

The Information Age Is Complicated

The growing complexity of our world demands we are guided by accurate information. We have unprecedented access to information, but is complicated by:

Information Overload. We are drowning in it.

Remedy: Search the Internet for precise information/evidence.



Distractors. Manipulated facts or false conclusions.

Gaslighting: Manipulating so you doubt reality.

Trolling: Insincere remarks intended to elicit an emotion.

Remedy: Use nonbiased sources.



Common Fallacies

Consider both sides? Not always.

Remedy: Avoid a false dichotomy. See which sides have real evidence.



Confirmation Bias. We all tend to confirm what we already believe. Practice the scientific method and listen carefully to what others tell you in order to avoid misinformation.



Don't be so sure you're right. We often resist change or follow our clan (political and social groups and teams).

Remedy: Be open to learning and change if the facts warrant it. Separate yourself from "identity beliefs."



Don't be overly skeptical. Stand back and look at the big picture. If the preponderance of evidence and most experts agree, it is time to accept the answer.



Believe?

Time to Believe. Withhold belief until the facts are in. Then be flexible, just in case there is new information.



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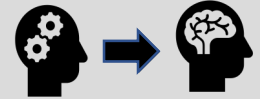
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Critical Thinking Guide

**Understand the world the way it is.
Avoid false beliefs and bad decisions.**

Steps to Clear Thinking

1. Require evidence. Cross check from various sources.
2. Listen and learn. Be flexible!
3. Go with the best information available, which could be proved wrong. So adjust if new verified facts are presented.
4. Always aim for the truth.



Easy Fact Check

Sounds Incredible? If it doesn't sound right or is amazing, cross-check it. The more important or impactful the issue, the more you should verify or demand evidence.

- **Is the correct question being asked?** A common tactic is to incorrectly frame an issue, such as being forced to choose between jobs and the environment. Look for a third alternative or check the pertinent question, such as, "How do we increase employment and make it sustainable for the environment?"
- **Internet Check.** Use the following with ART (backside):
 - Wiki or Quora, but remain skeptical. Use as a launch point to find more information.
 - Education and fact-check websites who cover claims and news. Use Harvard, Mayo Clinic, Scientific American, Factcheck.org, Consumer Reports, or Union of Concerned Scientists.
 - Non-partisan news organizations can be a good start, but often omit important details or have a story angle that sells rather than informs, so apply critical thinking skills. Use: Associated Press (AP), Reuters, NPR, LA/New York Times, CBS/ABC/NBC.

Accept or Reject Test (ART)

Accept

Motive

Source

Smell test

Source has a goal to help the world

- Known as legitimate
- Educational motive, using science and academic freedom to follow the facts.

Sources respected

- Evidence presented
- Uses meta-study (multiple studies)
- Sources cited are respected
- Most experts agree with results

Seems reasonable

- Based on all information, not cherry-picked
- Conclusion is reasonable; logical
- Humility and limits of knowledge are acknowledged

Reject

Motive

Source

Smell test

Motive is political, profit, or control

- Significant opposition by experts
- One of a kind study
- Study funded by proponents

Sources not recognized experts

- Evidence? None, few or faulty
- Studies not specifically cited
- Possible biased source

Surprising or unusual

- Too easily fits an agenda narrative
- Overly simple for complexity
- Only benefits presented

Some Things to Ponder

Reality has a way of being true, despite what you believe.

Seeing is not always believing, our brain fills images we see.

Don't be Full of Yourself. Facts may require you to change belief.

Be skeptical first, then accept the reality.

Is belief more important than the truth?

What to Believe

What is Their Agenda?

Agendas are not necessarily a problem, but if key details are purposely omitted, or they are not following science/critical thinking concepts, then bias has crept in.



What to Trust



The following are indications of good sources, but still verify questionable information. People doing good work also have biases to attain their agenda, so verification may be warranted, although the impact may not be bad.

- Source is truly there to benefit the world.
- Known or legitimate references such as journals and publications.
- The best studies are meta-studies that look at results of numerous studies to finally draw a conclusion.
- Use sources from .edu, .org or .gov. Still use ART (opposite page).
- An overwhelming majority of experts in the field agree.

The Scientific Method in Everyday Life

- Pose a question.
- Form a hypothesis. Does ___ really do ___.
- Gather **all** of the facts.
 - No cherry picking of the ones you already agree with.
 - Confirm they are facts.



Metathinking: Thinking About Thinking

- **You Are Fallible.** Your brain makes false assumptions, miscalculations, incorrect perceptions, and poor recollections. It's okay to say you were wrong.
- **You Think You are Smarter than Everyone:** You may be knowledgeable and have "common sense," but do you really believe you know more than experts who have spent years of schooling and decades in the field?

