

# **Critical Thinking**

## ***in Reading, Writing & Discussion***



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# Elements of critical thinking \*

## Clarity

*understandable, the meaning can be grasped*

- ✓ Could you elaborate further?
- ✓ Could you give me an example?
- ✓ Could you illustrate what you mean?

## Accuracy

*free from errors or distortions, true*

- ✓ How could we check on that?
- ✓ How could we find out if that is true?
- ✓ How could we verify or test that?

## Precision

*exact to the necessary level of detail*

- ✓ Could you be more specific?
- ✓ Could you give me more details?
- ✓ Could you be more exact?

## Relevance

*relating to the matter at hand*

- ✓ How does that relate to the problem?
- ✓ How does that bear on the question?
- ✓ How does that help us with the issue?

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\* Richard Paul; [criticalthinking.org](http://criticalthinking.org)

## **Depth**

*containing complexities and multiple interrelationships*

- ✓ What factors make this a difficult problem?
- ✓ What are some of the complexities of this question?
- ✓ What are some of the difficulties we need to deal with?

## **Breadth**

*encompassing multiple viewpoints*

- ✓ Do we need to look at this from another perspective?
- ✓ Do we need to consider another point of view?
- ✓ Do we need to look at this in other ways?

## **Logic**

*the parts make sense together, no contradictions*

- ✓ Does all this make sense together?
- ✓ Does your first paragraph fit in with your last?
- ✓ Does what you say follow from the evidence?

## **Significance**

*focusing on the important, not trivial*

- ✓ Is this the most important problem to consider?
- ✓ Is this the central idea to focus on?
- ✓ Which of these facts are most important?

## **Fairness**

*justifiable, not self-serving or one-sided*

- ✓ Do I have any vested interest in this issue?
- ✓ Am I sympathetically representing the viewpoints of others?

## **Critical questions** – *in reading, thinking, and writing*

### **Questions about inferences or conclusions**

- Is this supported by facts, observations or actual experiences?
- Is this absolutely certain, probable, or at least plausible?
- How does this compare with alternative inferences/conclusions?
- If this is a proposed solution, is it useful, feasible, and practical?

### **As a simple guideline, the following should be differentiated**

- actual facts or objective evidence
- reasoned conclusions, inferences or implications
- implicit assumptions (the pre-assumed and unstated beliefs)
- implicit values (in any proposed solution or should-statement)
- the purpose of the inquiry (or what is the problem to be solved)

### **Examine the basis of your reasoning, conclusions, or opinions**

- facts, evidences, examples, observations, or experiences
- your pre-existing beliefs, or unquestioned assumptions
- your values and ethical concerns
- the definitions you have for any key words in an argument
- the generalizations you use in an argument

### **The kind of question depends on the kind of answer being sought**

- questions about the facts or scientific evidence
- questions about someone's experiences or observations
- questions about the reasoning, inferences, or implications
- questions about opinions, proposed solutions or needed action
- questions about the meaning of a key term in a statement
- questions about unstated assumptions implicit in the reasoning
- questions about the values implicit in an argument or reasoning  
*(assumptions & values are implicit in any perspective or in any bias)*

## **Questions for critical thinking**

*These are questions to ask a text or a source, others in a dialogue or discussion, and also to ask oneself. One is rationally examining what others say or write about, while also examining one's own beliefs and reasoning.*

### **Questions about questions & purposes**

- What is the purpose of your question?
- What are you seeking to know or understand?
- Why is this question important?
- What would be different parts or aspects of your question?
- What are a few similar questions?
- How can someone find answers to your question?

### **Questions about information & evidence**

- What kind of information would be helpful to know?
- Is this information relevant? important? useful?
- Why do you believe this information is correct?
- Is this good enough evidence? Is it sufficient evidence?
- Is there any reason to doubt this evidence?

### **Questions about ideas & solutions**

- What are some important ideas in this issue or topic?
- What are the main ideas?
  - principle ideas? value ideas? truth ideas? solution ideas?

