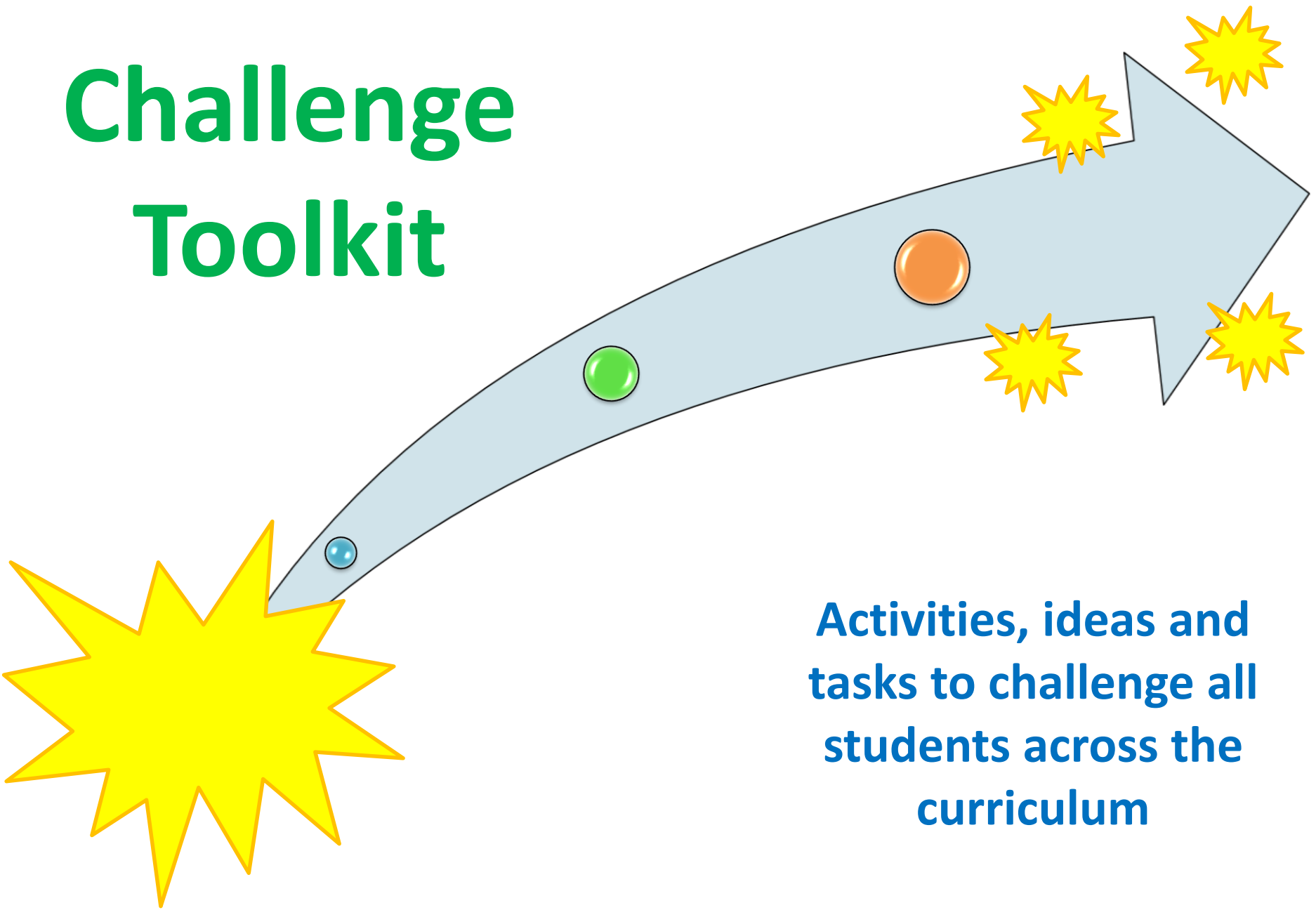


Challenge Toolkit



**Activities, ideas and
tasks to challenge all
students across the
curriculum**



Introduction



In this toolkit there are a variety of ways (50) to challenge students intellectually.

Throughout, the ideas are presented as generic. They can be used across the curriculum and adapted for specific subjects or topics. Usually this will involve inserting relevant content into the generic shell of the activity.

Acknowledgements

<http://www.friesian.com/valley/dilemmas.htm>

www.edwarddebono.com

<http://www.poemhunter.com/>

<http://famouspoetsandpoems.com/>

<http://www.poetryarchive.org>

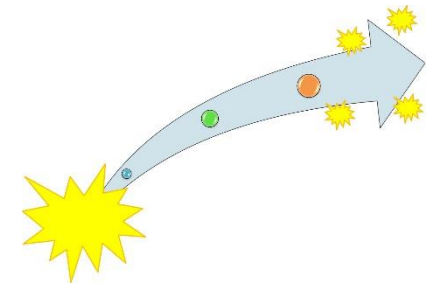
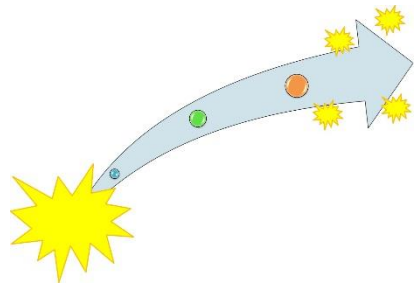
<http://www.sacred-texts.com/bud/zen/sayings.htm>

www.wikipedia.org

http://www.debonogroup.com/six_thinking_hats.php

<http://www.thefreedictionary.com/counterfactual>

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[Devise a way to...](#)

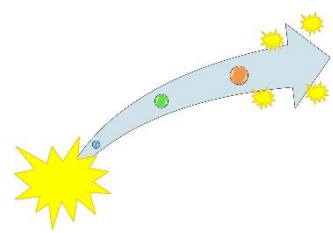
[Round Table](#)

[Fact or Opinion](#)

[Typology](#)

[Assumptions](#)

Insoluble Problems



Much of philosophy centres on questions that seem to be insoluble.

