



UNAUTOMATED

— THE HUMAN INTELLIGENCE PROJECT —

For All Humankind.

HUMAN JUDGMENT. REAL CONSEQUENCE. A BETTER FUTURE.



DISCERNMENT.
Examine what is true.



PRUDENCE.
Decide what is worth doing.



WISDOM.
Act with good judgment.



UNAUTOMATED.ORG

THE UNAUTOMATED GUIDE TO CRITICAL THINKING

A PRACTICAL WORKBOOK FOR HUMAN JUDGMENT

Learn how to question, verify, reason, decide, and think for yourself.

1

PAUSE

2

DEFINE

3

QUESTION

4

VERIFY

5

REASON

6

JUDGE

Developed and published by Joshua J. Bowen | The Human Intelligence Project

Unautomated.org | 2026 Educational Resource Edition

HOW TO USE THIS RESOURCE

Reading Map

A PRACTICAL WORKBOOK, NOT AN INTELLIGENCE TEST

This guide is designed to strengthen a process. It does not measure a person's worth, intelligence, education, political identity, or professional competence. A strong thinker can make a poor decision. A person with limited experience can ask an excellent question. The goal is better judgment through repeatable habits.

Read Part I to understand the foundations. You will learn the difference between a fact and an inference, examine how emotion and bias influence attention, and build a more accurate picture of how you learn.

Practice Part II until the six steps become familiar. Pause. Define. Question. Verify. Reason. Judge. The method is deliberately simple enough to remember and serious enough to use when the consequences matter.

Apply Part III to online claims, artificial intelligence, work, meetings, teaching, and personal decisions. Use the worksheets on paper or with a digital annotation tool.

Complete Part IV with another person or a group when possible. Critical thinking improves when conclusions can survive respectful questions from someone who does not share every assumption.

A useful pace

Use	Suggested approach
Independent study	One chapter and one worksheet at a time. Twenty to thirty minutes per session.
Classroom or team	Six to eight sessions. Assign one method step and one case for each meeting.
Workshop	A half day introduction or a full day with practice cases and discussion.
Decision support	Use the complete method worksheet whenever a choice is consequential, difficult to reverse, or based on uncertain information.

THE HUMAN INTELLIGENCE PROJECT

Publication Note

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Purpose: Public education, individual practice, classroom discussion, team development, and organizational learning.

RESPONSIBLE USE

This guide offers an educational framework. It is not legal, medical, financial, mental health, employment, safety, or other professional advice. High stakes decisions should include qualified professional review, current evidence, and attention to the laws, duties, and facts that apply to the situation.

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AI transparency

Artificial intelligence assisted with research organization, drafting, editing, consistency review, and document production. Joshua J. Bowen directed the purpose, framework, brand, voice, and final editorial judgment. AI assistance does not remove human responsibility for what is published. Readers should use the same critical thinking standards with this workbook that it asks them to use elsewhere.

About Unautomated

Unautomated is The Human Intelligence Project. It is built around a simple proposition: humanity does not have to choose between technological progress and remaining fully human. Powerful tools can expand knowledge, improve work, widen access, and help solve difficult problems. Those possibilities deserve serious exploration. They also require serious human responsibility.

The project helps ordinary people, professionals, educators, families, institutions, and leaders understand emerging technology without surrendering judgment to either fear or enthusiasm. Technology should serve human beings. Human beings remain responsible for the purposes, limits, and consequences of the systems they create and use.

DISCERNMENT

Examine what is true.



PRUDENCE

Decide what is worth doing.



WISDOM

Act with good judgment.



THE HUMAN QUESTION

Before asking whether a system, argument, or decision is efficient, ask what it does to human capability. Does it help people understand, choose, and act with greater wisdom, or does it make them more dependent on a process they no longer understand?

The three pillars of human judgment

Discernment asks what is true. It separates observation from interpretation, credible evidence from assertion, and signal from noise.

Prudence asks what is worth doing. It considers consequences, timing, reversibility, duties, incentives, and the people who may carry the cost.

Wisdom brings truth and action together. It is the capacity to choose well when information is incomplete and responsibility cannot be delegated.

A Note from the Founder and Editor

"Critical thinking is not knowing more things. It is knowing what to do with what you think you know."

I have spent much of my life asking people to use good judgment. That sounds simple until we notice how often information arrives already framed for us. A headline tells us what to fear. A sales pitch tells us what to want. A group tells us what a loyal person should believe. A confident machine gives us an answer before we have decided what question we are actually asking.

Critical thinking does not require cynicism, endless debate, or suspicion of everyone. It requires enough humility to admit that our first impression may be incomplete, enough discipline to examine what is true, and enough courage to change our mind when the evidence earns it.

This workbook turns those ideas into a method. The method will not make every decision easy. Some decisions remain painful even after excellent reasoning. It will, however, help you slow the reaction, identify the real claim, find what is missing, test the evidence, connect what follows, and take responsibility for the judgment that remains.

Use these pages. Write in them. Disagree with them. Test the method against real life. The future will contain more information, more automation, and more persuasive systems than any generation has faced before. Our response cannot be to stop thinking. It must be to become better at it.

Joshua J. Bowen

Founder and Editor
Unautomated.org

How to Use the Workbook

- 1 Begin with a real question. The exercises become more useful when you apply them to an issue you actually care about.
- 2 Write before discussing. A written first response exposes assumptions that can disappear once a group begins influencing the conversation.
- 3 Separate certainty from confidence. Most real decisions do not offer certainty. Record how confident you are and what would move that confidence.
- 4 Invite a serious challenge. Ask another person to identify what you missed, not merely whether they agree.
- 5 Return after time has passed. Review your reasoning after new evidence arrives or after the emotional pressure has decreased.
- 6 Keep a decision record. Good judgment includes remembering why a choice was made and learning from the result.

Symbols used throughout

HUMAN QUESTION

A question about dignity, agency, responsibility, capability, or consequence.

RESEARCH NOTE

A brief connection to established research. Full references appear at the end.

PRACTICE

An exercise to complete alone or with a group.

DECISION RECORD

A page for documenting evidence, reasoning, confidence, action, and review.

DO NOT RUSH THE BLANK SPACE

The writing areas are part of the lesson. A quick mental answer often feels complete because it has not been forced into specific words. Writing makes ambiguity visible.

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WORKSHEET

Critical Thinking Baseline

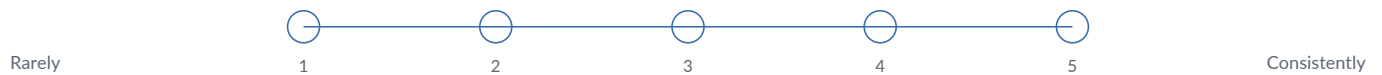
Rate the habits you use today. This is a reflection, not a validated score. Suggested time: 12 minutes.

Use the following scale: 1 means rarely true of me. 5 means consistently true of me. Answer according to your ordinary behavior, not your ideal behavior.

I can state the exact claim before deciding whether I agree.



I distinguish what I observed from what I inferred.



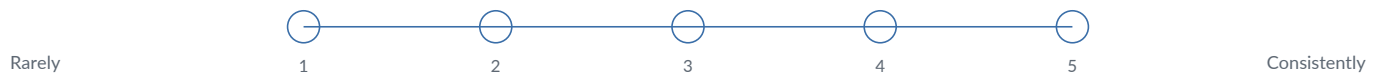
I can explain what evidence would change my mind.



I check the original source before sharing a consequential claim.



I look for independent confirmation rather than repeated versions of the same report.



I can describe a strong opposing view fairly.



Critical Thinking Baseline, continued

I notice when urgency or emotion is narrowing my attention.



I ask who benefits from a claim, decision, or framing.



I separate confidence from certainty.



I consider base rates, alternatives, and missing information.



I can identify the premises beneath a conclusion.



I distinguish correlation from causation.



Which two habits are already strongest?

Which two habits would most improve your decisions if strengthened?

KEEP THIS SCORE

Return to the baseline after the thirty day practice plan. The purpose is not to produce a flattering number. It is to notice whether your process has become more deliberate, transparent, and teachable.



PART I

THE THINKING MIND

Understand what critical thinking is, how learning works, and why intelligent people still make predictable mistakes.

DISCERNMENT

Examine what is true.

PRUDENCE

Decide what is worth doing.

WISDOM

Act with good judgment.

01 | What Critical Thinking Is

Critical thinking is the deliberate examination of information, assumptions, evidence, reasoning, alternatives, and consequences before a conclusion is accepted or an action is taken.

The word critical does not mean hostile. It comes from the work of judging, distinguishing, and evaluating. A critical thinker does not begin by attacking a claim. The thinker begins by making the claim clear enough to test.