### **Questions about values & concerns**

- What are your concerns in relation to this topic/issue?
- What are your values in relation to this topic/issue?
- What values or concerns are explicit or implicit in the info?

### **Questions about clarification & meaning**

- How can you make your insights and ideas better understood?
- Could you explain further about what you've said or written?
- Could you say it in another way?
- Could you give an example?
- What is your main point? main argument? main concern?
- How does this relate to the discussion, problem, issue?
- What is your definition for key words?

### **Questions about assumptions & beliefs**

- What are you assuming?
- What are the assumptions in how this issue is discussed?
- What assumptions are involved in the conclusion?
- What believed-truths are inherent in your reasoning?
- Are your beliefs/assumptions/presuppositions justified?

### **Questions about generalizations**

- What are the generalizations used in this argument?
- Is the generalization supported by actual evidence?
- Are exceptions or counter-examples being considered?
- Is this merely an assumption, cliché, stereotype, or bias?

### **Questions about reasons & justifications**

- What are your reasons for saying that?
- Why do you believe that?
- What are some examples (or evidence) that this is true?
- What are some reasons for believing that A is a cause of B?
- What are some reasons for believing an implication of A is B?

### **Questions about implications & consequences**

- What are some consequences or implications of this?
- If A occurs, or if A is true, then what results from this?
- What are some of the effects resulting from this problem?
- What consequences are fairly certain?
- What consequences are probable?
- What consequences are plausible?

### **Questions about inferences & conclusions**

- What conclusions can you make from studying this issue?
- How did you (or someone) reach this conclusion?
- What facts and reasoning support this conclusion?
- What alternative conclusions can be made?
- How can one comparatively evaluate possible conclusions?
- What would be an alternative plausible conclusion?

### **Questions about viewpoints & perspectives**

- Are there other ways to view this issue or problem?
- What would be another perspective or point of view in this?
- How is another perspective the same, and how is it different?
- What groups of people might disagree with you? Why?
- What do those in disagreement say and what is your answer?

## **Critical thinking questions**

*(here is another set of questions for critical thinking & discussion)*

### **Facts & Ideas**

- What are some important ideas in this issue or topic?
- What are the main ideas?
- What are the main parts of this argument?
- What is the issue, problem, concern, or proposal?
- What are some facts learned about this?
- What do we still want to know?

### **Summary**

- Can anyone summarize some of the discussion so far?
- What do we understand so far from our study or inquiry?
- What are some main points of this issue, problem, question?
- Can someone outline the main ideas learned so far?
- What are the main problems?
- What are the proposed solutions?

### **Open questions**

- Does anyone have a question about this?
- Does anyone have information or knowledge about this?
- Does anyone have an opinion or some thoughts about this?



## **Purposes of questions**

- What is the purpose of your question?
- What are you seeking to know or understand?
- Are there different parts of your question?
- How does this relate to the discussion, problem, issue?

## **Clarification**

- Can you explain that?
- Can you elaborate on that?
- Can you say it in another way?
- Can you give an example of that?
- What is your main point? main argument? main concern?

## **Meaning of key words**

- What are some key terms in this reading, and explain these?
- How is that word being defined in this reading?
- What's another word that means about the same?
- What is your definition for the key words in your argument?
- How do you define that word?
- What does that word mean to you?
- Can you give me an example of that key word you used?

## **Solutions**

- What is the reasoning in this reading?
- How do you think this problem can be solved?
- What are some possible solutions?
- Does anyone have a solution or an answer to this?
- What do we still need to do, in order to help solve this?

## **Comparisons**

- How does does this information compare with other info?
- How does this view compare with other views?
- How does this solution or proposal compare with others?
- How are those viewpoints different?
- How are those viewpoints similar?
- Comparing 2 positions, what are their shared beliefs & values?

