

The Depth of Knowledge Levels

November 22, 2011

This presentation was adapted from Measured Progress January 2008.



What is the Depth of Knowledge (DOK)?

Adapted from the model used by Norman Webb, University of Wisconsin, to align standards with assessments

Focuses on content standards in order to successfully complete an assessment item/task

Descriptive
(not a taxonomy)

DOK is more consistent
(not just ability levels)





Why Depth of Knowledge?

No Child Left Behind (NCLB) requires assessments to “measure the depth and breadth of the state academic content standards for a given grade level.”

(U.S. Department of Education, 2003, p. 12)





Why Depth of Knowledge?

Standard

- Fidelity of the standard

Instruction

- Student demonstration of understanding is at the level of the standard

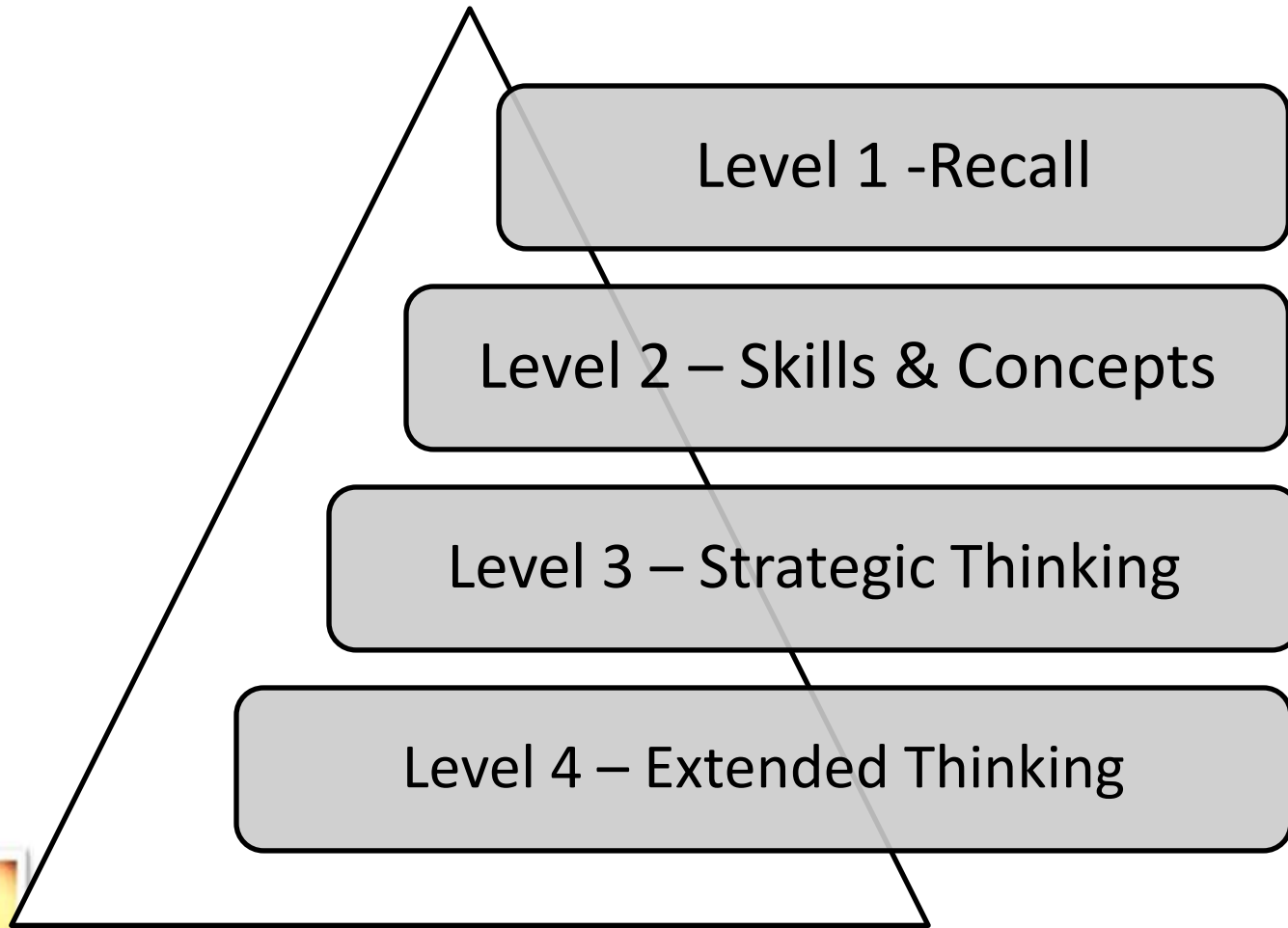
Assessment

- The assessment matches the level of the standard





Depth of Knowledge Levels





DOK Level 1: Recall and Reproduction

Basic Recall of concepts, definitions, facts and process

Answering a Level 1 item can involve following a simple, well-known procedure or formula

Simple skills and abilities or recall characterize DOK Level 1





DOK Level 1 Examples

Locate or recall facts found in text

Apply a well known formula

Use a dictionary to find the meaning of words

Represent math relationships in words, pictures, or symbols

Perform a simple science process or a set of procedures





DOK Level 2: Basic Application of Skills & Concepts

DOK 2 includes the engagement of some mental processing beyond recalling or reproducing a response.

Items require students to make some decisions as to how to approach the question or problem.

These actions imply more than one mental or cognitive process/step.





DOK Level 2 Examples

Identify and summarize the major events, problems, solution, conflicts in literary text.

Explain the cause – effect of historical events.

Predict a logical outcome based on information in a reading selection.

Retrieve information from a table, graph, or figure and use it to solve a problem requiring multiple steps.





DOK Level 3: Strategic Thinking

DOK 3 requires deep understanding as exhibited through planning, using evidence, and more demanding cognitive reasoning.

The cognitive demands a Level 3 are complex and abstract.

An assessment item that has more than one possible answer and requires students to justify the response they give would most likely be a Level 3.





DOK Level 3 Examples

