identify and 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 multiparagraph composition for specific purpose, focus, voice, tone, and audience. 	<ul style="list-style-type: none"> Explain how concepts or ideas specifically relate to other content domains (such as social, political, and historical) or concepts. Develop generalizations of results or about strategies and apply them to new problem-based situations.
<p>Apply</p> <p>Carry out (apply to a familiar task) or use (apply to an unfamiliar task) a procedure in a given situation carry out.</p>	<ul style="list-style-type: none"> Use language structure (pre and suffix) or word relationships (synonyms and antonyms) to determine meaning of words. Apply rules or resources to edit spelling, grammar, punctuation, conventions, and word use. Apply basic formats for documenting sources. 	<ul style="list-style-type: none"> Use context to identify the meaning of words and phrases. Obtain and interpret information using text features. Develop a text that may be limited to one paragraph. Apply simple organizational structures (such as paragraphs and sentence types) in writing. 	<ul style="list-style-type: none"> Apply a concept in a new context. Revise a 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, and style to impact readers' or viewers' interpretation of a text. 	<ul style="list-style-type: none"> Illustrate how multiple themes (historical, geographic, social, artistic, and literary) may be interrelated. Select or devise an approach among many alternatives to research a novel problem.

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall and Reproduction	Webb's DOK Level 2 Skills and Concepts	Webb's DOK Level 3 Strategic Thinking and Reasoning	Webb's DOK Level 4 Extended Thinking		
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant or irrelevant; distinguish; focus; select; organize; outline; find coherence; and deconstruct (for example, for bias or point of view).	<ul style="list-style-type: none"> Identify whether specific information is contained in graphic representations (for example, in a map, chart, table, graph, T-chart, or diagram) or text features (such as headings, subheadings, and captions). Decide which text structure is appropriate to audience and purpose. 	<ul style="list-style-type: none"> Categorize and compare literary elements, terms, facts and details, and events. Identify use of literary devices. Analyze format, organization, and internal text structure (signal words, transitions, and semantic cues) of different texts. Distinguish between relevant and irrelevant information and fact and opinion. Identify characteristic text features and distinguish between texts and genres. 	<ul style="list-style-type: none"> Analyze information within data sets or texts. Analyze interrelationships among concepts, issues, and problems. Analyze or interpret an author's craft (literary devices, viewpoint, or potential bias) to create or critique a text. Use reasoning, planning, and evidence to support inferences. 	<ul style="list-style-type: none"> Analyze multiple sources of evidence, or multiple works by the same author, or across genres, time periods, and themes. Analyze complex and abstract themes, perspectives, and concepts. Gather, analyze, and organize multiple information sources. Analyze discourse styles. 		
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, and critique.	Unsubstantiated generalizations (UGs) are stating an opinion without providing any support for it.				<ul style="list-style-type: none"> Cite evidence and develop a logical argument for conjectures. Describe, compare, and contrast solution methods. Verify reasonableness of results. Justify or critique conclusions. 	<ul style="list-style-type: none"> Evaluate relevancy, accuracy, and completeness of information from multiple sources. Apply understanding in a novel way and provide argument or justification for the application.
Create Reorganize elements into new patterns and structures, generate, hypothesize, design, plan, and produce.	<ul style="list-style-type: none"> Brainstorm ideas, concepts, problems, or perspectives related to a topic, principle, or concept. 	<ul style="list-style-type: none"> Generate conjectures or hypotheses based on observations or prior knowledge and experience. 	<ul style="list-style-type: none"> Synthesize information within one source or text. Develop a complex model for a given situation. Develop an alternative solution. 	<ul style="list-style-type: none"> Synthesize information across multiple sources or texts. Articulate a new voice, alternate theme, new knowledge, or new perspective. 		