Critical thinking is both a set of skills and a disposition. Skills include interpretation, analysis, evaluation, inference, explanation, and self correction. Disposition includes curiosity, humility, fairness, patience, courage, and a willingness to reconsider. A person can possess reasoning ability and still avoid using it when identity, convenience, or pressure gets in the way.

RESEARCH NOTE

The Delphi Report gathered forty six experts to develop a consensus account of critical thinking for education. It emphasized both cognitive skills and the disposition to use them. Sources: [1] Facione, 1990

What critical thinking does

- Clarifies the exact question, claim, or decision.
- Separates facts, interpretations, assumptions, and inferences.
- Examines the quality and relevance of evidence.
- Looks for alternative explanations and competing conclusions.
- Tests whether the reasoning actually supports the conclusion.
- Considers consequences, uncertainty, and who carries the risk.
- Makes the final judgment visible enough to explain and review.

What critical thinking is not

NOT CYNICISM

Doubting everything is not the same as evaluating carefully.

NOT INTELLIGENCE THEATER

Complicated language does not improve weak evidence.

NOT ENDLESS DELAY

A decision can be responsible even when information remains incomplete.

NOT AUTOMATIC DISAGREEMENT

Agreement can be well reasoned. So can disagreement.

NOT EMOTIONAL NUMBNESS

Emotion is information about importance, not proof of a claim.

NOT MORAL NEUTRALITY

Reasoning should examine values and consequences, not pretend they do not exist.

The Three Pillars of Human Judgment

DISCERNMENT

Examine what is true.



PRUDENCE

Decide what is worth doing.



WISDOM

Act with good judgment.



The six step method in this workbook rests on three larger capacities. Discernment governs the search for truth. Prudence governs the choice of action. Wisdom integrates both while accepting responsibility for what follows.

These pillars prevent critical thinking from becoming a narrow fact checking exercise. A claim can be factually accurate and still be framed to mislead. A proposed action can be efficient and still be unwise. A decision can be legally permitted and still fail the people who must live with it.

A complete judgment asks three different questions

Pillar	Central question	Common failure when missing
Discernment	What is true, supported, uncertain, or missing?	The decision begins with a false picture of reality.
Prudence	What is worth doing, given the timing, risk, duties, and alternatives?	A technically correct answer becomes a poor action.
Wisdom	What choice best serves the human purpose, and who will own the consequence?	Responsibility is displaced into procedure, habit, or technology.

THE HUMAN QUESTION

Would you want this reasoning process used on someone you love? The question does not replace evidence. It reveals whether distance from the affected person has made the standard too weak.

WORKSHEET

Fact, Opinion, Assumption, or Inference?

Classify each statement, then explain what additional evidence would be needed. Suggested time: 15 minutes.

The meeting began at 9:03 a.m.

☐ Fact☐ Opinion☐ Assumption☐ Inference

The manager was angry.

☐ Fact☐ Opinion☐ Assumption☐ Inference

The manager spoke only twice during the meeting.

☐ Fact☐ Opinion☐ Assumption☐ Inference

The new policy will obviously fail.

☐ Fact☐ Opinion☐ Assumption☐ Inference

Three customers complained this week.

☐ Fact☐ Opinion☐ Assumption☐ Inference

Customers are leaving because of the new policy.

☐ Fact☐ Opinion☐ Assumption☐ Inference

The article was published on May 4.

☐ Fact☐ Opinion☐ Assumption☐ Inference

The author is biased and cannot be trusted.

☐ Fact☐ Opinion☐ Assumption☐ Inference

Classification Review

A USEFUL DISTINCTION

A fact is a statement that can be checked against evidence. An opinion expresses a judgment or preference. An assumption is accepted without being established. An inference is a conclusion drawn from evidence. The same sentence can move categories depending on the evidence available.

Choose one statement you classified as a fact. What record or observation could verify it?

Choose one statement you classified as an inference. What facts would have to be true for the inference to be reasonable?

Which statement is most likely to create conflict if people mistake it for a fact?

Rewrite one statement so it becomes more precise and testable.

02 | The Anatomy of a Claim

Most disagreements become harder because several different things are compressed into one sentence. A person describes an event, assigns a cause, judges a motive, predicts a result, and recommends an action without showing where one move ends and the next begins.

Critical thinking slows the sentence down. It asks what was observed, what was interpreted, what was assumed, what conclusion was drawn, and what action is being proposed.

Six building blocks

Element	Meaning	Example
Observation	What was directly seen, heard, measured, or recorded.	The email arrived at 4:42 p.m.
Interpretation	The meaning assigned to an observation.	The sender was dismissive.
Assumption	Something treated as true without current proof.	The sender knew the deadline.
Inference	A conclusion drawn from one or more facts.	The delay was intentional.
Claim	A statement presented for acceptance.	The project failed because leadership ignored the team.
Recommendation	A proposed response.	The director should be removed.

Claims contain hidden questions

- What type of claim is this: descriptive, causal, predictive, evaluative, or prescriptive?
- What words are vague, emotionally loaded, or undefined?
- What time period, population, comparison, or threshold is implied?
- What would count as evidence for or against it?
- What other claim has been smuggled into the sentence without support?

PRECISION CHANGES THE CONVERSATION

"AI is ruining education" is too broad to test. "Routine use of generative AI to produce final essays may reduce opportunities for students to practice planning, drafting, and revision" is narrower, more useful, and open to evidence.

WORKSHEET

Claim Dissection

Take one current disagreement and separate its parts. Suggested time: 12 minutes.

Write the claim exactly as you heard or read it.

What type of claim is it: descriptive, causal, predictive, evaluative, or prescriptive?

What was directly observed or recorded?

What interpretations or assumptions were added?

Rewrite the claim so it is specific enough to test.

03 | How the Mind Reaches an Answer

Human thinking uses processes that operate at different speeds and with different demands. Some responses arrive rapidly and automatically. Others require attention, working memory, and deliberate comparison. Fast responses are not automatically wrong. They are essential for daily life. Problems arise when a quick impression is treated as a complete judgment in a situation that requires more work.

The purpose of the pause is not to suppress intuition. It is to decide whether intuition has earned authority in this situation. Expertise can produce valuable rapid recognition, but confidence can also come from familiarity, emotion, repetition, or social reinforcement.

RESEARCH NOTE

Dual process research distinguishes rapid autonomous responses from more effortful reasoning that supports hypothetical thinking and depends heavily on working memory. The distinction is useful, but the mind is not literally divided into two simple machines. Sources: [8] Evans and Stanovich, 2013

Four pressures that narrow judgment

URGENCY

A demand for immediate action can prevent source checking and alternative generation.

IDENTITY

A claim tied to belonging can feel like a test of loyalty rather than a question of evidence.

EMOTION

Fear, anger, hope, and disgust can direct attention toward some facts and away from others.

COGNITIVE LOAD

Fatigue, distraction, stress, and too many choices reduce the resources available for reflection.

The reaction gap

Moment	Question
Stimulus	What did I see, hear, receive, or remember?
Immediate response	What did I feel or want to do?
Pause	What is the actual claim or decision?
Reflection	What evidence, alternatives, and consequences matter?
Judgment	What will I believe, say, share, or do?

WORKSHEET

The Reaction Map

Use a recent moment when you reacted quickly. Suggested time: 10 minutes.

What happened? Describe only what could have been recorded.

What was your immediate emotional and physical response?

What story did your mind begin telling about the event?

What did you want to do before checking anything?

What changed after you paused or gathered more information?

04 | Learning Styles, Preferences, and Effective Learning

People differ in experience, knowledge, interest, attention, aptitude, culture, and preferences. Many people also prefer to receive information through a particular format. A person may enjoy diagrams, conversation, reading, demonstration, or hands on practice.

Preference is real. A fixed learning style is a different claim. The popular idea that each person should be classified as a visual, auditory, or kinesthetic learner and then taught primarily through the matching format is not supported by adequate evidence. The better approach is to use methods suited to the material and to combine representations when they add meaning.

RESEARCH NOTE

A major review found little adequate evidence for matching instruction to a fixed learning style category. Research on learning instead supports strategies such as retrieval practice, distributed practice, self explanation, and appropriate variation in how material is represented. Sources: [4] Pashler et al., 2008; [5] Dunlosky et al., 2013; [9] National Academies, 2018

Ask how you learn, not what type you are

READING AND WRITING

Useful for precise language, annotation, comparison, and returning to a record.

CONVERSATION

Useful for testing explanations, hearing objections, and noticing what is difficult to say clearly.

VISUAL REPRESENTATION

Useful when relationships, sequence, scale, or structure can be shown.

DEMONSTRATION

Useful when a process contains movements, choices, or tacit steps that text may hide.

