

Turn Up the Heat with Higher Order Thinking



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Facilitators



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Session Objectives



Participants will:

- Develop a shared definition/understanding of the cognitive processes (remember, understand, apply, analyze, evaluate, and create) included in Bloom's revised taxonomy of higher order thinking.
- Reflectively evaluate and revise their own questions to include higher order cognitive processes.
- Collaboratively, reflectively evaluate and revise a(n) past or upcoming classroom project/activity to include increased instances of higher order cognitive processes for the their students.

APK Gallery Walk



Briefly visit each chart paper around the room to:

- Discuss and record examples of **VERBS** or things that students might **DO** in your classroom related to each of the cognitive processes listed.

What themes/patterns are you noticing?

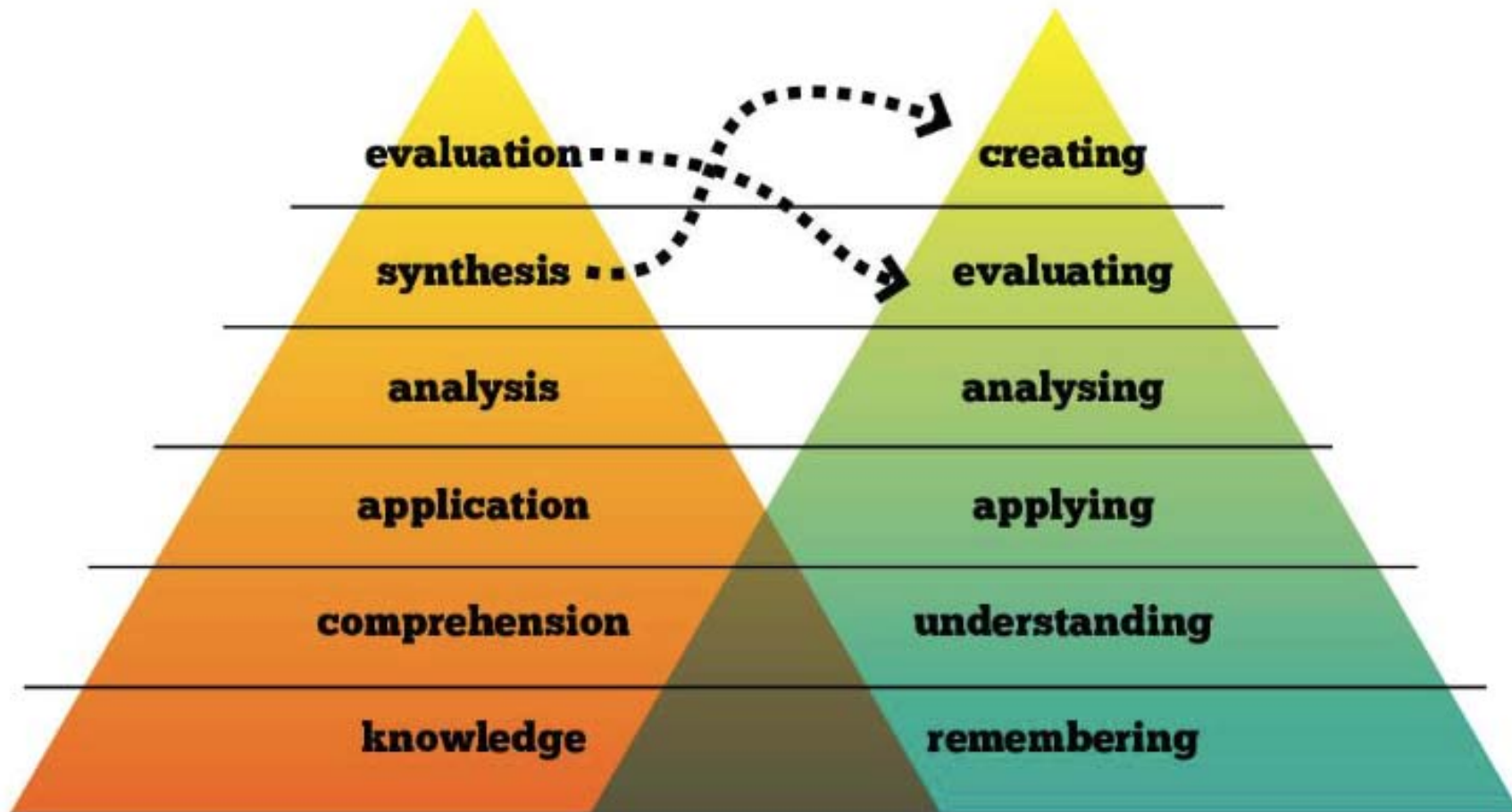
Question Brainstorm



Individually brainstorm (and **record** onto sticky notes) at least **3 questions** that you have asked your students recently or plan to ask them this week.

Then, **place** your sticky note(s) onto the chart paper that you believe most closely **matches** the cognitive process associated with that particular question.

Old Bloom's vs. Revised Bloom's



Schultz 2005

The Old Version

The New Version

Cognitive Processes



REMEMBER

Definition:	Retrieving, recalling or recognizing knowledge (specific information) from memory	
Associated Actions:	Recognizing Listing Identifying Naming	Locating Describing Retrieving Finding

Cognitive Processes



UNDERSTAND

Definition:	Constructing meaning from given information	
Associated Actions:	Interpreting Inferring Classifying Explaining	Summarizing Paraphrasing Comparing

Cognitive Processes



APPLY

Definition:	Using strategies, concepts, principles and theories in new situations
Associated Actions:	Implementing Carrying out Using Executing

Cognitive Processes



ANALYZE

Definition:	Breaking information down into its component elements, determining how those relate or interrelate to one another or an overall structure or purpose
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Associated Actions:	Comparing	Organizing
	Deconstructing	Attributing
	Structuring	Integrating

Cognitive Processes



EVALUATE

Definition:	Judging the value of ideas, materials and methods by developing and applying standards and criteria	