## **Evaluation**

- Is this information relevant? important? useful?
- Is this information true? Are the facts reasonably true?
- What's important to know in this reading?
- What are some questionable statements in this reading?
- What are some arguments against this being totally true?
- Are there at least some partial truths in this position?

## **Values & concerns**

- Why is this important?
- What are your concerns in relation to this issue?
- Do you have any ethical concerns after reading this?
- What are your values in relation to this issue?
- What concerns can you see in the information?
- What values are implied in this reading?
- What values are at the foundation of this position?

## **Recognizing values**

- What do you think is the right action?
- How do you feel about this?
- What do you feel is a problem that needs a solution?
- What is most important in this?
- How important is this information, this idea, or this moral?
- What can you or we do about this?
- What are your own values?

## **Common values**

- Are there common values shared by these two perspectives?
- What are the values we can agree on, or not agree on?
- What values do you think are common for all people?
- What can we agree is vitally important as a step forward?

## **Consequences**

- What are some consequences of this?
- Are these consequences positive or negative?
- What consequences are fairly certain?
- What consequences are probable?
- What consequences are plausible?

## **Cause-effect**

- What will result from this?
- What are some of the effects resulting from this problem?
- What are some related problems?
- What are some causes of this problem?
- What causes stand out as changeable?
- What can we do to make positive effective changes?
- How can we be a cause for positive solutions?

## **Causal reasoning**

- What are your reasons for believing that A is a cause of B
- What are your reasons for believing that B is an effect of A?
- What are your reasons for believing that A is implied by B?

## **Implications**

- What are some implications of this?
- What reasonably follows from this?
- So if this is true, what then logically follows?
- If that is true, then what results from this?

## **Inferences**

- What is the reasoning in this reading?
- What causes can we reasonably infer from these facts?
- What predicted effects does the author infer from the causes?
- What do you think are some effects of this?

## **Conclusions**

- Can we make any reasonable conclusions so far?
- What can we conclude so far?
- What conclusions can you make from studying this issue?
- How did you (or the readings) reach this conclusion?
- What facts and reasoning support this conclusion?
- What alternative conclusions can be made?
- What would be an alternative plausible conclusion?

## **Alternative views**

- Is there another possible viewpoint?
- What other viewpoints are there?
- Any different views on this?
- What might be a disagreement about that view?

## **Perspectives**

- Is this belief a cultural perspective?
- How did this perspective come about?
- What are your reasons for this perspective?
- Are there other ways to view this issue or problem?
- What would be another perspective or point of view?
- What could be the perspective of those who disagree?
- How is the other perspective different?
- Are there any similarities in these perspectives?

## **Challenges**

- Does anyone have a *counter-argument* to that?
- What is a *counter-example* of that?
- Are there other facts or examples that contradict this view?
- Is this evidence sufficient to show the *plausibility* of the claim?
- Is this evidence sufficient to show the *probability* of the claim?
- Is there a fallacy in how this conclusion or belief is derived?

## Reasons for believing

- *Why* do you believe that?
- Why do you believe this information is correct?
- What are some reasons for believing that is true?
- Why do you think that is true?
- What are your reasons for thinking that?
- *How* do you know that's true?
- Why do you think that is right?
- What are some reasons for believing this is right?
- *How* do you know that's right?
- What are some reasons to believe this is *not* true?
- What could be an argument for *not-believing* this is all true?
- What is an argument for *not-believing* this is morally right?

## Evidence

- What facts or examples can support this claim or this belief?
- What are some examples that this is true?
- What are the evidences for believing this?
- What evidence is there to support what you are saying?
- How does all of the evidence, facts and examples add up?
- Is this evidence sufficient enough?
- Is there any reason to doubt this evidence?
- How could you test or verify whether that is true?

