Rationale™

Map Examples for Secondary Schools

Simply Better Thinking

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Reasoning Maps

A reasoning map is a simple way to structure arguments for or against a position.

Add as many reasons or objections as you need to the map by dragging them from the Reasoning Tab in Rationale and dropping them where you need them.

Position
The main issue; to be accepted or rejected.

Reason
Information which directly supports the Position.

Objection
Information which counts against the Position.

Reason
Information backing up the reason above.

Objection
Information which counts against the reason above.

Reason
Information backing up the objection immediately above.

Objection (Rebuttal)
Information which counts against the objection immediately above.

Quote
Provide a quote supporting the claim and its source.

Expert Opinion
Which expert made the claim? Provide their name and credentials.

Example
Provide an example supporting the claim.

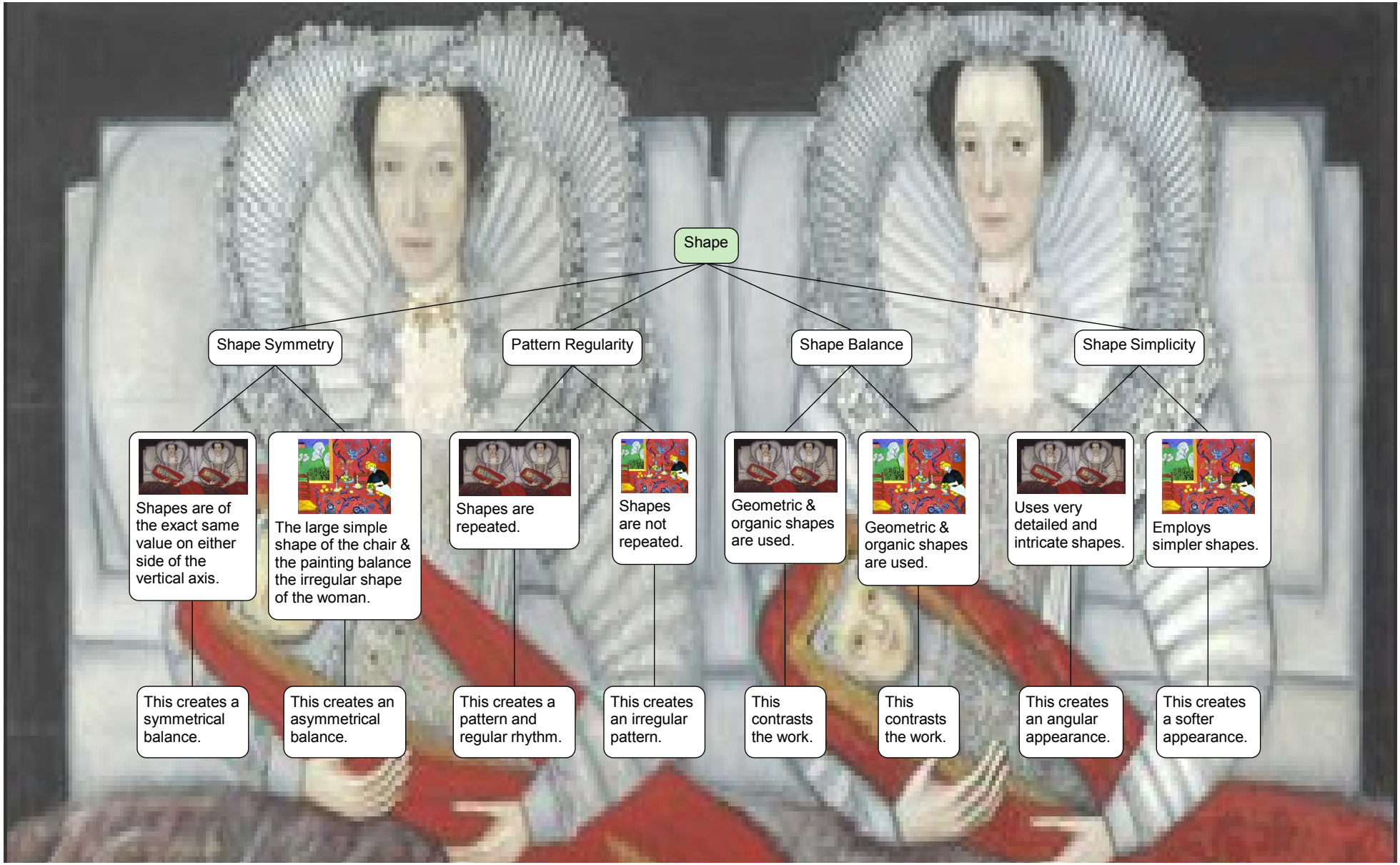
Data
Provide data supporting the claim and also describe where it came from.

Web
Provide details of the web page or site.

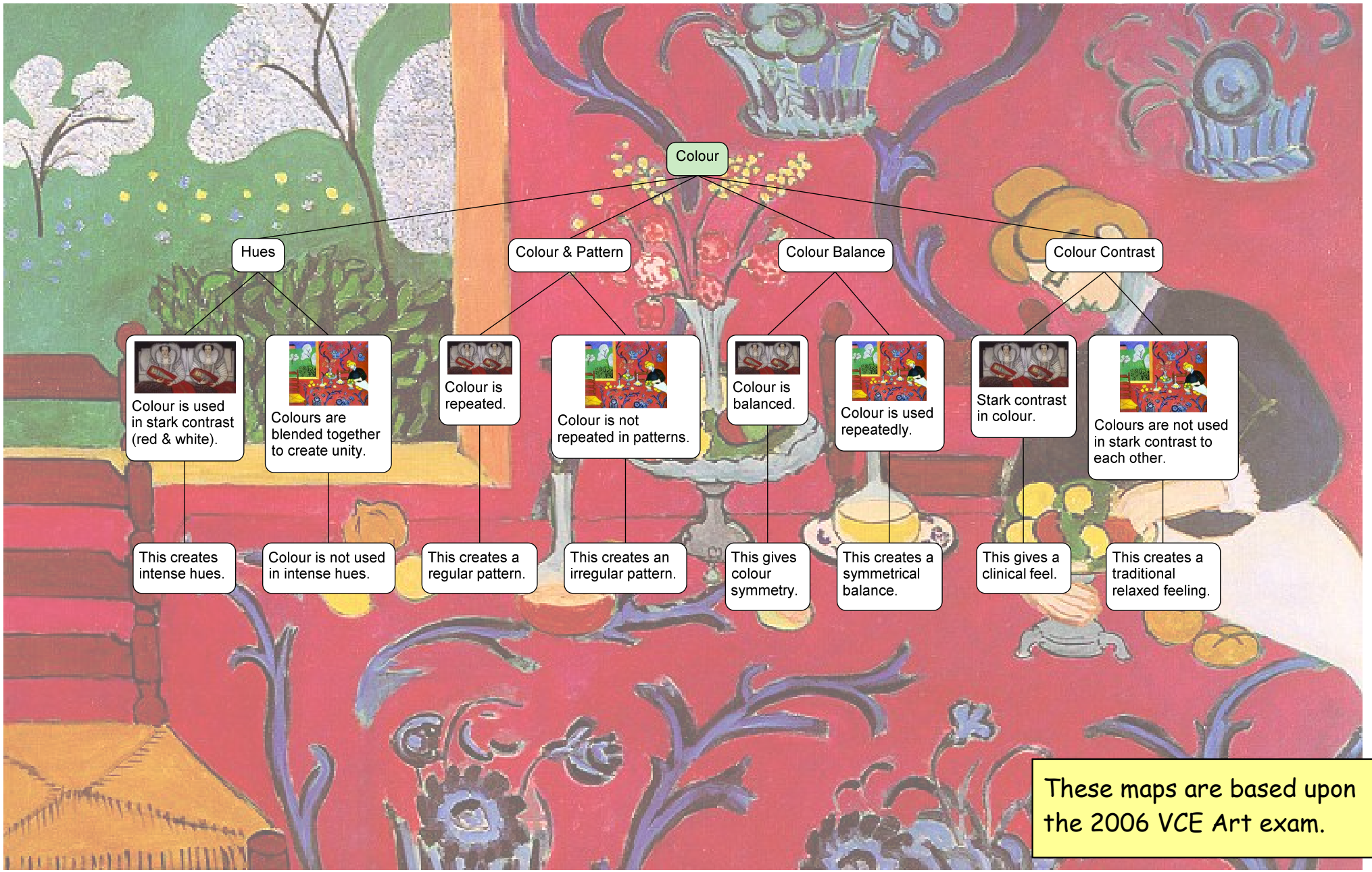
You can also evaluate a Reasoning Map and use Basis Boxes to show different forms of evidence.

Art Examples

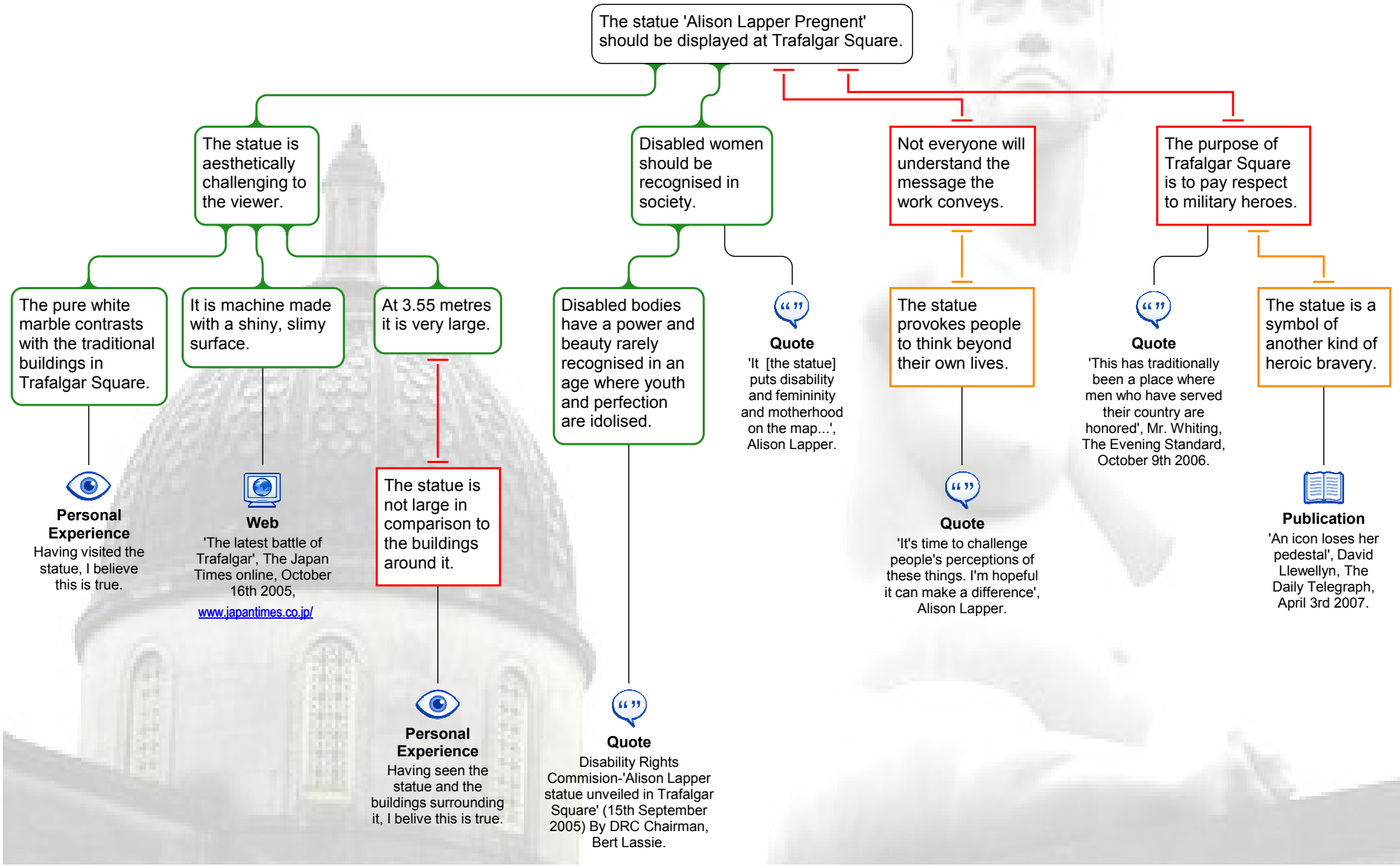
Comparison of shape between ‘The Cholmondeley Ladies’ (unknown) and ‘Harmony in Red’ (Matisse)