PRACTICE AND FEEDBACK

Useful when performance depends on doing, correcting, and doing again.

TEACHING ANOTHER PERSON

Useful for revealing gaps and reorganizing knowledge into an explanation.

Five evidence informed learning practices

- 1 Retrieve. Close the source and try to recall or explain the idea from memory.
- 2 Space. Return to the material across time instead of relying on one concentrated session.
- 3 Explain. State why the idea is true, how it works, and how it connects to what you already know.
- 4 Vary. Compare examples, formats, and problems so you learn the principle rather than one surface pattern.
- 5 Use feedback. Check performance against evidence, a standard, or a knowledgeable person and then revise.

WORKSHEET

Your Learning and Thinking Profile

Rate preferences, then identify practices that improve understanding. Suggested time: 15 minutes.

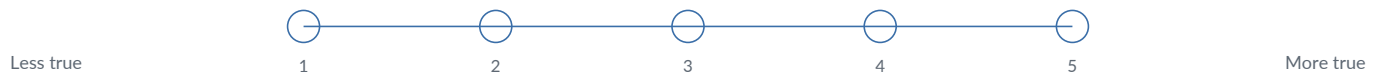
I understand an idea better after seeing a concrete example.



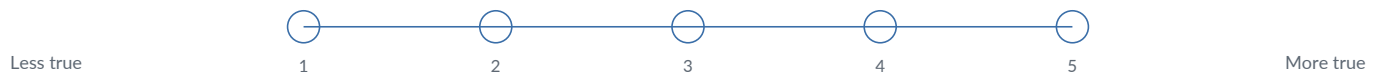
I remember more when I write or annotate by hand.



I discover gaps when I explain an idea aloud.



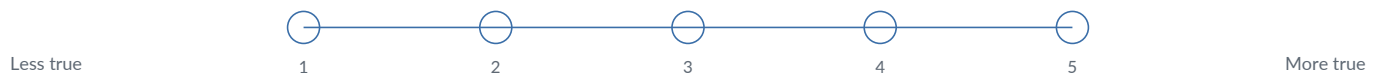
A diagram helps me see relationships that text hides.



I need time alone before a group discussion.



I learn by trying, receiving feedback, and trying again.



Your Learning and Thinking Profile, continued

Which formats help you become interested in a subject?

Which methods help you remember after several days?

Which method most quickly reveals what you do not understand?

What do you tend to avoid because it feels difficult, even though it may improve learning?

Design a thirty minute learning session that combines retrieval, explanation, and feedback.

05 | Biases and Blind Spots

A cognitive bias is a patterned tendency that can influence attention, interpretation, memory, judgment, or choice. Biases are not proof that human thought is hopeless. Many fast rules are useful. They become dangerous when a shortcut is applied outside the conditions where it works, or when a person assumes only other people are biased.

Naming a bias does not automatically correct it. The practical question is what process can reduce its influence. Good critical thinking changes the environment around the decision through written criteria, independent review, source comparison, time, and explicit disconfirmation.

RESEARCH NOTE

Classic research described representativeness, availability, and anchoring as efficient heuristics that can also produce systematic error. Confirmation bias includes seeking or interpreting evidence in ways that favor an existing belief or hypothesis. Sources: [2] Tversky and Kahneman, 1974; [3] Nickerson, 1998

Ten common patterns

CONFIRMATION BIAS

Favoring evidence that supports what we already believe.

ANCHORING

Allowing an early number, frame, or idea to exert too much influence.

AVAILABILITY

Treating memorable or recent examples as more common or probable than they are.

BANDWAGON EFFECT

Mistaking popularity, repetition, or group agreement for correctness.

AUTHORITY BIAS

Accepting a claim because of status without examining relevant expertise and evidence.

SUNK COST

Continuing because of what has already been invested rather than what makes sense now.

HALO EFFECT

Letting one favorable quality shape unrelated judgments.

NEGATIVITY BIAS

Giving negative information more weight than its reliability or relevance deserves.

OUTCOME BIAS

Judging the quality of a decision only by the result rather than the process and information available at the time.

OVERCONFIDENCE

Treating confidence, fluency, or familiarity as evidence of correctness.

Bias Requires Process, Not Shame

Bias is often discussed as a personal defect. That framing can make people defensive and less willing to examine it. A stronger approach treats bias as a design problem. What features of the situation make an error more likely, and what guardrail would make better reasoning easier?

Practical countermeasures

Risk	Countermeasure
Confirmation	Write what would disprove the favored conclusion before searching.
Anchoring	Generate an independent estimate before seeing another person's number.
Availability	Look for base rates, denominators, and a longer time period.
Group influence	Collect independent judgments before discussion.
Authority	Check whether the expertise matches the claim and whether evidence is shown.
Sunk cost	Ask what you would choose today if the past investment did not exist.
Overconfidence	State a confidence range and name the strongest uncertainty.

A WARNING ABOUT LABELS

Do not end an argument by naming the other person's bias. Show the evidence, explain the reasoning, and apply the same standard to your own position.

WORKSHEET

The Bias Audit

Use one belief or decision that matters to you. Suggested time: 15 minutes.

State the belief or favored decision.

What evidence supports it?

What evidence challenges it?

What would cause you to change your mind?

Would you evaluate the same evidence differently if it supported the opposite conclusion?

The Bias Audit, continued

What was the first number, story, source, or frame you encountered?

What memorable example may be distorting your estimate of what is common?

What have you already invested that may be affecting the choice?

Who in your group might disagree but feel unable to say so?

Choose one countermeasure you will use before deciding.

o6 | Intellectual Character

Critical thinking is not only what a person can do. It is what a person is willing to do when the answer becomes inconvenient. The disposition to think well matters most when evidence threatens identity, profit, status, comfort, or a public commitment.

Six habits of an independent thinker

CURIOSITY

Ask what is true before asking what position is useful.

HUMILITY

Recognize that confidence can exceed evidence and that correction is part of learning.

FAIRNESS

Represent an opposing position strongly enough that its advocate would recognize it.

COURAGE

Follow evidence when it creates social, professional, or emotional discomfort.

PATIENCE

Allow enough time for complexity without using complexity as an excuse to avoid action.

RESPONSIBILITY

Own the final judgment rather than blaming the group, the process, or the machine.

The strongest form of disagreement

A useful disagreement begins by identifying shared facts, shared values, and the precise point where reasoning diverges. Sometimes people disagree about evidence. Sometimes they agree on evidence but weigh consequences differently. Sometimes they use the same word for different ideas. The disagreement improves when the location is made visible.

THE CORRECTION TEST

Can you say, without humiliation, "I was wrong about that, here is what changed my mind, and here is what I will do differently"? The ability to correct is one of the clearest signs that thinking remains alive.

WORKSHEET

Your Intellectual Character Commitment

Choose the habit you will practice when disagreement becomes difficult. Suggested time: 10 minutes.

Which habit is easiest for you?

Which habit is most likely to disappear under pressure?

What does a respectful challenge sound like in your voice?

Write a sentence you can use when new evidence changes your mind.

Name one person who has permission to question your reasoning honestly.



PART II

THE HUMAN JUDGMENT METHOD

Use a practical six step process to move from reaction to a reasoned and responsible decision.

DISCERNMENT

Examine what is true.

PRUDENCE

Decide what is worth doing.

WISDOM

Act with good judgment.

The Six Step Human Judgment Method



The method is a loop, not a performance. Return to an earlier step when the evidence changes.

The method is designed for ordinary use. It can take two minutes before sharing a post, twenty minutes before responding to a conflict, or several weeks before a major organizational decision. The steps remain the same even when the depth changes.

The process is not perfectly linear. Verification may reveal that the claim was poorly defined. Reasoning may expose a missing question. Judgment may require a return to evidence. Moving backward is not failure. It is how a serious process corrects itself.

The six questions

- 1 Pause: What am I being asked to believe, decide, share, or do?
- 2 Define: What exactly is the claim, question, or decision?
- 3 Question: What do I know, what am I assuming, and what is missing?
- 4 Verify: Where did the information come from, and can it be independently confirmed?
- 5 Reason: What conclusions actually follow, and what alternatives remain?
- 6 Judge: What is the most responsible conclusion or action, with what confidence and review plan?

USE DEPTH THAT MATCHES CONSEQUENCE

A reversible choice with little impact may need a brief check. A decision affecting rights, health, livelihood, safety, reputation, or many people deserves more evidence, independent review, and written reasoning.

07 | Step One: Pause

The pause interrupts pressure long enough for judgment to enter the process.

Persuasive messages often try to remove the pause. They create urgency, fear, outrage, scarcity, belonging, or certainty. The demand may be explicit, such as "act now," or social, such as the feeling that hesitation will make you appear disloyal or uninformed.

