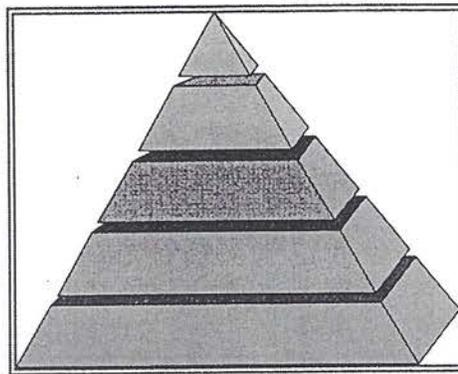


COGNITIVE



COMPLEXITY

| BLOOM'S TAXONOMY | WEBB'S DEPTH OF KNOWLEDGE |
|---|--|
| <p>KNOWLEDGE "The recall of specifics and universals, involving little more than bringing to mind the appropriate material"</p> | <p><i>Recall</i> – Recall of a fact, information, or procedure (e.g., What are 3 critical skill cues for the overhand throw?)</p> |
| <p>COMPREHENSION "Ability to process knowledge on a low level such that the knowledge can be reproduced or communicated without a verbatim repetition."</p> | |
| <p>APPLICATION "The use of abstractions in concrete situations."</p> | <p><i>Basic Application of Skill/Concept</i> – Use of information, conceptual knowledge, procedures, two or more steps, etc. (e.g., Explain why each skill cue is important to the overhand throw. "By stepping forward you are able to throw the ball further.")</p> |
| <p>ANALYSIS "The breakdown of a situation into its component parts."</p> | <p><i>Strategic Thinking</i> – Requires reasoning, developing a plan or sequence of steps; has some complexity; more than one possible answer; generally takes less than 10 minutes to do (e.g., Design 2 different plays in basketball and explain what different skills are needed and when the plays should be carried out.)</p> |
| <p>SYNTHESIS AND EVALUATION "Putting together elements & parts to form a whole, then making value judgments about the method."</p> | <p><i>Extended Thinking</i> – Requires an investigation; time to think and process multiple conditions of the problem or task; and more than 10 minutes to do non-routine manipulations (e.g., Analyze 3 different tennis, racquetball, and badminton strokes for similarities, differences, and purposes. Then, discuss the relationship between the mechanics of the stroke and the strategy for using the stroke during game play.)</p> |

Level 1

Level 2

Level 3

Level 4

Critical Thinking Questions Based on Webb's DOK Levels

To encourage critical reading skills, specifically Level II skills which make up 70% of the FCAT, design questions in your activities and assessments that target application, analysis, synthesis, and evaluation.

Level 2: Skill/Concept – use of information, conceptual knowledge, procedures, two or more steps.

Key words: categorize, cause/effect, classify, collect & display, compare, construct, distinguish, estimate, graph, identify patterns, infer, interpret, make observations, modify, organize, predict, relate, separate, show, summarize, use context clues

Questions:

- How would you use . . . ?
- What examples can you find to . . . ?
- How would you organize _____ to show . . . ?
- How would you show your understanding of . . . ?
- What approach would you use to . . . ?
- How would you apply what you learned to develop . . . ?
- What other way would you plan to . . . ?
- What would result if . . . ?
- Can you make use of the facts to . . . ?
- What elements would you choose to change . . . ?
- What facts would you select to show . . . ?
- What questions would you ask in an interview with . . . ?

(common core)

Level 3: Strategic Thinking – requires reasoning, developing a plan or sequence of steps; has some complexity; more than one possible answer; 3 or more steps

Key words: apprise, assess, cite evidence compare, construct, critique, develop a logical argument, differentiate, draw conclusions, explain phenomena in terms of concepts, formulate, hypothesize, investigate, revise, use concepts to solve non-routine patterns

Questions:

- What are the parts or features of . . . ?
- How is _____ related to . . . ?
- Why do you think . . . ?
- What is the theme . . . ?
- What motive is there . . . ?
- Can you list the parts . . . ?
- What inference can you make . . . ?
- What conclusions can you draw . . . ?
- How would you classify . . . ?

Florida's version of NUDERA

depth knowledge

- How would you categorize . . . ?
- Can you identify the difference parts . . . ?
- What evidence can you find . . . ?
- What is the relationship between . . . ?
- Can you make a distinction between . . . ?
- What is the function of . . . ?
- What ideas justify . . . ?

Level 4: Extended Thinking – requires an investigation; time to think and process multiple conditions of the problem or task.