Comparison of colour between ‘The Cholmondeley Ladies’ (unknown) and ‘Harmony in Red’ (Matisse)

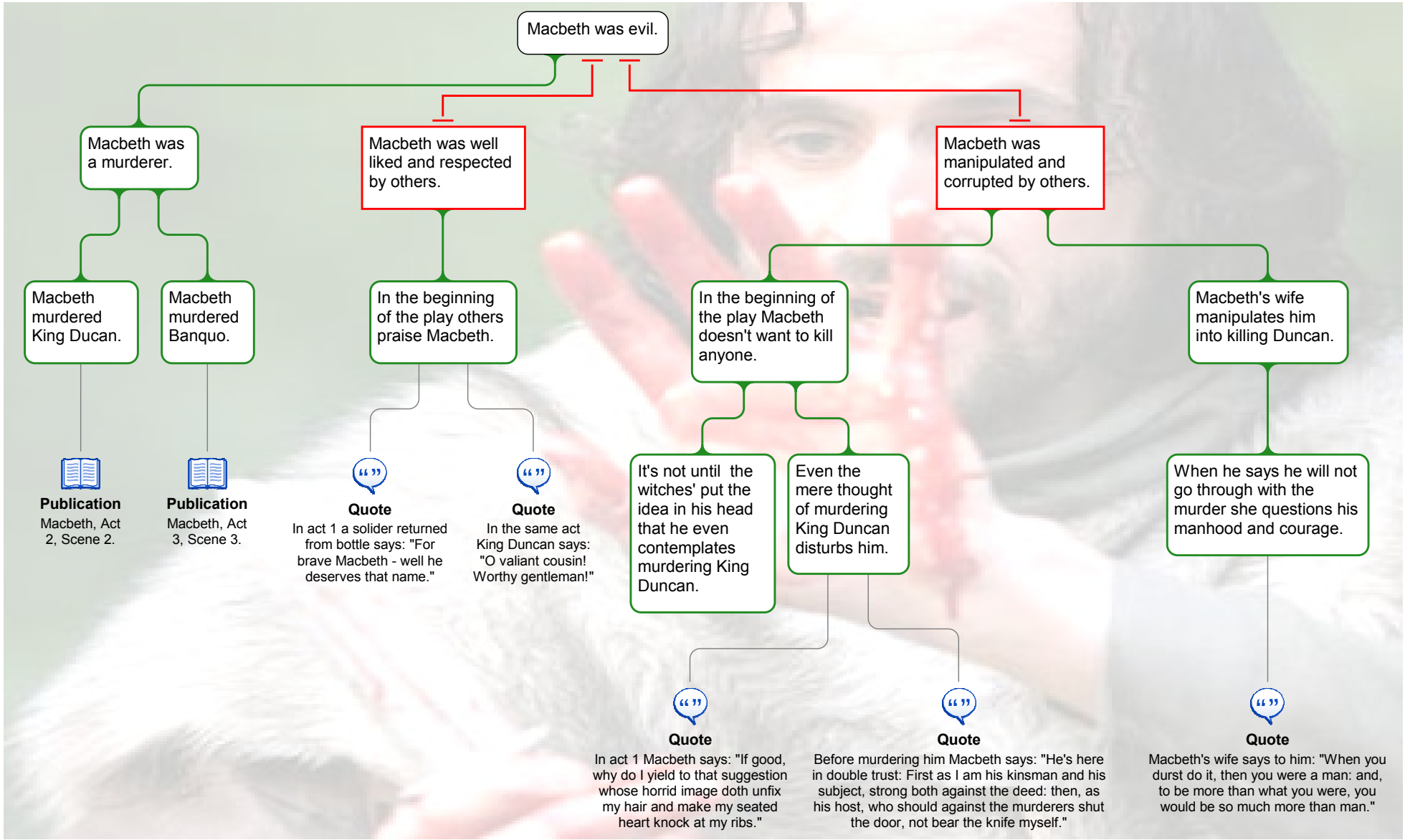


Should the statue of Alison Lapper Pregnant be displayed at Trafalgar Square?

