Team Kid

"Creating a **community** of **voices** and **choices** to ensure **access** and **accomplishment** for ALL learners."

Purpose + Pathways + Personalization = Prepared

Depth of Knowledge 101

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Depth of Knowledge (DOK)

DOK 1:
Recall & Reproduction
Can the student recall a simple fact from the story?

DOK 2:
Skills & Concepts
Can the student think beyond recalling a fact?

DOK 3:
Strategic Thinking
Can the student explain, generalize, or connect ideas from one text to another?

DOK 4:
Extended Thinking
Can the student take information from multiple sources and apply the information to a new task?

What is Norman Webb's Depth of Knowledge?

- DOK is a way to think about content complexity, not content difficulty.
- DOK is a tool to promote student achievement.
- DOK is determined by the context and NOT the verb used.
- DOK is a scale of cognitive demand.
- DOK is not just about the questions, but also the task.
- DOK levels are cumulative. A DOK 3 activity will probably include DOK 1 and 2 elements.
- DOK levels are NOT additive. DOK 1 + DOK 1 does not create a DOK 2 activity.

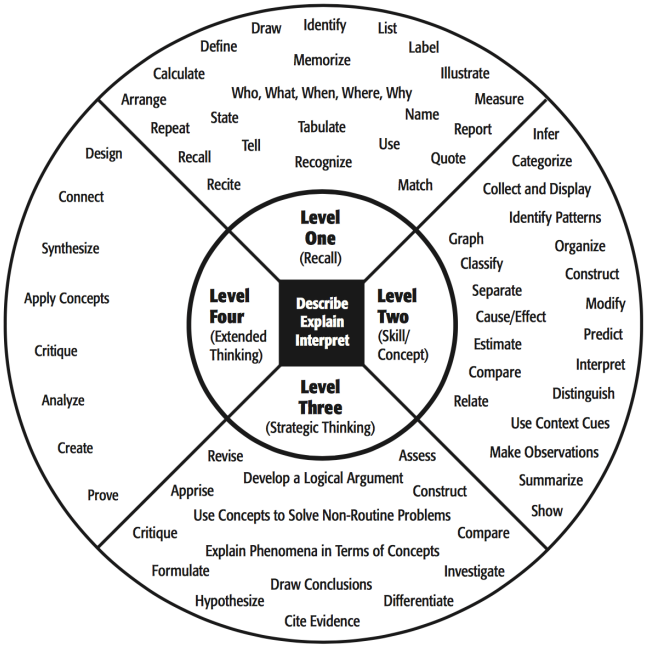


Summative Assessments



	Mathematics		ELA/Literacy	
	DOK3	DOK4	DOK3	DOK4
NCLB Assessments	<2%	0%	20%	2%
SBAC Assessments	49%	21%	43%	25%

Source: Yuan & Le (2012); Herman & Linn (2013) from Linda Darling-Hammond, Assembly Hearing, 3-6-13

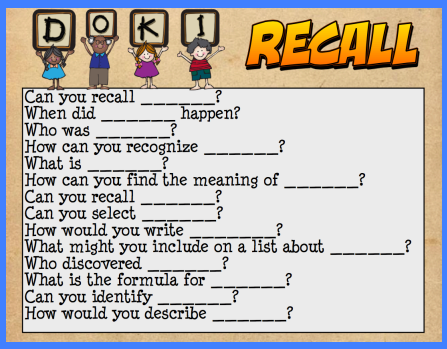


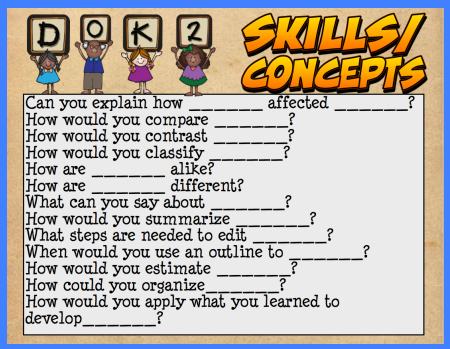
The Smarter Balanced Assessment is aimed to test students on a higher depth of knowledge level. The CST for ELA had about 22% of the questions and/or tasks at DOK levels 3 and 4. The SBA for ELA has 68% at the same level. That's a 46% difference.

