Introduction to Depth of Knowledge (DOK) - Based on Norman Webb’s Model
(Karin Hess, Center for Assessment/NCIEA, 2005)

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 Depth of Knowledge (DOK) levels were developed by Norman Webb as an alignment method to examine the consistency between the cognitive demands of standards and the cognitive demands of assessments.

Writing DOK Levels

In language arts, four DOK levels were developed by Norman Webb as an alignment method to examine the consistency between the cognitive demands of standards and the cognitive demands of assessments. The DOK writing levels discussed below are based on Valencia and Wixson (2000, pp.909-935).

Recall or Reproduction—Depth of Knowledge (DOK) Level 1
Recall and Reproduction requires the student to write or recite simple facts. This writing or recitation does not include synthesis or analysis, but basic facts. Some examples that represent, but do not constitute all of, Level 1 performance are:
- Listing/generating ideas or words prior to developing written composition
- Writing simple sentences
- Using punctuation marks and capitalization correctly in writing and editing
- Identifying misspelled words in a written passage

Skills and Concepts/Basic Reasoning—Depth of Knowledge (DOK) Level 2
This requires some mental processing, such as beginning to connect ideas using a simple organizational structure. At this level, students are engaged in first draft writing for a limited number of purposes and audiences. Students are beginning to connect ideas using a simple organizational structure. A Level 2 assessment item may require students to apply skills and concepts that are covered in Level 1. Some examples that represent, but do not constitute all of, Level 2 performance are:
• Note-taking or outlining as a means of organizing ideas for writing
• Developing text which may be limited to one paragraph
• Constructing a variety of sentence types
• Editing final drafts of compositions for mechanics and conventions

**Strategic Thinking/Complex Reasoning—Depth of Knowledge (DOK) Level 3**
This requires some higher level mental processing. Students are developing multi-paragraph compositions that may include complex sentence structures or demonstrate some synthesis and analysis. Some examples that represent, but do not constitute all of, Level 3 performance are:

• Developing compositions that include multiple paragraphs
• Using complex or varied sentence structures written compositions
• Showing awareness of audience and purpose through focus, organization, voice/tone
• Editing and revising to improve the quality of the composition

**Extended Thinking/Reasoning—Depth of Knowledge (DOK) Level 4**
Higher-order thinking is central and knowledge is deep at Level 4. The standard or assessment item at this level will probably be an extended activity, with extended time provided for completing it. The extended time period is not a distinguishing factor if the required work is only repetitive and does not require the application of significant conceptual understanding and higher order thinking. This level includes multi-paragraph compositions that demonstrate synthesis and analysis of complex ideas or themes and evidence of a deep awareness of purpose and audience. Some examples that represent, but do not constitute all of, Level 4 performance are:

• Demonstrating evidence of a deep awareness of purpose and intended audience
• Creating compositions that demonstrate a distinct voice and that stimulate the reader or listener to consider new perspectives on the addressed ideas or themes
• Writing an analysis of two selections, identifying the common theme and generating a purpose that is appropriate for both
### Table 1: Depth-of-Knowledge Level Descriptors for Writing from CCA Version 4.1

*(Adapted from Karin Hess, Center for Assessment/NCIEA by the Kentucky Department of Education, 2005)*