## **Generalizations**

- Can we find any generalizations used in this argument?
- Can we think of a general rule or principle for that?
- Is this generalization supported by actual evidence?
- Is this generalization merely a stereotype or a cultural bias?
- Is this generalization true most of the time?
- Are counter-examples and exceptions being considered?
- What might be an exception to this generalization?
- What can we agree is generally true?
- What can we agree is generally a good action to take?

## **Exaggeration**

- Could this be an exaggeration of the situation?
- Could this be an exaggeration of the problem?
- Could this be an exaggeration of the importance?
- Could this be an exaggerated over-estimate of the effect?
- Could this be an exaggerated under-estimate of the effect?

## **Simplification**

- Is this an oversimplification of the situation?
- Is this an oversimplification of the problem?
- Is this an oversimplification of the cause?
- Is this an oversimplification of the solution?



## **Assumptions**

- What are you assuming?
- Is there a preconception in this?
- What are the presuppositions in this position?
- What assumptions are inherent in your reasoning?
- What presuppositions are involved in your argument?
- Are any of these assumptions open to debate?

## **Implicit beliefs**

- Is there an implicit assumption in that?
- Is there an implicit bias in that?
- Is there an implicit prejudice in that?
- Is there an implicit intention in that?
- Is there an implicit meaning implied in what was said?

## **Consistency**

- Does that agree with what you said earlier?
- How does that relate with other beliefs you have?
- Do you have beliefs or values that contradict this?
- How is the consistency and coherence in this reading?
- Are there any contradicting values in this?

## Glossary of critical thinking terms \*

**accurate:** Expressing facts or truths, free from errors or distortion.

**ambiguous:** A sentence having two or more possible meanings.

**analyze:** To break up a whole question, argument, or issue into its parts, in order to examine its parts or aspects.

**argue:** In a simplistic sense, it is to disagree or verbally fight about something. In critical thinking, it is to give reasons for or against a proposal, position, or conclusion.

**argument:** A reason or reasons offered for or against something, or it is the offering of such reasons. In a rational debate, one's argument needs to be supported by logic, facts and real experience.

**assumption/assuming:** An unexamined belief or premise; an idea that is *believed* as true but without bothering to evaluate whether it is, in fact, true. It could be true or not true. Often, arguments have premises that are assumptions, unproven and unstated. Critical thinkers make assumptions explicit, assess their truth, and correct them when wrong.

- **cultural assumption** – a culturally adopted and unexamined belief, standard, or practice, which is then *presupposed* as true, right or best.

**bias:** A favoring or preference or inclination for selecting (or choosing) one thing over other alternatives. Biases are based on fixed beliefs, generalizations, or prejudices. Bias can be *neutral* or *negative*. One is often unconscious of bias/prejudice, or often resistant to admitting it.

- **neutral bias**– selective thinking & choice within a point of view is unavoidable, whereby one notices some things rather than others, and emphasizes some points as more important than others.

- **negative bias** – prejudice or prejudgment about a person, group, or idea, which is based on a narrow point of view or a generalization that is unsubstantiated, untrue, and usually unfair. Negative bias is often resistant to counter-evidence and to other views.

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\* Abridged & edited from [criticalthinking.org](http://criticalthinking.org) with some additions

**group bias:** Prejudice in favor of one's nation, ethnicity, culture, or religion; favoring its beliefs, traditions, practices, and world view. People are inclined to favor or prefer the ways and beliefs of their upbringing or their social-cultural education, sometimes even assuming that these are superior or better than anything different. Group bias distorts one's view of others, as well as one's interactions with others.

**clarify:** Making ideas and one's reasoning easier to understand by explaining the main points while avoiding ambiguities and confusions.

**concept:** An idea, a generalization, a class of objects, the meaning or definition of a word.

**conclude/conclusion:** A judgment, decision, or belief formed after investigation and reasoning. To infer or decide by reasoning.

**consistency:** To reason or express an argument without contradicting previous reasoning or argument. The multiple parts of one's reasoning are all in agreement and adhering to the same principles. Logical consistency is to conform with the accepted rules of logic.

