Applying Webb's Depth-of-Knowledge (DOK) Levels in Reading
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According to Norman L. Webb ("Depth-of-Knowledge Levels for Four Content Areas," March 28, 2002), interpreting and assigning depth-of-knowledge levels to both objectives within standards and assessment items is an essential requirement of alignment analysis. Four levels of Depth of Knowledge are used for this analysis.

A general definition for each of the four (Webb) Depth-of-Knowledge levels is followed by Table 1, which provides further specification and examples for each of the DOK levels. Webb recommends that large-scale, on-demand assessments in reading should only assess Depth-of-Knowledge Levels 1, 2, and 3. Depth-of-Knowledge at Level 4 in reading should be reserved for local assessment only.

Table 2 provides examples of DOK "ceilings" (the highest level of cognitive demand for large-scale assessment) using one state's reading grade level expectations.

Descriptors of DOK Levels for Reading (based on Webb and Wixson, March 2002 and Webb, *Technical Issues in Large-Scale Assessment*, report published by CCSSO, December 2002)

Level 1 requires students to use simple skills or abilities to recall or locate facts from the text. The focus is on basic initial comprehension, not on analysis or interpretation. Items require only a shallow/literal understanding of text presented and often consist of verbatim recall from text, or simple understanding of a single word or phrase.

Level 2 requires both initial comprehension and subsequent processing of text or portions of text. Important concepts are covered, but not in a complex way. GLEs/items at this level may include words such as paraphrase, summarize, interpret, infer, classify, organize, collect, display, compare, and determine whether fact or opinion. Literal main ideas are stressed. Items may require students to apply skills and concepts that are covered in Level 1.

Level 3 requires deep knowledge. Students are encouraged to go beyond the text and are asked to explain, generalize, or connect ideas. Students must be able to support their thinking, citing references from the text or other sources. Items may involve abstract theme identification, inferences between or across passages, students' application of prior knowledge, or text support for an analytical judgment made about a text.

Level 4 requires complex reasoning, planning, developing, and thinking most likely over an extended period of time, such as comparing multiple works by the same author or from the same time period. The extended time period is not a distinguishing factor if the required work is only repetitive and doesn't require applying a significant conceptual understanding and higher-order thinking. Level 4 assessments should be done only at the local level.

Table 1: Sample Depth-of-Knowledge Level Descriptors for Reading
(Based on Webb and Wixson, K. Hess, Center for Assessment/NCIEA, 2004)

Level 1 Recall of Information	Level 2 Basic Reasoning	Level 3 Complex Reasoning	Level 4 Extended Reasoning
a. Read words orally in isolation b. Read words orally in connected text c. Read multi-syllabic words d. Locate or recall facts or details explicitly presented in text e. Identify or describe characters, setting, sequence of events f. Use language structure (pre/suffix) or word relationships (synonym/antonym) to determine meaning of words g. Select appropriate words to use in context (e.g., content-specific words, shades of meaning) when intended meaning is clearly evident	a. Use context cues or resources to identify the meaning of unfamiliar words b. Predict a logical outcome based on information in a reading selection c. Make basic inferences or draw basic conclusions about information presented in text (e.g., According to this report, what caused ___?) d. Recognizing appropriate generalizations about text (e.g., possible titles, main ideas) e. Identify and summarize the major events, problem, solution, conflicts in a literary text f. Determine whether a text is fact or fiction g. Distinguish between fact and opinion h. Describe the characteristics or features of various types of text i. Obtain information using text features of informational text (e.g., Table of Contents, sidebar, chart) j. Organize information presented in informational text using mapping, charting, or summarizing k. Locate information to answer questions related to explicit or implicit central ideas in informational texts l. Identify use of literary devices (e.g., imagery, idioms, exaggeration, alliteration, etc.)	a. Explain, generalize, or connect ideas, using supporting evidence from the text or from other sources b. Draw inferences about author's purpose, author's message or theme (explicit or implied) c. Make and support inferences about implied causes and effects d. Describe how word choice, point of view, or bias affects the interpretation of a reading selection e. Summarize or compare information within and across text passages f. Analyze interrelationships among elements of the text (plot, subplots, characters, setting) g. Analyze or interpret use of author's craft (literary devices) to analyze or critique a literary text	a. Compare or analyze multiple works by the same author, including author's craft b. Compare or analyze multiple works from the same time period or from the same genre c. Gather, analyze, organize, and interpret information from multiple (print and non print) sources for the purpose of drafting a reasoned report d. Evaluate the relevancy and accuracy of information from multiple (print and non print) sources (e.g., verifying factual information or assertions with other sources; researching the source of information)

Depth-of-Knowledge as a "Ceiling" NOT as a "Target"
An important aspect of the NECAP assessment design is to use the highest Depth-of-Knowledge (DOK) demand implicit in a GLE as the "ceiling" for assessment, not the "target." Table 2 provides three examples of Vermont Reading GLEs with different "ceilings," that is, the highest DOK Level at which a GLE should be assessed. When considering the highest DOK Level as the ceiling not the target, the GLE has the potential to be assessed at Depth-of-Knowledge Levels at the ceiling, and up to the ceiling, depending upon the demand of the GLE. Table 2 also indicates the other DOK levels at which the GLE could be assessed.

Table 2   Examples of GLEs and Depth of Knowledge for Assessment Purposes

One state's Reading GLEs	GLE Ceiling	Potential DOK Levels for Assessment
GLE-R3: Applies word identification/ decoding strategies by … R3: 3b Identifying multi-syllabic words (e.g., "pretending," "discussion"), by using knowledge of sounds, syllable types, or word patterns (including prefixes, suffixes, or variant spellings for consonants or vowels, e.g., b<u>ough</u>t)	1	1 (Knowledge of sounds, syllable types, word patterns)
GLE-R5: Students identify the meaning of unfamiliar words by… **R5: 5a** Using strategies to unlock meaning (e.g., knowledge of word structure, including prefixes/suffixes and base words; or context clues; or other resources, such as dictionaries or glossaries; or prior knowledge) (Assumes increasing and grade-appropriate text complexity)	2	1 (Knowledge of word structure) 2 (Use of context clues and resources, such as dictionaries to unlock meaning)
GLE-R13: Analyze and interpret elements of literary texts, citing evidence where appropriate by… R5: 13a Making logical predictions R5: 13b Describing characters' physical characteristics, personality traits, or interactions; or providing examples of thoughts, words, or actions that reveal characters' personality traits or their changes over time R5: 13c Making inferences about problem, conflict, solution, or the relationship among elements (plot, character, setting) within text (e.g., how setting affects a character or plot development) R5: 13d Identifying author's message or theme (implied or stated, as in a fable) (Assumes increasing and grade-appropriate text complexity)	3	1 (Describing characters' physical characteristics, thoughts, words, or actions) 2 (Predicting a Logical outcome; identifying author's message or theme) 3 (Making inferences about problem, solution, or conflicts; using supporting evidence from text)

Why is this distinction between "ceiling" and "target" important?
If assessed only at the "target," all GLEs with a Level 3 as their highest demand would only be assessed at Level 3. This would potentially have two negative impacts on the assessment: 1) The assessment as a whole could be too difficult; and 2) important information about student learning along the achievement continuum would be lost.