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Tool 2 in Hess's Rigor Matrices

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall and Reproduction	Webb's DOK Level 2 Skills and Concepts	Webb's DOK Level 3 Strategic Thinking and Reasoning	Webb's DOK Level 4 Extended Thinking
<p>Remember</p> <p>Retrieve knowledge from long-term memory, recognize, recall, locate, and identify.</p>	<ul style="list-style-type: none"> Recall, observe, and recognize facts, principles, and properties. Recall and identify conversions among representations or numbers (such as customary and metric measures). 	<p>Use these curricular examples with most mathematics or science assignments or assessments.</p>		
<p>Understand</p> <p>Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion, predict, compare and contrast, match like ideas, explain, and construct models.</p>	<ul style="list-style-type: none"> Evaluate an expression. Locate points on a grid or numbers on a number line. Solve a one-step problem. Represent mathematics relationships in words, pictures, or symbols. Read, write, and compare decimals in scientific notation. 	<ul style="list-style-type: none"> Specify and explain relationships (such as examples and nonexamples and cause and effect). Make and record observations. Explain steps followed. Summarize results or concepts. Make basic inferences or logical predictions from data or observations. Use models and diagrams to represent or explain mathematical concepts. Make and explain estimates. 	<ul style="list-style-type: none"> Use concepts to solve nonroutine problems. Explain, generalize, or connect ideas using supporting evidence. Make and justify conjectures. Explain thinking and reasoning when more than one solution or approach is possible. Explain phenomena in terms of concepts. 	<ul style="list-style-type: none"> Relate mathematical or scientific concepts to other content areas, other domains, or other concepts. Develop generalizations from results and strategies (from investigation or reading) and apply them to new problem situations.
<p>Apply</p> <p>Carry out (apply to a familiar task) or use (apply to an unfamiliar task) a procedure in a given situation.</p>	<ul style="list-style-type: none"> Follow simple procedures (for example, recipe-type directions). Calculate, measure, and apply a rule (such as rounding). Apply an algorithm or formula (such as area or perimeter). Solve linear equations. Make conversions among representations or numbers, or within and between customary and metric measures. 	<ul style="list-style-type: none"> Select a procedure according to criteria and perform it. Solve routine problems 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 (such as graph data from a table). Construct models with given criteria. 	<ul style="list-style-type: none"> Design investigation for a specific purpose or research question. Conduct a designed investigation. Use concepts to solve nonroutine problems. Use and show reasoning, planning, and evidence. Translate between problem and symbolic notation when not a direct translation. 	<ul style="list-style-type: none"> Select or devise an approach among many alternatives to solve a problem. Conduct a project that specifies a problem, identifies solution paths, solves the problem, and reports results.

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<p>Analyze</p> <p>Break into constituent parts, determine how the parts relate, differentiate between what is relevant and irrelevant, distinguish, focus, select, organize, outline, find coherence, and deconstruct.</p>	<ul style="list-style-type: none"> Retrieve information from a table or graph to answer a question Identify whether specific information is contained in graphic representations (such as in a table, graph, T-chart, or diagram). Identify a pattern or trend. 	<ul style="list-style-type: none"> Categorize and classify materials, data, and figures based on characteristics. Organize or order data. Compare and contrast figures or data. Select appropriate graphs and organize and display data. Interpret data from a simple graph. Extend a pattern. 	<ul style="list-style-type: none"> Compare information within or across data sets or texts. Analyze and draw conclusions from data, citing evidence. Generalize a pattern. Interpret data from complex graph. Analyze similarities and differences between procedures or solutions. 	<ul style="list-style-type: none"> Analyze multiple sources of evidence. Analyze complex and abstract themes. Gather, analyze, and evaluate information.
<p>Evaluate</p> <p>Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, and critique.</p>	<p>Unsubstantiated generalizations (UGs) state an opinion without providing any support for it.</p>			
<p>Create</p> <p>Reorganize elements into new patterns or structures, generate, hypothesize, design, plan, and produce.</p>	<ul style="list-style-type: none"> Brainstorm ideas, concepts, or perspectives related to a topic. 	<ul style="list-style-type: none"> Generate conjectures or hypotheses based on observations or prior knowledge and experience. 	<ul style="list-style-type: none"> Synthesize information within one data set, source, or text. Formulate an original problem to a given situation. Develop a scientific or mathematical model for a complex situation. 	<ul style="list-style-type: none"> Gather, analyze, and evaluate information to draw conclusions. Apply understanding in a novel way and provide an argument or justification for the application. Synthesize information across multiple sources or texts. Design a mathematical model to inform and solve a practical or abstract situation.