Key Words: analyze, apply concepts, connect, create, critique, design, prove, synthesize

Questions:

- What changes would you make to solve . . . ?
- How would you improve . . . ?
- What would happen if . . . ?
- Can you elaborate on the reason . . . ?
- Can you propose an alternative . . . ?
- Can you invent . . . ?
- How would you adapt _____ to create a different . . . ?
- How could you change (modify) the plot (plan) . . . ?
- What could be done to minimize (maximize) . . . ?
- What way would you design . . . ?
- What could be combined to improve (change) . . . ?
- Suppose you could _____ what would you do . . . ?
- How would you test . . . ?
- Can you formulate a theory for . . . ?
- Can you predict the outcome if . . . ?
- How would you estimate the results for . . . ?
- What facts can you compile . . . ?
- Can you construct a model that would change . . . ?
- Can you think of an original way for the . . . ?
- Do you agree with the actions . . . ? with the outcomes . . . ?
- What is your opinion of . . . ?
- How would you prove . . . ? disprove . . . ?
- Can you assess the value or importance of . . . ?

- Would it be better if . . . ?
 - Why did they (the character) choose . . . ?
 - What would you recommend . . . ?
 - How would you rate the . . . ?
 - What would you cite to defend the actions . . . ?
 - How would you evaluate . . . ?
 - How could you determine . . . ?
 - What choice would you have made . . . ?
 - What would you select . . . ?
 - How would you prioritize . . . ?
 - What judgment would you make about . . . ?
 - Based on what you know, how would you explain . . . ?
 - What information would you use to support the view . . . ?
 - How would you justify . . . ?
 - What data was used to make the conclusion . . . ?
 - Why was it better that . . . ?
 - How would you prioritize the facts . . . ?
 - How would you compare the ideas . . . ? people . . . ?
-



QUESTION TREE

On-the-Surface

Who... What...
Where... When...
Did...

Under-the-Surface

Why... How... Should...
Would... Could... What if...

Application

If I were...
How is this like...?
How does this text relate to life?
How does this relate to current events?
What is the author trying to get across to us?

"I WONDER" BOOKMARK

"I Wonder" Bookmark

Page _____

I wonder...

because...

Page _____

I wonder...

because...

Page _____

I wonder...

because...

Websites for Questioning Resources

<http://www.teachers.ash.org.au/researchskills/Dalton.htm>

Question stems, activities & products sorted by level of Bloom's Taxonomy

<http://questioning.org/Q7/toolkit.html>

Questioning Toolkit: several dozen kinds of questions, including essential questions for different content areas.

<http://www.readwritethink.org/classroom-resources/lesson-plans/questioning-comprehension-strategy-small-408.html?tab=4#tabs> *

Detailed lesson plans & extension activities for "Thick & Thin" questions

<http://www.sanchezclass.com/reading-graphic-organizers.htm>

free downloadable reading graphic organizers in pdf and word formats

<http://www.jcps.k12.mo.us/education/projects/projects.php?sectionid=3120>

Lesson plans and resources for questioning unit.

Other Useful Sites

<http://educationoasis.com/>

Free printables, graphic organizers, lessons, children's books reviews, links to sites for kids, and more.

<http://freeology.com/graphicorgs/>

Free graphic organizers

<http://www.sanchezclass.com/reading-graphic-organizers.htm>

Free Reading graphic organizers & printables

<http://reading.pppst.com/questioning.html>

Free ready-made PowerPoints for every reading skill/topic and links to sites for kids and teachers *

B. THICK/THIN QUESTIONS

Your next step is to start helping your students think more deeply when wondering.

1. Do a mini lesson on the two types of questions: thick and thin.

Tell them a **THIN question** is one that can be answered with a “clap”.

-for example “I wonder if the cat is the main character?” (yes)

-“I wonder if the boy is lost?” (yes)

-“I wonder when it will rain?” (the next day)

-“I wonder if Petey will save the mice?” (yes)

- thin questions are literal (characters name, setting, fact from story, etc)
- THIN questions are important but they do not lead to more thinking and discussion.

Tell them a **THICK question** is not easily answered.

- Tend to be why or how questions.
- More thinking is needed to answer the question.
- May need to talk with others about the answer.

2. Put up two sheets of chart paper. One labeled THICK at the top and the other one labeled THIN.

- Choose a new text piece and have the students write their “I wonders...” on post it notes.
- When you are done have them talk together at their table groups (or with you) to decide if the “I wonder...” is THIN or THICK.
- Place on the chart paper.

adapted by Ginger Weincek 2005

- You pull some off and discuss why a post it is THIN. If someone put a THIN post it on the THICK chart paper help them understand why it is NOT THICK and move it to the THIN chart. Actually CLAP the answer for the THIN “I wonders..” and wave your hands around to show THICK “I wonders...” Have them do the hand motions with you to emphasize the difference.
- Read a post it and let the class decide if it is a THIN or THICK “I wonder....”

3. Read another book and have them do their “I wonders..” and then place them on the chart paper just like before. Afterwards you decide if they are understanding this and are writing MORE THICK “I wonders....” That is what you are striving for.

4. SAVE one round of “I wonders..” to be used for a future lesson.

THICK AND THIN QUESTIONS

Text: _____

Page

Thin Questions

Thick Questions