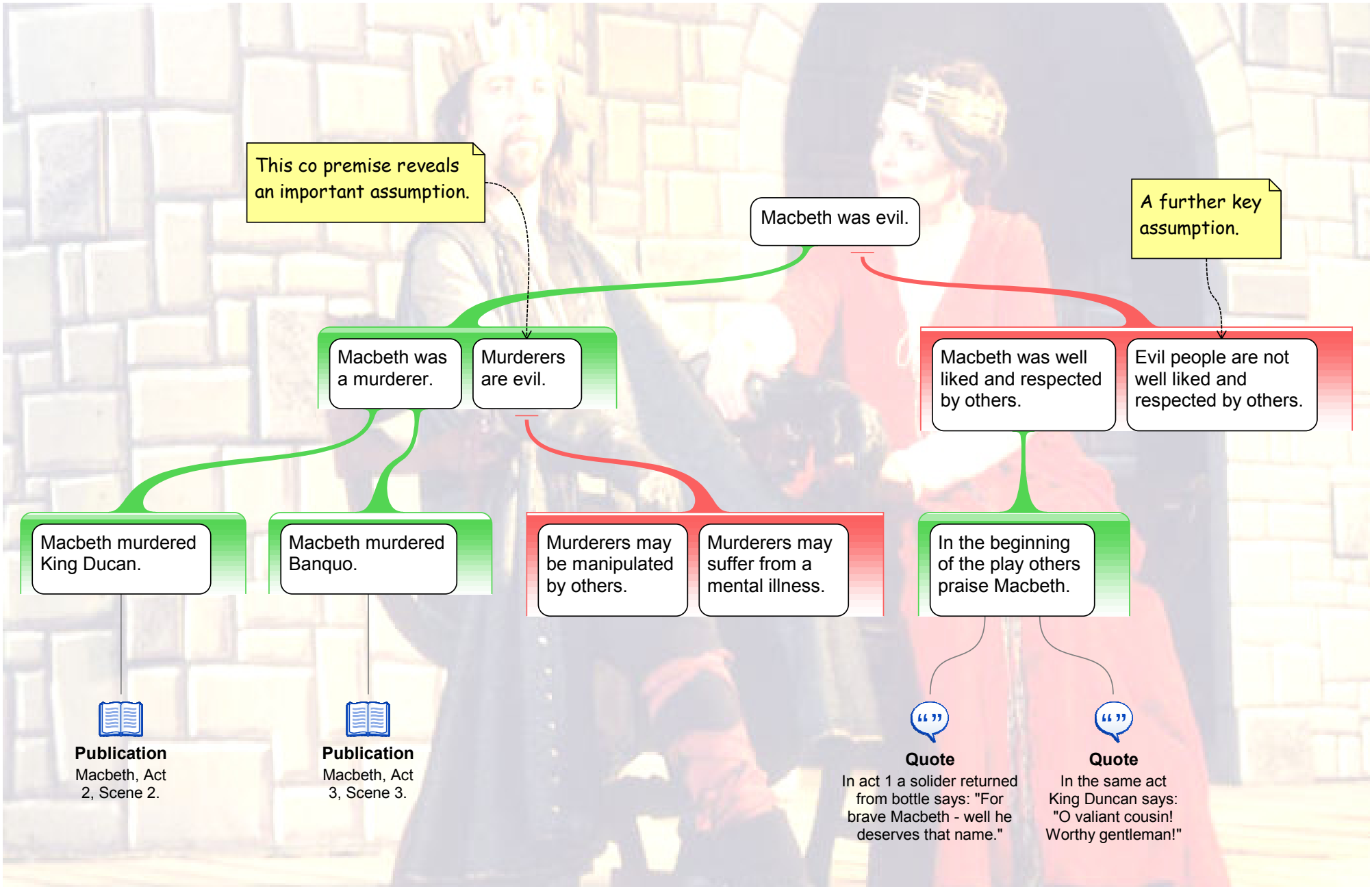


English Examples

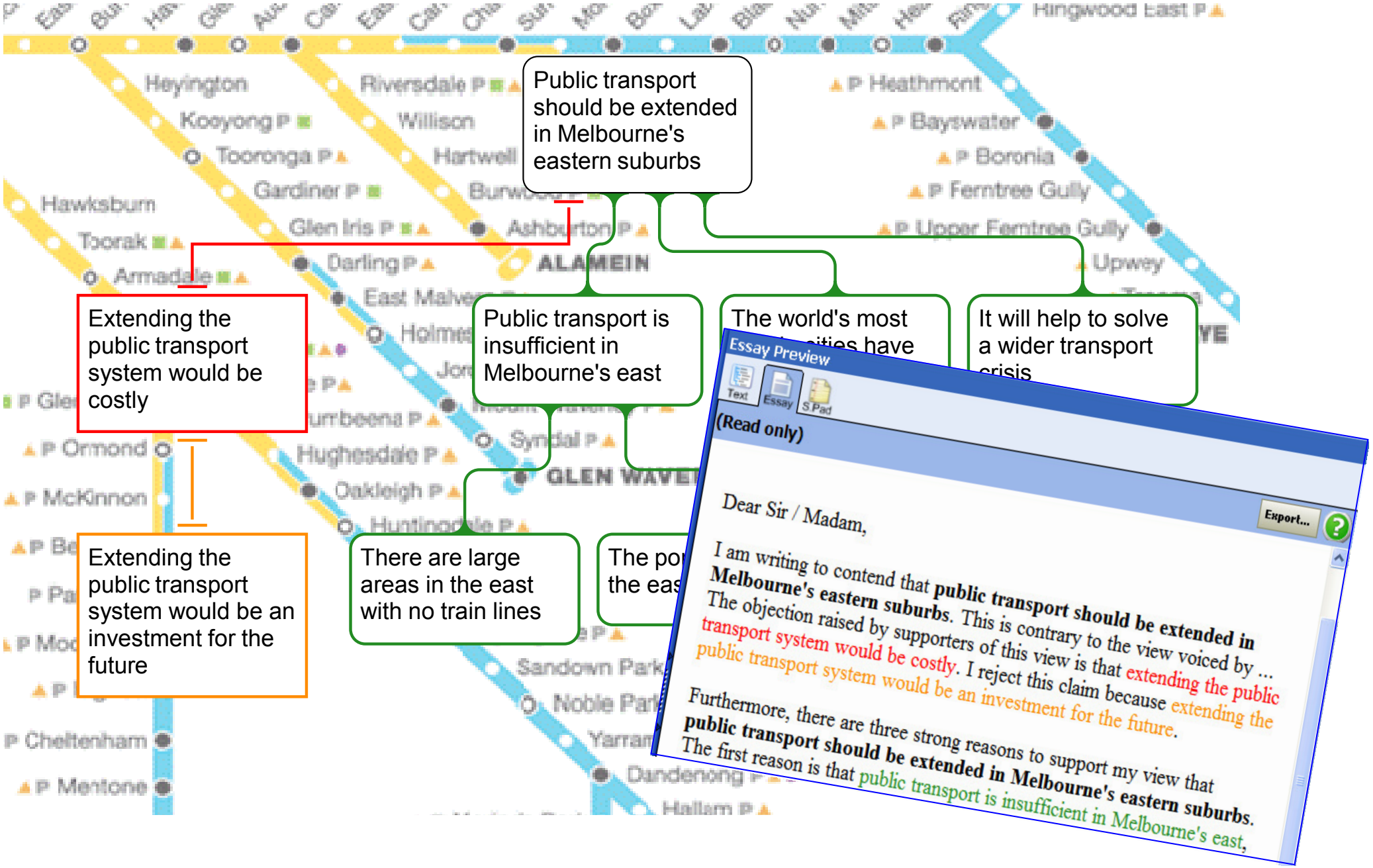
Macbeth was evil: Reasoning map



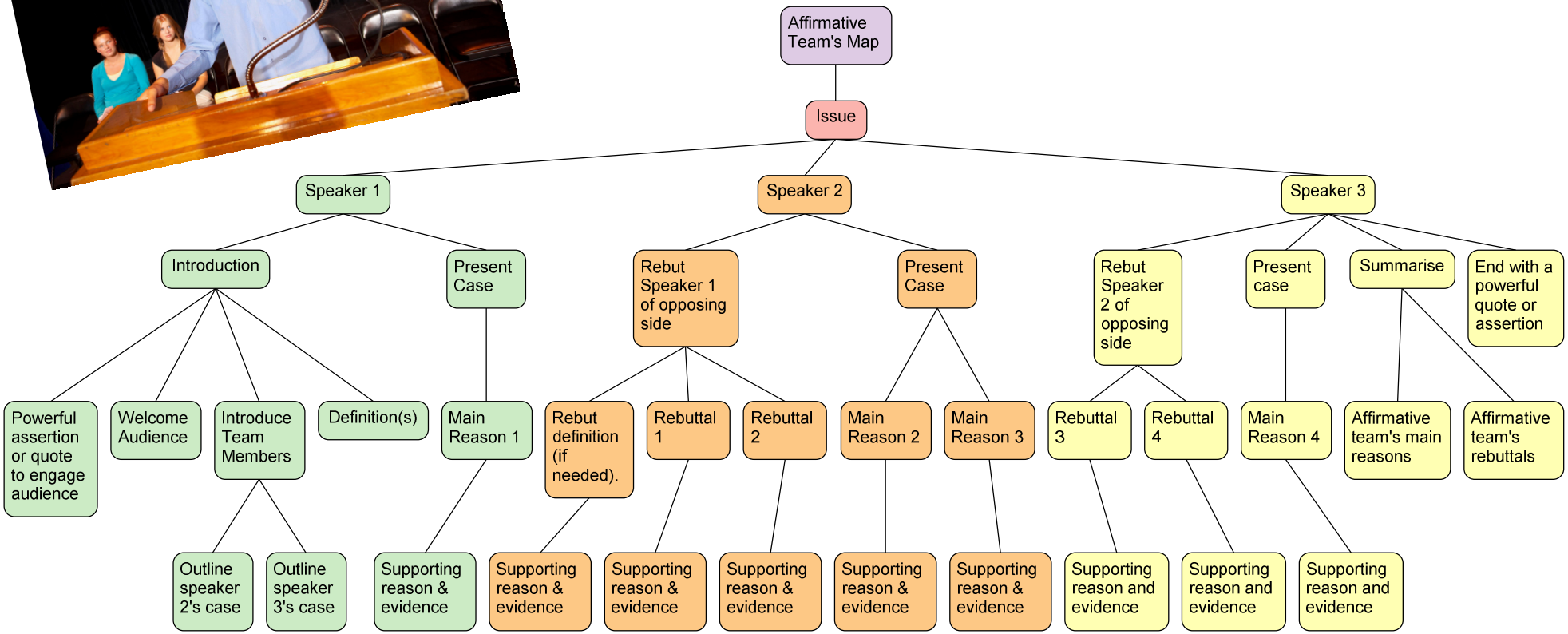
Macbeth was evil: Analysis map to reveal assumptions



Letter to the Editor: Public transport should be extended in Melbourne's eastern suburbs



Debating: Roles and tasks for the Affirmative team



Debating an issue: 'That ...'

A section of the Affirmative Team's Case.

Debate issue: 'That ...'

Main Reason 1

Supporting Reason

Example

Supporting Reason

Evidence

Anticipated objection

Rebuttal

Evidence

Main Reason 2

Supporting Reason

Quote

Supporting Reason

Evidence

Anticipated objection

Rebuttal

Evidence

Opposing side's anticipated argument

Rebuttal 1

Supporting Reason

Common Belief

Evidence

Opposing side's anticipated argument

Rebuttal 2

Supporting Reason

Personal Experience

Evidence

Frankenstein’s monster is more human than his creator

'Frankenstein's tragedy is not that he creates a monster but that he becomes one.' What do you think? - 2000 English exam, paper 2, NSW

Frankenstein becomes a monster, and the monster is more human than his creator.

- Frankenstein becomes withdrawn from those he loves.
  - He is ashamed of what he has done.
    - **Quote**: I dreaded to behold this monster; but I feared still more that Henry should see him.
- Frankenstein does not care for his creation.
  - He abandons the monster.
    - **Quote**: He might have spoken, but I did not hear; one hand was stretched out, seemingly to detain me, but I escaped, and rushed downstairs.
  - He is horrified by the monster's apearance.
    - **Quote**: ... but now that I had finished, the beauty of the dream vanished, and breathless horror and disgust filled my heart.
  - He does not try to understand the monster as a living being.
- Frankenstein begins to lose touch with his human side
  - Frankenstein throws himself into his studies, rather than visiting his family.
    - **Quote**: Two years passed in this manner, during which I paid no visit to Geneva, but was engaged, heart and soul, in the pursuit of some discoveries, which I hoped to make.
    - **Quote**: I wished, as it were, to procrastinate all that related to my feelings of affection until the great object, which swallowed up every habit of my nature, should be completed.
- The monster wishes for companionship.
  - He wants to be part of the family he observes.
  - He wants Frankeinstein to make him a mate.
  - Frakenstein also wishes for companionship.
    - The mon… his wife… and f…
- The monster shows empathy.
  - He stops stealing from the family, …nd instead gives … wood.
  - He empathises with the young man's lover.

Geography

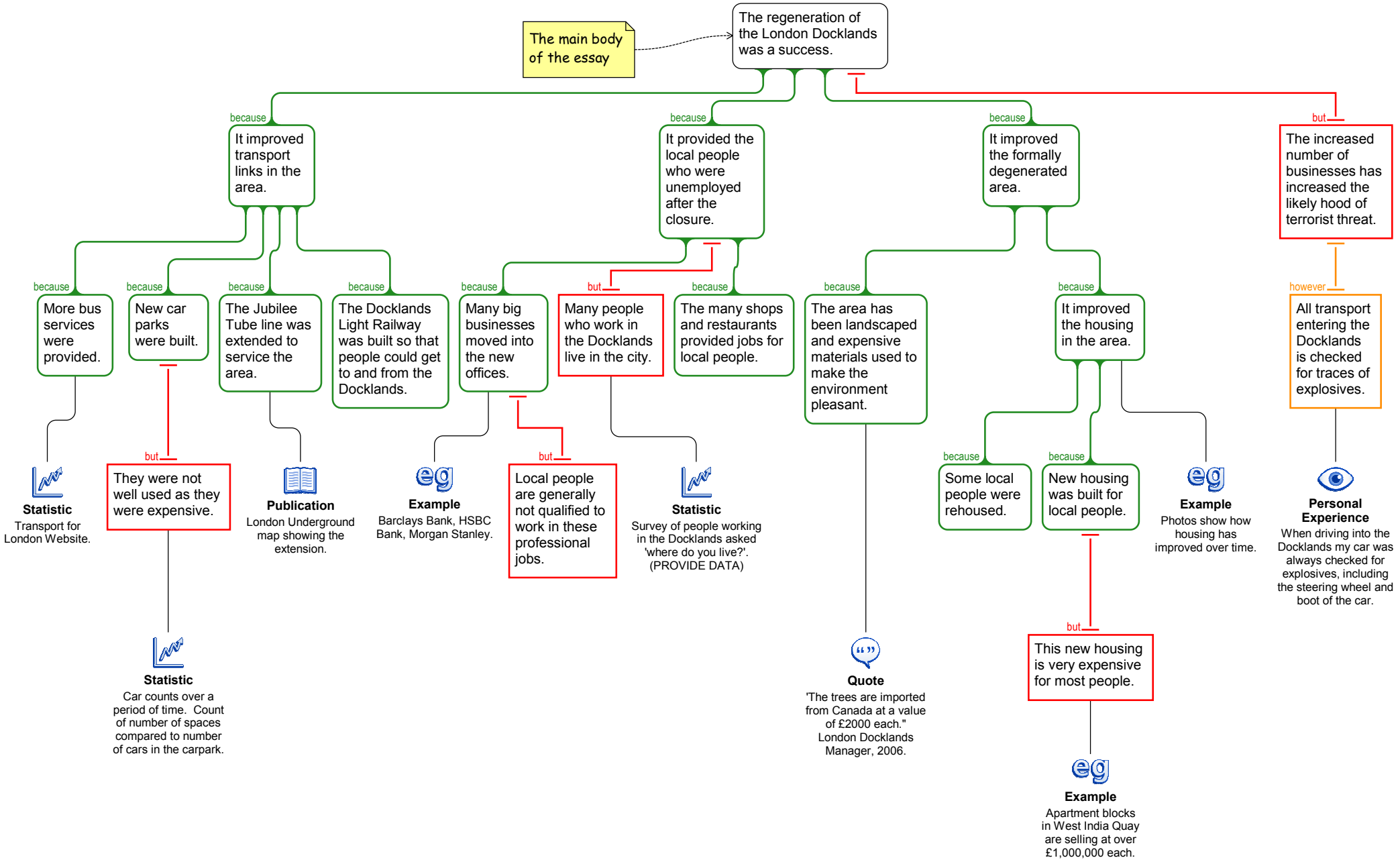
Has the regeneration of the London Docklands been a success?

An example of how pictures could be used in an essay planner.

London Docklands essay plan.

- Introduction.
  - Clearly state my position.
  - Clearly state key terms and concepts.
  - Provide background information.
    - Explain the history of the Docklands.
      - What it was used for and what goodsdid it import and export?
      - Why the Docklands closed down.
        -
          Docklands before closure
        - What did this mean for people living in the area?
          - Unemployment, Poor housing, Low standard of living
          - ???
      - Explain the degeneration of the area: unemployment, vandalism, etc.
        - Why did the Docklands need improving?
    - Your experience of living in the area.
      - What improvements have you witnessed in your lifetime?
        -
          Expensive Dockside housing
        -
          An example of new housing built in the area
- Main body of essay.
  - A more developed reasoning map goes here.
- Conclusion.
  - Clearly assess the position: has the regeneration been successful?
    - Use collected data, experiences and publications to reach your conclusion.
      -
        Canary Wharf under construction
      -
        The completed three towers at the centre of the London Docklands Development

Essay Body: The regeneration of the London Docklands was a success



Tourism to Antarctica should be limited

Tourism to Antarctica should be limited

An analysis map shows copremises and assumptions.

Tourism puts pressure on the environment.

Anything that puts pressure on the environment should be limited.

Visits to Antarctica can be dangerous.

Access to dangerous environments should be limited.

Organisers of Antarctic activities are required to complete an environmental assessment.