<table>
<thead>
<tr>
<th>Recall and Reproduction (DOK 1)</th>
<th>Concepts and Skills/Basic Reasoning (DOK 2)</th>
<th>Strategic Thinking/Complex Reasoning (DOK 3)</th>
<th>Extended Thinking/Reasoning (DOK 4)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Writing Process</strong></td>
<td><strong>Writing Conventions</strong></td>
<td><strong>Writing Structure</strong></td>
<td><strong>Writing Content</strong></td>
</tr>
<tr>
<td><strong>Editing Skills</strong> (Conventions and Mechanics)</td>
<td>Language Students will exemplify effective language choices by • applying correct grammar and usage. • applying concise use of language. • incorporating strong verbs, precise nouns, concrete details, and sensory details. • applying language appropriate to the content, purpose, and audience.</td>
<td>Organization Students will create unity and coherence to accomplish the focused purpose by • engaging the audience. • establishing a context for reading when appropriate. • communicating ideas and support in a meaningful order. • applying transitions and transitional elements to guide the reader through the piece. • developing effective closure.</td>
<td>Purpose and Audience Students will establish and maintain a focused purpose to communicate with an authentic audience by • narrowing the topic to create a specific purpose for writing. • establishing a controlling idea, theme or thesis about the topic • choosing a perspective authentic to the writer. • analyzing and addressing the needs of the intended audience. • adhering to the characteristics of the form. • applying a suitable tone. • allowing voice to emerge when appropriate.</td>
</tr>
<tr>
<td><strong>Language Usage</strong> Students will apply knowledge of subject/verb agreement with both singular and plural subjects.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Correctness</strong> Students will communicate clearly by • applying correct spelling. • applying correct punctuation. • applying correct capitalization. • incorporating acceptable departure from standard correctness to enhance meaning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Sentence Structure</strong> Students will create effective sentences by • applying a</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Idea</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 1: Depth-of-Knowledge Level Descriptors for Writing from CCA Version 4.1

<table>
<thead>
<tr>
<th>forms of adjectives and adverbs.</th>
<th>when appropriate.</th>
<th>variety of structures and lengths.</th>
<th>Development/Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will apply knowledge of special problems in usage (a/an, to/two/ too, their/ there/ they’re), pronoun references, and double negatives.</td>
<td>• incorporating appropriate documentation of ideas and information from outside sources.</td>
<td>• developing complete and correct sentences unless using unconventional structures for an intentional effect when appropriate.</td>
<td>Students will support main ideas and deepen the audience’s understanding of purpose by</td>
</tr>
<tr>
<td><strong>Writing Process</strong></td>
<td></td>
<td></td>
<td>• developing logical, justified, and suitable explanations.</td>
</tr>
<tr>
<td><strong>Revising Skills</strong> (Content and Ideas)</td>
<td></td>
<td></td>
<td>• providing relevant elaboration.</td>
</tr>
<tr>
<td>Students will reflect to determine where to add, delete, rearrange, define/redefine, or elaborate content when revising.</td>
<td></td>
<td></td>
<td>• explaining related connections or reflections.</td>
</tr>
<tr>
<td>Students will consider voice, tone, style, intended audience, coherence, and transitions when revising.</td>
<td></td>
<td></td>
<td>• applying idea development strategies appropriate to the form.</td>
</tr>
<tr>
<td>Students will consider effectiveness of language usage and sentences to communicate ideas when revising.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Spelling</strong></td>
<td><strong>Idea Development</strong></td>
<td><strong>Development/Support</strong></td>
<td></td>
</tr>
<tr>
<td>Students will apply knowledge of spelling patterns, generalizations, and rules to commonly used</td>
<td>Students will identify and compose a topic sentence of a paragraph.</td>
<td>Students will support main ideas and deepen the audience’s understanding of purpose by</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Students will select appropriate supporting</td>
<td></td>
<td>• developing logical, justified, and suitable explanations.</td>
</tr>
<tr>
<td></td>
<td>when appropriate.</td>
<td></td>
<td>• providing relevant elaboration.</td>
</tr>
<tr>
<td></td>
<td>• incorporating appropriate documentation of ideas and information from outside sources.</td>
<td></td>
<td>• explaining related connections or reflections.</td>
</tr>
<tr>
<td></td>
<td>• developing complete and correct sentences unless using unconventional structures for an intentional effect when appropriate.</td>
<td></td>
<td>• applying idea development strategies appropriate to the form.</td>
</tr>
</tbody>
</table>

- incorporating appropriate documentation of ideas and information from outside sources.
- developing complete and correct sentences unless using unconventional structures for an intentional effect when appropriate.
### Table 1: Depth-of-Knowledge Level Descriptors for Writing from CCA Version 4.1