Use some of these to challenge students:

Can we prove God does or does not exist?

What is art?

Can security and freedom coexist?

Is my blue the same as your blue?

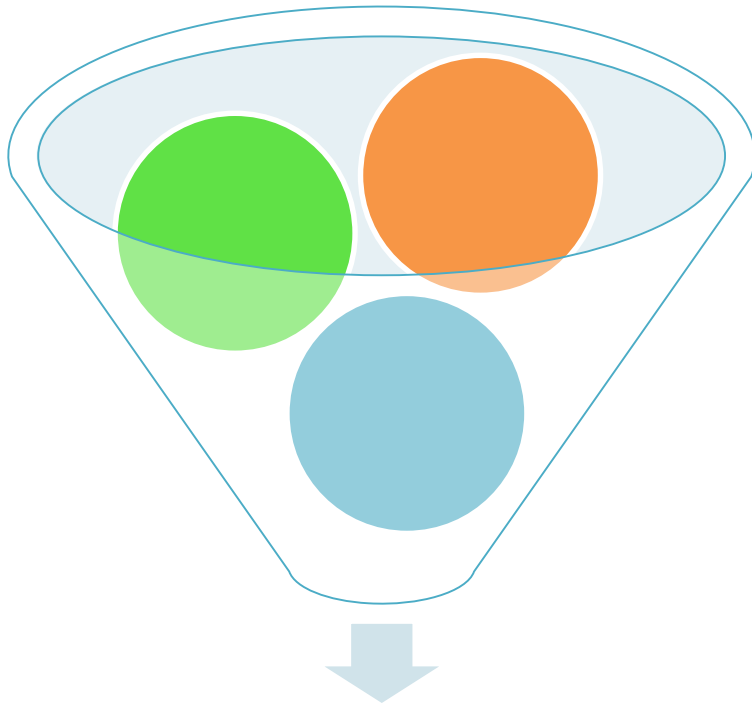
Are the mind and body separate?

Do we have free will?

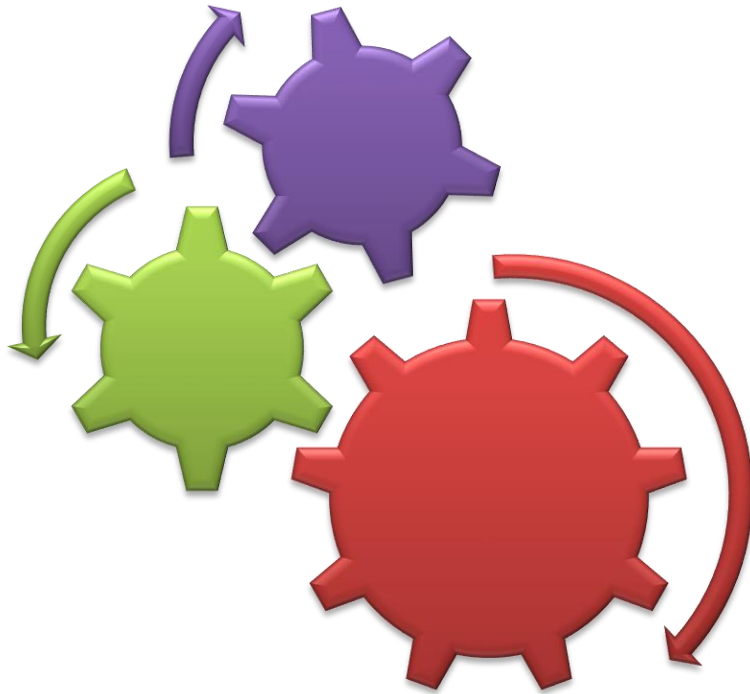
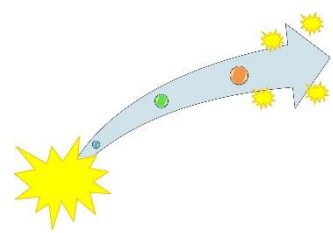
Why does evil exist?

Are some judgements better than others?

Extension: Students develop their own insoluble problems and challenge each other



Ethical Dilemmas



Ethics provides fertile ground for challenging thinking. The very notion of why we ought to act in a certain way is itself sharply contested.

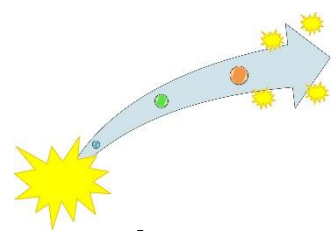
Ethical dilemmas provide a stimulating, testing experience for students in making moral judgements.

These websites contain a number of dilemmas (some may require alteration for the audience):

<http://www.friesian.com/valley/dilemmas.htm>

Extension: Ask students to construct their own moral dilemmas and then answer them.

Random Words



Box
Cow
Sunshine
Beyond
Fence

Give students a list of five random words,

e.g. Box; Cow; Sunshine; Beyond; Fence

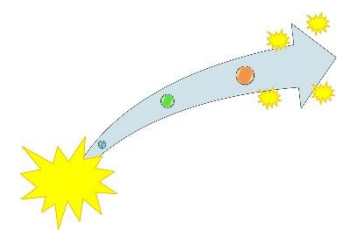
And ask them to:

- Show how any or all of the words connect to one another.
- Explain how they may influence one another.
- Suggest how they might link to the learning.
- Create a story encompassing all the words.
- Mind-map the connotations of each word and then analyse the links between them.

www.edwarddebono.com

Adapted from an idea by Edward De Bono
– a super author for all things thinking.