New Zealand sends a government rep on all ships to supervise visits to Antarctica to ensure minimum impact.

Most visitors to Antarctica cause very little impact.

A very low level of environmental impact is acceptable.

Most visitors are well informed about the fragile environment.

Quote

'Poorly managed visitors can cause damage to moss beds, disturb wildlife and take historic items or geological souvenirs'-Antarctica New Zealand Information Sheet. Rebecca Ropere-Gee, July 2003.

It is difficult to treat injured people in Antarctica.

People may get injured on the unfamilar terrain.

Flights over Antarctica can be dangerous.

A paternalistic attitude is inappropriate.

Antarctica has no hospitals.

The atmosphere is turbulent.

Example

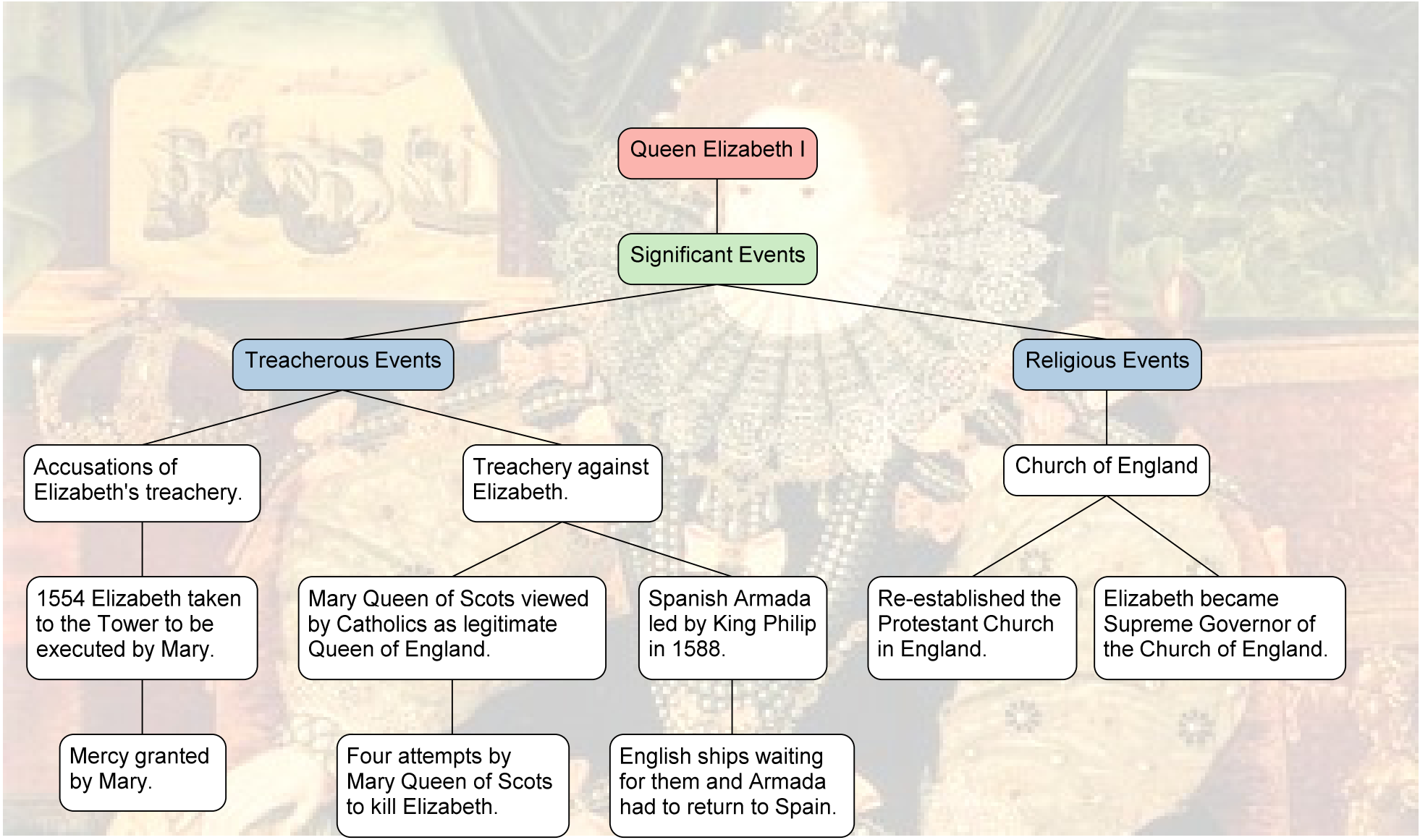
We do not stop people climbing Mount Everest, Bungy Jumping or Sky Diving.

Quote

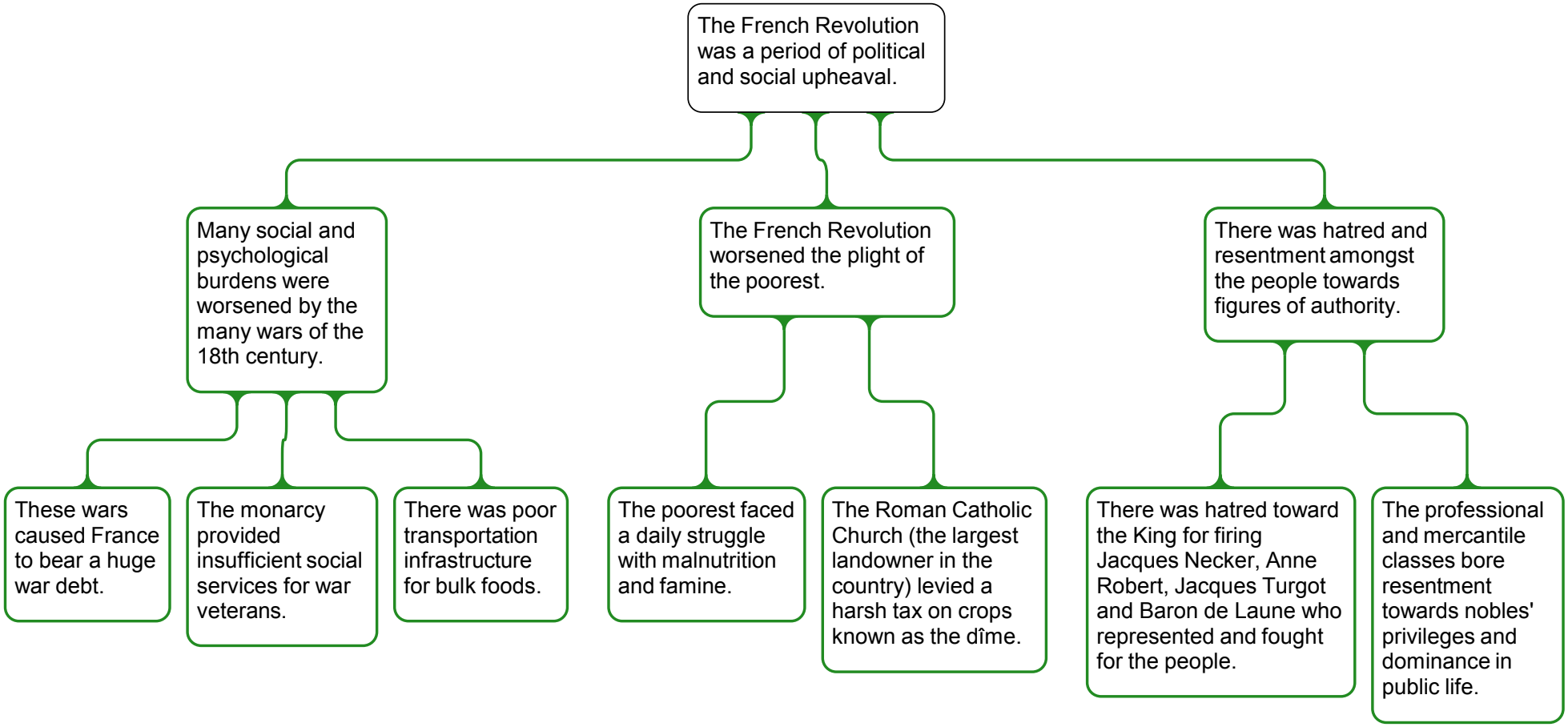
'257 people were killed on a flight over Antartica'.Antarctica New Zealand Information Sheet. Rebecca Ropere-Gee, July 2003.

History

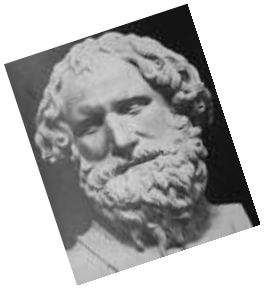
Queen Elizabeth I - Grouping map of significant treacherous events and religious events



The French Revolution



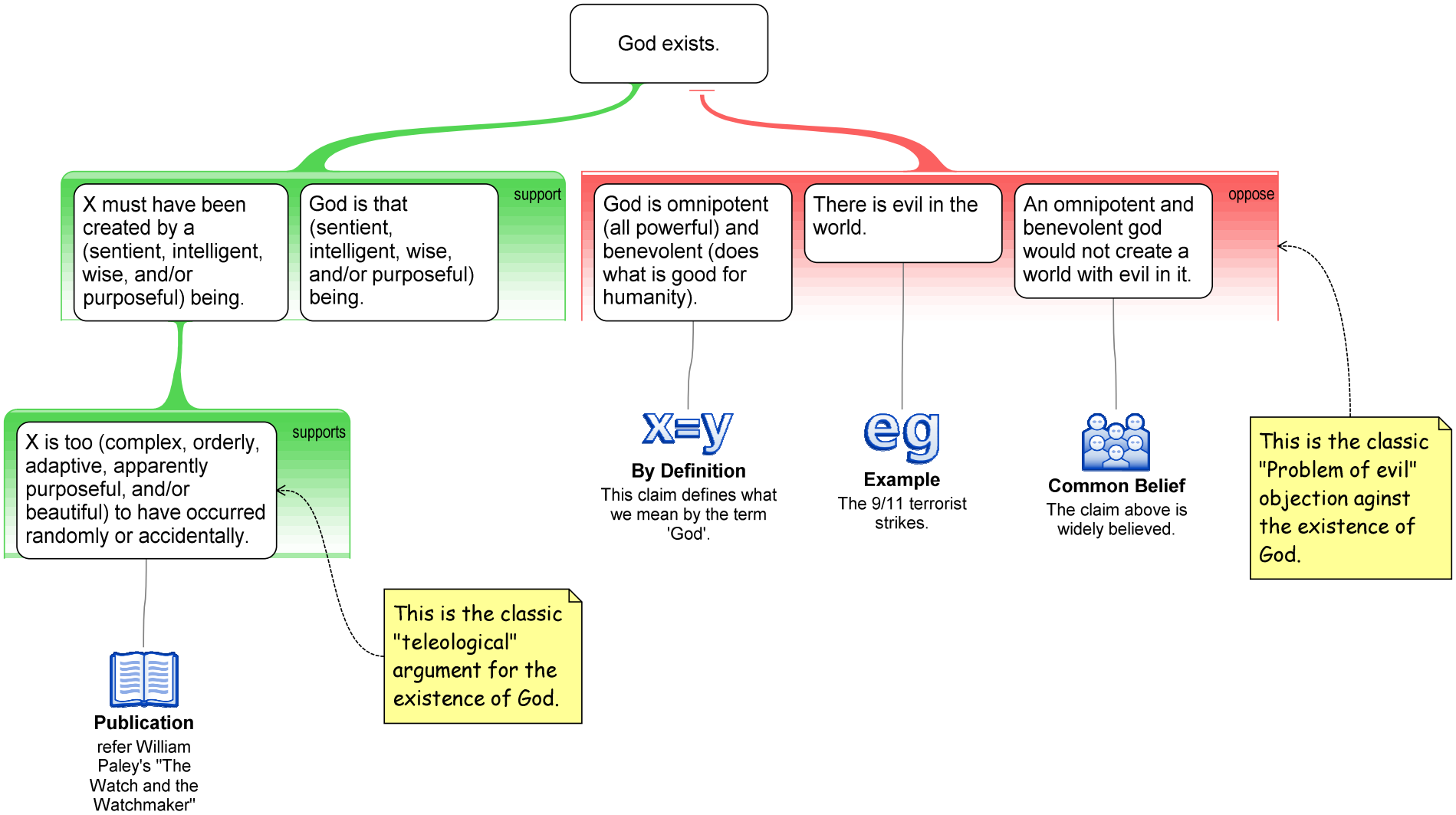
The Peloponnesian War: Key Personalities



