A foundational component of critical thinking is the ability to evaluate one’s reasoning. We can evaluate our thinking – and the thinking of others – by applying the intellectual standards of clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness. Students who develop the skills necessary to evaluate their thinking and the thinking of others by applying the standards will improve their thinking.

In this lesson we will:
• Learn the intellectual standards
• Apply the SEE-I to selected standards
Two key ingredients turn ordinary thinking into critical thinking.
1. The first key ingredient is that critical thinking is reflective thinking. It involves thinking about one’s thinking.
2. The second key ingredient is that critical thinking is done well. Thinking done well meets high standards of reasoning.

Universal intellectual standards are standards which when applied to thinking provides a means of checking the quality of reasoning about a problem, issue, situation, or question. Thinking critically entails knowledge and application of the standards: clarity, accuracy, precision, relevance, depth, breadth, logic, significance, and fairness.

One way to improve thinking is to SEE-I a concept, idea, or topic.
Clarity is a gateway standard. If a statement is unclear, we cannot determine whether it is accurate or relevant. In fact, we cannot tell anything about it because we don’t know what it is saying. For example, the question, “What can be done about the education system in America?” is unclear. In order to adequately address the question, we would need to have a clearer understanding of what the person asking the question is considering the “problem to be.” A clearer question might be “What can educators do to ensure that students learn the skills and abilities which help them function successfully on the job and in their daily decision-making.

Accuracy

“A statement can be clear but not accurate as in, “Most dogs weigh 300 pounds.” to be accurate is to represent something in accordance with the way it actually is. People often present or describe things or events in a way that is not in accordance with the way things actually are” (Paul and Elder, *Critical Thinking: Concepts and Tools*, 8).
“A statement can be both clear and accurate, but not precise as in, Jack is overweight.” (We don’t know how overweight Jack is – one pound or 500 pounds.) To be precise is to give details necessary for someone to understand exactly what is meant. Some situations don’t call for detail.” On the other hand, in many cases specifics are essential to good thinking (Paul and Elder, *Critical Thinking: Tools*, 3d ed., 94-95).

“A statement can be clear, accurate, and precise, but not relevant to the question at issue. For example, students often think the amount of effort they put into a course should contribute to raising their grade in the course. Often, however, effort does not measure the quality of student learning and, therefore, is irrelevant to the grade. Something is relevant when it is directly connected with and bears upon the issue at hand” (Paul and Elder, *Critical Thinking: Tools*, 3d ed., 95-96).
“A statement can be clear, accurate, precise, and relevant, but superficial – lack depth. WE think deeply when we get below the surface of an issue or problem, identify the complexities inherent in it, and deal with those complexities in an intellectually responsible way. Even when we think deeply, even when we deal with the complexities in a question, we might find the question difficult to address. Still, our thinking will work better for us when we recognize complicated questions and address each area of complexity in the question (Paul and Elder, *Critical Thinking: Tools*, 3d ed., 97-98).

Breadth

S – State
E – Elaborate
E – Exemplify
I – Illustrate

A line of reasoning may be clear, accurate, precise, relevant, and deep, but lack breadth – fail to consider all relevant viewpoints.

For example, loud music annoys you and you live in a dorm with someone who like to play loud music. The question is should my roommate play loud music when I am in the room? Both points of view – yours and your roommate – are relevant. You may realize that imposing your preferences on your roommate is inconsiderate and unfair. If you don’t consider your roommate’s point of view, your behavior becomes self-serving. One of the primary mechanisms the mind uses to avoid giving up what it wants is to refuse to consider viewpoints that differ from its own.

Thinking brings together a variety of thoughts in some order. When the combined thought are mutually supporting and make sense in combination, thinking is logical.

An educators knows that looking at standardized tests of students in schools and the actual work they produce, that students are often deficient in basic academic skills such as reading, writing, speaking, and the core disciplines such as math, science, and history. Despite this evidence, teachers frequently conclude they don’t need to change their instruction to improve student learning (and in fact nothing is wrong with the way they fundamentally teach). Given the evidence is the conclusion logical? Does the conclusion logically follow from the facts?

When we think through a problem, we want to make sure our thinking is justified? To be justified is to think fairly in context and in accord with reason.

Two students live in the same dorm room, one is cold natured and the other is hot natured. The hot natured student likes to keep the windows open during winter. The hot natured student insisted that it was too uncomfortable with the windows closed.

Her reasoning centered only on her point of view - that she was hot and could not function well. If her roommate was cold, she could put on a sweater.

When we reason through issues, we want to concentrate on the most important (relevant) information and take into consideration the most important concepts.

In college, for example, few students focus on important questions such as, What does it mean to be an educated person? What do I need to do to become educated? Instead. Students tend to ask questions such as, What do I need to do to get an A in the course? How many pages does this paper have to be? What do I have to do to satisfy this professor?

• Questions?
• Comments?