Compare consumer actions and analyze how these actions impact the environment.

Analyze or evaluate the effectiveness of literary elements (e.g. characterization, setting, plot structures, point of view, conflict and resolution).

Solve a multiple – step problem and provide support with a mathematical explanation that justifies the answer.





More DOK Level 3 Examples

Develop a scientific model for a complex idea.

Justify a response when more than one answer is possible.

Propose and evaluate solutions for an economic problem.





DOK Level 4: Extended Thinking

DOK 4 requires high cognitive demand and is very complex.

An investigation or application that requires time to research, think or process multiple conditions of the problem.

Students are expected to make non – routine manipulations or connections across disciplines/content areas/multiple sources.

Due to the complexity of cognitive demand, DOK 4 requires an extended period of time.





DOK Level 4 Examples

Gather, analyze, organize and synthesize information from multiple sources to draft a reasoned report.

Analyze and explain multiple perspectives or issues within or across the time periods, events, or cultures.

Specify a problem, identify solution paths, solve the problem, and report the results.

Write and produce an original play.





Extended Time and DOK Levels

Collecting data samples over several months.

Organizing the data in a chart.

Using this chart to make and justify predictions.

Developing a generalized model from this data and applying it to a new situation.





DOK vs. Bloom's Taxonomy

DOK is based on the context in which the verb is used and the depth of thinking required.

Bloom's Taxonomy is determined by the verb.





To Describe

Describe three characteristics of metamorphic rocks.

Describe the difference between metamorphic and igneous rocks.

Describe a model that you might use to represent the relationships that exist within the rock cycle.





Things to Know about DOK Levels

- DOK Levels can be cumulative (dual coding)
- Not all standards can be assessed at a level 3 or 4
- DOK Level 1 + DOK Level 1 \neq DOK Level 2





DOK Highlights

Depth of Knowledge (DOK) is a scale of cognitive demand.

DOK requires looking at the assessment item/standard in order to determine the level.

DOK is about the item/standard – not the student's ability.

The context of the assessment item/standard must be considered to determine the DOK.

DOK Levels cannot just be determined by the verb.



How does this impact STAAR EOC?

