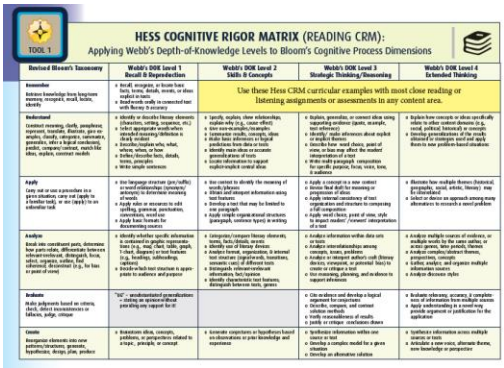
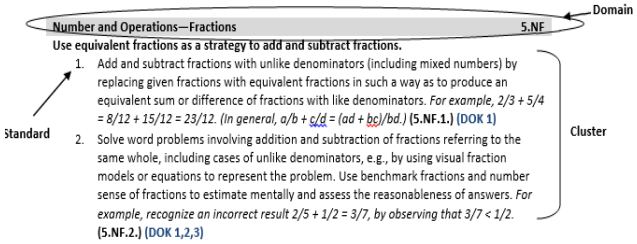
Unpacking Resources

Unpacking Standard Guide

Unpacking Steps	What Step Entails…	Example
Step 1: Choose and Annotate a Standard	Use curriculum or pacing guides (school-based or district generated) to determine what standards are being taught Circle important verbs and underline key terms, and discuss unclear words with colleagues. Annotate to dig into the standards and determine what the standard means.	5.NF.1: *Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators. For example, 2/3+5/4=8/12+15/12=23/12 (In general, a/b +c/d=(ad+bc)/bd)*
Step 2: Determine rigor level of what students need to know, understand, and be able to do to meet/achieve the standard	Refer to the circled and underlined information in Step 1, and get clarity around what the standard is cognitively demanding of students by using the Hess Cognitive Rigor Matrix. The Cognitive Rigor Matrix applies DOK levels to the revised Bloom's taxonomy of six types of thinking The steps are below. **Step 1:** Determine the level of thinking for what students need to know, understand, and be able to do. How deeply do you want students understand the standard and successfully interact with it? How complex is the content? (Webb) **Step 2:** Determine the type of thinking (i.e., verbs) is needed to complete a task? (Bloom) **Step 3:** Find the intersection of the Webb (how deep) and Bloom (type of thinking). 	**Know:** Students need to know how to find a common denominator by finding the product of both denominators in order to add/subtract fractions, how to express fractions in terms of new denominators, and how to simply to get the smallest denominator **(DOK1, Recall)**. **Understand:** Students need to understand that while multiplying denominators it will always give a common denominator, this may not result in the least common denominator **(DOK1, Understand)**. **Do:** Students will need to express both fractions in terms of a new denominator with adding unlike denominators. Students should apply their understanding of equivalent fractions and their ability to rewrite fractions in an equivalent form to find common denominators. **(DOK1, Understand)**.

Step 3: Read the domain heading and clusters to identify connected/ related standards	Identify related standards and begin to make connections among either previously taught or upcoming content *Note: This is critical in scaffolding student learning*	Domain heading: **Number and Operations – Fractions**  This standard is related to 5.NF.2: "solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators…" 5.NF.1 seems to be a precursor to the standard noted above. This standard refers to number sense, which means students' understanding of fractions as numbers that lie between whole numbers on the number lines. Number sense in fractions also includes moving between decimals and factions to find equivalents.
Step 4: List/discuss potential student misconceptions, misunderstandings, or mistakes	Anticipate where students might miss the mark or struggle, which will help with instruction planning (strategy selection and differentiation)	Students might get confused when finding a common denominator by taking the least common multiple of the denominators. They may even then convert all addends to have this common denominator and then add for the solution.
Step 5: Identify Academic and Domain-Specific Language	Determine discipline-specific vocabulary to teach explicitly *Note: This is critical in helping students use "precise" language when engaging in class conversations*	Add , Subtract, Equivalent Fraction, Equivalent Sum, Mixed Number, Denominator
Step 6: Determine how students can demonstrate mastery	Ensure rigor level of the assessment is aligned to the rigor level of what students should know, understand, and do	Problem 1: $5\ {}^{1}/_{8}$ - $\ {}^{14}/_{4}$= Answer: 41/8-28/8=13/8 (Simplified: 1 5/8) Problem 2: 33/7+28/6 Answer: 4 30/32 + 4 28/42= 8 58/42 (simplified: 9 16/42) Problem 3: 5 ¼ + 19/8= Answer: 5 2/8 + 2 3/8=7 5/8a

TOOL 5B

HESS COGNITIVE RIGOR MATRIX (HEALTH & PHYSICAL EDUCATION):

Applying (Hess' Interpretation of) Depth of Knowledge to Porter's Cognitive Demand Categories*

Porter 's Cognitive Demand Categories	DOK Level 1 **Recall & Reproduction** Having the knowledge required; do not need to "figure it out""	DOK Level 2 **Connect or Apply Skills & Concepts** Making connections among skills/concepts or decisions (e.g., about approach, tools)	DOK Level 3 **Strategic Thinking/Abstract Reasoning** Complex & Abstract; Exploring multiple solution paths; Justifying *with evidence*	DOK Level 4 **Extended Thinking** Relating/developing complex ideas using multi-sources *and evidence*
Memorize	o Recall or identify basic facts, terms, definitions, skills, rules, principles, concepts, symbols o Acquire new terms, vocabulary, etc.	Use these Hess CRM Curricular Examples with most assignments, assessments, or learning activities for Health and Physical Education. See also the Hess CRM for Fine Arts with examples for dance.		
Communicate Understanding	o Define terms, principles, concepts o Describe how to perform a routine skill or task o Use words, visuals, or symbols to represent basic ideas, movements, procedures, etc.	o Explain concepts: show or predict relationships (if-then, cause-effect); provide examples - non-examples o Observe and interpret teacher or student demonstrations o Summarize a concept, series of events/ movements, or a result	o Use evidence (data, examples, source, observations) to justify an interpretation of a result or performance o Locate or reproduce supporting evidence for results of effectiveness of a plan (e.g., exercise or diet routine) o Create a personal plan when given criteria	o Share results of comparing different plans (e.g., compare exercise or diet routines) using data and evidence from multiple sources or data sets o Explain how a concept relates across content domains or to "big ideas' (e.g., systems, patterns)
Perform Procedures	o Safely demonstrate or use appropriate tools or equipment o Execute/repeat basic skills or procedures (e.g., follow step-by-step directions or pattern) o Demonstrate a basic skill sequence, movement pattern, etc. with smooth transitions	o Make observations; Collect and record data and observations (e.g., health diary, skills progress) o Select and use appropriate tool or equipment for a given task o Complete routine tasks in a fitness assessment	o Plan, execute, and evaluate multi-step procedures (a dance routine, football play, rules of a new game, etc.) o Test effects and trends of using different activities by observing and collecting data (e.g., exercise or diet routines) o Select & plan how to use a combination of movements to achieve a desired effect	o Design and conduct a performance (e.g., exercise or dance routine) using multiple sources/resources, and/or given constraints (e.g., use of space) o Test effects of different variables on performance (e.g., applied to a new situation)
Apply Concepts/ Make Connections	o Apply rules or score-keeping of a game or simple routine o Apply appropriate content-specific vocabulary/ terms to tasks o Brainstorm ideas, problems, or perspectives related to a situation, scenario, or observation	o Create an infographic or visual to show connections or to summarize key ideas (e.g., cause-effect, heart rate-activity type, warm up-cool down, healthy-unhealthy) o Explain connections among concepts or skills in a given context (e.g., movement or open space concepts, health benefits)	o Revise a plan (self, peer) based on feedback and evidence o Use concepts to explain phenomena or research/medical advances (e.g., use of steroids, drugs, food choices) o Investigate how an event/advancement led to a new perspective or outcome	o Apply and adapt information and concepts to real-world situations o Integrate ideas from multiple sources to extend an idea or solve a problem with an alternative solution o Trace the evolution of (game, drug, etc.) from past to present, citing sources used
Analyze Information	o Identify, describe, match, or name parts in a diagram/visual (e.g., muscle groups or skeletal system) or patterns o Determine which skill, rule, or principle applies to a given situation o Record performance data	o Compare-contrast routines, skill sets, or qualities (e.g., use T-chart, graphic organizer for locomotor-non-locomotor) o Generate questions & make predictions based on observations /information o Classify types of ... (movements, sports, symptoms, examples, etc.)	o Analyze data in order to recognize patterns or draw conclusions based on evidence (e.g., batting averages, areas needing remediation) o Identify faulty arguments, strategies, or misrepresentations of data or media message o Defend the selection of criteria used to critique or develop a performance or product	o Research a topic in-depth, evaluating relevancy, accuracy, & completeness of information from multiple sources/perspectives o Analyze evidence and recommend the most effective course of action for intended purpose (e.g., food, fitness)