A pause does not require passivity. In a true emergency, the responsible action may be immediate. The question is whether the urgency is established by the facts or manufactured by the message.

The four pause questions

- 1 What am I being asked to believe, decide, share, purchase, accuse, or do?
- 2 What emotion or pressure is present?
- 3 How consequential and reversible is the choice?
- 4 What is the minimum time needed to check the most important fact?

The two minute pause

First thirty seconds	Next ninety seconds
Name the emotion.	State the exact claim.
Notice the desired reaction.	Check the source and date.
Do not forward, reply, purchase, or accuse.	Ask what fact would make the action responsible.

EMERGENCY EXCEPTION

When immediate safety is at risk, act according to established emergency procedures and seek qualified help. Critical thinking in an emergency often means relying on prepared protocols rather than improvising while under extreme stress.

WORKSHEET

The Pause Card

Use this page before reacting to a persuasive or emotional message. Suggested time: 5 minutes.

What am I being asked to believe, decide, share, purchase, accuse, or do?

What emotion or pressure is present?

What happens if I wait ten minutes, one hour, or one day?

Is the choice reversible? Who could be affected before it is corrected?

What is the smallest responsible next step?

o8 | Step Two: Define

A problem cannot be reasoned through until it is named accurately.

Vague language permits people to agree or disagree without addressing the same issue. Words such as safe, effective, fair, successful, dangerous, common, natural, biased, intelligent, and responsible can carry different meanings. Definition converts a reaction into a question that evidence can answer.

Defining also establishes scope. A claim about one event is not automatically a claim about a trend. A result from one population may not apply to another. A short term effect may not predict a long term result.

The definition frame

Question	Purpose
What exactly is being claimed?	Creates a testable sentence.
What key words need a definition?	Prevents verbal agreement over different meanings.
Who or what is included?	Establishes population and scope.
Compared with what?	Makes the baseline visible.
Over what time period?	Separates a moment from a pattern.
What decision must be made?	Prevents research from becoming disconnected from action.

From vague to testable

Vague statement	More testable version
Remote work is bad for culture.	For this team, what measurable changes in retention, collaboration, performance, and belonging followed the shift to remote work?
This neighborhood is unsafe.	How have reported violent and property crimes changed within the defined area and time period, and what limitations affect the data?
The new system is more efficient.	Which tasks take less time, for whom, at what error rate, and with what new costs?

WORKSHEET

The Definition Sheet

Convert a vague or emotional issue into a question that can be examined. Suggested time: 10 minutes.

Write the original statement.

Underline or list the vague, loaded, or undefined words.

Who or what is included, and what is outside the scope?

What comparison and time period are needed?

Write the most precise testable version you can.

09 | Step Three: Question

Questions expose the structure that confidence can hide.

The purpose of questioning is not to create an interrogation. It is to identify what must be known before a conclusion is responsible. A good question is specific enough to guide the search and open enough to permit an unexpected answer.

The ten questions of a critical thinker

- 1 What exactly is being claimed?
- 2 How do we know?
- 3 What evidence supports it?
- 4 Where did the evidence originate?
- 5 What assumptions are being made?
- 6 What important information is missing?
- 7 What other explanations are possible?
- 8 Who disagrees, and what is their strongest reason?
- 9 What would prove the claim wrong or require revision?
- 10 What conclusion is actually justified by what we know now?

Question categories

CLARIFYING

What do you mean by that word or result?

EVIDENTIARY

What record, measurement, observation, or study supports it?

COMPARATIVE

Compared with what baseline or alternative?

CAUSAL

How do we know this factor produced the result?

PERSPECTIVE

Who experiences this differently, and why?

CONSEQUENCE

What happens next, and who carries the risk?

A STRONG QUESTION HAS A JOB

Do not ask questions merely to sound skeptical. Ask the question that could change the conclusion, reduce the risk, clarify the disagreement, or improve the decision.

WORKSHEET

The Question Builder

Generate questions before beginning the search. Suggested time: 12 minutes.

What is the central question?

What do you already know from direct evidence?

What are you currently assuming?

What missing fact could change the decision most?

What is the strongest alternative explanation?

What evidence would require you to revise the favored conclusion?

10 | Step Four: Verify

Verification is the work of tracing information back toward evidence.

A repeated claim is not automatically an independently confirmed claim. Ten posts may all depend on one anonymous account. A chart may be real while its axis, time period, or missing denominator creates a false impression. A quotation may be accurate but stripped of the context that gives it meaning.

Verification asks where the information originated, whether the source is competent and accountable, whether the evidence can be inspected, and whether a separate source confirms the material facts.

ORIGINAL RECORD

The document, data, recording, law, study, or direct observation.

PRIMARY SOURCE

A person or institution directly responsible for the information.

INDEPENDENT CONFIRMATION

A separate source that can verify the material facts.

EXPERT INTERPRETATION

Analysis by a qualified person who shows the basis for the conclusion.

SUMMARY OR COMMENTARY

Useful context, but farther from the original evidence.

POST, SCREENSHOT, OR RUMOR

A lead to investigate, not a conclusion to accept.

RESEARCH NOTE

Civic Online Reasoning teaches lateral reading: leave the original page, investigate the source, and compare what other credible sources say. Accuracy prompts also show that directing attention toward truth can improve sharing decisions. Sources: [6] Wineburg et al., 2020; [7] Pennycook and Rand, 2022

Verification in Practice

The three source rule

- 1 Find the original. Locate the document, data, study, recording, filing, direct statement, or responsible institution.
- 2 Find independent confirmation. Use a source that did not merely copy the first account.
- 3 Find a credible challenge. Look for a qualified source that interprets the evidence differently or identifies limitations.

Source questions

Question	What to examine
Who created it?	Identity, role, relevant expertise, accountability, and conflicts.
What is the evidence?	Methods, records, data, sample, documentation, or direct access.
When was it produced?	Date, updates, corrections, and whether the claim is time sensitive.
Why was it produced?	Purpose, audience, financial incentive, political incentive, or institutional duty.
Can it be checked?	Links, citations, raw material, methodology, and independent confirmation.
What is missing?	Context, denominator, uncertainty, limitations, opposing evidence, and affected people.

SCREENSHOTS ARE LEADS

A screenshot can be edited, cropped, old, fabricated, or detached from the page it depicts. Use it to identify what should be located, not as the final proof that the claim is true.

WORKSHEET

The Source Verification Record

Use this page for a claim that may influence a consequential choice. Suggested time: 15 minutes.

Claim being checked

Original source or closest available record

Independent confirmation

Credible challenge or limitation

The Source Verification Record, continued

Source	Relevant expertise	Evidence shown	Conflicts or incentives	Confidence

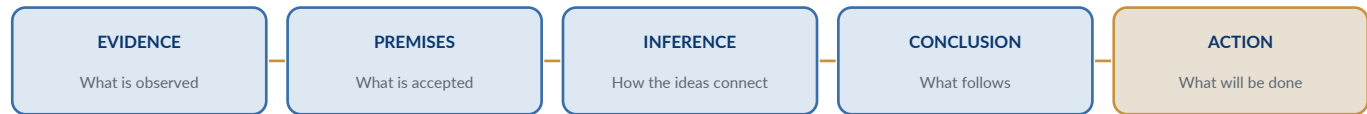
What is confirmed across sources?

What remains disputed or unknown?

What additional verification would be proportionate to the stakes?

II | Step Five: Reason

Reasoning connects evidence to a conclusion without hiding the steps between them.



A strong conclusion never becomes stronger than the evidence and reasoning beneath it.

A conclusion may be true even when the argument for it is weak. A conclusion may also be false even when every speaker is sincere. Reasoning evaluates whether the premises are supported, whether the inference is valid or plausible, whether alternatives were considered, and whether the conclusion is stronger than the evidence allows.

Four reasoning checks

- 1 Relevance: Does this evidence bear directly on the claim?
- 2 Sufficiency: Is there enough evidence for the strength of the conclusion?
- 3 Alternative explanations: Could another cause or account fit the same facts?
- 4 Proportionality: Does the language of certainty match the quality of the support?

Correlation and causation

When two things occur together, one may cause the other. The relationship may also run in the opposite direction, result from a third factor, reflect selection effects, or be coincidental. Causal claims require more than sequence and association.

THE MISSING DENOMINATOR

"Complaints doubled" sounds alarming. The meaning changes if complaints rose from two to four while transactions rose from one hundred to ten thousand. Counts require context.

Common Reasoning Failures

STRAW MAN

Replacing a real position with a weaker version that is easier to attack.

AD HOMINEM

Treating a personal attack as evidence that a claim is false.

APPEAL TO AUTHORITY

Using status in place of relevant evidence and expertise.