**contradict/contradiction:** An argument or line of reasoning that is contrary to, inconsistent with, or negates other parts of the argument.

**criteria:** The standards, rules, or tests by which an idea or action is judged or measured as being true, successful, or right.

**critical reading:** An intellectually engaged process in which the reader looks for assumptions, key concepts, ideas, reasons, justifications, supporting examples, implications, and consequences.

**critique:** An objective analysis and evaluation of an idea or belief.

**data:** Facts, statistics, or information from which conclusions can be inferred, or upon which interpretations or theories can be based.

**dialectical thinking:** Considering opposing points of view; testing or debating their strengths and weaknesses.

**dialogical thinking:** Thinking that involves a dialogue or exchange between different points of view.

**empirical:** Based on experiment, observation, or experience; rather than on theory or the meanings of a words.

**empirical implication:** That which follows from a situation or fact, not due to the logic of language, but from experience or scientific law. The redness of the coil on the stove empirically implies dangerous heat.

**ethical/moral:** Believed principles or premises pertaining to what is right and wrong, in relation to the decisions, actions or conduct of individuals or a society. An ethical theory/(perspective) can be based on either: rules of right action, consequences of action, or character virtues. Ethical beliefs can evolve (progress) as a result of moral inquiry, critical thinking, and pragmatic evaluation.

**evaluation:** To determine the value of an idea or thing, or the relevance of a fact. Objective and fair evaluation is being impartial and unbiased, and not based on personal feelings, preference or interests.

**evidence:** Data, facts, observations, or examples that give support to an inference or conclusion, or by which proof or probability can be established. Evidence (fact) is distinct from reasoning and conclusions.

**explicit:** Clearly, precisely and accurately stated, and without intentionally hiding information or purposes.

**facts:** The specific events, circumstances, cases, examples, data, or evidence, which supports inferences and conclusions. Facts can come from scientific data, but also from personal experience or observations; however, it's important to distinguish actual facts from how these facts are *interpreted* or what they *mean*. Facts and even scientific data can be incorrectly interpreted and/or used in faulty reasoning. Truth-claims may appear to be factual statements yet might not actually be true. Therefore, assessing the truth of a stated fact requires questioning how the fact was derived, its accuracy, relevance, and correct interpretation.

**generalizing/generalization:** Attempts to identify probable patterns, average behavior, or general rules from particular cases (facts). Ideas or skills used well in one setting can then be reapplied in multiple settings.

**fallacy:** An error in reasoning or in argument, which is misleading and deceptive, whether intentional or not.

**idea:** A thought, or an object of knowledge. A proposed truth or a possibility to consider.

**implication:** A claim or a truth that follows from other claims or truths. An effect that is reasonably inferred.

**imply:** Sometimes people *imply* unspoken truths, claims, or inferences, by the words or phrases they use. Critical thinkers are careful of what is implied by their words. Yet, a listener/reader may infer that something is implied when it is not *intentionally* implied or meant.

**inference/ to infer:** Reasoning that something is true on the basis of known facts and other believed truths, which are its assumptions, its premises. An inference might be justified or not, might be true or not.

**intellectual humility:** Recognizing the limits of one's knowledge and viewpoint, and being cautiously introspective of one's possible egocentrism, bias, prejudice, or self-deception.

**intellectual integrity:** Being self-honest and consistent about one's beliefs, values, standards, and intellectual goals.

**intellectual perseverance:** Willingness, effort, and courage to pursue truth and insight, despite difficulties.

**intellectual justice:** Willingness to consider all viewpoints and to assess them fairly, impartially, without bias.

**intellectual humility:** Realizing that our present knowledge is limited and thus may be wrong; also, our beliefs may contain unconscious bias.

**interpret/interpretation:** A perception, inference, or understanding based on one's own experience, reasoning, perspective, or point of view; which may or may not be correct. It is often focused on what is intended, meant, or implied in a text, discourse, or argument.