*Porter's Cognitive Categories generally align with most HPE national standards/expectations and are intersected with DOK levels in the Hess CRM for HPE.

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TOOL 4

HESS COGNITIVE RIGOR MATRIX (SOCIAL STUDIES/HUMANITIES CRM):

Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions

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	o Recall or locate key facts, dates, terms, details, events, or ideas explicit in texts	Use these Hess CRM curricular examples with most assignments, assessments, or inquiry activities in social studies, history, civics, geography, economics, or humanities.		
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, classify, categorize, summarize, generalize, infer a logical conclusion), predict, observe, compare/ contrast, match like ideas, explain, construct models	o Select appropriate words/terms when intended meaning is clearly evident o Describe/explain who, what, where, when, or how o Define facts, details, terms, principles o Locate/identify symbols that represent… o Raise related questions for possible investigation	o Specify, explain, illustrate relationships; explain why (e.g., cause-effect) o Provide and explain non-examples / examples o Summarize results, concepts, main ideas, generalizations o Make basic inferences or logical predictions (using data / text) o Locate relevant information to support explicit-implicit central ideas	o Explain, generalize, or connect ideas using supporting evidence (quote, example, text reference, data) o Support inferences about explicit or implicit themes o Describe how word choice, point of view, or bias may affect the reader/ viewer interpretation o Write multi-paragraph composition/essay for specific purpose, focus, voice, tone, & audience	o Explain how concepts or ideas specifically relate to other content domains or concepts (social, political, historical, cultural) o Apply generalizations to new problem-based situations o Use multiple sources to elaborate on how concepts or ideas specifically draw from other content domains or differing concepts (e.g., research paper, arguments of policy: should this law be passed? What will be the impact of this change?)
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (transfer) to an unfamiliar or non-routine task	o Apply basic formats for documenting sources o Apply use of reference materials and tools for gathering information (e.g., key word searches)	o Use context to identify the meaning of words/phrases o Interpret information using text features (diagrams, data tables, captions, etc.) o Apply simple organizational structures (paragraph outline)	o Investigate to determine how an historical/cultural/political context may be the source of an underlying theme, central idea, or unresolved issue or crisis	o Integrate or juxtapose multiple (historical, cultural) contexts drawn from source materials (e.g., literature, music, historical events, media) with intent to develop a complex or multimedia product and personal viewpoint
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, approach/strategy used)	o Identify causes or effects o Describe processes or tools used to research ideas, artifacts, or images reflecting history, culture, tradition, etc. o Identify ways symbols and metaphors are used to represent universal ideas o Identify specific information given in graphics (e.g., map, T-chart, diagram) or text features (e.g., heading, subheading, captions)	o Compare similarities/ differences in processes, methods, styles due to influences of time period/politics/culture o Distinguish relevant-irrelevant information, fact/opinion; primary from a secondary source o Draw inferences about social, historical, cultural contexts portrayed in (literature, arts, film, political cartoons, primary sources) o Explain/categorize events/ideas in the evolution of _____ across time periods	o Analyze information within data sets or a text (e.g., interrelationships among concepts, issues, problems) o Analyze an author's viewpoint or potential bias (e.g., political cartoon) o Use reasoning, planning, and evidence to support or refute inferences in policy or speech o Use reasoning and evidence to generate criteria for making and supporting an 'argument of judgment' (e.g., Was FDR a great president? Is this a fair law?)	o Analyze multiple sources of evidence across time periods, themes, issues o Analyze diverse/complex/ abstract perspectives o Gather, analyze, and organize information from multiple sources o Analyze discourse styles/bias in speeches, legal briefs, etc. across time or authors o Compare and contrast conflicting judgments or policies (e.g., Supreme Court decisions)
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique	"UG" – unsubstantiated generalizations = stating an opinion without providing any support for it!		o Develop a logical argument for conjectures, citing evidence o Verify reasonableness of results of others o Critique conclusions drawn/evidence used/credibility of sources	o Evaluate relevancy, accuracy, & completeness of information using multiple sources o Apply understanding in a novel way, provide argument/ justification for the application o Critique the historical impact on policy, writings, advances
Create Reorganize elements into new patterns/structures/ or schemas, generate, hypothesize, design, plan, producee	o Brainstorm ideas, concepts, problems, or perspectives related to a topic , principle, or concept	o Generate testable conjectures or hypotheses based on observations, prior knowledge, and/or artifacts	o Synthesize information within one source or text o Develop a complex model or symbol for given issue o Develop & support an alternative solution	o Synthesize information across multiple sources or texts o Articulate a new voice, alternate theme, new knowledge or new perspective o Create historical fiction drawing on sources

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TOOL 1

HESS COGNITIVE RIGOR MATRIX (READING CRM):

Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions

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	o Recall, recognize, or locate basic facts, terms, details, events, or ideas explicit in texts o Read words orally in connected text with fluency & accuracy	Use these Hess CRM curricular examples with most close reading or listening assignments or assessments in any content area.		
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	o Identify or describe literary elements (characters, setting, sequence, etc.) o Select appropriate words when intended meaning/definition is clearly evident o Describe/explain who, what, where, when, or how o Define/describe facts, details, terms, principles o Write simple sentences	o Specify, explain, show relationships; explain why (e.g., cause-effect) o Give non-examples/examples o Summarize results, concepts, ideas o Make basic inferences or logical predictions from data or texts o Identify main ideas or accurate generalizations of texts o Locate information to support explicit-implicit central ideas	o Explain, generalize, or connect ideas using supporting evidence (quote, example, text reference) o Identify/ make inferences about explicit or implicit themes o Describe how word choice, point of view, or bias may affect the readers' interpretation of a text o Write multi-paragraph composition for specific purpose, focus, voice, tone, & audience	o Explain how concepts or ideas specifically relate to other content domains (e.g., social, political, historical) or concepts o Develop generalizations of the results obtained or strategies used and apply them to new problem-based 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	o Use language structure (pre/suffix) or word relationships (synonym/ antonym) to determine meaning of words o Apply rules or resources to edit spelling, grammar, punctuation, conventions, word use o Apply basic formats for documenting sources	o Use context to identify the meaning of words/phrases o Obtain and interpret information using text features o Develop a text that may be limited to one paragraph o Apply simple organizational structures (paragraph, sentence types) in writing	o Apply a concept in a new context o Revise final draft for meaning or progression of ideas o Apply internal consistency of text organization and structure to composing a full composition o Apply word choice, point of view, style to impact readers' /viewers' interpretation of a text	o Illustrate how multiple themes (historical, geographic, social, artistic, literary) may be interrelated o 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)	o 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) o Decide which text structure is appropriate to audience and purpose	o Categorize/compare literary elements, terms, facts/details, events o Identify use of literary devices o Analyze format, organization, & internal text structure (signal words, transitions, semantic cues) of different texts o Distinguish: relevant-irrelevant information; fact/opinion o Identify characteristic text features; distinguish between texts, genres	o Analyze information within data sets or texts o Analyze interrelationships among concepts, issues, problems o Analyze or interpret author's craft (literary devices, viewpoint, or potential bias) to create or critique a text o Use reasoning, planning, and evidence to support inferences	o Analyze multiple sources of evidence, or multiple works by the same author, or across genres, time periods, themes o Analyze complex/abstract themes, perspectives, concepts o Gather, analyze, and organize multiple information sources o Analyze discourse styles
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique	"UG" – unsubstantiated generalizations = stating an opinion without providing any support for it!		o Cite evidence and develop a logical argument for conjectures o Describe, compare, and contrast solution methods o Verify reasonableness of results o Justify or critique conclusions drawn	o Evaluate relevancy, accuracy, & completeness of information from multiple sources o 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	o Brainstorm ideas, concepts, problems, or perspectives related to a topic , principle, or concept	o Generate conjectures or hypotheses based on observations or prior knowledge and experience	o Synthesize information within one source or text o Develop a complex model for a given situation o Develop an alternative solution	o Synthesize information across multiple sources or texts o Articulate a new voice, alternate theme, new knowledge or perspective

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TOOL 3

HESS COGNITIVE RIGOR MATRIX (WRITING/SPEAKING CRM):

Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions

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	o Complete short answer questions with facts, details, terms, principles, etc. (e.g., label parts of diagram)	Use these Hess CRM curricular examples with most writing and oral communication assignments or assessments in any content area.		
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	o Describe or define facts, details, terms, principles, etc. o Select appropriate word/phrase to use when intended meaning/definition is clearly evident o Write simple complete sentences o Add an appropriate caption to a photo or illustration o Write "fact statements" on a topic (e.g., spiders build webs)	o Specify, explain, show relationships; explain why, cause-effect o Provide and explain non-examples and examples o Take notes; organize ideas/data (e.g., relevance, trends, perspectives) o Summarize results, key concepts, ideas o Explain central ideas or accurate generalizations of texts or topics o Describe steps in a process (e.g., science procedure, how to and why control variables)	o Write a multi-paragraph composition for specific purpose, focus, voice, tone, & audience o Develop and explain opposing perspectives or connect ideas, principles, or concepts using supporting evidence (quote, example, text reference, etc.) o Develop arguments of fact (e.g., Are these criticisms supported by the historical facts? Is this claim or equation true?)	o Use multiple sources to elaborate on how concepts or ideas specifically draw from other content domains or differing concepts (e.g., research paper, arguments of policy – should this law be passed? What will be the impact of this change?) o Develop generalizations about the results obtained or strategies used and apply them to a new problem or contextual scenario
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	o Apply rules or use resources to edit specific spelling, grammar, punctuation, conventions, or word use o Apply basic formats for documenting sources	o Use context to identify/infer the intended meaning of words/phrases o Obtain, interpret, & explain information using text features (table, diagram, etc.) o Develop a (brief) text that may be limited to one paragraph, précis o Apply basic organizational structures (paragraph, sentence types, topic sentence, introduction, etc.) in writing	o Revise final draft for meaning, progression of ideas, or logic chain o Apply internal consistency of text organization and structure to a full composition or oral communication o Apply a concept in a new context o Apply word choice, point of view, style, rhetorical devices to impact readers' interpretation of a text	o Select or devise an approach among many alternatives to research and present a novel problem or issue o Illustrate how multiple themes (historical, geographic, social) may be interrelated within a text or topic
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)	o Decide which text structure is appropriate to audience and purpose (e.g., compare-contrast, proposition-support) o Determine appropriate, relevant key words for conducting an Internet search or researching a topic	o Compare/contrast perspectives, events, characters, etc. o Analyze/revise format, organization, & internal text structure (signal words, transitions, semantic cues) of different print and non-print texts o Distinguish: relevant-irrelevant information; fact/opinion (e.g., What are the characteristics of a hero's journey?) o Locate evidence that supports a perspective/differing perspectives	o Analyze interrelationships among concepts/ issues/problems in a text o Analyze impact or use of author's craft (literary devices, viewpoint, dialogue) in a single text o Use reasoning and evidence to generate criteria for making and supporting an argument of judgment (Was FDR a great president? Who was the greatest ball player?) o Support conclusions with evidence	o Analyze multiple sources of evidence, or multiple works by the same author, or across genres, or time periods o Analyze complex/abstract themes, perspectives, concepts o Gather, analyze, and organize multiple information sources o Compare and contrast conflicting judgments or policies (e.g., Supreme Court decisions)
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique	"UG" – unsubstantiated generalizations = stating an opinion without providing any support for it!		o Evaluate validity and relevance of evidence used to develop an argument or support a perspective o Describe, compare, and contrast solution methods o Verify or critique the accuracy, logic, and reasonableness of stated conclusions or assumptions	o Evaluate relevancy, accuracy, & completeness of information across multiple sources o Apply understanding in a novel way, provide argument or justification for the application o Critique the historical impact (policy, writings, discoveries, etc.)
Create Reorganize elements into new patterns/structures, generate, hypothesize, design, plan, produce	o Brainstorm facts, ideas, concepts, problems, or perspectives related to a topic, text, idea, issue, or concept	o Generate conjectures, hypotheses , or predictions based on facts, observations, evidence/observations, or prior knowledge and experience o Generate believable "grounds" (reasons) for an opinion-argument	o Develop a complex model for a given situation or problem o Develop an alternative solution or perspective to one proposed (e.g., debate)	o 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 5A