- Personalities of the Peloponnesian war period
  - Athenian
    - Pericles
      - Democrat/ imperialist
        - Upheld strategy of evacuating Attica and exhausting Sparta in a defensive war
        - Died of plague in 429 BC
    - Cleon
      - Radical democrat (pro-war)
        - Implemented aggresive war against Sparta with mixed success
        - Successful at Pylos, but died in battle in Thrace
    - Nicias
      - Pro-peace
        - Peace of Nicias (421 BC)
        - Killed during the Sicilian campaign
    - Alcibiades
      - Opportunist
        - Alliance with Argos
        - Destruction of Melos
        - Removed from the Sicilian Expedition
        - Worked for Sparta then Persia
        - Returned to fight at Battle of Notium
        - Assassinated in Persia
  - Spartan
    - Archidamus
      - Conservative
        - Invaded Attica for two consecutive years, burning and slashing the countryside
    - Brasidas
      - Pro-war
        - Successful in the Thracian campaign
        - Took Amphipolis
        - Killed in the Athenians' attempt to regain Amphipolis
    - Lysander
      - Pro-war
        - Admiral of the Spartan fleet
        - Defeated Athens at Aegospotami

Religious Education

God Exists



The Shroud of Turin is a fake

The Shroud of Turin is a fake.

because
The Shroud can be explained by natural causes.

because
The images were created by an artisan.

but
Tests showed that the Shroud images are not any kind of artistic production but are the result of physical/chemical changes in the linen fibers themselves.

because
Attempts by artists and photographers to replicate the images on the cloth have all fallen far short of imitating anything at all resembling the original.

but
The shroud appearance was succesfully replicated in 2005 using mediaeval techniques and materials.

because
The images on the Shroud were painted.

but
Forensic tests found no paint particles.

Data
Results from ultraviolet spectrometry,infrared spectrometry, x-ray fluorescence spectrometry, thermography, pyrolysis-mass-spectrometry, laser-microprobe Raman analyses and microchemical testing.

because
An artist confessed to painting the pictures to a French Bishop in 1389.

but
It was a miraculous image of Jesus.

because
Millions of Christians believe the Shroud shows Jesus.

Common Belief
The claim above is widely believed.

but
Some Bible scholars are willing to argue from the Bible alone that the Shroud is not typical of First-Century Israel.

Expert

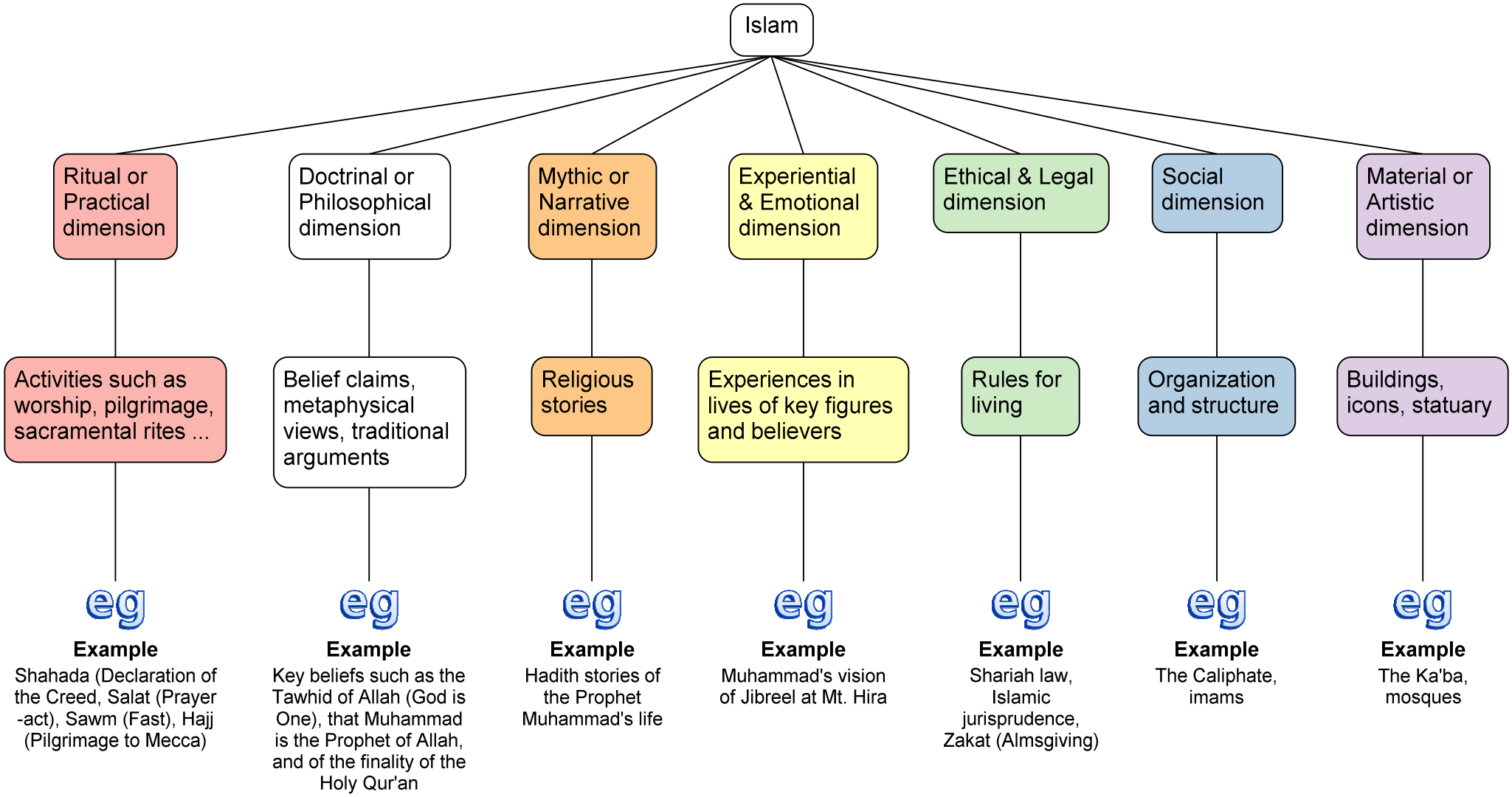
however
It has been dated after Christ's death.

because
Tests on snippets of material cut from the cloth agreed that it was dated between 1260-1390.

Expert Opinion
In 1988, three highly reputable radiocarbon dating laboratories conducted carbon 14 tests.

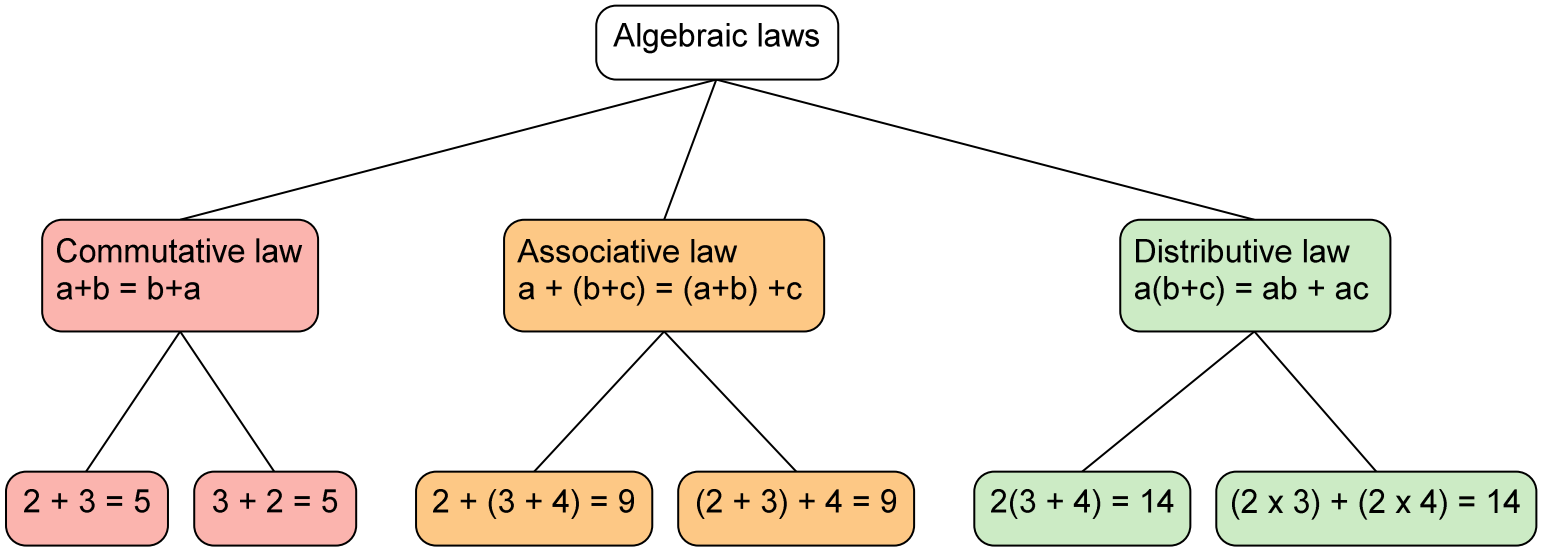
Data
Cloth dated between 1260 and 1390 AD with 95% confidence levels, and between 1000 and 1500 with 99% confidence levels.