<table>
<thead>
<tr>
<th></th>
<th>words.</th>
<th>details.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Students will</strong></td>
<td><strong>apply knowledge of spelling patterns, generalizations, and rules to plural forms of words.</strong></td>
<td><strong>Students will identify extraneous/irrelevant material.</strong></td>
<td></td>
</tr>
</tbody>
</table>
|                | **Students will apply knowledge of spelling patterns, generalizations, and rules to contractions.** | **Organization**  
Students will correct sentences that are out of chronological/sequential order or insert new sentences in the correct chronological/sequential position. |                                                                 |
|                | **Students will apply knowledge of spelling patterns, generalizations, and rules to change verb endings.** | Students will identify the most effective transitions.  
Students will develop effective introductions and closures for writing. |                                                                 |
| **Capitalization** | Students will capitalize proper nouns, days, months. |                                                                 |                                                                 |
|                | **Students will capitalize beginning of sentences.** |                                                                 |                                                                 |
|                | **Students will capitalize the** |                                                                 |                                                                 |
| **Word Choice** | Students will eliminate redundant words and phrases. |                                                                 |                                                                 |
|                | Students will choose the most specific word for use in a sentence. |                                                                 |                                                                 |
| **Writing Process** | **Editing**  
(Conventions and Mechanics) |                                                                 |                                                                 |
| **Sentence Structure** | Students will combine short choppy sentences effectively. |                                                                 |                                                                 |
|                | Students will combine |                                                                 |                                                                 |
Table 1: Depth-of-Knowledge Level Descriptors for Writing from CCA Version 4.1

<p>| pronoun “I”. Students will capitalize proper adjectives. Students will capitalize first word in a quote when appropriate. Students will capitalize words in a title. <strong>Punctuation</strong> Students will punctuate declarative, exclamatory, interrogative, and imperative sentences. Students will use commas in a series, a date, a compound sentence, and the greeting and closing of a letter. Students will use beginning and ending quotation marks in dialogue. | simple sentences by using subordination and coordination. Students will correct sentences with misplaced/and or dangling modifiers. |  |</p>
<table>
<thead>
<tr>
<th>Description</th>
<th>Knowledge Level Descriptors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will correctly apply the rules of punctuation for commas in appositives, direct address, and introductory phrases and clauses.</td>
<td></td>
</tr>
<tr>
<td>Students will correctly apply the rules of punctuation for apostrophes in possessives and contractions.</td>
<td></td>
</tr>
<tr>
<td>Students will correctly apply the rules of punctuation for periods in abbreviations and acronyms.</td>
<td></td>
</tr>
<tr>
<td>Students will correctly apply the rules of punctuation for semi-colons in items in a series and combined sentences.</td>
<td></td>
</tr>
<tr>
<td>Students will correctly apply the rules of punctuation for colons in introducing a</td>
<td></td>
</tr>
</tbody>
</table>
Table 1: Depth-of-Knowledge Level Descriptors for Writing from CCA Version 4.1

| list and the business letter greeting. | Students will correctly apply the rules of punctuation for quotation marks in dialogue, titles and direct/indirect quotes. |  |  |

Depth of Knowledge as a “Ceiling”

Core Content statements are identified with a Depth of Knowledge level. This level represents the highest level (ceiling) that items will be designed for the Kentucky Core Content Test. It is important to note, however, that items will also be developed below the ceiling level. For example, if a core content statement requires students to “evaluate the use of literary devices,” it could be developed below the ceiling as “identify examples of similes.”

Table 2 provides examples of Writing Content Standards Across 4 Levels. It shows four core content statements around the same idea—using information.