**irrational/irrationality:** Contrary to reason or logic. Not attempting to use reasoning or to be reasonable.

**justify/justification:** Showing that a belief, opinion, action or policy is based on good reasoning and evidence.

**logic:** A system of principles or rules used in reasoning, rational explanation and justification.

**logic of a discipline:** Every discipline relies on its implicit rules of logic, which shapes its concepts, assumptions and theories.

**logic of language:** Key words have definitions which constitute the concept or the logic in the word, which also defines its appropriate use.

**logic of questions:** Different *kinds* of questions often require different ways of thinking and different ways to answer.

**multi-dimensional problems:** Problems that have multiple aspects and can be analyzed from multiple points of view. Also known as complex problems, which cannot be treated simplistically or one-dimensionally.

**multilogical thinking:** Thinking that considers multiple dimensions of a problem and reasons within multiple points of view.

**opinion:** A belief that is regarded as not necessarily objective because it's coming from a limited perspective, rather than assumed to be true.

**perspective/viewpoint/point of view:** In regards to any issue or topic, there may be multiple perspectives, views, or positions. Each argument or position is from the perspective (or viewpoint) of one's premises: one's beliefs, assumptions, experience, and values. Perspective can also be determined by the question or purpose of one's inquiry.

**prejudice:** A belief, judgment, opinion, or perspective that is favorable or unfavorable about something or someone. A prejudice is a fixed-minded generalization based on limited, selective facts, and which tends to ignore specific instances of counter evidence. These become implicit premises in reasoning, inferences, judgments and decisions. Prejudices are often subconscious, rationalized and group-validated.

**philosophical argument:** Argument for the purpose of understanding what is true, right, or good; instead of arguing just to win an argument, or to defend a fixed belief, or to convince another to choose your way.

**philosophical empathy:** Attempting to understand and reason from the perspective of someone else or a group, which includes their beliefs, values and main concerns, and other reasons for their viewpoint.

**philosophical reasoning:** The aim and direction of reasoning is towards truth rather than deception for self-serving aims or to appear smart.

**premises:** The assumptions, or starting points, which form the basis for inferences and conclusions. Premises can include: facts, experiences, beliefs, generalizations, theories, and values. Some premises are assumed to be objectively true (facts); other premises are assumed only to be probable or most likely true (generalizations).

**presuppositions:** The beliefs that are assumed to be true before-hand in an argument, in one's reasoning, or in a course of action. As with any belief, a presupposition could be true or maybe not. Presuppositions form the basis of our thinking and knowing, our ground of belief from which our thinking moves forward. Some presuppositions are based on solid evidence and theory, while others are not. Most presuppositions are unconscious and not stated, but critical thinkers seek to uncover and make them explicitly known for evaluation.

**principle:** A fundamental truth, law, value, or commitment, which then serves as a premise for reasoning about life, decisions and actions. Further principles or rules can then be build upon these fundamentals.

**proof:** When evidence and reasoning is so strong and certain, it shows the truth of a conclusion, or at least its reasonable acceptability.

**propaganda:** an organized effort (by a government, business, or group) to persuade large numbers of people to act in some way, support an idea, believe in something, adopt an attitude about another group, or buy a product; often it deliberately contains an emotional component.

**rational/rationality:** That which conforms to principles and rules of logical reasoning. Rational thinking is logical, consistent, and relevant.

**reasoning:** Logically building inferences, conclusions, or solutions based on premises/assumptions, such as facts, observations and experiments.

**relevancy:** What is important to, or at least relating to, the question or issue under consideration. Not all available information is relevant.

**sociocentrism:** Perceiving or understanding the world & others from just the perspective/viewpoint of one's own social group or social identity, and assuming that one's socially *inherited* beliefs, values, and norms are right, best, or superior. Sociocentrism is often subconscious but it can be transcended by a rational examination of one's beliefs. Sociocentrism can be ethnic (*ethnocentrism*) or cultural – believing that one's own race or culture is right, best, or superior to all others.