Associated Actions:	Checking Critiquing Judging Detecting	Hypothesizing Experimenting Testing Monitoring

Cognitive Processes



CREATE

Definition:	Putting together ideas or elements to develop an original idea or engage in creative thinking	
Associated Actions:	Designing Planning Inventing Making	Constructing Producing Devising

Why should I turn up the heat?



1. Information learned through higher order thinking processes is remembered longer and more clearly.
2. Deeper conceptual understanding leads to an increased ability to access/apply information to new situations/concepts (i.e. transfer).
3. Preparing our students for the occupational needs/changes of their future requires moving beyond rote skills/knowledge.

Question Reflection



- Take a moment to collect your 3 questions from the chart papers around the room.
- Then, with a partner, review your questions and the cognitive processes that you believe they most appropriately reflect.
- Finally, using the resources provided, work together to reflectively revise (or create entirely new) questions that address higher order thinking processes to use in your classroom this week. Record those on the “Revised Question Template.”

Bloom's and Technology



Technology Exploration



With a partner, you will explore the interactive Bloom's pyramid. Think of how you could use one of these technology tools in your classroom.

Be prepared to share your findings with the group.

Some suggestions to start with....

Remembering: Flashcard exchange

Understanding: bubbl.us

Analyzing: Create at Graph

Creating: Glogster

http://www.res.rcs.k12.tn.us/teachers/leonardl/blooms_pyramid.html

1. Which of these technology resources could you use in your classroom?

2. How might you use this tool in your content area?

Planning Session



- Gather into content-area/grade-level groups.
- Using the resources provided and the “Bloom’s Taxonomy Planning Framework,” discuss some activities/projects you’ve completed with students this year (or last). Evaluate which cognitive processes were addressed by those activities/projects.
- Work together to revise an activity (or create an entirely new one) that is geared toward the higher order cognitive processes.

Reflection/Closure



NCPTS:	Possible Artifact(s):
<p><u>Standard 4:</u> Teachers facilitate learning for their students.</p>	
<p><u>Standard 5:</u> Teachers reflect on their practice.</p>	