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Tool 3 in Hess's Rigor Matrices

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall and Reproduction	Webb's DOK Level 2 Skills and Concepts	Webb's DOK Level 3 Strategic Thinking and Reasoning	Webb's DOK Level 4 Extended Thinking
<p>Remember</p> <p>Retrieve knowledge from long-term memory; recognize, recall, locate, and identify.</p>	<ul style="list-style-type: none"> Complete short-answer questions with facts, details, terms, principles, and so on (such as label parts of a diagram). 	<p>Use these curricular examples with most writing and oral communication assignments or assessments in any content area.</p>		
<p>Understand</p> <p>Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion, predict, compare and contrast, match like ideas, explain, and construct models.</p>	<ul style="list-style-type: none"> Describe or define facts, details, terms, principles, and so on. Select the appropriate word or phrase to use when the intended meaning or definition is clearly evident. Write simple complete sentences. Add an appropriate caption to a photo or illustration. Write fact statements on a topic (such as, "Spiders build webs"). 	<ul style="list-style-type: none"> Specify, explain, show relationships (explain why and cause and effect). Provide and explain nonexamples and examples. Take notes and organize ideas and data (for example, note relevance, trends, and perspectives). Summarize results, key concepts, and ideas. Explain central ideas or accurate generalizations of texts or topics. Describe steps in a process (such as a science procedure) 	<ul style="list-style-type: none"> Write a multiparagraph composition for a specific purpose and audience (using specific focus, voice, and tone). Develop and explain opposing perspectives or connect ideas, principles, or concepts using supporting evidence (such as a quote, example, text reference, and so on). Develop arguments of fact (for example, "Are these criticisms supported by the historical facts?" and "Is this claim or equation true?"). 	<ul style="list-style-type: none"> Use multiple sources to elaborate on how concepts or ideas specifically draw from other content domains or differing concepts (such as research papers and policy arguments). Develop generalizations about results or strategies and apply them to a new problem or contextual scenario.
<p>Apply</p> <p>Carry out (apply to a familiar task) or use (apply to an unfamiliar task) a procedure in a given situation.</p>	<ul style="list-style-type: none"> Apply rules or use resources to edit specific spelling, grammar, punctuation, conventions, or word use. Apply basic formats for documenting sources. 	<ul style="list-style-type: none"> Use context to identify or infer the intended meaning of words and phrases. Obtain, interpret, and explain information using text features (such as tables, diagrams, and so on). Develop a brief text that may be limited to one paragraph. Apply basic organizational structures (introduction, topic sentence, sentence types, paragraphs, and so on) in writing. 	<ul style="list-style-type: none"> Revise final draft for meaning, progression of ideas, or chain of logic. Apply internal consistency of text organization and structure to a full composition or oral communication. Apply a concept in a new context. Apply word choice, point of view, style, and rhetorical devices to impact readers' interpretation of a text. 	<ul style="list-style-type: none"> Select or devise an approach among many alternatives to research and present a novel problem or issue. Illustrate how multiple themes (historical, geographic, and social) may be interrelated within a text or topic.