Seven dimensions of Islam



Science & Maths

Algebraic laws



The commutative law applies to all mathematical operations

but

The commutative law doesn't apply for subtraction

eg

3 -2 = 1 but 2 - 3 = -1

Chemical reactions

Qualititative description of reactants and products in chemical reactions

Chemical reactions

Combustion	Corrosion	Precipitation	Acids on metals	Acids on carbonates	Neutralisation	Decomposition
Oxygen combines with another compound to form water and carbon dioxide	Decay of a metal that oxidises after exposure to gases or liquids	A solid is formed out of a solution	Acid + metal → a metal salt + hydrogen	Acid + carbonate → a salt + carbon dioxide + water	Acid + base → salt + water	A complex molecule breaks down to make simpler ones
$CH_3OH(aq) + O_2(g) \rightarrow CO_2(g) + 2H_2O(l)$ + heat	$4Fe(s) + 3O_2(g) \rightarrow 2Fe_2O_3(s)$	$AgNO_3(aq) + NaCl(aq) \rightarrow AgCl(s) + NaNO_3(aq)$	$2HCl(aq) + Zn(s) \rightarrow ZnCl_2(aq) + H_2(g)$	$H_2SO_4(aq) + CaCO_3(s) \rightarrow CaSO_4(s) + CO_2(g) + H_2O(l)$	$HCl(aq) + NaOH(aq) \rightarrow NaCl(aq) + H_2O(l)$	$HgO(s) \rightarrow Hg(l) + 1/2\ O_2(g)$

Experiment leads to this conclusion

This is a neutralization reaction

because

The products were a salt and water

This is a neutralization reaction

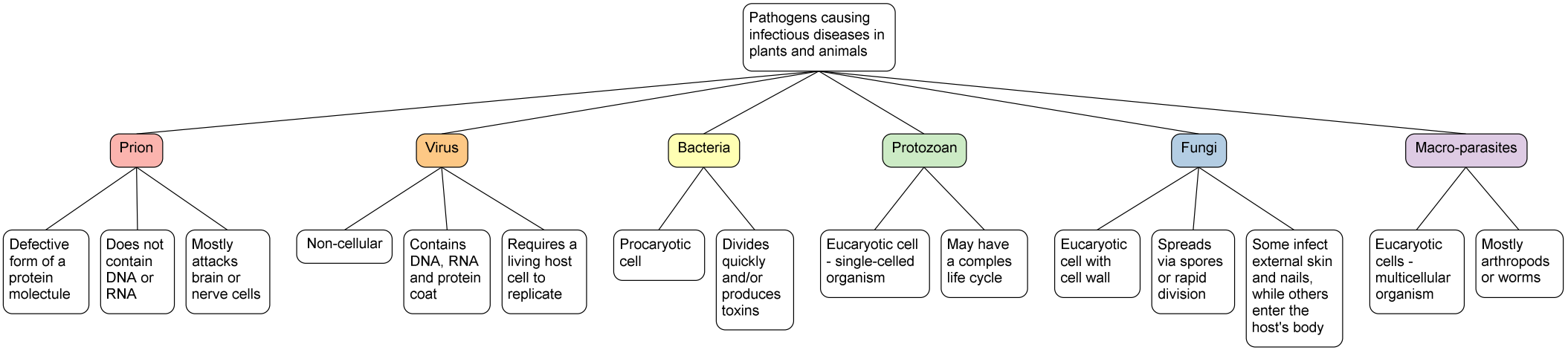
An analysis map to show the assumption

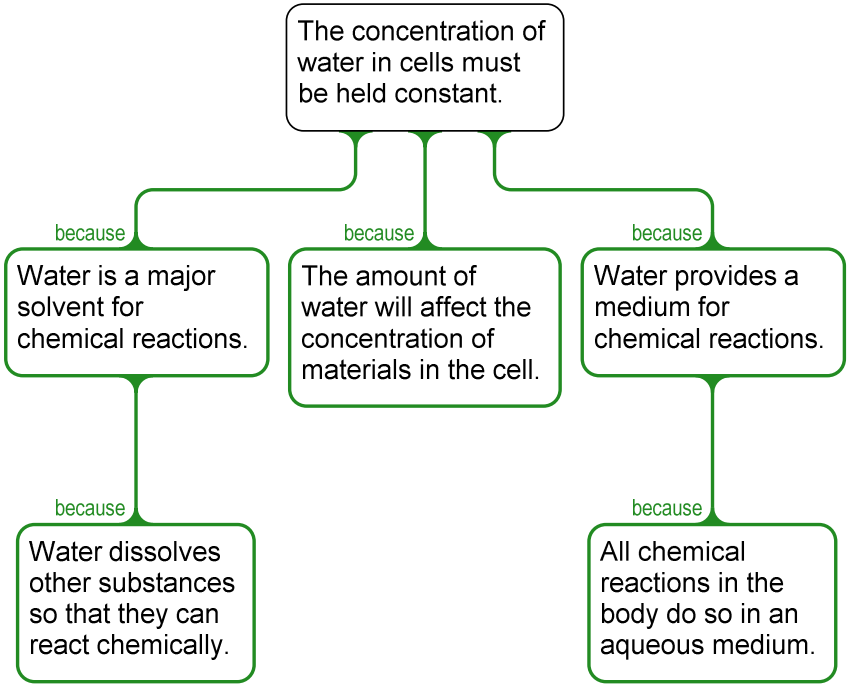
The products were a salt and water

support

Only a neutralization reaction produces a salt and water

Pathogens & cellular biology





The critical thinking process

1. Gather ideas

There is world hunger

Global warming is an issue which has received unwarranted attention

Climate change underlies all social, economic and political issues

It is an issue pushed by those with a vested interest

Climate change is the most important issue of the 21st century

Climate change adversely affects the sea, land and atmosphere

Scientific evidence illustrates the legitimacy for concern about global warming

Climate change adversely affects the environment

A continued rate of global warming cannot sustain human life

The environment is able to readily adapt to climate changes

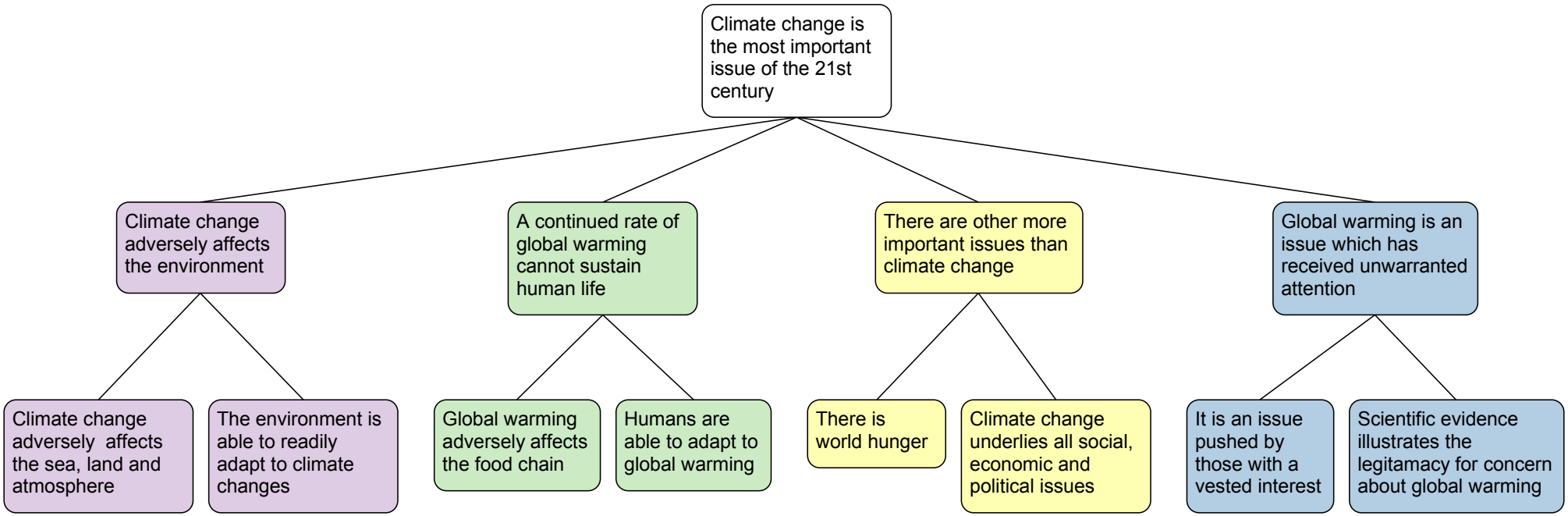
Issue: Climate change

Global warming adversely affects the food chain

Humans are able to adapt to global warming

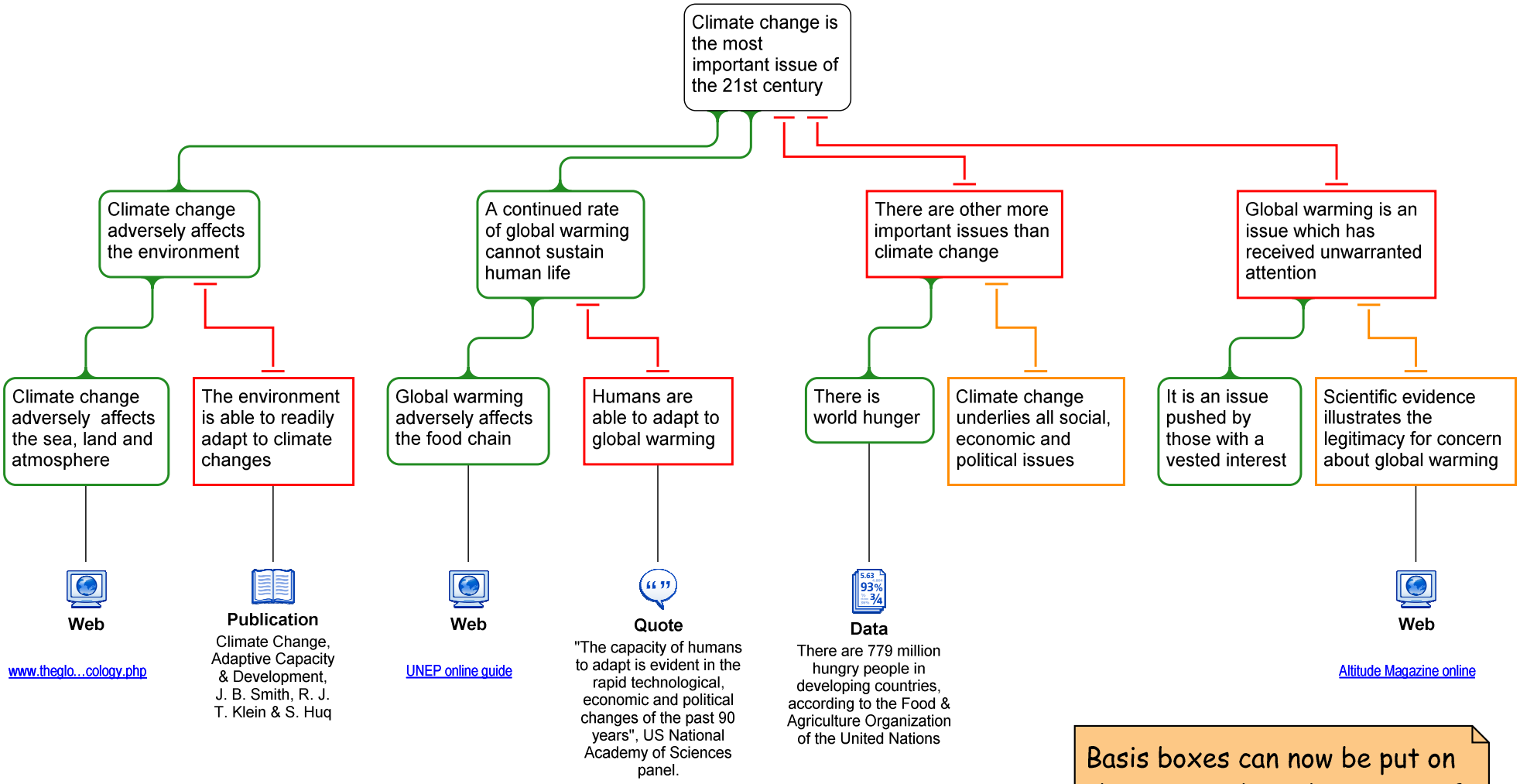
There are other more important issues than climate change

