

Welcome! Please get settled quickly and complete the following activity. If time allows, share your answers with a partner.

The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires.

--William Arthur Ward

Define *inspire*.

Identify a great teacher who inspired you.

Identify *how* that teacher inspired you.

How do you compare to that teacher and how could you become more like that teacher?

# Webb's Depth of Knowledge



On September 4, 2002, Scott Hatteberg's pinch-hit solo homer in the bottom of the ninth inning gave the A's the majors' longest winning streak in 67 years.

[http://www.youtube.com/watch?v=8OM\\_I7oDoSQ](http://www.youtube.com/watch?v=8OM_I7oDoSQ)

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# Webb's Depth of Knowledge

- A scale of cognitive demand used to systematically align standards with standardized assessments.
- Guided item development for state assessments and the new GED and NEDP.
- Developed in 1997 by Norman Webb, University of Wisconsin Center for Education Research and the National Institute for Science Education.



# Webb's Alignment System

## 5 Categories

**Categorical Concurrence:** the same categories of **content** appear in the standards and the assessments.

<http://wat.wceruw.org/index.aspx>



**Range-of-Knowledge Correspondence:**  
the **span of knowledge** expected of students on the basis of a standard corresponds to the span of knowledge that students need in order to correctly answer the corresponding assessment items.



**Balance of Representation:**  
the objectives that fall under a specific standard are given relatively **equal emphasis** on the assessment.



**Source of Challenge:** the primary **difficulty** of the assessment items is significantly related to students' knowledge and skill in the content area as represented in the standards.



**Depth-of-Knowledge Consistency:**  
the knowledge elicited by the  
assessment is as *complex* as  
what students are expected to know  
and do as stated in the standards.



# Why Webb's Depth of Knowledge?

To ensure that the expectations for students in content standards, **instructional design**, and assessments are in agreement.



To promote student achievement now and to support and **inspire** further achievement later in higher education and the workplace.



# DOK Level describes

- the **level of work** students are most commonly required to perform;
- the **kind of thinking** involved in a task, not the likelihood that the task will be completed correctly, and;
- the **complete domain of items** that would be appropriate for completing the task.



## **BLOOM'S TAXONOMY**

### **REMEMBERING**

Recalling main ideas and details.

### **UNDERSTANDING**

Processing knowledge on a low level to reproduce without a verbatim repetition.

### **APPLYING**

Using information in another familiar situation.

### **ANALYSING**

Breaking information into parts to explore understandings and relationships.

### **EVALUATING and CREATING**

Putting together parts to form a whole, then making value judgments about the method.

## **WEBB'S DOK**

### **RECALL**

Recalling a fact, information, or procedure.

### **SKILLS/CONCEPTS**

Using information, conceptual knowledge, procedures, two or more steps, etc.

### **STRATEGIC THINKING**

Requires reasoning, developing a plan or sequence of steps; has some complexity; more than one possible answer.

### **EXTENDED THINKING**

Requires an investigation and time to think and process multiple conditions of the problem or task.



# Webb's Depth of Knowledge is



a taxonomy,



determined by the verb,



based primarily on difficulty.



# Same Verb—

**Describe** three characteristics of metamorphic rocks.

Level 1

**Describe** the difference between metamorphic and igneous rocks.

Level 2

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

Level 3

three Different DOK Levels



# Different level of difficulty

What is the definition of **exaggerate**?

What is the definition of **prescient**?

same DOK.

Level 1



# DOK is about complexity.

The intended student learning outcome determines the DOK level.

Instruction and classroom assessments must reflect the DOK level of the objective or the intended learning outcome.



# Webb's Four Levels of Cognitive Complexity

Level 1: Recall

a bunt to the pitcher

Level 2: Skills/Concepts

a blooper into shallow right field

Level 3: Strategic Thinking

a line drive deep into center field

Level 4: Extended Thinking

a homer out of the park



Level 1: *20 % of GED  
2014 test items*

# Recall and Reproduction

*Who, what, when, where, how?*

- Requires the **recall of information:** facts, definitions, details.

*Executive, Legislative, and Judicial*

- Can involve following a simple, well-known procedure or formula.

