Developing 21st-Century Critical Thinkers

Integrate critical thinking skills within and across all content areas.

Consistently cultivate higher-order thinking skills.

Establish safe, intellectually risk-free learning environments.

Allow time to develop critical thinking skills.

Provide students with repeated opportunities to practice higher-order thinking.

Promote academic conversations or dialogue that foster critical thinking.

Your Students' Path to Critical Thinking

1. Think deeply to make relevant connections
2. Ask quality and clarification questions
3. Use evidence and reasoning to support thinking
4. Analyze, reason, and evaluate
5. Interpret information beyond surface learning
6. Synthesize diverse ideas
7. Solve relevant and complex problems
8. Make reasoned decisions
9. Generate and evaluate options prior to making decisions
10. Focus on details to derive meaning
11. Apply higher levels of thought to real-world situations
12. Think critically on a daily basis
13. Use criteria to judge the value of ideas and solutions
14. Engage in reflective thinking
15. Follow problem-solving steps
16. Question the credibility, accuracy, and relevancy of information and sources
17. Well-informed
18. Willing to consider multiple perspectives
19. Seek new and better solutions
20. Explore alternatives
21. Examine diverse points of view
22. Value and respect ideas of others
23. Question what is read, heard, or seen
24. Assess consequences of actions or ideas
25. Think independently and in concert with others

CRITICAL THINKING

Critical thinking is that mode of thinking - about any subject, content, or problem - in which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them.

The Result
A well cultivated critical thinker:

- raises vital questions and problems, formulating them clearly and precisely;
- gathers and assesses relevant information, using abstract ideas to interpret it effectively comes to well-reasoned conclusions and solutions, testing them against relevant criteria and standards;
- thinks open-mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences; and
- communicates effectively with others in figuring out solutions to complex problems.

Critical thinking is, in short, self-directed, self-disciplined, self-monitored, and self-corrective thinking. It presupposes assent to rigorous standards of excellence and mindful command of their use. It entails effective communication and problem solving abilities.

(Taken from Richard Paul and Linda Elder, *The Miniature Guide to Critical Thinking Concepts and Tools,* Foundation for Critical Thinking Press, 2008)

Objectives For Active Questioning

1. The student will demonstrate an ability to articulate questions clearly during partnering and/or group activities.

2. The student will use convergent and divergent active questioning to undertake library research in order to gather data for the completion of assignments.

3. The student will use active questioning skills to apply, analyze, synthesize and evaluate printed materials to accomplish learning activities.

4. The student will use mindMaps to demonstrate an understanding of the five types of active questioning: **Quantity, What if...?, Point of View, Compare/Contrast, and How come...?.**

5. The student will use active questioning to develop a more positive self concept by recognizing and using his/her abilities, becoming more self-directed and appreciating likenesses and differences among himself/herself and others.

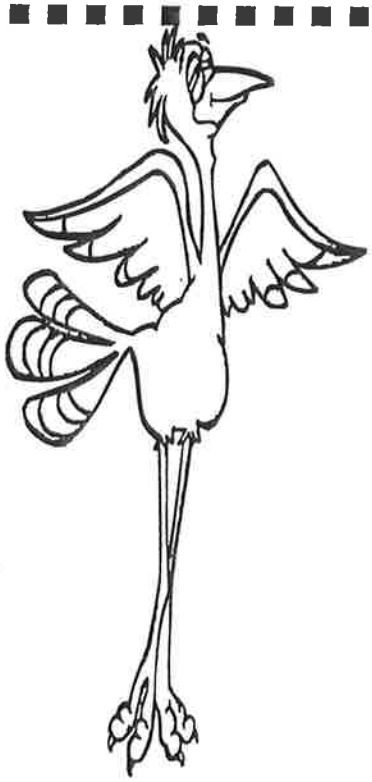
6. The student will use active questioning to produce examples of authentic assessment for a personal portfolio.

7. The student will show originality by expressing unusual, uncommon responses while composing questions.

8. The student will use active questioning techniques to describe his/her feelings and values.

9. The student will predict many different causes/effects for given situations by creating many varied divergent questions.

10. The student will use active questioning skills to recognize the goals and objectives of a group by working toward consensus in cooperative learning situations.