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Analyze Break into constituent parts, determine how the parts relate, differentiate between what is relevant and irrelevant, distinguish, focus, select, organize, outline, find coherence, and deconstruct (such as for bias or point of view).	<ul style="list-style-type: none"> Decide which text structure is appropriate to audience and purpose (such as compare and contrast or proposition with support). Determine appropriate, relevant key words for conducting an Internet search or researching a topic. 	<ul style="list-style-type: none"> Compare and contrast perspectives, events, characters, and so on. Analyze and revise format, organization, and internal text structure (signal words, transitions, and semantic cues) of different print and nonprint texts. Distinguish between relevant and irrelevant information and fact and opinion. Locate evidence that supports a perspective and differing perspectives. 	<ul style="list-style-type: none"> Analyze interrelationships among concepts, issues, and problems in a text. Analyze impact or use of author's craft (literary devices, viewpoint, and dialogue) in a single text. Use reasoning and evidence to generate criteria for making and supporting an argument of judgment (for example, "Was FDR a great president?" or "Who was the greatest ball player?"). Support conclusions with evidence. 	<ul style="list-style-type: none"> Analyze multiple sources of evidence, or multiple works by the same author, or work from across genres or time periods. Analyze complex and abstract themes, perspectives, and concepts. Gather, analyze, and organize multiple information sources. Compare and contrast conflicting judgments or policies (such as Supreme Court decisions).
Evaluate Make judgments based on criteria; check and detect inconsistencies or fallacies; judge, and critique.	Unsubstantiated generalizations (UGs) state an opinion without providing any support for it.			
Create Reorganize elements into new patterns and structures, generate, hypothesize, design, plan, and produce.	<ul style="list-style-type: none"> Brainstorm facts, ideas, concepts, problems, or perspectives related to a topic, text, idea, issue, or concept. 	<ul style="list-style-type: none"> Generate conjectures, hypotheses, or predictions based on facts, observations, evidence and experience, or prior knowledge and expertise. Generate believable grounds (reasons) for an opinion or argument. 	<ul style="list-style-type: none"> Evaluate validity and relevance of evidence used to develop an argument or support a perspective. Describe and compare and contrast solution methods. Verify or critique the accuracy, logic, and reasonableness of stated conclusions or assumptions. 	<ul style="list-style-type: none"> Evaluate relevancy, accuracy, and completeness of information across multiple sources. Apply understanding in a novel way and provide an argument or justification for the application. Critique the historical impact (policy, writings, discoveries, and so on).
Create Reorganize elements into new patterns and structures, generate, hypothesize, design, plan, and produce.	<ul style="list-style-type: none"> Brainstorm facts, ideas, concepts, problems, or perspectives related to a topic, text, idea, issue, or concept. 	<ul style="list-style-type: none"> Generate conjectures, hypotheses, or predictions based on facts, observations, evidence and experience, or prior knowledge and expertise. Generate believable grounds (reasons) for an opinion or argument. 	<ul style="list-style-type: none"> Develop a complex model for a given situation or problem. Develop an alternative solution or perspective (such as a debate). 	<ul style="list-style-type: none"> Synthesize information across multiple sources or texts in order to articulate a new voice, alternate theme, new knowledge, or nuanced perspective.

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Tool 4 in Hess's Rigor Matrices

Revised Bloom's Taxonomy	Webb's DOK Level 1 Recall and Reproduction	Webb's DOK Level 2 Skills and Concepts	Webb's DOK Level 3 Strategic Thinking and Reasoning	Webb's DOK Level 4 Extended Thinking
<p>Remember</p> <p>Retrieve knowledge from long-term memory, recognize, recall, locate, and identify.</p>	<ul style="list-style-type: none"> Recall or locate key facts, dates, terms, details, events, or ideas explicit in texts. 	<p>Use these curricular examples with most assignments, assessments, or inquiry activities in social studies, history, civics, geography, economics, or humanities.</p>		
<p>Understand</p> <p>Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion, predict, observe, compare and contrast, match like ideas, explain, and construct models.</p>	<ul style="list-style-type: none"> Select appropriate words or terms when intended meaning is clearly evident. Describe or explain who, what, where, when, or how. Define facts, details, terms, and principles. Locate and identify symbols and what they represent. Raise related questions for possible investigation. 	<ul style="list-style-type: none"> Specify, explain, and illustrate relationships; explain why (cause and effect). Provide and explain examples and nonexamples. Summarize results, concepts, main ideas, and generalizations. Make basic inferences or logical predictions (using data and text). Locate relevant information to support explicit and implicit central ideas. 	<ul style="list-style-type: none"> Explain, generalize, or connect ideas using supporting evidence (quotes, examples, text references, and data). Support inferences about explicit or implicit themes. Describe how word choice, point of view, or bias may affect the reader's or viewer's interpretation. Write a multiparagraph composition or essay for specific purpose, focus, voice, tone, and audience. 	<ul style="list-style-type: none"> Explain how concepts or ideas specifically relate to other content domains or concepts (social, political, historical, and cultural). Apply generalizations to new problem-based situations. Use multiple sources to elaborate on how concepts or ideas specifically draw from other content domains or differing concepts (such as research papers and policy arguments).
<p>Apply</p> <p>Carry out (apply to a familiar task) or use a procedure in a given situation (transfer to an unfamiliar or nonroutine task).</p>	<ul style="list-style-type: none"> Apply basic formats for documenting sources. Apply use of reference materials and tools for gathering information (do key-word searches). 	<ul style="list-style-type: none"> Use context to identify the meaning of words and phrases. Interpret information using text features (diagrams, data tables, captions, and so on). Apply simple organizational structures (such as paragraph outlines). 	<ul style="list-style-type: none"> Investigate to determine how an historical, cultural, or political context may be the source of an underlying theme, central idea, or unresolved issue or crisis. 	<ul style="list-style-type: none"> Integrate or juxtapose multiple contexts drawn from source materials (such as literature, music, historical events, and media) with intent to develop a complex or multimedia product and personal viewpoint.