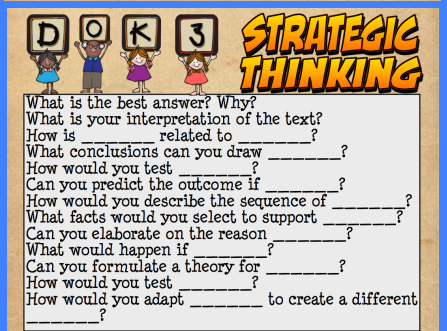
Question Stems

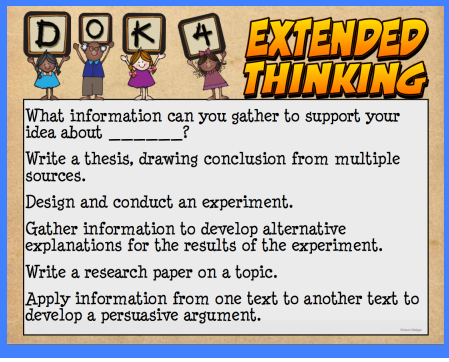
bit.ly/LDE_DOK

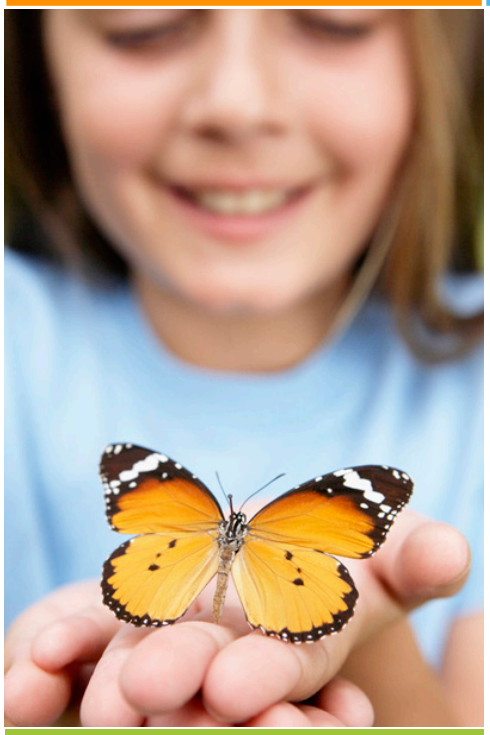
Click above to download PDF posters of question stems for classroom use.