HESS COGNITIVE RIGOR MATRIX (FINE ARTS CRM):

Applying (Hess' Interpretation of) DOK to Artistic Practices

Artistic Practice	DOK Level 1 **Recall & Reproduction** Having the knowledge required; do not need to "figure it out"	DOK Level 2 **Connect or Apply Skills & Concepts** Making connections among skills/concepts or decisions (e.g., about approach, tools)	DOK Level 3 **Strategic Thinking/Abstract Reasoning** Complex & Abstract; Exploring multiple solution paths; Justifying *with evidence*	DOK Level 4 **Extended Thinking** Relating/developing complex ideas using multi-sources *and evidence*
Perceiving, Performing, & Responding	o Identify/ describe ways art represents what people see, hear, feel, believe o Recall/ describe a variety of instruments, forms, symbols, rhythms, conventions of music o Describe how artists/ dancers might represent… o Identify/ describe narrative conventions depicted in the arts	o Show relationships between (dance, music, film, etc.) and other arts forms o Make observations or compare similarities/ differences: styles, forms, techniques, etc. o Explain possible reasons for selecting tools, medium, elements, principles, images, etc. o Select a familiar artistic work to perform o Explain the artist's central message	o Analyze/find evidence of how a combination of elements or principles are used to achieve a desired effect or theme o Analyze narrative art work, using supporting evidence to interpret setting, characters, action, conflict, etc. o Develop personal response to or interpretation of a work of art	o Analyze more than one performance or product (same composer, time period, theme, etc.) drawing from multiple source materials for the analyses (e.g., different treatments of same theme) o Perform an "old" idea in a new way
Historical, Social, & Cultural Contexts	o Describe processes used by artists to select/create ideas, images that reflect history, culture, tradition, etc. o Identify ways symbols and metaphors are used to represent universal ideas o Locate symbols that represent… o Identify/ describe characteristics and origins of dance/art/music genres	o Draw inferences about social, historical, or cultural contexts portrayed in art/music/dance/ theatre/film o Explain or compare how different art forms communicate culture, time period, issues o Compare similarities/ differences in processes, methods, styles due to influences of time period/politics/culture o Explain/trace the evolution of arts forms across time periods	o Analyze how historical/cultural context is applied to develop theme in a performance or product o Plan artworks based on historical, social, political, or cultural theme, concept, or representative style o Apply problem solving strategies used among the arts, humanities, and sciences to solve visual "problems"	o Integrate or juxtapose *multiple (historical, cultural) contexts drawn from source materials* (e.g., literature, music, historical events, media) with intent to develop a complex/multifaceted performance or product and personal viewpoint
Creative Expression, Exploration, & Production	o Explore ideas and techniques by manipulating media, materials, tools for different effects (e.g., how color, rhythm, or camera angles create various moods) o Demonstrate a variety of movements, methods, techniques o Locate/compile examples illustrating different approaches (e.g., camera angles; use of white space)	o Select/use tools for specific artistic purposes o Develop a study of _____ by combining elements, aesthetic principles, and/or forms, etc. o Use/apply choreographic forms to communicate ideas, feelings, concepts o Improvise simple rhythmic variations o Create examples or models that represent the same topic, concept, idea, etc.	o Combine elements of (dance, art, music) to create _____ that conveys an intended point of view/specific idea, mood, or theme o Create/compose for a specific purpose, using appropriate processes, tools, techniques o Create narrative art work depicting setting, characters, action, conflict, etc. o Research a given style and develop personal interpretation of it	o Apply *multiple sets of criteria* to develop and present a complex /multifaceted performance or product (e.g., consistent application of awareness of space, physical discipline, concentration, and projection from rehearsals to performance; development of portfolio showing evolution of ideas/personal style)
Aesthetics, Criticism, & Reflection	o Recognize or describe choreographic forms, elements of art or music, principles of design, etc. when presented in isolation o Describe criteria used for executing technical or artistic quality	o Explain ways in which artistic choices (choreographic forms, etc.) might affect performance or audience response o Critique examples and non-examples of a given technique, style, etc.	o Defend the selection of criteria and evidence used to critique the quality or develop a performance or product (e.g., compose a melody, perform improvisation, direct a scene, solve a visual "problem")	o Formulate/ use *multiple sets of criteria* and evidence to critique a complex /multi-faceted performance or final product o Compile and defend exemplars chosen to depict a theme or style

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TOOL 5D

HESS COGNITIVE RIGOR MATRIX | Career & Technical Education (CTE CRM) :