<table>
<thead>
<tr>
<th>DOK 1</th>
<th>DOK 2</th>
<th>DOK 3</th>
<th>DOK 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will use standard English conventions in writing and editing to correct errors.</td>
<td>Students will edit final drafts of compositions for mechanics and conventions, including grammar, punctuation, and capitalization.</td>
<td>Students will edit and revise to improve the quality of the composition.</td>
<td>Students will exhibit control over conventions to enhance purpose and address the needs of the audience.</td>
</tr>
</tbody>
</table>

Depth of Knowledge and Verbs

Depth of Knowledge is not verb dependent. It is based on the cognitive complexity of the standard.
Table 3 shows **A Verb Across 4 DOK Levels** to illustrate that DOK is not verb dependent.

<table>
<thead>
<tr>
<th>DOK 1</th>
<th>DOK 2</th>
<th>DOK 3</th>
<th>DOK 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will <strong>apply</strong> knowledge of subject/verb agreement with both singular and plural subjects.</td>
<td>Students will <strong>apply</strong> language appropriate to the content, purpose and audience.</td>
<td>Students will <strong>apply</strong> idea development strategies appropriate to the form.</td>
<td>Students will <strong>apply</strong> a suitable tone when maintaining a focused purpose and communicating with an authentic audience.</td>
</tr>
</tbody>
</table>
Support Materials for CCA Version 4.1—Writing
August 2007

2004 Released Items Annotated for DOK

Writing- Grade 4- Released Prompt

Writing Task 1

Situation:
The local newspaper is having a “Good Friend” contest. To enter your friend, you must think of an event in your life when your friend did something with you or for you that showed what a terrific friend he or she is.

Writing Task:
Select your friend. (Remember, a friend could be a child your age or a grownup.) Choose an event that shows how your friend is a good friend to you. Write a letter to the newspaper that tells about that event so that people will know why your friend deserves to win.
Writing Task 2

Situation:
You and your friend made plans a long time ago to spend this evening together playing. Now, because of the weather you must play inside.

Writing Task:
Write a letter to your friend describing a game that you would like to play. Explain why this is the best game for two people to play indoors.
Support Materials for CCA Version 4.1—Writing
August 2007

2004 Released Items Annotated for DOK

Writing- Grade 7- Released Prompt

Writing Task 1

Situation:
Not only do games have rules, but there are also rules of respect and safety at home and at school. These rules help everyone understand what to do, how and when to do the activities, and how to be safe. Think of a time that you needed to know the rules for an activity. What happened? Why were the rules important? Could someone else learn from your experience? Your school newspaper is running a series of first-person articles about lessons students have learned.

Writing Task:
In an article for your school newspaper, tell about a time when knowing the rules was important.
Situation:
A Crayola museum? A Cockroach Hall of Fame? A museum to honor the Tooth Fairy?
All of these are real museums in the United States that display unusual items. Think of
an object that you would like to see honored with its own museum.

Writing Task:
Write a letter to convince the editor of *Interesting Museums Magazine* that your
selection would be of interest to museum visitors. Include information about some items
that might be displayed in this unusual museum.
Writing Task 1

Situation:
From a very young age we are taught to follow the rules at home, then at school, and, later, on the job. Think of a time when you needed to know the rules. What happened? Why were the rules important? Could someone else learn from your experience?

Writing Task:
Write an editorial for your school newspaper about the importance of rules. Support your idea by writing about a time when knowing the rules proved to be important.
Writing Task 2

Situation:
The city council in your town has decided that “cruising” (teens and adults driving back and forth through town with no particular place to go) and “loitering” (standing around on street corners or in parks or parking lots) are problems that they must address.

A member of the city council has said in the local newspaper, “Many people have come to us complaining that the people cruising and loitering make our town look bad, and it hurts our environment, not to mention how it slows traffic. They say the police should be able to stop these things. Others claim it is a person’s right to drive back and forth through town or to stand in a public place talking. We have to make a decision, and we need input from the citizens of our community. We want people to come in and speak about this issue.”

