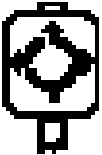# DEVELOPING INTELLECTUAL TOOLS

The key to helping students develop as critical thinkers is to nurture competent use of five types of tools of thinking. These categories of tools are background knowledge, criteria for judgment, critical thinking vocabulary, thinking strategies and habits of mind.

	BACKGROUND KNOWLEDGE The information about a topic required for thoughtful reflection	Students cannot think deeply about a topic if they know little about it. Two questions to ask in developing this tool: ● What background information do students need for them to make a well-informed judgment on the matter before them? ● How can students be assisted in acquiring this information in a meaningful matter?
	CRITERIA FOR JUDGMENT The considerations or ground for deciding which of the alternatives is the most sensible or appropriate	Critical thinking is essentially a matter of judging which alternative is sensible or reasonable. Students need help in thinking carefully about the criteria to use when judging various alternatives. ● Is my estimate accurate? ● Is the interpretation plausible? ● Is the conclusion fair to all? ● Is my proposal feasible?
	CRITICAL THINKING VOCABULARY The range of concepts and distinctions that are helpful when thinking critically	Students require the vocabulary or concepts that permit them to make important distinctions among the different issues and thinking tasks facing them. These include the following: ● inference and direct observation; ● generalization and over generalization; ● premise and conclusion; ● bias and point of view.
	THINKING STRATEGIES The repertoire of heuristics, organizing devices, models and algorithms that may be useful when thinking through a critical thinking problem	Although critical thinking is never simply a matter of following certain procedures or steps, numerous strategies are useful for guiding one's performance when thinking critically: ● Making decisions: Are there models or procedures to guide students through the factors they should consider (e.g., a framework for issue analysis or problem solving)? ● Organizing Information: Would a graphic organizer (e.g., webbing diagrams, Venn diagrams, "pro and con" charts) be useful in representing what a student knows about the issue? ● Role taking: Before deciding on an action that affects others, should students put themselves in the others' positions and imagine their feelings?
	HABITS OF MIND The values and attitudes of a careful and conscientious thinker	Being able to apply criteria and use strategies is of little value unless students also have the habits of mind of a thoughtful person. These include: ● Open-minded: Are students willing to consider evidence to warrant it? ● Fair-minded: Are students willing to give impartial consideration to alternative points of view and not simply impose their preference? ● Independent-minded: Are students willing to stand up for their firmly held beliefs? ● Inquiring or "critical" attitude: Are students inclined to question the clarity of and support for claims and to seek justified beliefs and values?