Hess' Interpretation Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions

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 Memorize, recognize, recall, locate, identify	o Recall or locate key facts, terms, details, procedures (e.g., explicit in a technical manual)	Use these Hess CRM curricular examples with most assignments, assessments, or inquiry activities for Career & Technical Education		
Understand Construct meaning, clarify, paraphrase, represent, translate, illustrate, give examples, summarize, generalize, infer a logical conclusion), predict, observe, match like ideas, explain, construct models	o Select correct terms/ graphics for intended meaning o Describe/explain who, what, where, when, or how o Define terms, principles, concepts o Represent relationships with words, diagrams, symbols o Solve routine problems	o Specify and explain relationships (e.g., non-examples/examples; cause-effect; if-then) o Summarize procedures, results, concepts, key ideas (paragraph) o Make and explain estimates, basic inferences, or predictions o Use models to explain concepts o Make and record observations	o Explain, generalize, or connect ideas using supporting evidence (quote, example, text reference, data); o Justify your interpretation when more than one is plausible o Explain how a concept can be used to solve a non-routine problem o Develop a multi-paragraph manual or infographic for specific purpose/focus	o Use multiple sources to outline varying perspectives on a problem or issue o Explain how a concept relates across content domains or to 'big Ideas' (e.g., patterns in the human or designed world; structure-function) o Apply generalizations from one investigation to new problem-based situations, using evidence or data
Apply Carry out or use a procedure in a given situation; carry out (apply to a familiar task), or use (transfer) to an unfamiliar or non-routine task	o Apply basic formulas, algorithms, conversion rules o Calculate; measure o Use reference materials and tools to gather information o Demo safe procedures	o Select and use appropriate tool or procedure for specified task o Use context to identify the meaning of terms/phrases o Interpret information using diagrams, data tables, etc.	o Build or revise a plan for investigation using (new) evidence/data o Use and show reasoning, planning, and evidence to support conclusions or to identify design flaws o Conduct a designed investigation	o Draw from source materials with intent to develop a complex or multimedia product with personal viewpoint o Conduct a project that specifies a problem, identifies solution paths, tests the solution, and reports results
Analyze Break into constituent parts, determine how parts relate, compare-contrast, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct (e.g., for potential bias, point of view, technique/strategy used)	o Identify trend, pattern, possible cause, or effect o Describe processes or tools used to research ideas o Identify ways symbols or metaphors are used to represent universal ideas o Retrieve data to answer a question (e.g., diagram, graph)	o Compare similarities/ differences or draw inferences about _____ due to influences of _____ o Distinguish relevant-irrelevant information; fact/opinion; primary from a secondary source o Extend a pattern o Organize and represent data o Categorize materials, data, etc. based on characteristics	o Interpret information from a complex graph/model (e.g., interrelationships among variables, concepts) o Use reasoning, planning, and evidence to support or refute inferences or results stated o Use reasoning and evidence to generate criteria for making and supporting an argument o Generalize & support a pattern/trend	o Analyze multiple sources of evidence (e.g., compareÐcontrast various plans, solution methods) o Analyze and compare diverse/complex/ abstract perspectives, models, etc. o Gather, organize, and analyze information from multiple sources to answer a research question
Evaluate Make judgments based on specified criteria, detect inconsistencies, flaws, or fallacies, judge, critique	"UG" – unsubstantiated generalizations = stating an opinion without providing any support for it!		o Develop a logical argument for conjectures, citing evidence o Verify reasonableness of results or conjectures (e.g., of others) o Critique conclusions drawn/evidence used/credibility of sources	o Evaluate relevancy, accuracy, & completeness of sources used o Apply understanding in a novel way, provide argument/ justification for the application o Critique the historical impact of _____ on _____
Create Reorganize into new patterns/schemas, design, plan, produce	o Brainstorm ideas, concepts, problems, or perspectives related to a given scenario, observation, question posed	o Generate testable conjectures/hypotheses based on observations, prior knowledge, and/or artifacts	o Develop a complex model for given concept and justify reasoning o Develop an alternative solution and justify reasoning	o Synthesize information across multiple models, sources, or texts o Articulate new knowledge or new perspective

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TOOL 5C

HESS WORLD LANGUAGE COGNITIVE RIGOR MATRIX

World Language Practices & Modes of Communication	DOK Level 1 Recall & Reproduction Having the knowledge required; do not need to "figure it out""	DOK Level 2 Skills & Concepts Making connections among skills/concepts or decisions (e.g., about approach, tools)	DOK Level 3 Strategic Thinking/Reasoning Complex & Abstract; Exploring multiple solution paths; Justifying *with evidence*	DOK Level 4 Extended Thinking Relating/developing complex ideas using multi-sources *and evidence*
Memorize & Recall	o Reproduce/recall/repeat vocabulary, grammar rules, facts, definitions, dictated statements, etc. o Describe cultural conventions o Recite in sequence (e.g., alphabet, counting, songs, rhymes)	Use these World Language CRM curricular examples for designing most language and communication assignments or assessment tasks.		
Interpersonal Communication Understand, Perceive, & Respond	o Understand simple, familiar messages in social settings o Identify everyday objects o Follow simple oral directions or written procedures (recipe, etc.) o Convey simple messages, express feelings (e.g., I'm sad because…) o Ask/answer literal questions after reading, listening, or viewing	o Explain how or why alternative responses may be correct (where do you live?) for different situations o Carry on a short conversation using familiar vocabulary and grammar o Paraphrase/summarize/retell what was said, read, viewed (with cues) o Make logical predictions (e.g., what might happen next…); describe event	o Prepare for an interview or develop survey on topic of interest anticipating audience questions/ possible responses o Initiate & extend a conversation about an unfamiliar topic, appropriately using language mechanics/tense throughout o Create a theme-based photo essay o Justify interpretation of purpose or tone (in media message, photo essay, etc.)	o Carry on an extended conversation responding appropriately to multiple speakers (e.g., using multiple tenses, asking and answering, elaborating on ideas, raising questions) o Deepen knowledge of a topic using multiple (oral, visual, textual) sources for an informational communication (e.g., "by the numbers" infographic)
Interpret & Apply	o Match vocabulary (e.g., picture-word; synonyms); locate details o Apply a spelling or grammar rule (e.g., conjugate a verb, make plural) o Use resources to translate literally o Use nouns/verbs in familiar contexts	o Infer and explain meaning using context, cognates, or structure in a familiar situation o Translate to identify use of non-literal/ figurative/idiomatic language o Sequence events for given text/visual	o Explain inferences or colloquial expressions using supporting evidence o Interpret symbolic/abstract meaning (from music, video, reading, art, etc.) o Interpret idiomatic/ figurative language in context (poem, song lyric, media, etc.)	o Make and justify conclusions based on 2+ ads for the same product or two political cartoons about the same event or person o Write/draw/perform in the style of a known author/artist/cartoonist
Compare, Analyze, Critique/ Evaluate, & Reflect	o Edit a sentence/phrase o Select appropriate word/phrase for intended meaning o Answer what/when/where questions using a source (map, calendar, schedule, visual, photo) o Connect words/phrases between languages (origins, meanings, etc.)	o Categorize/ compare (objects, foods, tools, people, etc.) using oral/physical/textual stimuli o Self-correct when speaking or reading o Evaluate message or cultural nuances (e.g., gestures, language) using listening and observational skills	o Evaluate & correct inaccuracy of a message - print or non-print text (e.g., facts, sequence, cultural nuances) o Support an opinion/argument/disagreement with evidence, reasoning o Determine if source can/cannot answer specific questions & why (e.g., websites)	o Critique authentic literature/arts/ historical events from multiple sources: authors/ perspectives/time periods o Evaluate relevancy, accuracy, & completeness of information o Keep a journal and use it to reflect on/ evaluate personal progress
Presentational Communication Produce or Create	o Represent vocabulary/common phrases in pictures, symbols, visuals, gestures, pantomime o Brainstorm related words, ideas, images, possible responses o Label information on a diagram, map, visual o Tell/select phrases as thumbnail sketch for a narrative text/ story line	o Perform a memorized dialog o Choose which tense to use in a less familiar context o Create an ABC book connecting entries by central /organizing topic (e.g., animals, foods) o Create text messages or description (narration/voice over) for a visual stimuli or "muted" video scene o Make/label a timeline of key events	o Develop a vocabulary-based game to teach about geography, culture, etc. o Develop a new scene/ending, consistent with the original text o Create or perform a dialog based on visual stimuli or a current or cultural event (integrating academic vocabulary) o Co-plan website/event highlighting target culture (foods, traditions, places to visit)	o Produce an 'old' idea in a new way (e.g., multi-media, podcast) o Integrate ideas from several sources o Research a topic with evidence pro-con for debate/ essay/cartoon o Research and present performance/ presentation using multiple sources o Design a themeÐbased café, including the menu, location/décor and develop an ad for targeted clientele