Exam Questions



Question 1

Ask students to produce exam questions for the topic they are studying. These could be scaffolded by criteria or left open.

Question 2

Extension:

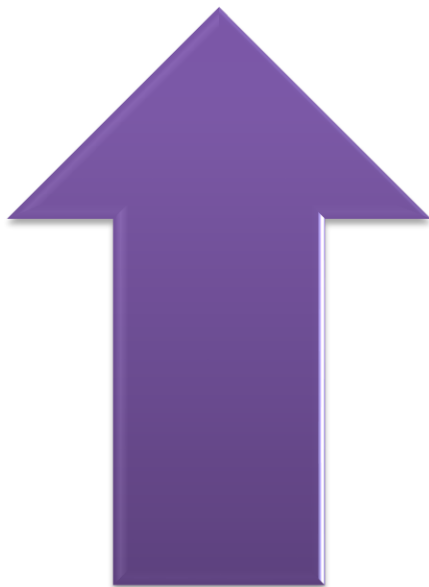
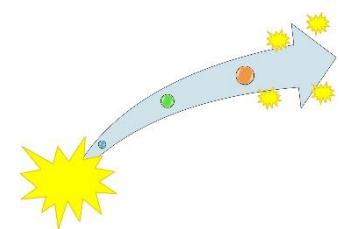
- Students go on to create model answers to the questions they have set.

Question 3

- Students swap questions with one another and then answer these.

- Questions are taken in by the PAL leaders and redistributed at random. After writing answers students meet up with the question author to mark the work.

Perspectives

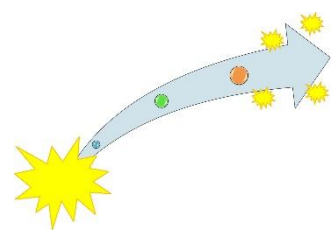


This works well if students have been constructing an argument or engaged in debate.

When they have finished their work, ask them to change perspective and develop a line of reasoning that counters what they have already written or spoken. Extend by telling them that the new perspective must aim to undermine all the key points of the first.

Extension: Ask students to synthesise the two arguments and produce a final thesis, stronger for its more rounded view.

Poetry



Days

What are days for?
Days are where we live.
They come, they wake us
Time and time over.
They are to be happy in:
Where can we live but days?

Ah, solving that question
Brings the priest and the
doctor
In their long coats
Running over the fields.

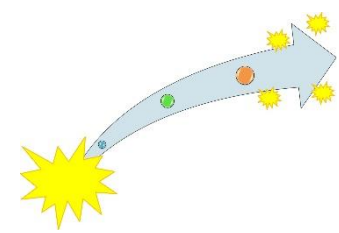
Philip Larkin

Have some laminated
poetry for students to
read, consider, analyse,
mimic, question,
ponder...

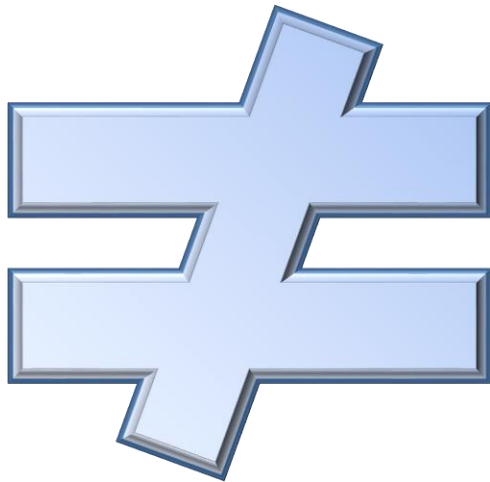
<http://www.poemhunter.com/>

<http://famouspoetsandpoems.com/>

<http://www.poetryarchive.org>



Symbols



Ask students to translate something into symbols that could be understood by an outside observer.

The something could be a specific piece of content, the whole lesson, their learning etc.

Example –

People vote in elections and whoever gets the most votes becomes leader.



A

B

C

$v_A v_A v_A$

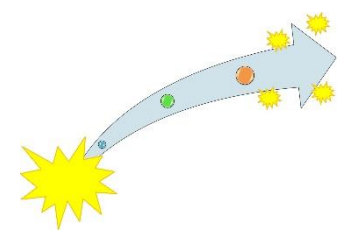
$v_B v_B$

$v_C v_C v_C v_C$

$\therefore A$

~~B~~

C



Paradox

'A paradox is a statement or group of statements that leads to contradiction or defies intuition'

(<http://en.wikipedia.org/wiki/Paradox>)

An example of a paradox would be:

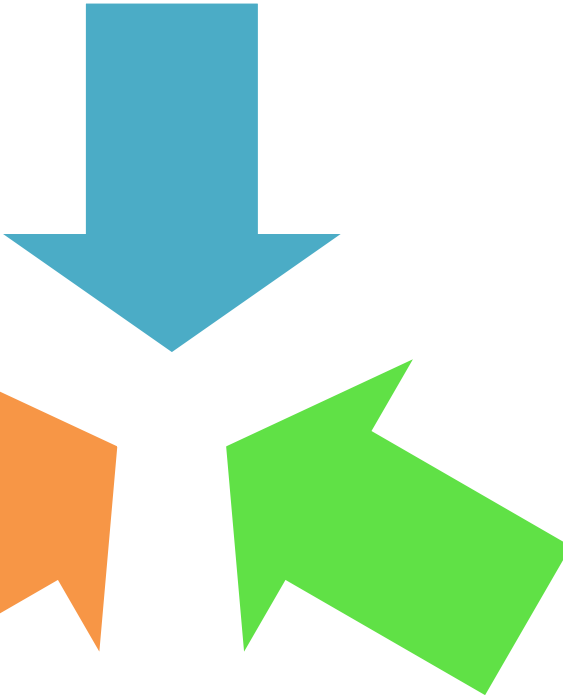
"Is the answer to this question no?"