CHERRY PICKING

Selecting favorable evidence while ignoring relevant contrary evidence.

MOVING THE STANDARD

Changing what would count as proof after the original standard is met.

FALSE DILEMMA

Presenting two options when other meaningful choices exist.

APPEAL TO POPULARITY

Using widespread belief as proof of correctness.

CIRCULAR REASONING

Using the conclusion as support for itself.

FALSE CAUSE

Assuming one event caused another without adequate support.

SLIPPERY SLOPE

Claiming that one step will lead to an extreme result without showing the chain.

The steelman practice

Before rejecting a position, state the strongest version of it. Identify its best evidence, most reasonable assumptions, and the value it is trying to protect. Then explain where the argument still fails or why another conclusion remains stronger.

DISAGREEMENT WITHOUT DISTORTION

A person should be able to say, "Yes, that is a fair statement of my position," before you begin the critique.

WORKSHEET

The Reasoning Map

Make the chain from evidence to action visible. Suggested time: 15 minutes.

Conclusion or proposed action

Premise one and its supporting evidence

Premise two and its supporting evidence

How do the premises connect to the conclusion?

The Reasoning Map, continued

What is the strongest alternative explanation?

What evidence would distinguish between the explanations?

Which reasoning failure is most likely here?

Rewrite the conclusion so its certainty matches the evidence.

12 | Step Six: Judge

Judgment is the responsible choice that remains after evidence, reasoning, values, and consequence have been considered.

Critical thinking does not end with an analysis. People still have to decide what to believe, communicate, share, approve, refuse, delay, or do. Judgment accepts that uncertainty may remain while responsibility does not disappear.

A good decision is not guaranteed to produce a good outcome. Chance, hidden information, and changing conditions matter. The quality of judgment should be evaluated by the process, the information reasonably available at the time, and whether the decision was reviewed honestly as evidence changed.

0 to 20 Speculation	21 to 40 Weak support	41 to 60 Plausible	61 to 80 Well supported	81 to 100 Strong, not absolute
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Confidence is a report about the evidence, not a measure of personal conviction.

The judgment statement

USE THIS FORMAT

Based on the evidence available as of [date], I conclude [conclusion] with [confidence] confidence. The strongest uncertainty is [uncertainty]. I will [action]. I will review the decision when [trigger or date].

Five final checks

- 1 Is the decision proportionate to the evidence and the stakes?
- 2 Is it reversible, and should a smaller test come first?
- 3 Who benefits, who may be harmed, and who has not been heard?
- 4 Who is responsible for the result and the correction process?
- 5 What evidence or date will trigger review?

WORKSHEET

The Decision Record

Document a judgment so it can be explained and reviewed later. Suggested time: 15 minutes.

Decision or conclusion

Material facts and strongest evidence

Uncertainties and assumptions

Alternatives considered

The Decision Record, continued

People affected, including those not represented in the decision

Chosen action and why it is proportionate

Confidence from 0 to 100 and the reason for that level

Review date or evidence trigger

Named person responsible for review and correction

The Complete Method on One Page



Step	Core question	Required output
1. Pause	What am I being asked to believe, decide, share, or do?	Reaction, stakes, and time needed.
2. Define	What exactly is the claim, question, or decision?	A precise testable statement.
3. Question	What do I know, assume, and still need?	Priority questions and disconfirming evidence.
4. Verify	Where did the information come from?	Original evidence, independent confirmation, and limitations.
5. Reason	What conclusions follow?	Premises, alternatives, reasoning checks, and proportional language.
6. Judge	What is the most responsible conclusion or action?	Decision, confidence, ownership, and review trigger.

WORKSHEET

The Complete Human Judgment Worksheet

Use the full method for a real decision. Suggested time: 25 to 45 minutes.

1. PAUSE

What am I being asked to believe, decide, share, or do? What pressure is present?

2. DEFINE

What exactly is the testable claim or decision? What terms, scope, comparison, and time period matter?

3. QUESTION

What do I know, assume, and need to learn? What would change my mind?

The Complete Human Judgment Worksheet, continued

4. VERIFY

What is the original evidence? What independent source confirms it? What credible challenge or limitation exists?

5. REASON

What premises support the conclusion? What alternatives remain? Does causation, probability, or a reasoning failure need attention?

6. JUDGE

What will I conclude or do? With what confidence? Who owns the decision, and when will it be reviewed?



PART III

CRITICAL THINKING IN PRACTICE

Apply the method to online information, AI, work, groups, teaching, and consequential personal choices.

DISCERNMENT

Examine what is true.

PRUDENCE

Decide what is worth doing.

WISDOM

Act with good judgment.

13 | News, Social Media, and Viral Claims

Online information is optimized for attention, speed, identity, and sharing. Truth may be present, but it is not the only force shaping what reaches you. A responsible reader separates the claim from the emotional packaging and leaves the post to investigate the source.

The SIFT practice

- 1 Stop. Notice your reaction and whether you know the source.
- 2 Investigate the source. Learn who is responsible, what expertise exists, and what incentives may matter.
- 3 Find better coverage. Look for credible reporting, primary records, and independent confirmation.
- 4 Trace the claim. Locate the original quotation, image, video, data, study, or event in context.

Before sharing

- | | |
|--|--|
| ☐ I opened the source. | ☐ I found independent confirmation. |
| ☐ I checked the date. | ☐ I read beyond the headline. |
| ☐ I found the original. | ☐ I know what remains uncertain. |

ATTENTION IS PART OF VERIFICATION

Research on accuracy prompts suggests that simply directing attention toward whether a claim is true can improve sharing decisions. Before pressing share, ask: Is this accurate enough to place my credibility behind it?

Images and video

- Search for earlier versions and the original uploader.
- Check whether the date, weather, location, shadows, signs, and spoken details fit the claim.
- Look for the full clip rather than the excerpt.
- Distinguish signs of editing from proof of synthetic generation. Real media can be miscaptioned, and synthetic media can look ordinary.
- Use authoritative statements and independent reporting when identity or authenticity has real consequences.

WORKSHEET

Viral Claim Verification

Use a current post, clip, screenshot, or forwarded message. Suggested time: 15 minutes.

What exactly is the post asking you to believe or do?

What emotion or identity does the post activate?

Who first published the material?

What is the original record, full context, or earliest version?

Viral Claim Verification, continued

What does independent coverage confirm?

What remains unconfirmed or disputed?

What would a responsible caption or summary say?

Decision: share, do not share, wait, or share with qualification. Explain.

14 | Artificial Intelligence as a Source and Tool

Artificial intelligence can summarize, draft, compare, translate, calculate, search, and generate plausible explanations. It can also produce false details, omit relevant context, reinforce the user's framing, cite sources incorrectly, and present uncertainty with fluent confidence.

The correct standard is not to distrust every AI output. It is to match verification to consequence. Brainstorming language for a private draft presents different risk from medical guidance, legal interpretation, financial analysis, hiring decisions, public accusations, or factual claims published under your name.

The AI output audit

- 1 Purpose: What task did the system perform, and should AI perform that task at all?
- 2 Input: Did the prompt include sensitive, confidential, copyrighted, or misleading information?
- 3 Claims: Which statements are factual, current, numerical, legal, scientific, or reputational?
- 4 Sources: Can every material claim be traced to a reliable source that actually supports it?
- 5 Omissions: What people, alternatives, limitations, or consequences may be missing?
- 6 Human ownership: Who will review, approve, correct, and accept responsibility?

FLUENCY IS NOT TRUTH

A polished answer can create an illusion of understanding. Ask the system to show uncertainty and sources, but verify consequential claims outside the system.

Use AI to strengthen thinking, not replace it

USEFUL SUPPORT

Generate questions, compare scenarios, identify assumptions, organize evidence, or draft a reasoning map.

HUMAN RESPONSIBILITY

Set the purpose, verify facts, protect privacy, evaluate consequences, make the decision, and own the result.

WORKSHEET

AI Answer Audit

Evaluate one AI generated answer before using or publishing it. Suggested time: 15 minutes.

What task did you ask the system to perform?

Which claims could cause harm if false, outdated, incomplete, or misapplied?

List the original sources you checked.

What did the system omit or assume?

AI Answer Audit, continued

What private or sensitive information entered the system?

What human expertise or review is required?

Rewrite the answer so fact, analysis, uncertainty, and recommendation are clearly separated.

Who owns the final decision and correction?

15 | Business and Organizational Decisions

Organizations often reward speed, confidence, and measurable output. Critical thinking protects the organization from confusing activity with progress, adoption with readiness, or a persuasive forecast with a reliable decision.

