

# Reasoning Cheat Sheet

by Natalie Moore (Natalie Moore) via cheatography.com/19119/cs/2396/

## **Analytical Structure Notes**

To clearly express arguments / explanations need to think carefully about analytical structure

Can be tricky to simultaneously write a narrative flow and reason at same time. So need to plan work.

Planning can be done using the analytical structure format, getting good at this will make reasoning clearer and improve quality and readability of oral and written work.

Before starting anywhere near narrative flow start thinking about structure and logical connections between ideas.

### **Scope and Certainty**

#### Scope

Size of the claim

Stating Numbers (all, most, some, many etc)

Geographical area (Brisbane, Aus, etc) and/or Time (always, never, sometimes)

## Certainty

Claimed probability (highly likely, virtually, some chance)

Be realistic with use of these because incorrect scope or certainty will make it easy to argue against your reasoning.

## Descriptive and value claims

### Value

Say things should or should be a certain way

Sometimes value is stated sometimes implied (hidden in tone and words)

Many, maybe all claims have value judgement

## Descriptive

Things are or have been a certain way

Smart thinkers are alert to value judgements.

## Links between claims

Linking words are words which link the claims together, indicating the premises and the conclusions. They are hints of the mental process of linking.

https://www.dlsweb.rmit.edu.au/lsu/content/4\_WritingSkills/writing\_pdf/Linking%20words%20and%20phrases.pdf

### Importance of internal connections

Need to evaluate reasoning, ensure all claims stand without needing further support or arguments, add new premises / sub arguments as necessary until argument is fully formed and reader can some to same conclusion without needing to seek out further information or not have whole story.

Do not assume readers know already anything in relation to your argument

Ensure ideas within claims are introduced and supported

## Five types of reasoning

Causal	premises state the cause, and conclusion is effect
Genera lisation	shows how knowledge about general class of events allows us to make a conclusion about a specific event in that class
Specific cases	Specific cases lead to a conclusion
Analogy	Draw a specific conclusion from specific premises via a comparison of like aspects
Terms	Some claims establish a definition or a particular meaning

in a given context

## Analytical structure steps

- Decide conclusion. Write out carefully explaining exactly what you mean
- 2. Think about reasons for conclusion
- a Write them down as claims
- b Keep related premises together if possible
- c Everything must relate back to the conclusion
- d Claims need to make sense as own entity
- e Number your claims from 2 onward (conclusion is 1)
- f Focus on your main reasons for concusion
- 3. Draw diagram to show links between claims
- a Links to show how constructed
- b Line under groups of premises
- c Arrow to show premise to conclusion
- 4. Stop and Consider
- a Do I need anymore premises?
- b Am I missing any claims?
- c Are relationships how I want them?
- 5. Make changes and re-draw if nessessary

# Important things to remember:

- Each claim must stand on own
- Do not include signals of reasoning in claims
- Each claim must imply links to other claims
- Do not be afraid to revise and rewrite.

## Statements

Particular type of statement

Assert some kind of "truth" about the world

May actually be true or false

Expresses belief or view about how world is or should be

If you can ask "Is this true or false" it is a claim



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## Drawing analytical structure

Narrative flow = words arranged into sentences and then divided into paragraphs

Analytical structure = List of claims and a diagram of how they relate to one another

#### Diagram

Linking words represented by the + signs

Horizontal line groups the claims

### Offers advantages

Clear way of constructing claims

How they relate to eachother

Avoids vagueness

- Make claims own entity and so defeats complex sentence formations
- Clarifies interesting writing to get to the premises and solutions

### Can construct or deconstruct

After construction next step = add linking to create narrative flow

We need to see content and structure of reasoning to smarten own thinking.

## Four levels of language

### Word

Statement A sentence can be made up of more than one statement

Text Group of related statements

Context Elements outside text to make it meaningful.

## Assumptions

Influence every argument / explanation.
Values / ideas we take for granted. Smart thinkers recognise assumptions that surround us (including own)

Assumptions can be dangerous because they are not tested to see if they are correct.

## Conclusions and premises

Premise = claim that acts as reason

Conclusion = claim that is being supported

In reasoning, there is therefore always at least two claims (premise and conclusion)

Fundamental skill of reasoning to be able to identify these in other peoples claims and

### Conclusions

When reasoning - first choose a conclusion

Conclusion is not summary, but new statement

Supports and gives a bit further information than the premises

Truth of conclusion is clear because of premises

Conclusions can be: Predictions, Appeals to action, Events in past

#### **Premises**

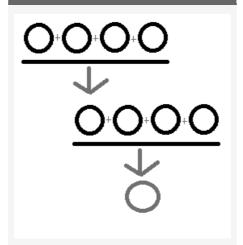
Any claim can work as a premise

Has to support conclusion

Usually initially more acceptable than conclusion

May make a point, define a term, frame other premises

# Analytical Structure Diagram



### Check your reasoning

No circular reasoning

Accurate scope and certainty accurate

Avoid sweeping generalisations

Value judgements in conclusion need more than one premise, premises must support value judgement

Consider surface and hidden meanings of words

Align choice of words with audience

Consider possible interpretations

No implied premises, if possible should be stated

Claims which have connections to the conclusion are relevant. Claims which have no connection to the conclusion are irrelevant.

Dont assume people will fill in the gaps

Think about context

Well founded claim has a number of good premises

Person with burden of proof needs a stronger argument



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