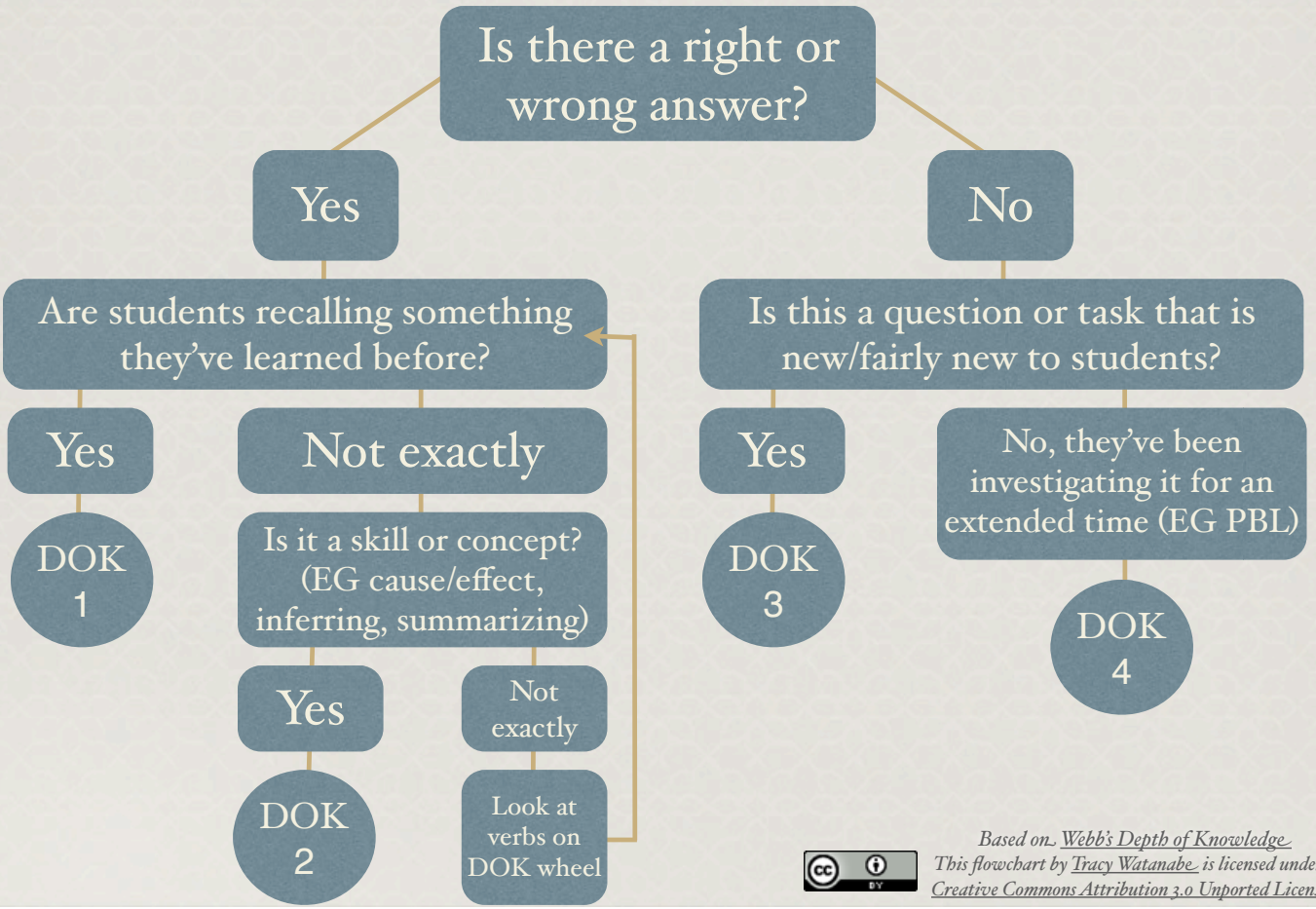




The flowchart was created by Tracy Watanabe to help teachers categorize their own questions by DOK level. In her own words, "it is used to look for patterns and trends, in order to set goals regarding their quest for deeper thinking. It is a flowchart that works with many common question patterns, but is **not** intended to be **definitive**."

Know that the flowchart may not work for every single question but it is a great tool for teachers just beginning to navigate and understand the differences between the DOK levels.

Depth of Knowledge (DOK) Flowchart for Questions



Based on Webb's Depth of Knowledge
This flowchart by Tracy Watanabe is licensed under a Creative Commons Attribution 3.0 Unported License.

DOK 1 : Recall and Reproduction

Level 1 involves recall and the response is automatic. Students either know the answer or not. Level 1 activities require students to demonstrate a rote response, follow a set of procedures, or perform simple calculations.

Possible Products (Involves working with facts.)

Quiz	List	Collection	Comic Strip
Definition	Workbook	Explanation	Flow Chart
Fact	Reproduction	Show and Tell	Paraphrase
Worksheet	Vocabulary Quiz	Outline	Highlighting
Test	Recitation	Blog	Social Networking
Label	Example	Timeline	Googling

DOK 2 : Working with Skills and Concepts

Level 2 activities are more complex and require students to engage in mental processing and reasoning beyond a habitual response. These activities make students decide how to approach the problem, involving interpreting and developing relationships among concepts.

Possible Products (Taking the information to answer "how" and "why.")

Presentation	Photograph	Practice/perform play	Blog Commenting
Interview	Illustration	Cracking Codes	Blog Reflecting
Performance	Simulation	Scrapbook	Moderating
Dairy/Journal	Sculpture	Topographic Map	Testing
Construct a model	Demonstration	Make a puzzle or game	Validating

DOK 3 : Short Term Strategic Thinking

Level 3 activities necessitate higher cognitive demands than the previous two levels. At Level 3 students are providing evidentiary support and reasoning for conclusions they draw. In most instances, having students explain and justify their thinking is at a Level 3. Typically, Level 3 activities have more than one correct response or approach to the problem.

Possible Products (Product demands short-term use of higher order thinking processes.)