Or,

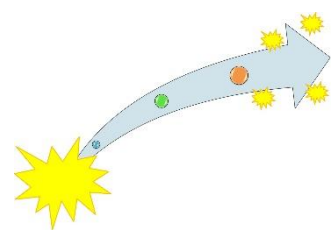
"This statement is false"

But paradoxes also take on longer, more literary forms in the work of authors such as Oscar Wilde and G.K. Chesterton and in the philosophy of those such as Nietzsche and Kierkegaard.

Give students paradoxes to consider or (try to) analyse and encourage them to come up with their own.



Zen



**"Sitting quietly,
doing nothing,
Spring comes, and
the grass grows by
itself."**

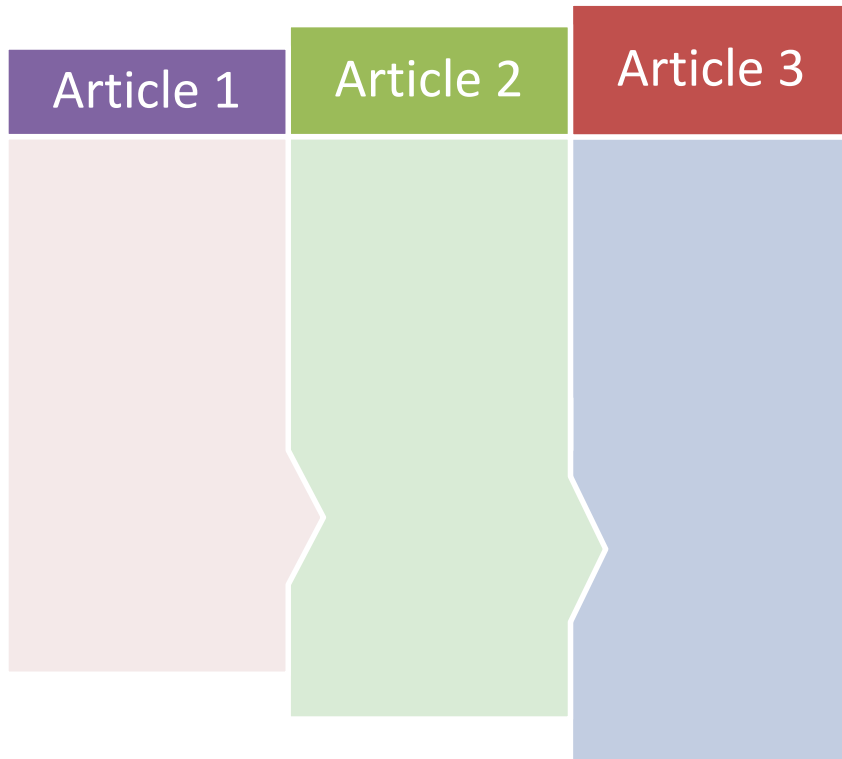
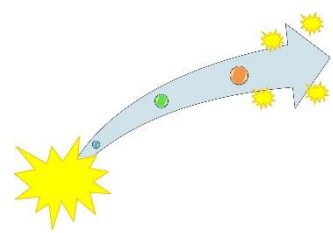
**Zenrin Kushû (The
Way of Zen 134,
222)**

Zen Buddhism emphasises meditation as a way to access truth. Many Zen teachings are gnomic, encouraging deep concentration and consideration in order to discover meaning.

Provide students with Zen teachings or sayings and ask them to consider the purpose or meaning of the language used.

The challenge involves not a religious conversion but a different way of thinking in order to achieve understanding.

Articles

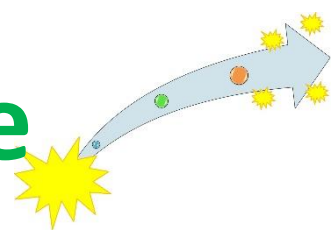


Laminate newspaper, journal or magazine articles relevant to your subject area or topic. These can be kept to hand for when students finish their work.

Supplement with questions or tasks that give the student's reading purpose, e.g.:

- What is the main argument?
- Is there an element of bias in the text?
- Do you agree with the article? Why?
- How might you summarize the content of the article for a peer?
- How might we follow up on the article's content?