A professional decision record should show the purpose, evidence, alternatives, consequences, ownership, and review plan. This makes learning possible after the result is known and reduces the temptation to rewrite the history of why the decision was made.

The decision brief

Section	Question
Purpose	What problem are we solving, for whom, and why now?
Evidence	What facts, data, experience, and uncertainty matter?
Alternatives	What options include delay, pilot, redesign, or refusal?
People	Who benefits, who carries risk, and who has not been heard?
Economics	What full costs, incentives, dependencies, and opportunity costs exist?
Responsibility	Who has authority, who approves, and who corrects failure?
Review	What metrics, incidents, evidence, or date will trigger reconsideration?

Pilot before permanence

When uncertainty is high and a choice is reversible, a limited pilot can create evidence. A responsible pilot defines success, failure, affected people, data handling, stop conditions, and who may end the test. A pilot without stop conditions can become a quiet permanent deployment.

THE HUMAN CAPABILITY TEST

Does this decision make people more capable, or does it remove the practice, knowledge, and authority they will later need to recognize failure?

WORKSHEET

One Page Decision Brief

Prepare a consequential business or organizational recommendation. Suggested time: 20 minutes.

Problem, purpose, and people served

Material evidence and uncertainty

Options considered, including pilot, delay, redesign, or refusal

One Page Decision Brief, continued

Benefits, costs, risks, and people affected

Recommended action and why it is proportionate

Named owner, approval authority, stop conditions, and review date

16 | Group Decisions and Meetings

Groups possess more information than any one member, but they do not automatically use it. Status, conformity, fear of conflict, time pressure, and the desire for harmony can suppress independent judgment. Meetings improve when the process protects dissent before consensus begins.

A critical thinking meeting protocol

- 1 Distribute the exact question and decision criteria before the meeting.
- 2 Collect independent written judgments before discussion.
- 3 Begin with facts and uncertainties, not preferred solutions.
- 4 Assign one person to present the strongest challenge and one to identify affected people not in the room.
- 5 Separate idea generation from evaluation.
- 6 Record the decision, dissent, confidence, owner, and review trigger.

Leader behaviors that protect judgment

- Speak last when your status may anchor the room.
- Thank the person who reveals a risk rather than treating caution as disloyalty.
- Ask what evidence would cause the group to stop or reverse course.
- Invite the quietest relevant expertise, not merely the loudest confidence.
- Do not call agreement unanimous when dissent disappeared through pressure or fatigue.

DISSENT IS NOT DELAY

Structured dissent can prevent expensive correction later. The purpose is not to reward obstruction. It is to make sure a decision has survived the strongest available challenge.

WORKSHEET

Meeting Judgment Record

Use during a team decision. Suggested time: 15 minutes.

Exact decision and criteria

Facts accepted by the group

Uncertainties and assumptions

Strongest challenge or minority view

Meeting Judgment Record, continued

People affected who were not represented

Decision, confidence, and rationale

Named owner and review trigger

What will the group measure or watch?

17 | Personal High Stakes Decisions

Personal decisions often combine fact, emotion, identity, relationship, uncertainty, and values. A workbook cannot remove grief, fear, loyalty, or hope from those choices, and it should not try. It can help separate what is known from what is feared, identify where qualified help is needed, and make the next step proportionate.

The high stakes rule

- 1 Do not rely on one source, one professional, one memory, or one AI answer when the consequence is serious and another qualified review is reasonably available.
- 2 Write the exact question and the decision deadline.
- 3 Separate urgent safety action from decisions that can wait.
- 4 Identify the qualified professionals, records, and people directly involved.
- 5 Choose the smallest responsible next step when the full answer is not yet available.

PROFESSIONAL BOUNDARIES

Health, law, finance, safety, and mental health decisions may require licensed or otherwise qualified professionals. Critical thinking helps you ask better questions and evaluate information. It does not make expertise unnecessary.

Values are not evidence, but they matter

Evidence can estimate risk, cost, probability, and likely outcomes. It cannot by itself decide which sacrifice is acceptable, which duty is primary, or what kind of person you intend to be. Make those values explicit rather than hiding them inside a claim that sounds purely factual.

WORKSHEET

Personal High Stakes Pause

Use before an important decision affecting health, money, safety, livelihood, or relationship. Suggested time: 15 minutes.

What must be decided, and by when?

What requires immediate safety action?

What is known from reliable records or qualified people?

What is fear, hope, assumption, or prediction?

Personal High Stakes Pause, continued

What qualified review or second opinion is needed?

What values and duties are part of the choice?

What is the smallest responsible next step?

Who can support the decision without taking responsibility away from you?

18 | Teaching and Facilitating Critical Thinking

Critical thinking is learned through practice, feedback, modeling, and reflection. Telling people to "think critically" without giving them a process often rewards those who already know the hidden expectations. A visible method makes the skill teachable.

A simple learning sequence

- 1 Model. Think aloud through a claim and show where you are uncertain.
- 2 Practice one step. Do not begin with the entire method if learners are new to it.
- 3 Compare reasoning. Ask groups to show how they reached different answers.
- 4 Give feedback on process. Evaluate the quality of evidence and reasoning, not only the final answer.
- 5 Reflect. Ask what changed, what remained uncertain, and what the learner will do next time.

Discussion norms

CHALLENGE IDEAS

Do not attack identity, intelligence, motive, or belonging.

STATE UNCERTAINTY

Use language that matches the evidence.

REPRESENT FAIRLY

Describe another view in terms its advocate would accept.

CORRECT OPENLY

Treat revision as evidence of learning, not embarrassment.

FACILITATOR QUESTION

What evidence, question, or perspective would improve the reasoning even if it did not change the final conclusion?

WORKSHEET

Critical Thinking Session Planner

Plan a classroom, team, or community discussion. Suggested time: 20 minutes.

Learning objective

Claim, case, or decision to examine

Which method step will be practiced?

What materials and original sources will participants receive?

Critical Thinking Session Planner, continued

What independent writing will occur before discussion?

What questions will invite evidence, alternatives, and consequences?

How will participants receive feedback on the process?

What reflection or follow up will complete the session?



PART IV

PRACTICE LAB AND CONTINUING USE

Work through realistic cases, compare approaches, and build a durable habit of independent judgment.

DISCERNMENT

Examine what is true.

PRUDENCE

Decide what is worth doing.

WISDOM

Act with good judgment.

Practice Lab Instructions

Each case contains incomplete information on purpose. Do not fill gaps with facts that are not provided. Record what you would need to know and what action is justified before that information arrives.

Complete the case independently before reading the facilitator notes. In a group, collect written answers before discussion so the first speaker does not anchor everyone else.

Scoring the process

Dimension	Developing	Strong
Definition	Repeats the emotional framing.	States a precise testable claim or decision.
Questions	Asks broad or rhetorical questions.	Identifies missing facts that could change the conclusion.
Verification	Relies on repetition or authority alone.	Finds original evidence, independent confirmation, and limitations.
Reasoning	Jumps from example to conclusion.	Shows premises, alternatives, and proportional confidence.
Judgment	Chooses without ownership or review.	Names action, confidence, responsibility, and review trigger.

Case One | The Viral Safety Warning

SCENARIO

A widely shared neighborhood post says that three attempted abductions occurred near local schools during the past week. The post includes a screenshot of a text message, a photograph of a white van, and the words "Police are refusing to warn parents." Several parents want schools closed immediately. The post does not name a police report, school, victim, date, or original photographer.

Available information

- The photograph shows a white cargo van on a public street.
- The screenshot has been reposted by several local accounts.
- One commenter says a relative heard the same warning in another city.
- The school district has not yet issued a public statement.
- A local reporter says the newsroom is checking with law enforcement and schools.

Your task

Decide what a parent, school leader, or community page administrator should do during the next two hours. Address safety without treating an unverified accusation as fact.

DO NOT SOLVE A DIFFERENT CASE

You do not know whether the warning is true or false. Your task is to determine what is responsible under uncertainty.

WORKSHEET

Case One Worksheet

Apply all six steps. Suggested time: 20 minutes.

PAUSE: What reaction and pressure are present? What immediate safety action is proportionate?

DEFINE: What exact claims are being made?

QUESTION: What missing facts matter most?

VERIFY: What original records and independent sources should be checked?

Case One Worksheet, continued

REASON: What conclusions are justified now, and what alternatives fit the known facts?

JUDGE: What should be communicated or done during the next two hours?

Write a responsible public message that separates confirmed information, uncertainty, and action.

Case Two | The AI Hiring Shortlist

SCENARIO

A company receives eight hundred applications for forty entry level jobs. A vendor offers an AI system that will rank candidates and reduce recruiter review time by seventy percent. The demonstration is impressive. The vendor says the model is "fair by design" and refuses to disclose training data or detailed evaluation results because the system is proprietary. Leadership wants deployment within three weeks.