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TOOL 2

HESS COGNITIVE RIGOR MATRIX (MATH-SCIENCE CRM):

Applying Webb's Depth-of-Knowledge Levels to Bloom's Cognitive Process Dimensions

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	o Recall, observe, & recognize facts, principles, properties o Recall/ identify conversions among representations or numbers (e.g., customary and metric measures)	Use these Hess CRM curricular examples with most mathematics or science assignments or assessments.		
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	o Evaluate an expression o Locate points on a grid or number on number line o Solve a one-step problem o Represent math relationships in words, pictures, or symbols o Read, write, compare decimals in scientific notation	o Specify and explain relationships (e.g., non-examples/examples; cause-effect) o Make and record observations o Explain steps followed o Summarize results or concepts o Make basic inferences or logical predictions from data/observations o Use models /diagrams to represent or explain mathematical concepts o Make and explain estimates	o Use concepts to solve non-routine problems o Explain, generalize, or connect ideas using supporting evidence o Make and justify conjectures o Explain thinking/reasoning when more than one solution or approach is possible o Explain phenomena in terms of concepts	o Relate mathematical or scientific concepts to other content areas, other domains, or other concepts o Develop generalizations of the results obtained and the strategies used (from investigation or readings) 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	o Follow simple procedures (recipe-type directions) o Calculate, measure, apply a rule (e.g., rounding) o Apply algorithm or formula (e.g., area, perimeter) o Solve linear equations o Make conversions among representations or numbers, or within and between customary and metric measures	o Select a procedure according to criteria and perform it o Solve routine problem applying multiple concepts or decision points o Retrieve information from a table, graph, or figure and use it solve a problem requiring multiple steps o Translate between tables, graphs, words, and symbolic notations (e.g., graph data from a table) o Construct models given criteria	o Design investigation for a specific purpose or research question o Conduct a designed investigation o Use concepts to solve non-routine problems o Use & show reasoning, planning, and evidence o Translate between problem & symbolic notation when not a direct translation	o Select or devise approach among many alternatives to solve a problem o Conduct a project that specifies a problem, identifies solution paths, solves the problem, and reports results
Analyze Break into constituent parts, determine how parts relate, differentiate between relevant-irrelevant, distinguish, focus, select, organize, outline, find coherence, deconstruct	o Retrieve information from a table or graph to answer a question o Identify whether specific information is contained in graphic representations (e.g., table, graph, T-chart, diagram) o Identify a pattern/trend	o Categorize, classify materials, data, figures based on characteristics o Organize or order data o Compare/ contrast figures or data o Select appropriate graph and organize & display data o Interpret data from a simple graph o Extend a pattern	o Compare information within or across data sets or texts o Analyze and draw conclusions from data, citing evidence o Generalize a pattern o Interpret data from complex graph o Analyze similarities/differences between procedures or solutions	o Analyze multiple sources of evidence o Analyze complex/abstract themes o Gather, analyze, and evaluate information
Evaluate Make judgments based on criteria, check, detect inconsistencies or fallacies, judge, critique	"UG" – unsubstantiated generalizations = stating an opinion without providing any support for it!		o Cite evidence and develop a logical argument for concepts or solutions o Describe, compare, and contrast solution methods o Verify reasonableness of results	o Gather, analyze, & evaluate information to draw conclusions o 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	o Brainstorm ideas, concepts, or perspectives related to a topic	o Generate conjectures or hypotheses based on observations or prior knowledge and experience	o Synthesize information within one data set, source, or text o Formulate an original problem given a situation o Develop a scientific/mathematical model for a complex situation	o Synthesize information across multiple sources or texts o Design a mathematical model to inform and solve a practical or abstract situation

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RCSS Lesson Planning Template Descriptions

Grade Level/Course	Unit #, Day #
Standard(s)	The language of the standard(s)/elements is explained and used during the opening. Teachers and students insert phrase or synonym beside key words in the standard/elements that are not readily understood by students.
Learning Target(s)	"I can" statements aligned to the standards/elements are established.
Essential Question(s)	List the essential question(s) for this lesson. Be sure that the EQ is aligned to the standard.
Key Vocabulary	List the language of the standards and content vocabulary. During the lesson, when applicable… • The six-step process for teaching vocabulary can be articulated by teachers, and appropriate steps are demonstrated when teaching new vocabulary. (Marzano) • Students can explain ways new vocabulary words are routinely taught and can show practice of vocabulary in notebooks through thinking maps, drawings, context etc. • Students can explain words from the word wall and use them accurately in context.
Writing Connection	Identify how the students are communicating their level of understanding of the standard through writing/responding to the standard.
Technology Connection	Identify innovative technology integrated strategies and/or websites that are integrated in the lesson.

Content Specific Strategies
English Language Arts – Consider text complexity and background knowledge **Mathematics –** Identify spiral review activity (EXAMPLE: Number Talks, Number Routine Activity) and common misconceptions. **Science** – Consider 3 D learning, phenomenon **Social Studies** – Consider SWIRL elements See SAMPLE lesson plan template for specific examples.

Opening- Engage	
Mini Lesson	**Launch/Hook**
Materials Needed: List materials here.	What is your activating strategy? How will you engage learners? Include real-world connection. Reference to the standard/learning target/EQ.
	Lesson
	Students and teachers collaboratively develop rubrics for a project/ assignment as new elements are taught. Students can explain the daily routine that occurs during an opening. Students can explain the real-life application of the lesson.

	Note: An assessment system is in place to determine each student's understanding during the opening. Examples: Numbered Heads Together, selecting random Popsicle sticks, technology responders, Thinking Maps, informal conferencing, etc. (Note that calling on students who raise their hands cannot be considered an effective formative assessment system for the class.)
Work Session – Explore, Explain, and Elaborate	
Materials Needed: List materials here.	Assignments aligned to the specific verbs and concepts of standards/elements Group roles or expectations Students are allowed time to problem solve and apply information learned during the opening. Students are routinely provided the opportunity to work independently, with partners and in small groups. Formative assessments are used to alter instruction and differentiation of tasks. Instructional small group sessions are a part of the work session for students who need additional support to master specific standard(s). Students can explain the task(s) to be done during the work session.
Closing – Evaluate	
Materials Needed: List materials here.	Norms and protocols for closings are developed collaboratively by the teacher and students. Students respond to classmates who present their work by asking clarifying questions and providing affirmation using the language of the standards/elements Teachers or students clarify misconceptions in closing presentations and answer questions raised during the closing

Lesson Planning Template

Grade Level/Course	**Unit #, Day #**
Standard(s)	
Learning Target(s)	
Essential Question(s)	
Key Vocabulary	
Writing Connection	
Technology Connection	
Content Specific Strategies	
Opening- Engage	
Mini Lesson	**Launch/Hook**
Materials Needed:	
	Lesson
Work Session – Explore, Explain, and Elaborate	
Materials Needed:	
Closing – Evaluate	
Materials Needed:	