Defend Your Consequence



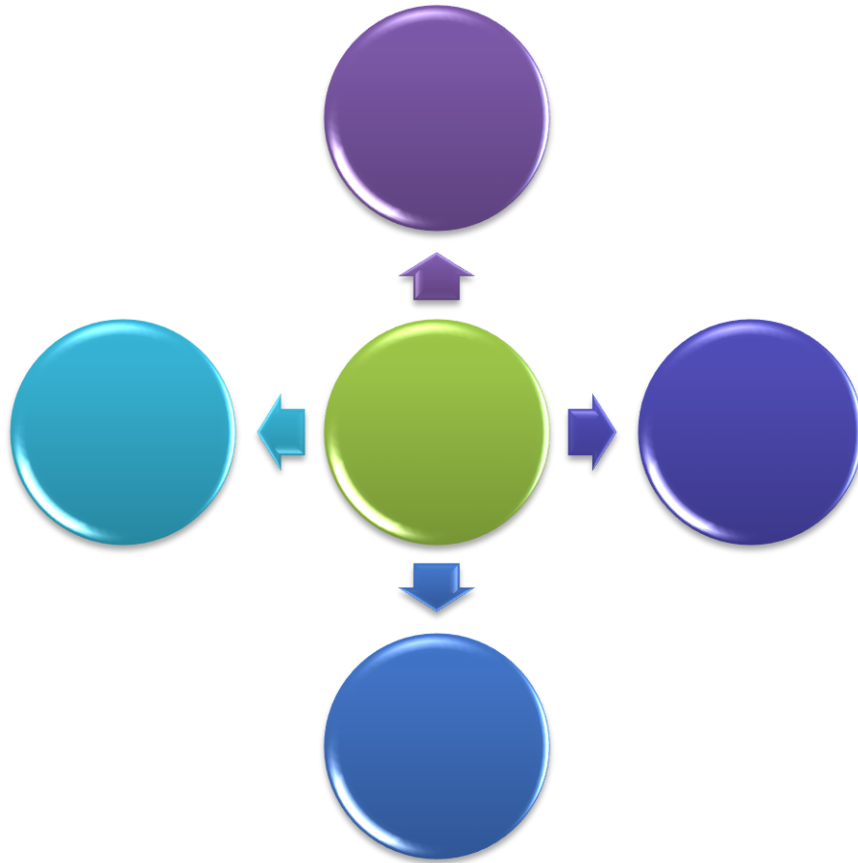
A great game to use in all manner of subjects.

Students are given a consequence (or cause) for which they must develop a defence. This can be done individually or as a group activity.

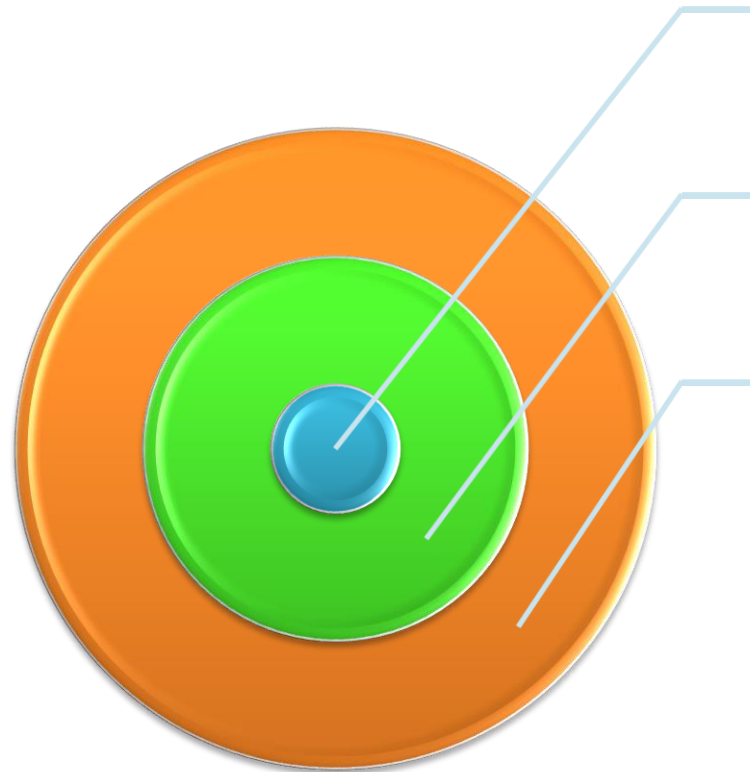
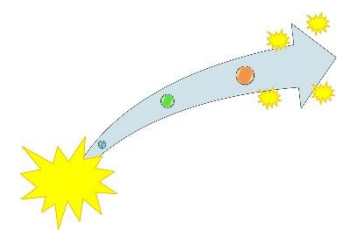
Example:

The most important consequence of not listening to your parents is...

- You save your ears from being worn out
- You miss potentially life-changing information
- You fail to get a complete picture of their world
- They might not listen to you
- If you don't listen, how can we say that they have really said anything?



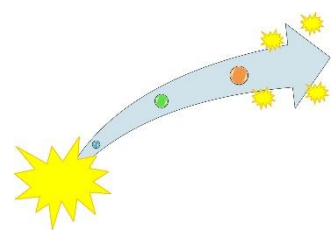
Accuracy and Precision



Precision and accuracy are important skills. Create extension tasks that encourage students to practice them, or reflect on what they already do.

An example would be asking students to recreate an image exactly as it is in original, or, take journalist style notes of a partner talking which are then compared to what was actually said (perhaps the partner could write down first and read from the script).

Observer



Choose a student to sit and observe what is happening in the session (this might work particularly well with debate, discussion or group work).

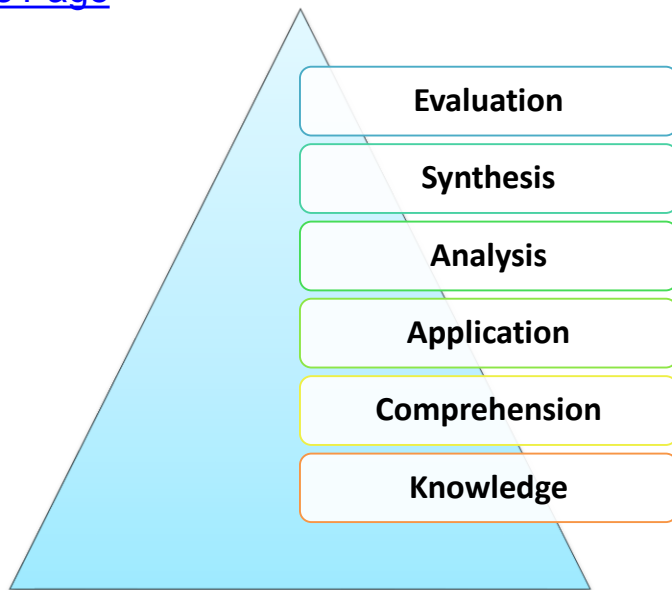
Their role is to assess what is happening and offer suggestions for change, ways to improve, examples of excellent work etc.