Available information

- The system uses resumes, application answers, and recorded video responses.
- The vendor reports high overall agreement with prior recruiter decisions.
- No subgroup performance results have been provided.
- Rejected applicants will not receive an explanation or human review under the proposed process.
- The human resources team has not documented which factors the system may use or infer.

Your task

Advise leadership whether to deploy, pilot, redesign, delay, or refuse the system. Identify the evidence and safeguards required before consequential use.

HUMAN RESPONSIBILITY

A vendor contract does not transfer responsibility for employment decisions away from the organization using the system.

WORKSHEET

Case Two Worksheet

Apply all six steps. Suggested time: 25 minutes.

PAUSE: What is creating pressure to move quickly?

DEFINE: What problem is the organization solving, and what does "fair" mean here?

QUESTION: What facts, legal duties, affected people, and alternatives must be considered?

VERIFY: What evaluation evidence and documentation are required?

Case Two Worksheet, continued

REASON: Does agreement with past recruiter decisions establish accuracy or fairness? Explain.

JUDGE: Deploy, pilot, redesign, delay, or refuse. State conditions, ownership, and review.

What explanation and human review should applicants receive?

Case Three | The Wellness Claim

SCENARIO

A friend sends a video from a popular wellness creator claiming that a common supplement "reverses insulin resistance in thirty days." The creator cites a study, sells the supplement through an affiliate link, and says doctors ignore the discovery because treatment is more profitable than prevention. The video has two million views and thousands of testimonials.

Available information

- The linked study examined a small group and measured a laboratory marker rather than long term health outcomes.
- The supplement dose in the study differs from the product being sold.
- The creator has no disclosed clinical credential and earns a commission.
- Your friend plans to stop prescribed medication and use the supplement instead.

Your task

Respond in a way that preserves the relationship, addresses the evidence, and directs a high stakes health decision toward qualified care.

SCOPE

This is a reasoning exercise, not medical advice. Medication decisions should be reviewed with an appropriate licensed clinician.

WORKSHEET

Case Three Worksheet

Apply all six steps. Suggested time: 20 minutes.

PAUSE: What emotions, hopes, and distrust are active?

DEFINE: Separate the study claim, product claim, conspiracy claim, and treatment recommendation.

QUESTION: What would need to be known before the claim affects treatment?

VERIFY: What sources, methods, outcomes, conflicts, and clinical guidance should be checked?

Case Three Worksheet, continued

REASON: What conclusions are and are not supported by the available information?

JUDGE: What is the smallest responsible next step?

Write a respectful response to your friend.

Case Four | The Efficiency Proposal

SCENARIO

A customer service department proposes replacing most live first contact support with an AI agent. The forecast shows faster response times and lower labor cost. The proposal does not measure resolution quality, accessibility, error escalation, privacy, employee knowledge loss, or the experience of customers with unusual problems. Leaders describe the change as "inevitable."

Available information

- Routine questions account for about sixty percent of current contacts.
- The remaining contacts include billing disputes, vulnerable customers, complaints, and unusual account histories.
- Employees frequently identify product defects and policy problems through conversations that are not captured in standard categories.
- The proposed system will learn from customer interactions and may send messages without prior human review.

Your task

Design a decision process that tests useful automation while protecting accountability, human access, employee capability, privacy, and the organization's ability to recognize failure.

CAPABILITY IS NOT PERMISSION

The ability to automate a task does not establish that full automation serves the human purpose of the work.

WORKSHEET

Case Four Worksheet

Apply all six steps. Suggested time: 25 minutes.

PAUSE: What assumptions are hidden in the word "inevitable"?

DEFINE: What does success include beyond speed and labor cost?

QUESTION: Which customers, workers, errors, and wider consequences must be examined?

VERIFY: What baseline data and pilot evidence are needed?

Case Four Worksheet, continued

REASON: Which tasks are suitable for assistance, which require human review, and which should remain human?

JUDGE: Propose a pilot with stop conditions, human access, ownership, and review.

What human capability must the organization preserve?

Capstone Case | The Community Decision System

A regional public agency is considering a predictive system to prioritize inspections across thousands of properties. The system combines complaint history, property records, neighborhood data, prior violations, and commercial data purchased from a broker. Officials believe it can direct limited staff toward the highest risk locations.

The vendor reports that the system identifies more violations than random scheduling. The agency has not tested whether complaints are distributed evenly across neighborhoods, whether commercial data contains errors, whether protected characteristics can be inferred, or how owners and residents can challenge a high risk designation. Inspection staff will see a risk score but not the factors that produced it.

Supporters argue that better targeting can prevent harm and use public resources wisely. Critics argue that the system may amplify unequal reporting, subject some neighborhoods to greater surveillance, and create a record that becomes self reinforcing. The agency must decide whether to purchase the system before the current budget cycle closes.

Capstone assignment

- 1 Write the exact decision the agency must make.
- 2 Define success, fairness, accuracy, human review, and appeal.
- 3 Identify the strongest argument for and against the proposal.
- 4 List the minimum evidence required before any pilot.
- 5 Design a pilot, refusal, or alternative plan.
- 6 Write a judgment statement with confidence, ownership, and review triggers.

WORKSHEET

Capstone Decision Record

Complete independently before group discussion. Suggested time: 35 minutes.

Exact decision and decision criteria

Known facts, assumptions, and missing information

Strongest argument supporting the system

Capstone Decision Record, continued

Strongest argument challenging the system

Verification and evaluation plan

Affected people, rights, benefits, and risks

Capstone Decision Record, continued

Alternatives, including nontechnical approaches

Recommended judgment and confidence

Named responsibility, stop conditions, appeal, correction, and review

Facilitator Notes and Suggested Reasoning

USE AFTER COMPLETING THE CASES

These notes do not provide the only correct answers. They identify reasoning moves that a strong response should include. Evaluate the process, proportionality, and ownership rather than forcing every participant into the same conclusion.

Case One

- Do not repeat the abduction claim as established fact.
- Take proportionate safety steps, such as reminding families of ordinary procedures and asking them to report direct information through official channels.
- Seek police incident reports, named school statements, the original image, dates, locations, and direct witnesses.
- Recognize alternatives: recycled rumor, miscaptioned image, mistaken observation, unrelated incidents, or a real event lacking public confirmation.
- Communicate what is confirmed, what is not, what authorities are checking, and when an update will occur.

Case Two

- "Fair by design" is a claim, not evidence.
- Agreement with prior recruiter decisions may reproduce prior patterns rather than establish job relevance or fairness.
- Require job related validation, subgroup results, error analysis, data governance, explanation, human review, accessibility, vendor documentation, and legal review.
- A limited pilot should not silently reject applicants without meaningful oversight and appeal.

Facilitator Notes, continued

Case Three

- Separate the small study, the sold product, the claim of reversal, and the recommendation to stop medication.
- Examine sample size, design, dose, outcome, duration, replication, conflicts, and clinical guidance.
- Testimonials can reveal experience but cannot establish cause, safety, or general effectiveness.
- The responsible next step is qualified clinical review before changing prescribed treatment.

Case Four

- Expand success beyond response time and cost to include resolution, error, access, trust, privacy, escalation, learning, and employee capability.
- Automate or assist routine tasks while preserving a clear path to a person for consequential or unusual matters.
- Use a pilot with baseline measures, sampled human review, incident reporting, stop conditions, and a named owner.
- Preserve the organization's ability to learn from human conversations and recognize problems outside existing categories.

Capstone

- Complaint data may reflect both underlying conditions and unequal reporting. More detected violations do not by themselves prove fair targeting.
- Require data provenance, quality checks, subgroup and neighborhood analysis, explainability for staff and affected people, human review, appeal, correction, and external oversight appropriate to public power.
- Consider alternatives such as randomized audit samples, transparent rule based prioritization, additional staffing, community reporting improvements, or a carefully bounded pilot.
- The agency should not treat the budget deadline as evidence that the system is ready.

The Thirty Day Critical Thinking Practice

Critical thinking becomes durable through repeated use in ordinary situations. The following plan asks for ten to fifteen minutes each day. Keep the work small enough to continue and real enough to matter.

Week One: Notice

Day	Practice
1	Record one claim that triggered an immediate reaction.
2	Separate an observation from the story you added.
3	Find one vague word in a public argument and define it.
4	Write what would change your mind about a current belief.
5	Notice one example of urgency, identity, or social pressure.
6	Classify five statements as fact, opinion, assumption, or inference.
7	Review the week and identify your most common shortcut.