**vague/vagueness:** Not being clear and definite in one's statements or explanations, which results in the reader or listener being uncertain of one's intended meaning. Ideas can also be vague, and thus impractical.

**values:** Ideals or goals regarded as most important in life, in our decisions and actions. Values give direction for our decisions and actions, and motivate us. Values are the principles or standards for evaluating what is good/right/best, either from a moral or practical perspective. Our values are implicit in our reasoning of what is right or good. Our ultimate values cannot be derived just by reasoning, yet can be reasonable. Often, our values come from the social and cultural values of our upbringing, but our values can be revised or re-created by reasoning and critical thinking, along with intuition and sensitivity.



(front page of worksheet)

## Critical Thinking Worksheet

*(Facts, Conclusions, and Reasoning)*

IMPORTANT – Students must First Read the Lesson on *Facts, Conclusions, and Reasoning*.

**Assignment** – from an article or website, write down one of their conclusions and related fact(s), then make an attempt to explain their reasoning. Do this as best you can, because the author may not have explicitly stated their connective reasoning. Then, think of and write down a different possible conclusion – based on these same facts.  
In the narrow columns, write down your 'rating' [a, b, c, or d] *(see back-page for what a 'rating' is)*

<b>Conclusion</b> <i>or inference, implication</i>	<b>Fact (or facts)</b> <i>to support the conclusion</i>	<b>Connective Reasoning</b> <i>how does this conclusion follow from the facts? OR explain how it does not follow from the given facts</i>	<b>Alternative Conclusion</b> <i>give a different possible conclusion – based on these same facts</i>
----- Conclusion 1 –	-----	-----	-----
----- Conclusion 2 –	-----	-----	-----

(back page of the Critical Thinking Worksheet)  
[Lesson on Critical Reading]

### Facts, Conclusions, and Reasoning

In articles, news, or in other media communications the author will state a number of conclusions, or inferences, which can appear to be facts, but these statements are only the author's opinion, or what they believe is true, as based upon certain facts or evidence. So in critical thinking the reader needs to distinguish between facts and the author's conclusions (or their opinions about what is true). The reader needs to identify each stated fact and also identify each stated conclusion that the author believes is 'true' (or is telling you 'this is true'). Then, once the reader has separated facts and conclusions, the next step is to critically examine the reasoning of each conclusion (ie., 'this is true'), to see if the stated facts reasonably lead to the author's conclusion, or see if the author's conclusion is truly based on the stated facts.

Thus, the reader is asked to identify and distinguish **three basic parts** in any article or webpage of information:

**(1)** facts/evidence **(2)** conclusions/beliefs **(3)** reasoning/logic which connects these facts with these conclusions.

Also, the reader must remember that the connective-reasoning (between facts and conclusions) is often hidden or unstated, and this is sometimes because there is no connective reasoning or the conclusion is deceptive. The critical reader needs to think about whether a certain conclusion is reasonable (and based on the facts) or not, and this is the most difficult part of critical thinking.

The reader will need to decide (or judge) whether a stated conclusion (or implication, or prediction, or inference) is either:  
*(in the worksheet one of the following [a, b, c, or d] will be your 'rating' for the reasoning behind any stated conclusion)*

**(a)** reasonable and sufficiently supported by the facts, **(b)** unreasonable (not sufficiently supported by the facts), **(c)** partially plausible (or possible) but not very probable, or **(d)** not necessarily true; because an alternative conclusion is equally plausible or more plausible. Note that in critical thinking it is useful to think of 'plausible alternative conclusions' based on the stated facts, for these alternatives will prove that a conclusion is not *necessarily* true.

Also remember that a stated fact might not be a *real* fact; for it could be *false, made-up, or hearsay*. Thus, the stated 'facts' may need to be verified by checking its source. But in this assignment, students can assume the truth of stated facts.