*Calculate a batting average*

*a comma is used to separate items in a series*



# Level 2: Skills/Concepts

*80 % of GED items are level 2 or 3.*

*Compare and contrast desert and tropical environments.*

*Classify geometric figures.*

- Includes mental processing beyond just recalling or reproducing information.
- Requires **deciding** how to approach a problem or task.
- Requires **more than one process/step**.

*Recognize the difference between a screwball and a slider.*



*Explain why good work habits are important at home, at school, and in the workplace.*

# Level 3: Strategic Thinking

*Identify a main cause of the Civil War ;  
use evidence to explain your answer.*

- Requires a **deep** understanding of a subject.
- Cognitive demands are complex and **abstract**.
- May require one to choose between **multiple reasonable answers**.

*Describe the interaction between Pip and Estella;  
use multiple examples from the text to support your response.*

*Who do we trade or acquire next  
year to balance our pitching staff  
and win more games?*



## Level 4: Extended Thinking:

*Not assessed on the 2014 GED due to the time required to complete.*

*What could Lee have done differently to win the Civil War?*

- Requires investigation of **highly complex** problems.
- Students are expected to **make connections or relate ideas within or among content areas** and select or devise one approach among many alternatives to solve a problem.
- Often requires an **extended period of time**.

*Analyze how Dickens uses characterization, setting, and tone to communicate the theme of *A Christmas Carol*.*

*How will we put together a team of coaches, players, and other staff to beat our major competition to the World Series next year?*



# Take another look...

Define *inspire*. **Level One**

Identify a great teacher who inspired you. **Level Two**

Identify *how* that teacher inspired you. **Level Two**

How do you compare to that teacher and how could you become more like that teacher? **Level Three**



# Let's Give it a Try!

Guess the DOK Level  
of the following questions.



## Math

Each day that Jasmine turns in her homework on time, she earns 5 points. Jasmine has turned in her homework on time for the last 8 days. How many points has Jasmine earned altogether?

- a. 30
- b. 35
- c. 40
- d. 45

This item is Level 1. It is simple multiplication.



## Science

A scientist synthesizes a new drug. She wants to test its effectiveness in stopping the growth of cancerous tumors. She decides to conduct a series of experiments on laboratory mice to test her hypothesis. What should she do?

- a. Give half the mice the drug, the other half no drug, and compare their tumor rates.
- b. Give the drug to all mice, but only to half every other day, and record tumor rates.
- c. Double the dosage to all mice each day until tumors start to disappear.
- d. Give the drug only to those mice who have tumors and record their weights.

This item is level 2. Students must at least apply knowledge of controlled experiment design to this situation, or derive it from this problem.



As classes comes to an end, the instructor asks the students to take a look at the goals and important topics that they identified at the beginning of the course. Students are asked to reflect on what they have learned and improved on during the course. Then, they decide where they still need improvement and which areas they would like to concentrate on more during the next session.

Students then write a letter to their instructor to tell them about their ideas.

This item is level 4. Students must consider their goals upon starting the course and the material covered during the course. They have to evaluate progress and needs and then explain the progress and needs to the instructor.



## Social Studies

A newspaper prints a story that criticizes the current administration's policies. The Bill of Rights allows a government official to respond to this headline by