Week Two: Verify

Day	Practice
8	Trace one shared claim to the original source.
9	Check the date and context of one image or quotation.
10	Find independent confirmation of a claim you agree with.
11	Find the strongest credible challenge to a favored conclusion.
12	Investigate who created a source and why.
13	Identify a missing denominator or comparison.
14	Write a one paragraph verification summary.

The Thirty Day Practice, continued

Week Three: Reason

Day	Practice
15	Write the premises beneath one conclusion.
16	Generate two alternative explanations.
17	Find a correlation that is being treated as causation.
18	Steelman a position you oppose.
19	Identify one reasoning failure without using it as an insult.
20	Rewrite a conclusion so confidence matches evidence.
21	Ask another person to challenge your reasoning.

Week Four: Judge

Day	Practice
22	Make one low stakes decision with the six steps.
23	Record a confidence level and strongest uncertainty.
24	Identify who carries the risk of a proposed decision.
25	Choose a smaller reversible test before a larger commitment.
26	Write a review trigger before acting.
27	Correct one statement or belief openly.
28	Use the complete method on a real decision.
29	Review your original baseline.
30	Write your personal critical thinking standard.

WORKSHEET

Thirty Day Reflection

Complete after the practice plan. Suggested time: 15 minutes.

Which step became most natural?

Which step do you still skip under pressure?

Describe one decision that improved because you used the method.

Describe one moment when evidence changed your mind.

What practice will you continue weekly?



REFERENCE

TOOLS FOR CONTINUED PRACTICE

Keep the method close with quick reference pages, a glossary, source notes, and a thirty day practice plan.

DISCERNMENT

Examine what is true.

PRUDENCE

Decide what is worth doing.

WISDOM

Act with good judgment.

Quick Reference | The Six Step Method



The method is a loop, not a performance. Return to an earlier step when the evidence changes.

- 1 Pause. Slow the reaction and match the depth of review to the consequence.
- 2 Define. State the real claim or decision with clear terms, scope, comparison, and time.
- 3 Question. Separate knowledge from assumption and identify what could change the conclusion.
- 4 Verify. Find the original evidence, independent confirmation, and a credible challenge.
- 5 Reason. Test relevance, sufficiency, alternatives, causation, probability, and proportionality.
- 6 Judge. Choose, state confidence, name responsibility, and set a review trigger.

The ten questions

1. What exactly is being claimed?
2. How do we know?
3. What is the evidence?
4. Where did it originate?
5. What assumptions are being made?
6. What information is missing?
7. What other explanations are possible?
8. Who disagrees, and why?
9. What would prove this wrong?
10. What conclusion is actually justified?

Quick Reference | Verification and Judgment

Source check

- | | |
|---|--|
| ☐ Original source located | ☐ Independent confirmation found |
| ☐ Date and context checked | ☐ Credible challenge considered |
| ☐ Relevant expertise confirmed | ☐ Conflicts and incentives examined |
| ☐ Evidence can be inspected | ☐ Uncertainty stated |

Judgment statement

TEMPLATE

Based on the evidence available as of _____, I conclude _____ with _____ confidence. The strongest uncertainty is _____. I will _____. The decision will be reviewed when _____.

Before a consequential decision

- | | |
|---|---|
| ☐ People affected identified | ☐ Human responsibility named |
| ☐ Smaller reversible option considered | ☐ Appeal or correction available |
| ☐ Qualified review obtained | ☐ Review date or trigger set |

Glossary

Ad hominem

A response that attacks a person rather than addressing the evidence or reasoning of the claim.

Alternative explanation

A different account that could fit the known evidence.

Anchoring

Excessive influence from an initial number, idea, or frame.

Assumption

Something accepted as true without being established in the current reasoning.

Authority bias

Giving a claim too much weight because of status, title, or reputation.

Availability

Estimating frequency or probability from examples that come easily to mind.

Bandwagon effect

Treating popularity or group agreement as evidence of truth.

Base rate

The underlying frequency of an event or characteristic in a relevant population.

Bias

A patterned influence on attention, interpretation, memory, judgment, or choice.

Causal claim

A claim that one factor produced or changed another.

Cherry picking

Selecting favorable evidence while ignoring relevant contrary evidence.

Claim

A statement presented for acceptance as true, likely, valuable, or appropriate.

Confidence

A stated degree of support or belief, ideally calibrated to evidence and uncertainty.

Confirmation bias

Seeking or interpreting information in ways that favor an existing belief or hypothesis.

Consequence

A result or effect of a belief, communication, decision, or action.

Correlation

A relationship in which variables change together, without by itself establishing cause.

Glossary, continued

Critical thinking

Deliberate examination of information, assumptions, evidence, reasoning, alternatives, and consequences before accepting a conclusion or acting.

Discernment

The capacity to distinguish what is true, supported, uncertain, misleading, or missing.

Evidence

Information that supports, weakens, or helps test a claim.

Fact

A statement that can be checked against evidence.

False dilemma

Presenting two choices when meaningful alternatives exist.

Inference

A conclusion drawn from evidence rather than directly observed.

Intellectual humility

Recognition that one's knowledge and reasoning can be incomplete or wrong.

Interpretation

Meaning assigned to an observation or set of facts.

Judgment

A conclusion or choice made after considering evidence, reasoning, values, and consequences.

Lateral reading

Leaving a source to investigate who is behind it and what other credible sources say.

Observation

What was directly seen, heard, measured, or recorded.

Opinion

A belief, interpretation, preference, or judgment that may or may not be supported by evidence.

Premise

A statement used as support in an argument.

Primary source

An original record or a source directly responsible for the information.

Prudence

The capacity to choose what is worth doing in light of timing, risk, duties, and consequences.

Reasoning

The process of connecting evidence and premises to an inference, conclusion, or action.

Glossary, continued

Relevance

The degree to which evidence bears directly on the claim or decision.

Reliability

The consistency or dependability of a source, measure, or process.

Skepticism

A willingness to withhold acceptance until evidence is proportionate to the claim.

Source

The person, institution, record, data, or system from which information comes.

Steelman

The strongest fair version of a position, used before evaluating or criticizing it.

Sufficiency

Whether the quantity and quality of evidence are enough for the conclusion.

Sunk cost

Past investment that should not control a current choice but often does.

Testable claim

A claim stated clearly enough that evidence could support, weaken, or revise it.

Uncertainty

What is unknown, disputed, variable, or not yet supported strongly enough.

Verification

Tracing information toward original evidence and independent confirmation.

Wisdom

The capacity to integrate truth, values, consequence, and responsibility into good judgment.

Research and Source Notes

This workbook is an educational synthesis. It draws from research in critical thinking, reasoning, learning science, cognitive bias, online information evaluation, and misinformation. The sources below support the research notes and the design choices used throughout the guide. They do not establish that this workbook is a validated assessment instrument.

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Editorial Standards and Limitations

What this guide measures

The exercises help a reader observe habits and practice a process. They do not produce a scientifically validated score of intelligence, rationality, media literacy, mental health, competence, or professional fitness.

What responsible use requires

- Update time sensitive facts and laws before relying on them.
- Use primary sources and qualified experts for consequential matters.
- Distinguish education from professional advice.
- Protect private and confidential information.
- Do not use the workbook to diagnose, shame, rank, or exclude people.
- Adapt examples for accessibility, age, culture, and context without weakening the standards of evidence and reasoning.

Correction standard

Unautomated treats correction as part of responsible publication. Material factual errors, unclear source attribution, accessibility barriers, and other concerns may be reported through [Unautomated.org](https://unautomated.org). Future editions should identify substantial corrections rather than silently rewriting the record.

AI use statement

AI tools assisted with research organization, drafting, editing, consistency review, and production. Human editorial judgment determined the purpose, structure, language, standards, and final publication. The guide does not ask readers to accept its conclusions because a person or system produced them. It asks readers to examine the reasoning and sources.

End Note | Keep the Responsibility

"Use the tools. Keep the responsibility."

The amount of information available to a person will continue to grow. The speed of persuasion will increase. Systems will become more capable of producing language, images, analysis, recommendations, and decisions that appear complete before a human being has examined what they contain.

The answer is not to reject useful technology or to romanticize every unaided human choice. Human beings have always made mistakes. The answer is to preserve the habits that allow mistakes to be recognized, challenged, corrected, and owned.

Pause before the pressure decides for you. Define the real issue. Ask the question that matters. Verify what can be verified. Reason in a way another person can inspect. Then make the judgment that remains yours to make.

Critical thinking is not a shield against every error. It is a commitment not to surrender responsibility for how you know, what you believe, and what you choose to do next.

The future is not inevitable. The choice is ours.



THINKING IS A HUMAN RESPONSIBILITY.

This workbook gives individuals, families, classrooms, teams, and organizations a repeatable way to examine claims, test evidence, reason through uncertainty, and make decisions they can explain and own.



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