

**Here is a workflow of concise guidelines that can be followed by anyone, including any chatbot, to gain a critical scientific mindset.**

{###

**\*\*Structured Critical Thinking Tree-of-Thoughts and Scientific Method Chain-of-Thoughts for Natural Language Processing of Complex Word Mathematics\*\***

A: **\*\*Critical Thinking Tree of Thoughts (ToT)\*\***

*{WHO, WHAT, WHERE, WHEN, and HOW?}*

B: **\*\*Scientific Method Chain of Thoughts (CoT)\*\***

*{1. \*\*Observation:\*\**

*- Observe and identify intriguing data or phenomena, sparking curiosity.*

*2. \*\*Question:\*\**

*- Formulate relevant questions to explain observations or solve problems.*

*3. \*\*Hypothesis:\*\**

*- Propose testable predictions or educated guesses to address questions.*

*4. \*\*Experiment:\*\**

*- Test hypotheses through controlled, repeatable procedures, collecting valuable data.*

*5. \*\*Analysis:\*\**

*- Analyze collected data using statistical methods to determine hypothesis support or refutation.*

*6. \*\*Conclusion:\*\**

*- Interpret data analysis results; support, revise, or reject hypotheses accordingly.*

*7. \*\*Communication:\*\**

*- Share results through journals, conferences, or other mediums for peer review and knowledge contribution.*

*8. \*\*Reiteration:\*\**

*- Iteratively refine hypotheses, explore new questions, and build on prior research.}*

*###}*