SKINNY QUESTIONS

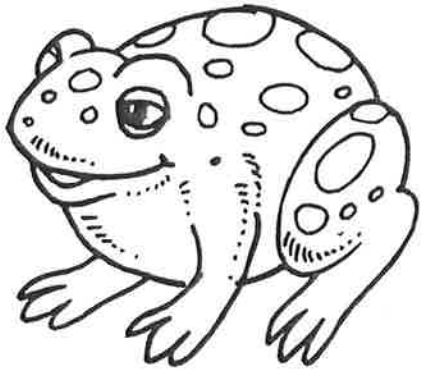
WHAT IS TWO PLUS TWO?

CAN YOU NAME THE ANIMAL CALLED MAN'S BEST FRIEND?

LIST THE CHARACTERS IN THE STORY GOLDILOCKS AND THE THREE BEARS.

WHAT COLOR IS MICKEY MOUSE'S NOSE?

WHAT ANIMAL LOOKS LIKE A HORSE BUT HAS STRIPES?



FAT QUESTIONS

What are all the ways you can think of to say four?

How are dogs and cats alike and different?

How would you feel if you found a bear hiding in your room?

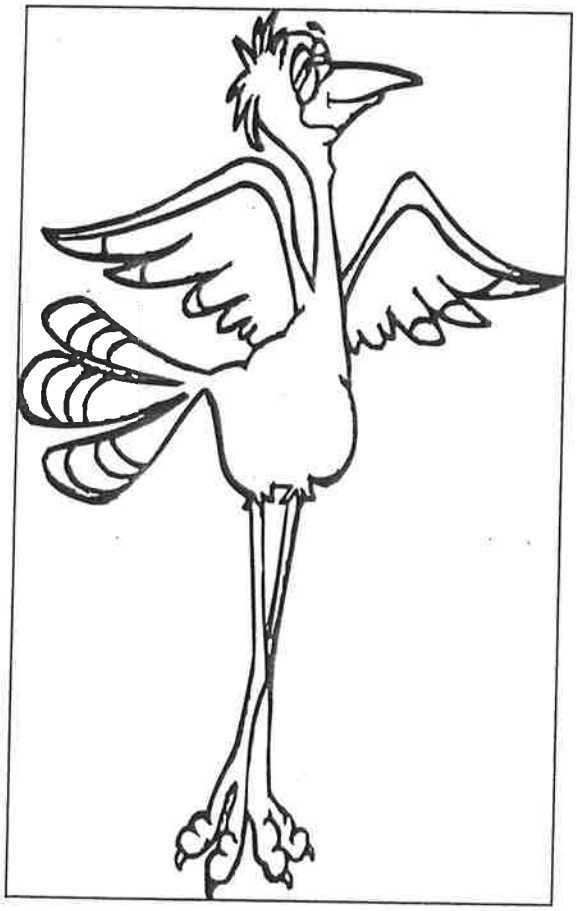
What if your nose were on top of your head?

How come zebras have stripes but horses don't?

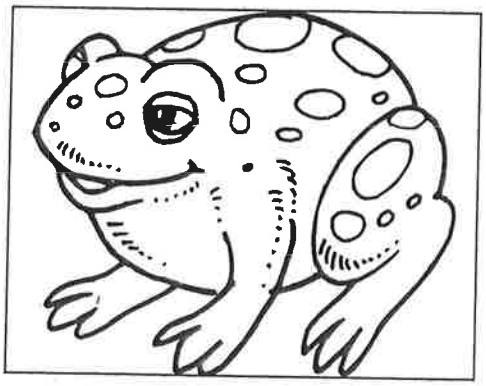
"SKINNY" Questions and "FAT" Questions

The purpose of active questioning is to increase the number of questions that children ask (fluency) plus raise the level of complexity and creativity (flexibility). Sometimes a complex process like questioning is made easier by simplifying the terminology. Students will have fun identifying basic recall, convergent, right answer questions as "Skinny" questions and more complex, divergent, open-ended questions as "Fat" questions. Appropriate illustrations along with different computer printing fonts will also help in the identification process.

WARNING:Teachers/parents, be sensitive to the needs of children who are overweight or underweight. As an overweight child myself, I have many painful memories of the cruelty of fellow classmates concerning my weight. The illustrations for "skinny" and "fat" questions should NEVER be of humans. Have a private talk with those students with obvious weight differences BEFORE using these lessons. If you feel there will be even a hint of a problem, by all means change the words skinny/fat to lean/plump, closed/open, narrow/wide, convergent/divergent, empty/full, weak/strong, type A/type B or low level/high level.



A Symbol for "Skinny" Questions



A Symbol for "Fat" Questions