Extensions:

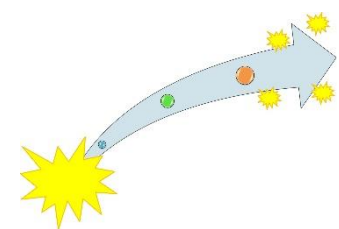
Ask the student to produce a set of criteria they will use for their assessments.

Get the student to justify their decisions, including the criteria chosen.

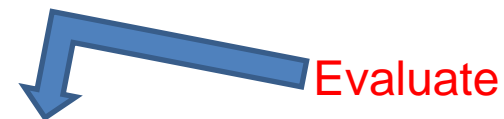




Bloom's



Have a list of evaluate and synthesis words to hand for students to create extension questions off the cuff.



Evaluate

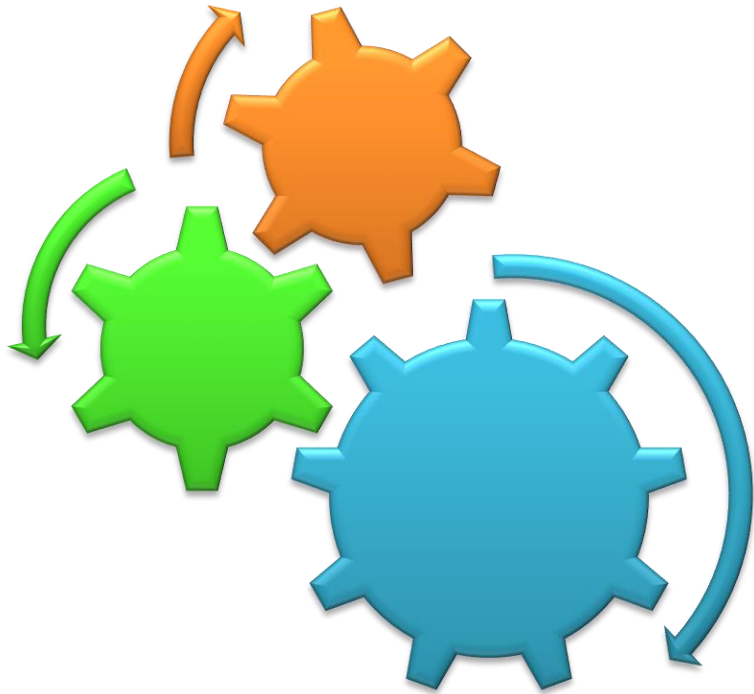
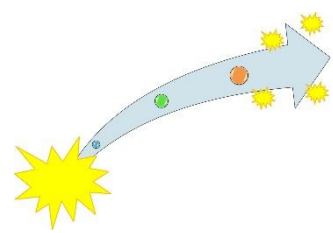
Appraise	Argue	Assess	Critique	Defend
Evaluate	Examine	Grade	Inspect	Judge
Justify	Rank	Rate	Review	Value

Synthesise



Combine	Compose	Construct	Create	Devise
Design	Formulate	Hypothesise	Integrate	Merge
Organise	Plan	Propose	Synthesise	Unite

Philosophical Problems



Give students philosophical problems to grapple with, for example:

What is the 'good life'?

What can we *know*?

What is a person?

Is the mind a blank slate?

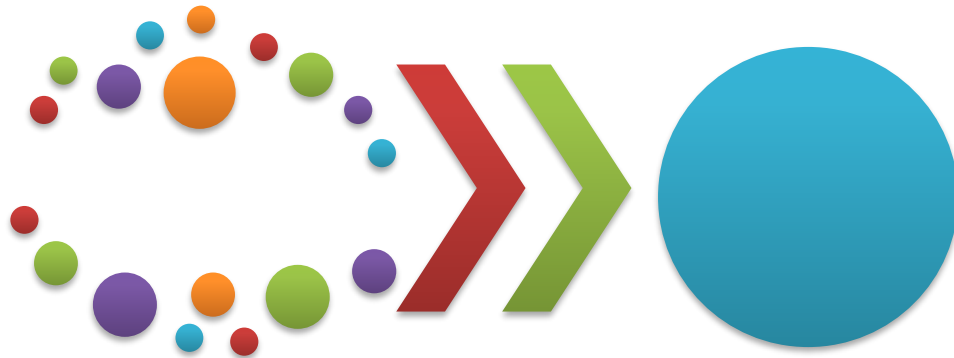
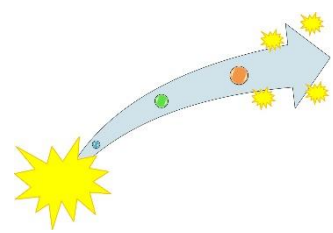
Does the past determine our actions?

Is everything caused by something else?

Did God design the world?

Any introductory text will provide more suitable questions.

Image Translate



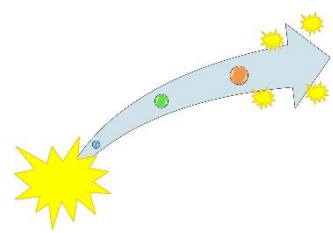
Translating involves careful thought, precision and synthesis. It requires students to convey the same meaning through a different form.

Manipulating content in this way can appear easy at first, however to be effective, and to recreate the depth of meaning in the translated work is a challenging task.

Begin by asking students to translate written work into a similarly meaningful image.

Extend by using different levels of intricacy and different types of medium (i.e. sculpture, poetry etc.)