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<p>Analyze</p> <p>Break into constituent parts, determine how parts relate, differentiate between what is relevant and irrelevant, distinguish, focus, select, organize, outline, find coherence, and deconstruct (such as for bias, point of view, and approach or strategy).</p>	<ul style="list-style-type: none"> Identify causes or effects. Describe processes or tools used to research ideas, artifacts, or images reflecting history, culture, tradition, and so on. Identify ways symbols and metaphors are used to represent universal ideas. Identify specific information given in graphics (such as maps, T-charts, and diagrams) or text features (such as headings, subheadings, and captions). 	<ul style="list-style-type: none"> Compare similarities and differences in processes, methods, and styles due to influences of time period, politics, or culture. Distinguish relevant from irrelevant information, fact from opinion, and primary from secondary sources. Draw inferences about social, historical, and cultural contexts portrayed in literature, arts, film, political cartoons, or primary sources. Explain and categorize events and ideas in the evolution of _____ across time periods. 	<ul style="list-style-type: none"> Analyze information within data sets or a text (such as the interrelationships among concepts, issues, and problems). Analyze an author's viewpoint or potential bias (such as in a political cartoon). Use reasoning, planning, and evidence to support or refute inferences in policy or speech. Use reasoning and evidence to generate criteria for making and supporting an argument of judgment (for example, Was FDR a great president? Is this a fair law?). 	<ul style="list-style-type: none"> Analyze multiple sources of evidence across time periods, themes, and issues. Analyze diverse, complex, and abstract perspectives. Gather, analyze, and organize information from multiple sources. Analyze discourse styles and bias in speeches, legal briefs, and so on, across time or authors. Compare and contrast conflicting judgments or policies (such as Supreme Court decisions).
<p>Evaluate</p> <p>Make judgments based on criteria; check and detect inconsistencies or fallacies; judge, and critique.</p>	<p>Unsubstantiated generalizations (UGs) state an opinion without providing any support for it.</p>			<ul style="list-style-type: none"> Develop a logical argument for conjectures, citing evidence. Verify reasonableness of others' results. Critique conclusions, evidence, and credibility of sources.
<p>Create</p> <p>Reorganize elements into new patterns, structures, or schemas; generate, hypothesize, design, plan; and produce.</p>	<ul style="list-style-type: none"> Brainstorm ideas, concepts, problems, or perspectives related to a topic, principle, or concept. 	<ul style="list-style-type: none"> Generate testable conjectures or hypotheses based on observations, prior knowledge, and artifacts. 	<ul style="list-style-type: none"> Synthesize information within one source or text. Develop a complex model or symbol for given issue. Develop and support an alternative solution. 	<ul style="list-style-type: none"> Synthesize information across multiple sources or texts. Articulate a new voice, alternate theme, new knowledge, or new perspective. Create historical fiction drawing on sources.

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