2. Structure ideas



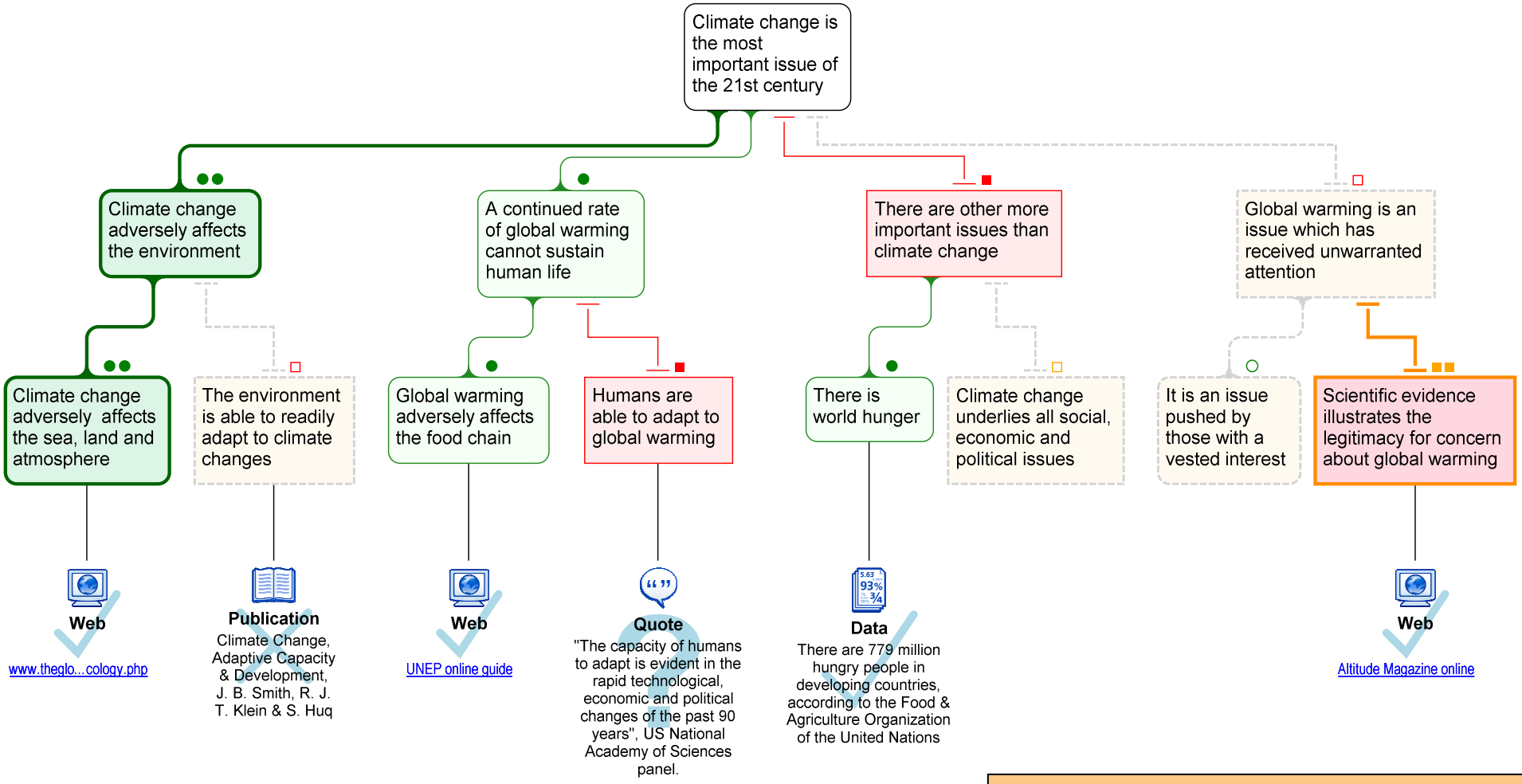
The boxes can be colour coded to help group similar ideas

3. Create an argument



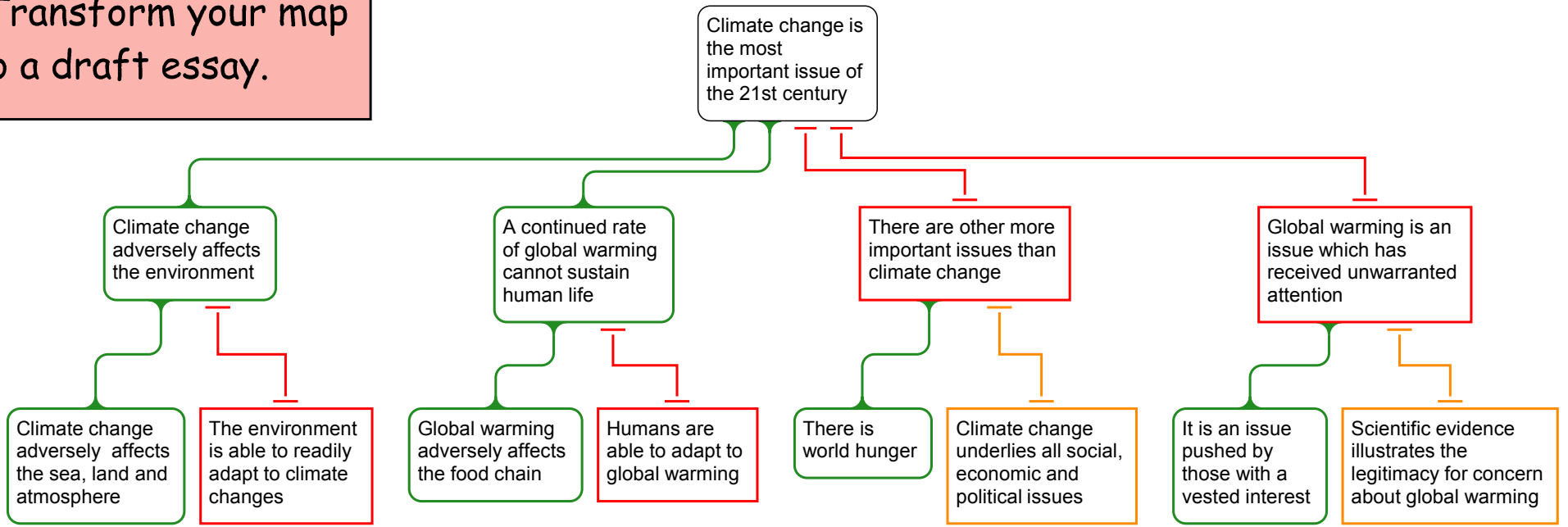
Basis boxes can now be put on the map to show the source of the information

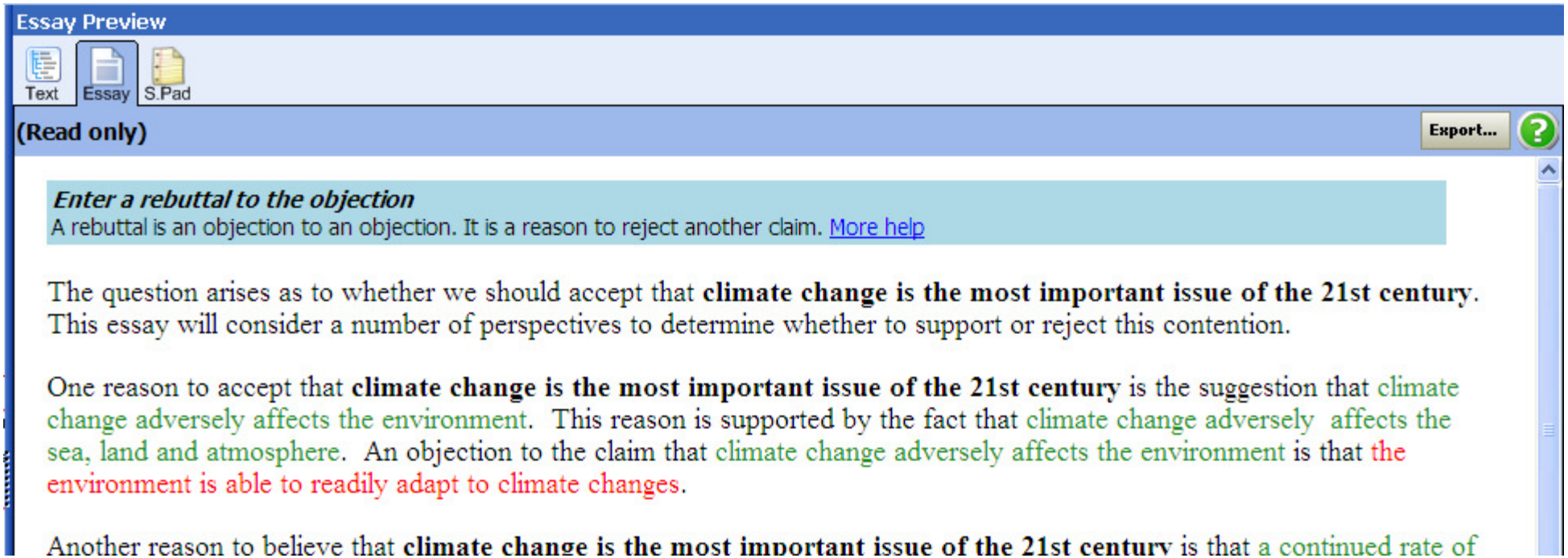
4. Evaluate the argument



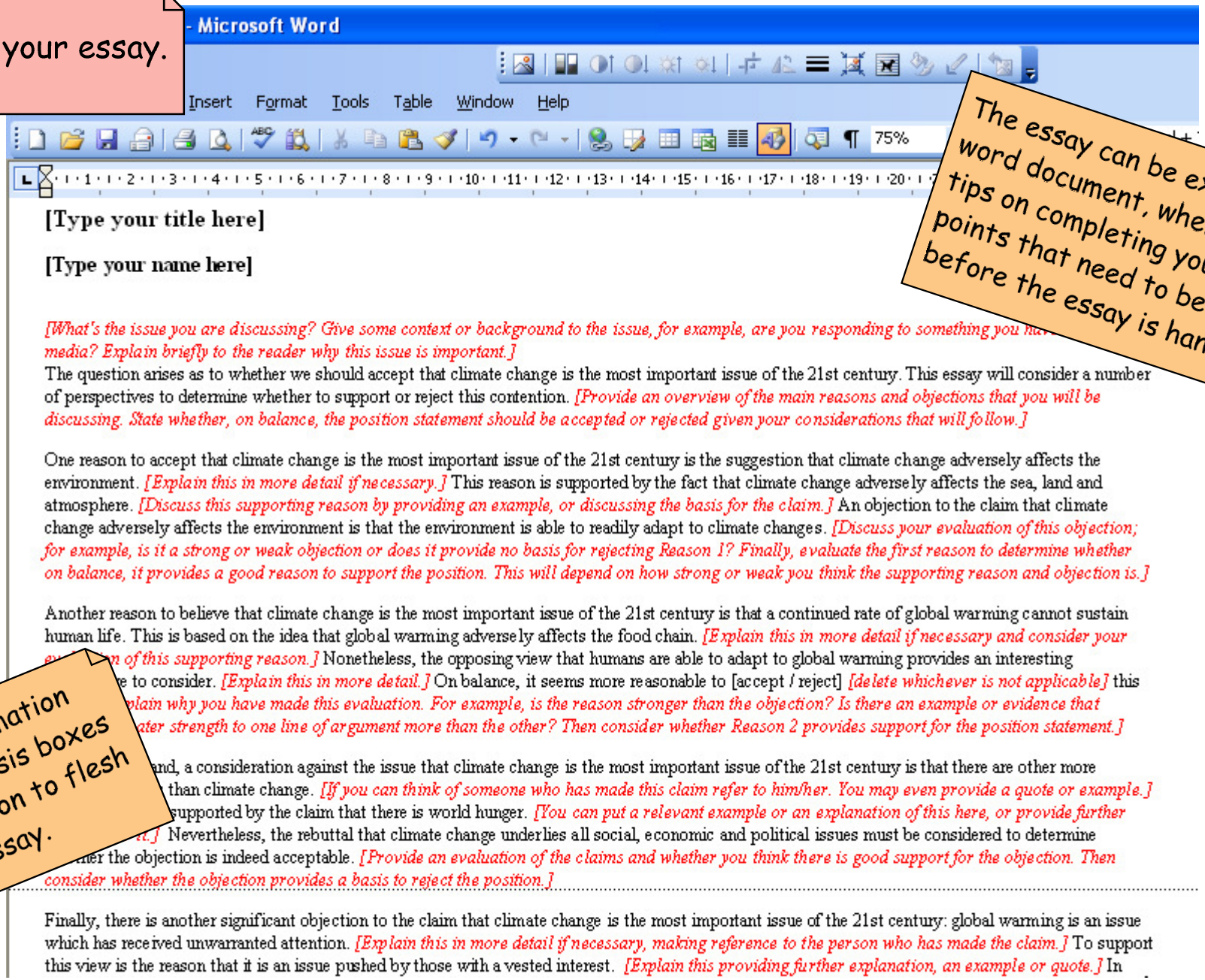
The position can be evaluated by deciding the strenght of each reason or objection. Then, by weighing up the reasons against the objections the main position can be accepted or refuted.