Specify

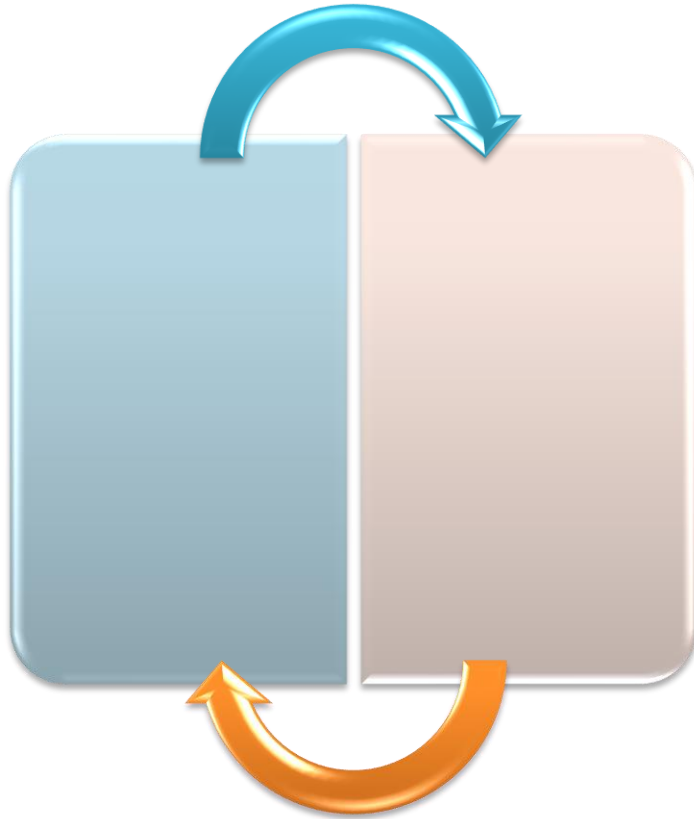
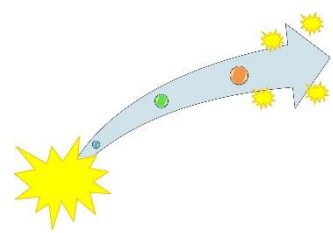


Ask students to review their work and analyse where they have not been specific.

They must explain why they have not been and rewrite their work so it is more specific. In addition, they can compare the meaning of the two pieces of work, drawing out the changes increased specificity brings.

Extend by asking students to examine the nature of communication and consider what the problems of ambiguity and vagueness might be.

Analogies



Analogical reasoning requires students to make connections between different things.

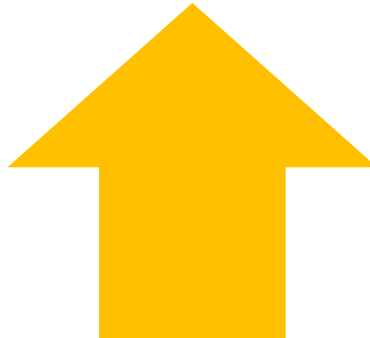
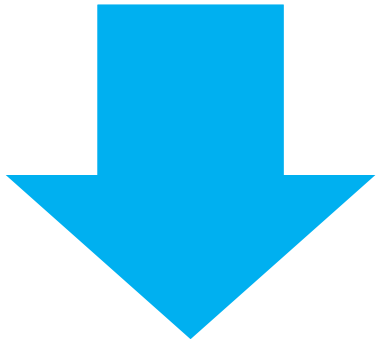
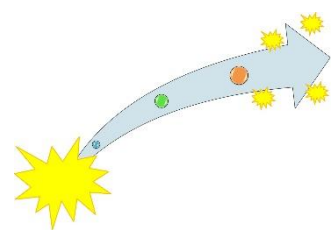
The strength on an analogy lies in the 'fit' or the validity of transferring information or meaning from one subject to another.

It is particularly useful in problem-solving and in developing lateral thinking.

Ask students to make analogies based around content of a particular topic.

Extend by giving students analogies and asking them to analyse their validity.

This or That



Give students a difficult choice. They must decide on one answer or course of action and then defend it, rubbishing the other in the process.

For example:

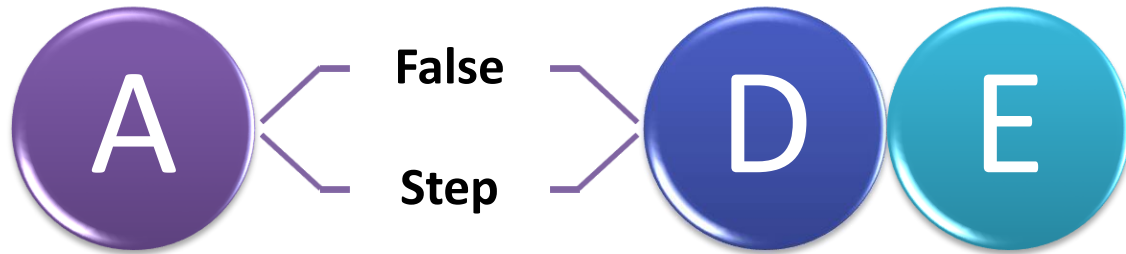
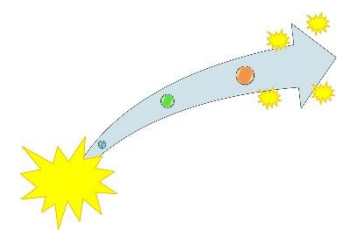
Should the government spend money on scientific research or on building new fire stations.

Extend by:

-Asking students to come up with their own difficult choices.

-Asking students to argue for the opposite position to that which they have taken.

Bad Reasoning



Present students with examples of bad reasoning.

They must analyse the example, explain why it is bad and then improve it.