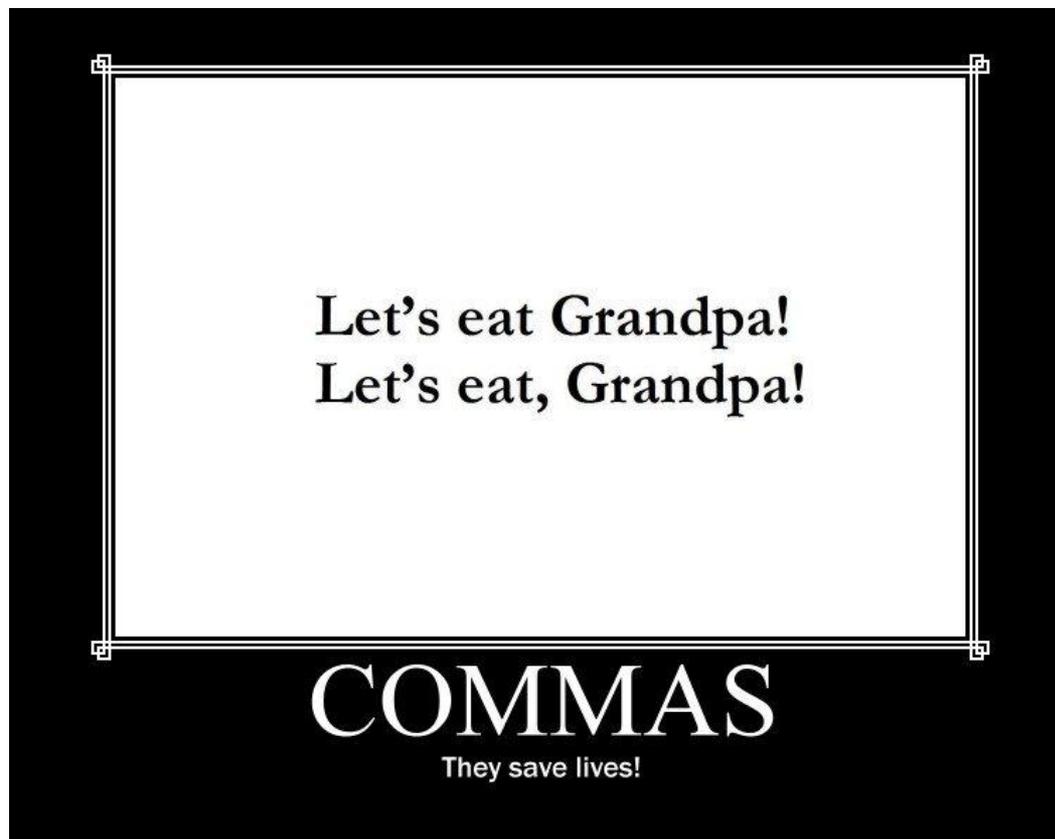
- a. arresting the publisher of the newspaper.
- b. closing down the newspaper.
- c. demanding that the newspaper print a retraction.
- d. writing a letter of protest to the editor.

This item is level 3. It requires students to apply the concepts of the Bill of Rights to the given situation to determine the correct answer.



## ESOL/Grammar

Which is the proper placement of the comma?



Let's eat Grandpa!  
Let's eat, Grandpa!

**COMMAS**  
They save lives!

This is a Level 1 item.



# ESOL

Categorize these foods:

- Cheese
- Apples
- Chicken
- Beef
- Milk
- Broccoli
- Yogurt
- Grapes
- Carrots
- Tomatoes
- Butter
- Turkey
- Peas
- Oranges

This is a level 2 item.



## Language Arts

The two came from the rutted country road into the city, and they were not walking in single file, Kino ahead and Juana behind, as usual, but side by side. The sun was behind them and their long shadows stalked ahead, and they seemed to carry two towers of darkness with them.

At the beginning of *The Pearl*, how do Kino and Juana walk? How do they walk at the end of the novel?

**This is a Level 1 question.**

How might you make this a Level 2 or 3 question?

What does Steinbeck's description of their return home suggest about how their experience has changed them?



## Civics

What are the rights guaranteed by the First Amendment to the U.S. Constitution?

This is a Level 1 question.

How might you turn this into a Level 2 or 3 question?

Give an example of how you or someone you know has exercised each of these rights.



Math

Find the area of an 8' square.

This item is Level 1. It requires the use of a simple formula.

How might you make this a Level 2 or 3 item?

A floor measures 64 square feet, what is the perimeter of the floor?

Crown molding costs \$1.39 per linear foot. How much would it cost to purchase crown molding for the ceiling of this room?



# Strategies to encourage deeper thinking:

- Ask questions that require students to explain their answers;
- Ask open-ended questions;
- Have students apply reading, writing, and mathematical skills using challenging content from all subject areas.



# Webb's DOK is about complexity!

The mind is not a vessel to be filled but a fire to be kindled.

—On Listening to Lectures (Plutarch)



Thanks for your  
participation today!

To learn more about Webb's DOK go to

<http://on.nyc.gov/Zn1ykZ>

<http://www.flipsnack.com/en/my-flipping-books/details/?flip=ftmydew0>

<http://www.gedtestingservice.com/exploring-the-2014-ged-test-webinar-archive>