Writing Task:
Prepare a speech to be given to the seven-person city council outlining your solution. You can discuss either loitering or cruising, or both, but convince the council to try your plan.
Annotations

Writing-04-1-DOK3-WR-04-1.1.3, WR-04-1.2.3, WR-04-2.3.3, WR-04-2.4.3, WR-04-3.5.3, WR-04-3.6.0

Writing Task 1

Annotation: The item requires the student to conduct some higher level mental processing. Students are engaged in writing a letter that includes consideration of the audience and purpose provided in the prompt. The student shows awareness of a formal audience (the readers of the newspaper) and focuses on the purpose of telling those readers about an event that demonstrates why his/her friend deserves to win the “Good Friend” contest. The student organizes the narrative and includes supporting ideas and examples. Transitions between ideas may be included to guide the reader through the writing. Complex sentences may be evident. Students are engaged in revising and editing to improve the quality of the narrative.

Writing-04-2-DOK3-WR-04-1.1.3, WR-04-1.2.3, WR-04-2.3.3, WR-04-2.4.3, WR-04-3.5.3, WR-04-3.6.0

Writing Task 2

Annotation: The item requires the student to conduct some higher level mental processing. Students are engaged in writing a letter that includes consideration of the audience and purpose provided in the prompt. The student shows awareness of an informal audience (a friend) and focuses on explaining the selection of a game and presenting a persuasive argument of why it’s the best choice. The student organizes the writing by describing the game while providing some reasons for why this is a good indoor game for two people to play. Complex sentences may be evident. Students are engaged in revising and editing to improve the quality of the writing.
Annotations

Writing-07-1-DOK3-WR-07-1.1.3, WR-07-1.2.3, WR-07-2.3.3, WR-07-2.4.3, WR-07-3.5.3, WR-07-3.6.0

Writing Task 1

Annotation: The item requires the student to conduct some higher level mental processing. Students are engaged in writing an article that includes consideration of the audience and purpose provided in the prompt. The student shows awareness of an informal audience (the readers of the school newspaper) and focuses on telling when knowing the rules was important. The student organizes the writing in order to set a context for the reader and to provide narrative details developing the lesson learned. Complex sentences may be evident. Students are engaged in revising and editing to improve the quality of the writing.

Writing Task 2

Writing-07-2-DOK3- WR-07-1.1.3, WR-07-1.2.3, WR-07-2.3.3, WR-07-2.4.3, WR-07-3.5.3, WR-07-3.6.0

Annotation: The item requires the student to conduct some higher level mental processing. Students are engaged in writing a persuasive letter that includes consideration of the audience and purpose provided in the prompt. The student shows awareness of a formal audience (editor of the magazine) and focuses on convincing the editor that his/her selection of the object to honor in the museum would be of interest to visitors. The student organizes the writing to persuade the editor and to suggest items that might be displayed. Complex sentences may be evident. Students are engaged in revising and editing to improve the quality of the writing.
Annotations

Writing-HS-1-DOK3- WR-HS-1.1.3, WR-HS-1.2.3, WR-HS-2.3.3, WR-HS-2.4.3, WR-HS-3.5.3, WR-HS-3.6.0

Writing Task 1

Annotation: The item requires the student to conduct some higher level mental processing. Students are engaged in writing an editorial that includes consideration of the audience and purpose provided in the prompt. The student shows awareness of the audience through usage of a formal tone and focuses on telling when knowing the rules was important. The student organizes the writing in order to set a context for the reader and to provide narrative details developing the lesson learned. Complex sentences may be evident. Students are engaged in revising and editing to improve the quality of the writing.

Writing Task 2

Writing-HS-2-DOK3- WR-HS-1.1.3, WR-HS-1.2.3, WR-HS-2.3.3, WR-HS-2.4.3, WR-HS-3.5.3, WR-HS-3.6.0

Annotation: The item requires the student to conduct some higher level mental processing. Students are engaged in writing a speech that includes consideration of the audience and purpose provided in the prompt. The student shows awareness of the audience through usage of a formal tone and focuses on describing the plan to address the problem of cruising and/or loitering. The student organizes the writing in order to set a context for the listener and to respond to the audience's concern. Complex sentences may be evident. Students are engaged in revising and editing to improve the quality of the writing.