Corrective Instruction

RCSS Corrective Instruction Framework

Guiding Questions

ASSESS

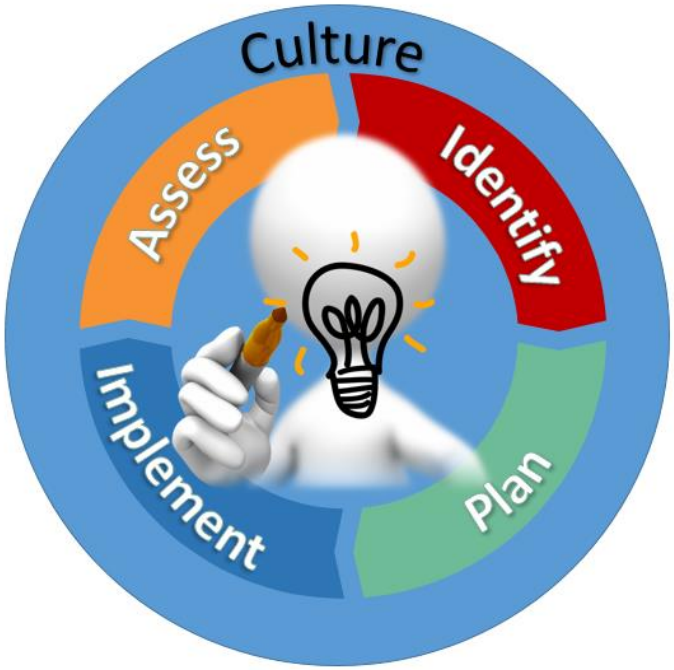
How will the skill/ standard be reassessed to check for mastery?

IMPLEMENT CORRECTIVE INSTRUCTION LESSON

Whole Group: What data supports the non-differentiation?

Small Group: Which students need a deeper level of support then whole group?

Individual: Which students need an individual level of support to reach proficiency?



IDENTIFY MISCONCEPTION

What is the misconception? (Identify standard or skill)

What data supports this conclusion?

PLAN CORRECTIVE INSTRUCTION LESSON

What high impact strategies will be used to ensure the misconception is addressed?

What opportunities will students be given for adequate practice of the standard / skill?

Activity

1. Revisit your unpacked standard.
2. List the common misconceptions, misunderstandings, or mistakes?

3. List two or three DIFFERENT strategies to address the common misconceptions, misunderstandings,
or mistakes.

Types of Corrective Instruction Activities

Many teachers find it useful to organize corrective activities into three groups: those to be done with the teacher, those to be done with a friend, and those to be done by oneself. These are a few corrective activities that many teachers find to be effective:

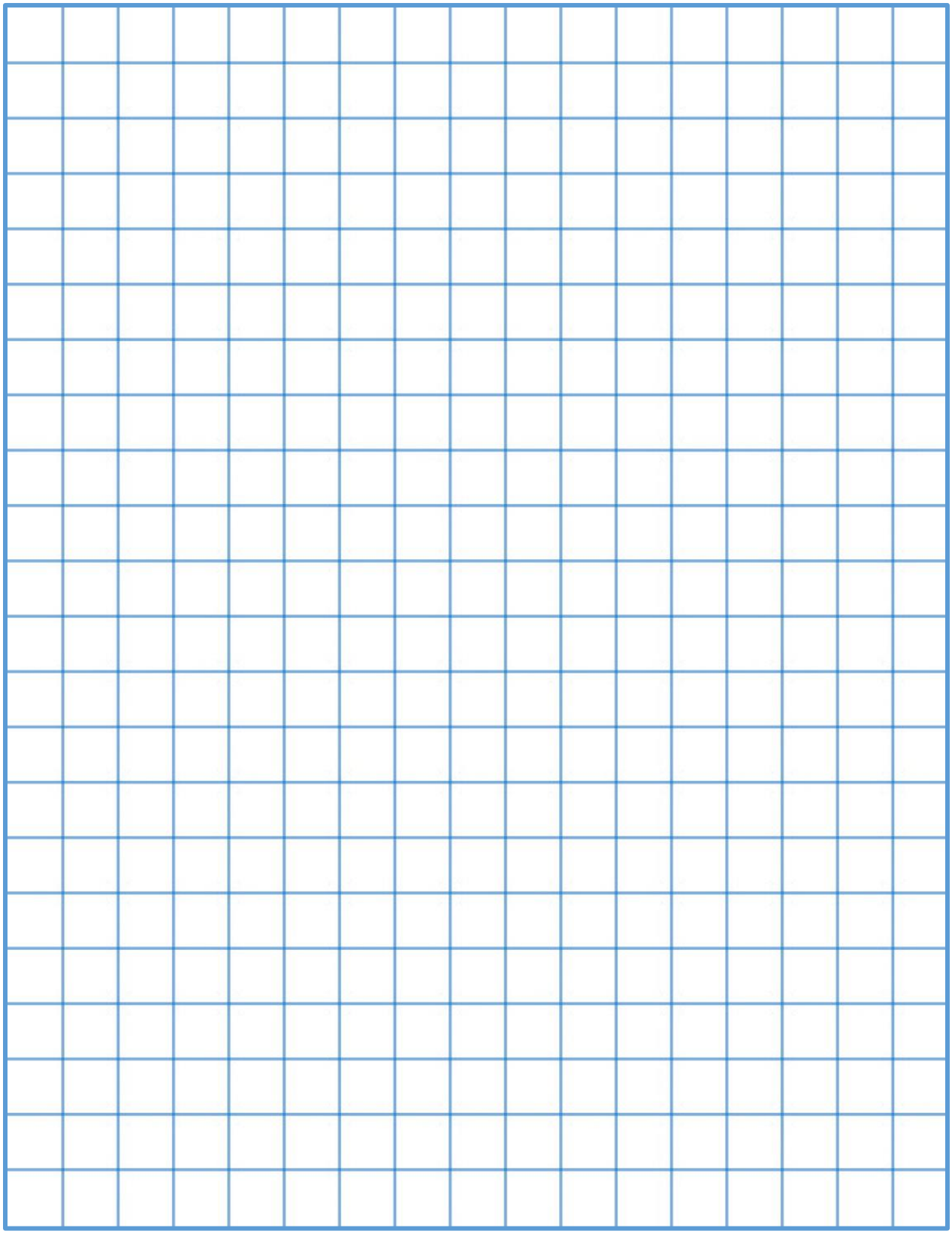
Corrective Activity	With the Teacher	With a Peer	By Oneself
Small Group/Explicit Instruction The teacher explains difficult concepts again using a different approach/presentation and level of engagement.	X		
Cooperative Teams Heterogeneous groups (3-5 students) discuss learning gaps. Any concept missed by 1 or more students is explained by another team member who understands it.		X	
Academic Games Students work together to solve a particular problem or accomplish a task that relates to specific learning goals.	X	X	X
Learning Centers/Laboratories Students get help on specific learning problems, usually engaged in hands-on and manipulative tasks		X	X
Computer Activities Activities that require technology (e.g., interactive videos, online resources, tutorial programs).		X	X

Modified from Guskey December 2007/January 2008

Classroom Setup

Teacher as a Designer...

