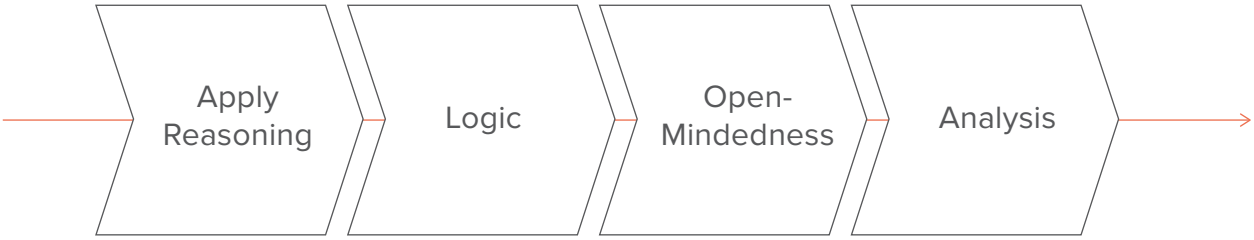
Critical Thinking and Problem Solving

LINEAR THINKING



Applying Reason:
The ability to reason is what makes us human and keeps us at least one step ahead of the computers. When we apply reasoning, we think about "what follows what." But because we're human, our reasoning isn't always completely logical--our emotions influence where our reasoning takes us.

Logic:
Logic and reasoning are similar, but they're not the same. Logic is the branch of philosophy that gives us the rules for coming to valid conclusions. A conclusion is valid if it's based on facts. For example, 1 + 1 = 2 is always true--so it's a logical statement.

Open-Mindedness:
Being open to new ideas, concepts, and opinions allows us to learn. Being open-minded means we're willing to listen and consider ideas that are different from our own.

Analysis:
Analysis helps us discriminate, separate, and access information. It gives us the the ability to take something complex and make it more understandable.

NON-LINEAR THINKING

Accept That the Traditional Approach Isn't Working:
Basically, this concept involves seeing information or circumstances from a different perspective. In critical thinking and problem-solving we sometimes have to get out of the zone of what is comfortable and familiar and stretch our thinking.

Avoid Jumping to Conclusions:
Take time to seek out the necessary information to solve a problem. Often, we tend to jump to conclusions before we have all of the facts.

Expect and Initiate Change:
Change really is the only constant in life. Nothing stays the same. And sometimes, weneed to be the ones doing the initiating. " Be the change that you wish to see in the world" is a common slogan on bumper stickers, after all. So to succeed in problem-solving, we need to roll with change and not fight it.

Be Ready to Adapt:
How well will you adapt when change inevitably shows up? Will you be open to adjusting your approach, thoughts, or skill-set to stay relevant? Adaptation is a survival skill that allows you to avoid becoming obsolete or left behind.

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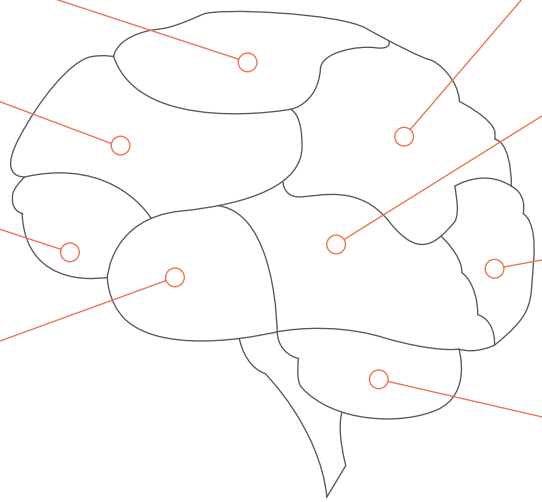
BEHAVIORS OF A CRITICAL THINKER

Active listening:
being completely engaged in what someone is saying

Curiosity:
having a strong desire to learn or understand

Self-discipline:
continuing to pursue your goals against all odds

Humility:
being modest in your opinion of your own importance; having an open mind



Seeing the big picture:
making connections between ideas; connecting our own ideas to others' ideas

Objectivity:
being fair-minded and open; being aware of emotional biases or judgments

Using your emotions:
applying empathy when thinking about another person's situation or approach

Self-awareness:
being aware of your own feelings, opinions, and assumptions

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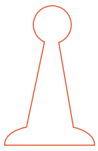
APPROACHES TO PROBLEM SOLVING

START



Identify Inconsistencies:

Be on the lookout for things that just don't add up or aren't supported by logic or facts.

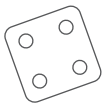
Trust Your Instincts:

Use your natural intuitive power. Couple this power with trial and error, informed guesses, and brainstorming to initiate a powerful creative process.

Evaluate the Solution(s):

Once you see a potential solution approaching, don't forget to take a moment to evaluate all possible solutions. Invest the time necessary to think about a few alternatives to what seems like the best approach.

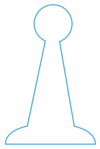
Here's a proposed evaluation technique:



Ask "Why?":

Always be willing to dig deeper to understand more and explore new possibilities.

A true innovator is never satisfied with the status quo.



1) Make a T-chart to weigh the pros and cons of each possible solution

2) Develop criteria (or requirements) and assign weights to each criteria

3) Prioritize the criteria

4) Rate the solutions based on the criteria