

Analysis - identify assumptions, reasons and claims, and examine how they interact in the formation of arguments.

Individuals use analytics to gather information from charts, graphs, diagrams, spoken language and documents. People with strong analytical skills attend to patterns and to details. They identify the elements of a situation and determine how those parts interact. Strong interpretations skills can support high quality analysis by providing insights into the significance of what a person is saying or what something means.

Inference - draw conclusions from reasons and evidence.

Inference is used when someone offers thoughtful suggestions and hypothesis. Inference skills indicate the necessary or the very probable consequences of a given set of facts and conditions. Conclusions, hypotheses, recommendations or decisions that are based on faulty analysis, misinformation, bad data or biased evaluations can turn out to be mistaken, even if they have reached using excellent inference skills.

Evaluative - assess the credibility of sources of information and the claims they make, and determine the strength and weakness or arguments.

Applying evaluation skills can judge the quality of analysis, interpretations, explanations, inferences, options, opinions, beliefs, ideas, proposals, and decisions. Strong explanation skills can support high quality evaluation by providing evidence, reasons, methods, criteria, or assumptions behind the claims made and the conclusions reached.

Deduction - decision making in precisely defined contexts where rules, operating conditions, core beliefs, values, policies, principles, procedures and terminology completely determine the outcome.

Deductive reasoning moves with exacting precision from the assumed truth of a set of beliefs to a conclusion which cannot be false if those beliefs are untrue. Deductive validity is rigorously logical and clear-cut. Deductive validity leaves no room for uncertainty, unless one alters the meanings of words or the grammar of the language.

Induction - decision making in contexts of uncertainty.

We use inductive reasoning skills when we draw inferences about what we think is probably true based on analogies, case studies, prior experience, statistical analysis, simulations, hypotheticals, and patterns recognized in familiar objects, events, experiences and behaviors. As long as there is the possibility, however remote, that a highly probable conclusion might be mistaken even though the evidence at hand is unchanged, the reasoning is inductive. Although it does not yield certainty, inductive reasoning can provide a confidence basis for solid belief in our conclusions and a reasonable basis for action.