- What is your design style?
- How will you arrange your room to promote collaboration (i.e. student desks)?
- Where will your learning centers (i.e. computers and classroom libraries) be located?
- Where will your teacher station be located?
- Are your instructional resources organized and easily accessible to the students?
- Are your bulletin boards aligned to the standards?
- Where will you display your anchor charts, exemplars, standards, learning targets, etc. in your classroom so they are easily visible for your students to reference?



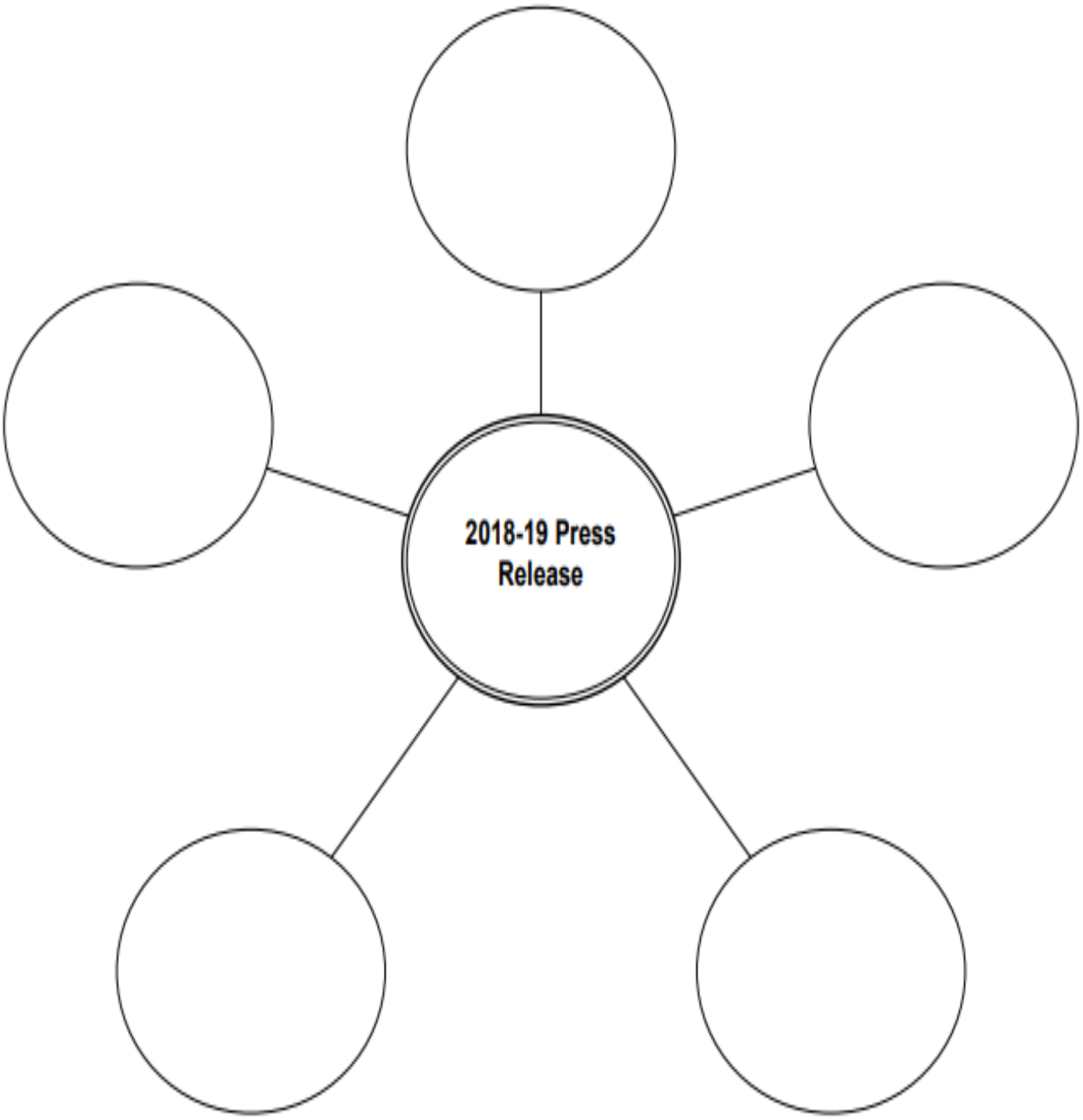
Teacher as a Communicator

How will you communicate your….

- vision for the class to your students and parents?
- classroom expectations with the students and parents?
- grading policy and assignments to students and parents?
- students' progress with students and parents?
- classroom expectations with the parents?

- How often will you communicate with your parents?
  - Weekly, Bi-Weekly, Monthly
- What information will you share with your parents?
  - iReady Reports, Weekly Progress Reports, Conduct, etc.
- What form of communication will you use to communicate with students and parents?
  - Email, Phone call, Written Message, Edmodo, Class Dojo, etc.

Planning Your Press Release



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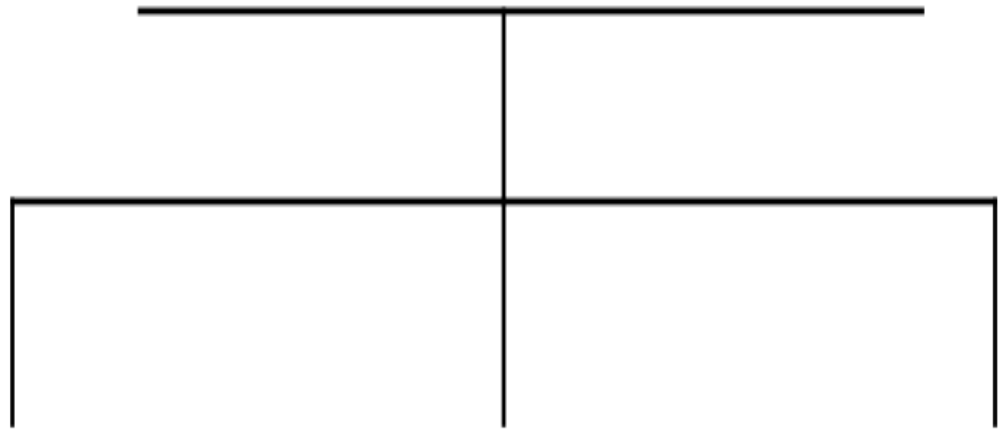
Teacher as a Manager...

- Are your rules mean or necessary?
- Which rules and routines do you want your students to know?
- Will your students have input?
- Which rituals will maximize learning?
- How will you teach your rituals and routines? How often?
- How will you re-establish order in your classroom?
- Where will you post your expectations?
- What will be your system of consequences?

Tree Map



Teacher as a Cheerleader...

- How will you celebrate your students' successes?
- How will you motivate your students?
- How will you promote perseverance?
- How will you actively engage your students?