5. Transform your map into a draft essay.





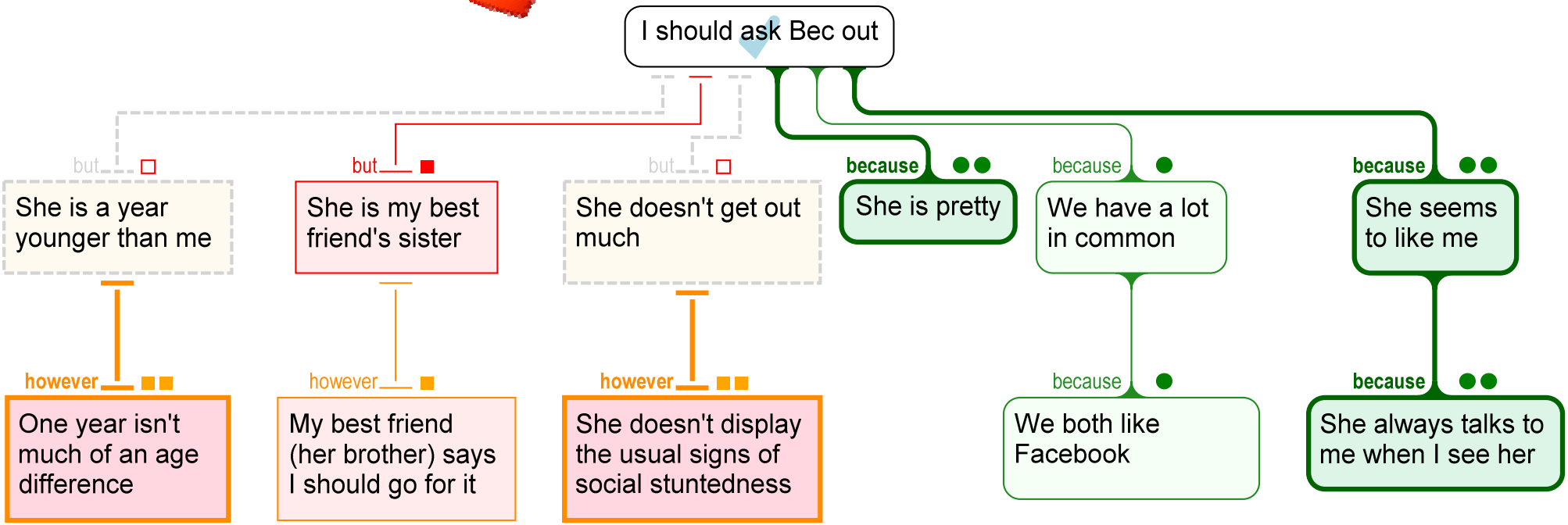
6. Write your essay.



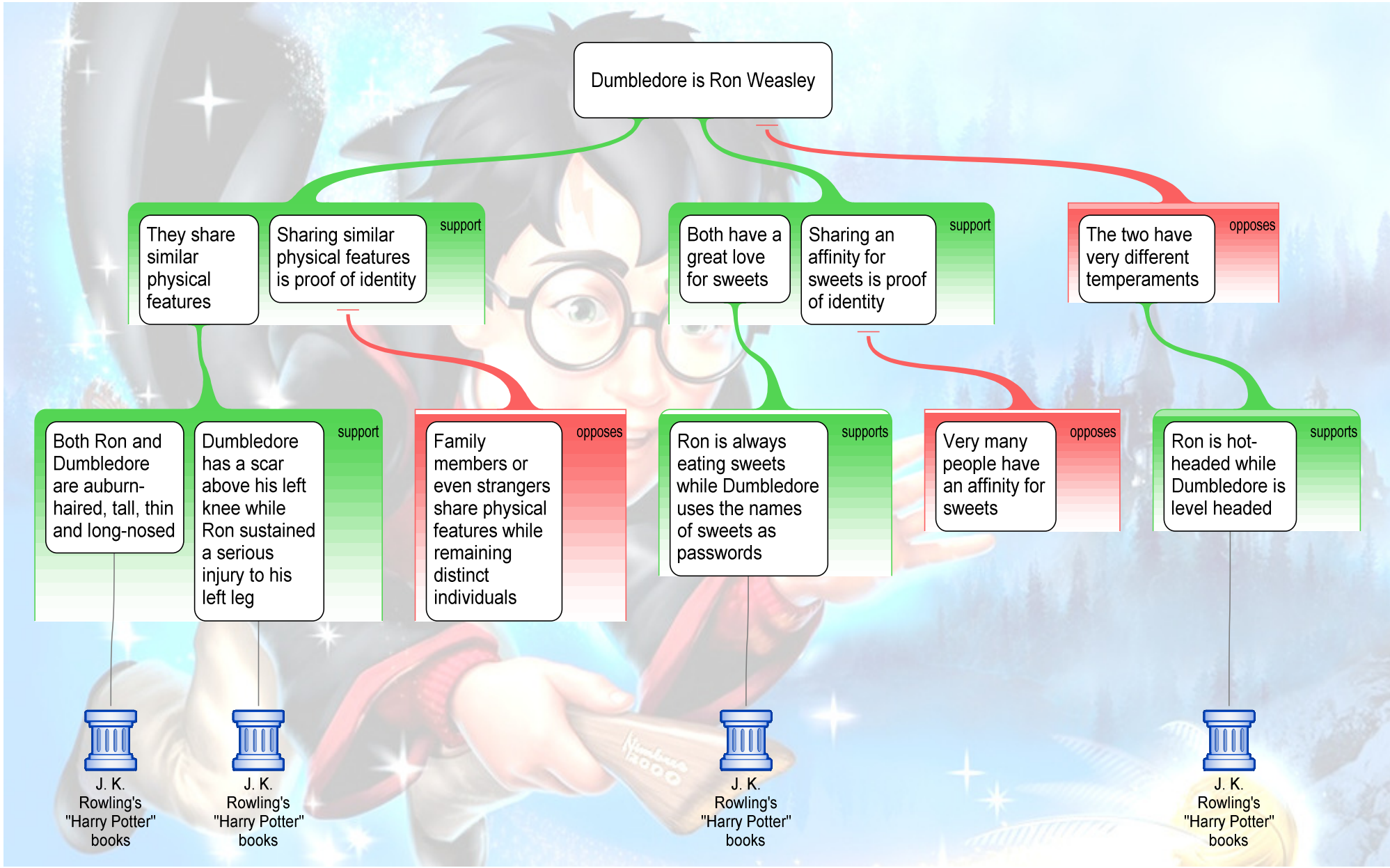
The essay can be exported to a word document, where you will find tips on completing your essay and points that need to be checked before the essay is handed in.

Use the information from your basis boxes and evaluation to flesh out your essay.

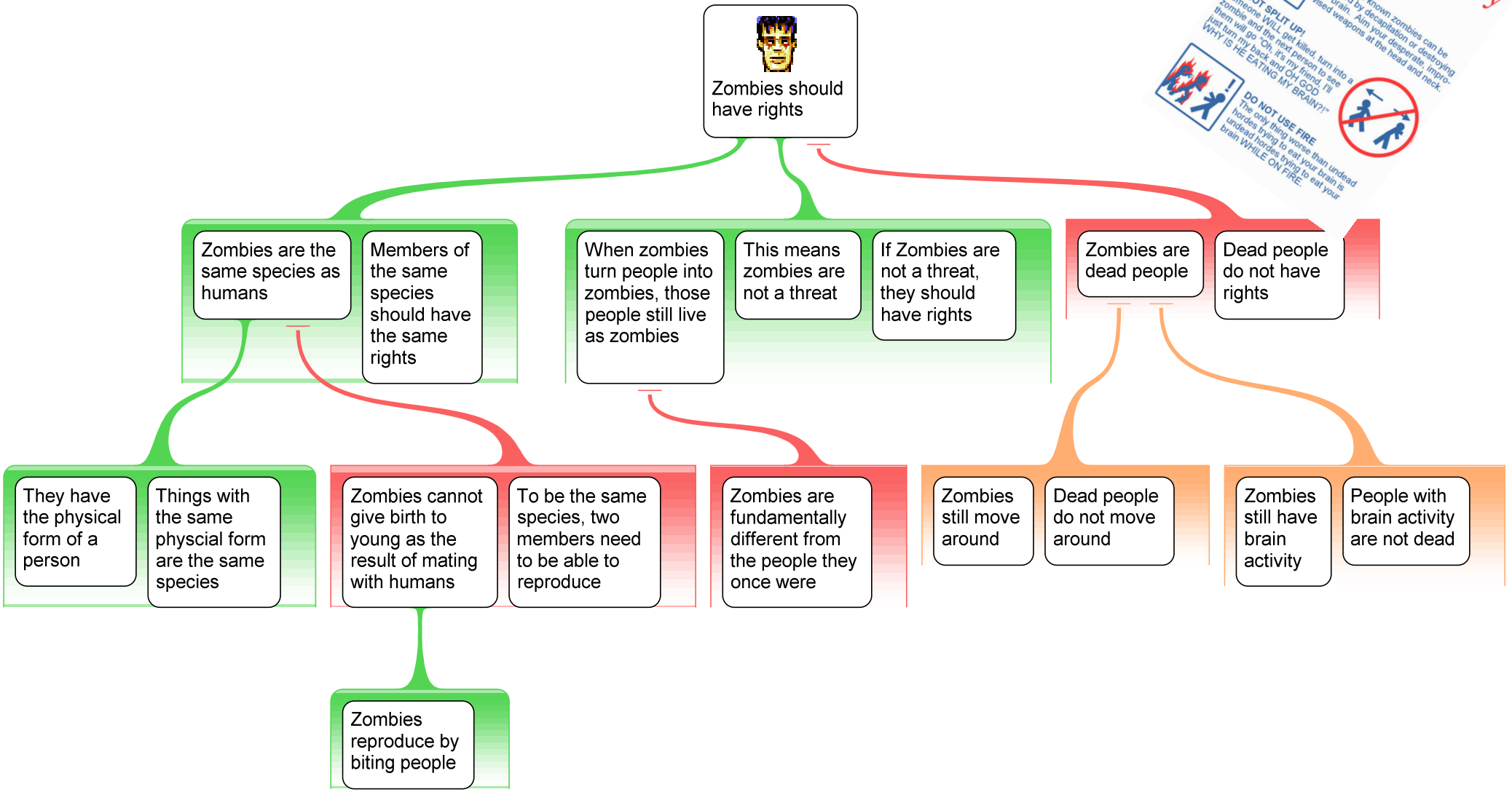
Just for Fun!


I should ask Bec out
but
She is a year younger than me
however
One year isn't much of an age difference
but
She is my best friend's sister
however
My best friend (her brother) says I should go for it
but
She doesn't get out much
however
She doesn't display the usual signs of social stuntedness
because
She is pretty
because
We have a lot in common
because
We both like Facebook
because
She seems to like me
because
She always talks to me when I see her

Harry Potter conspiracy theory



Zombies should have rights



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