Graph	Survey	Debate	Film
Spreadsheet	Database	Panel	Animation
Checklist	Mobile	Report	Video Cast
Outline	Abstract	Evaluating	Podcast
Chart	Report	Investigation	Publishing

DOK 4: Extended Strategic Thinking

Level 4 includes those tasks in which students must demonstrate reasoning, planning, and developing connections within and beyond a content area. These activities usually occur over an extended period of time. These tasks should be incorporated into the curriculum since it is this type of thinking we want to encourage from all of our students.

Possible Products (Focus is project based learning with real-world problems and unpredictable outcomes.)

Film	Project	New Game	Newspaper
Story	Plan	Song	Media Product

EXAMPLES of what Depth of Knowledge looks like in a classroom.

DOK Level 1: Recall	DOK Level 2: Skills/Concept	DOK Level 3: Strategic Thinking	DOK Level 4: Extended Thinking
Sort unknown words as quickly as possible.	Find words in text that illustrate a defined pattern. (Word Hunt)	Create an open sort and define the rule and explain.	Illustrate through authentic writing stability in pattern and content of identified stage.
Collect data on the number of teeth lost by students in one 2nd grade class.	Organize these data using a graph or chart. (Line Plot)	Using the graph, predict how many teeth would be lost by all the 2nd grade classes in the school and justify your answer.	Come up with a model to estimate how many teeth are lost by 2nd grade students in the United States in one year. Include the type of data you would need to collect and explain how your model works.
List the ingredients of a peanut butter and jelly sandwich.	Collect the ingredients for a peanut butter and jelly sandwich and write the recipe.	Investigate how many people are coming to dinner and formulate the appropriate amounts of ingredients for 8 people.	Design a plan to feed the entire class using the following information: one jar of PB makes 10 sandwiches, one jar of jelly serves 8, and one loaf of break contains 18 slices.
Draw an insect and label its body parts, including head, thorax, abdomen, mouthparts, eyes, antennae, legs, and wings.	Construct a model showing the four stages of metamorphosis.	Using the information from the passage, the internet, and other non-fiction material to research and explain the habitat, eating habits, lifespan, etc. of a specific insect. Orally share your written work.	The last paragraph of the article mentions that there are three times as many insects as other animals types put together. Our school has an insect problem with ants and cockroaches. Our task is to design an eco-friendly method to get rid of these pests. Work in groups to identify solution paths, solve the problem and report the outcome.

EXAMPLE of what Depth of Knowledge looks like in a classroom.

DOK Level 1: Recall	DOK Level 2: Skills/Concept	DOK Level 3: Strategic Thinking	DOK Level 4: Extended Thinking
Student will identify essential information needed to accomplish a task.	Students will identify information in a passage that is supported by facts.	Students will identify appropriateness of an argument using supportive evidence.	Students will identify interrelationships (themes, ideas, concepts) developed in more than one literary work.
Name the US Presidents in order.	Using the left and right political continuum, categorize the presidents of the 20th and 21st centuries according to their political standing.	Hypothesize how Dwight D. Eisenhower would react to today's world political situation.	Analyze the strategies and effectiveness of George H.W. Bush's war strategies in the Persian Gulf with the war strategies of George W. Bush in Iraq.
Identify the properties of a rock.	Describe the difference between a rock and a mineral and give an example of each.	Of the four rocks you are working with, determine which ones contain the mineral calcite. Support your claims with evidence from your investigation.	Design a model that will show how rocks can be changed and relate it to another cycle. Be prepared to share with your classmates.
Use a dictionary to find the meaning of words.	Use context clues to identify the meaning of unfamiliar words.	Determine the author's purpose and describe how it affects the interpretation of a reading selection.	Analyze and synthesize information from multiple sources and explain alternative perspectives.
Use punctuation marks correctly.	Construct compound sentences.	Support ideas with details and examples.	Write an analysis of two selections, identifying the common theme and generating a purpose that is appropriate for both.
Name several composers from the Baroque and Classical periods.	Describe the differences between the Baroque and Classical periods.	Critique, compare, and contrast pieces of music from the Baroque and Classical periods.	Choose a period and develop a 16-measure piece of music from that style.

References: Norman Webb, Kate Kinsella, Shop TALK, MDE.K12, Tracy Watanabe