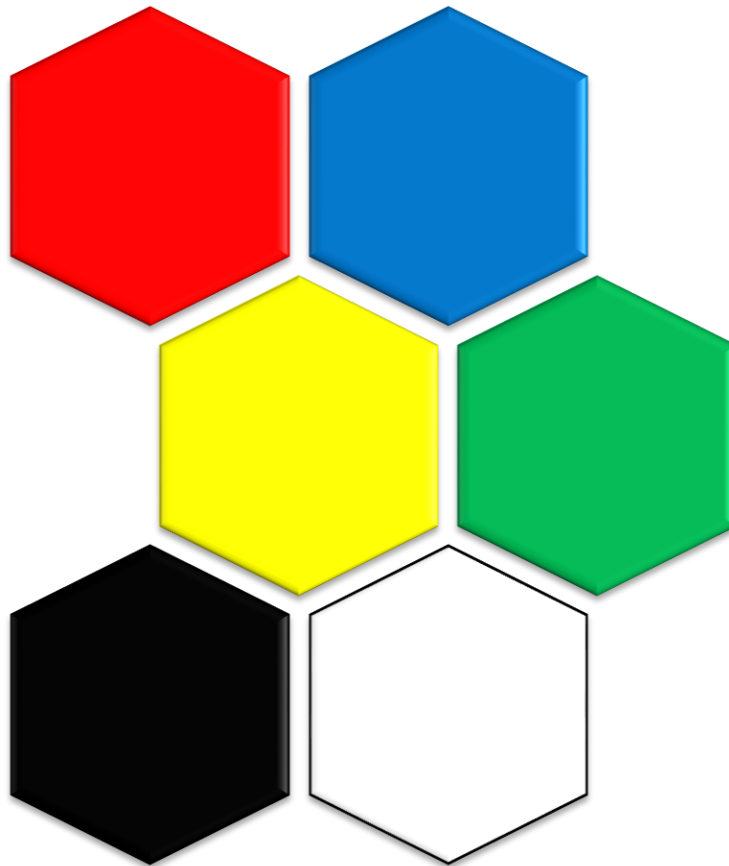
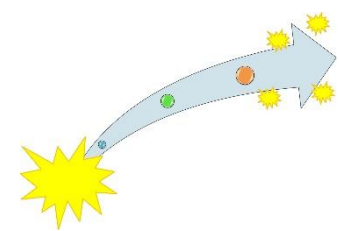
Extend by giving students a particular fallacy or rhetorical device which they must work into a piece of reasoning.

Subsequently ask students to effectively refute this faulty reasoning.

Fallacies –

http://en.wikipedia.org/wiki/List_of_fallacies

Six Thinking Hats



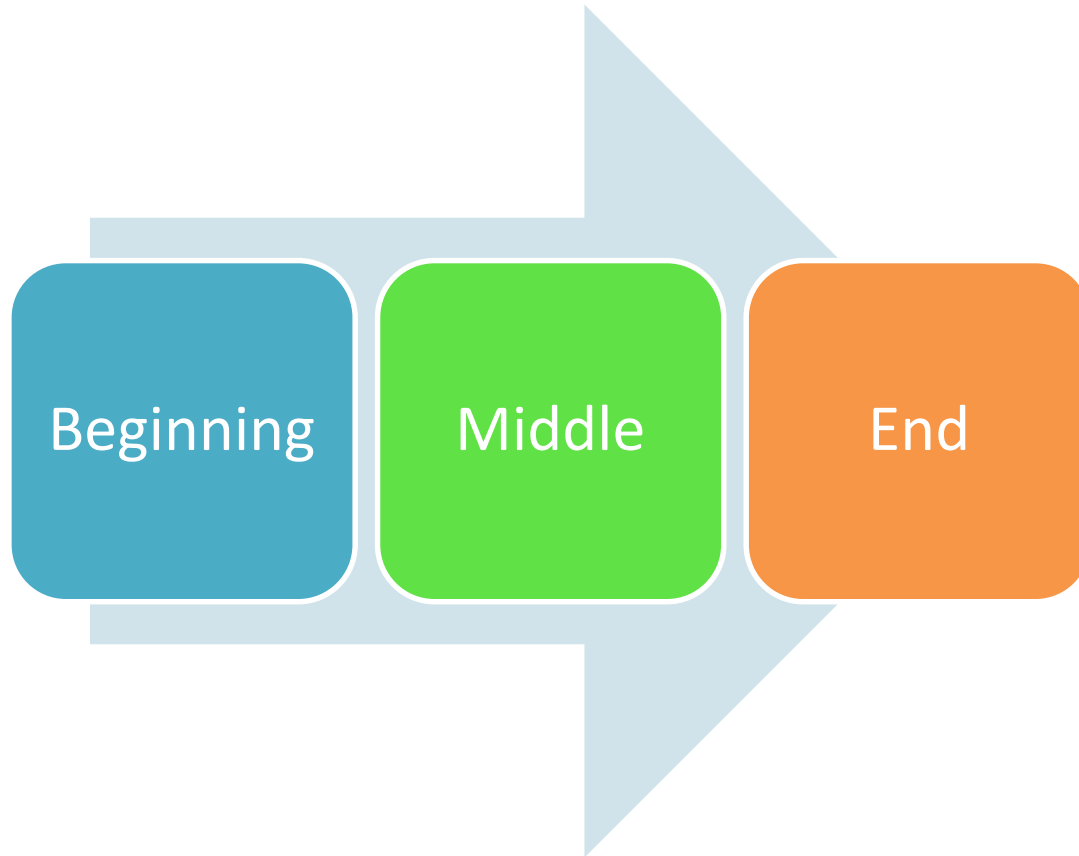
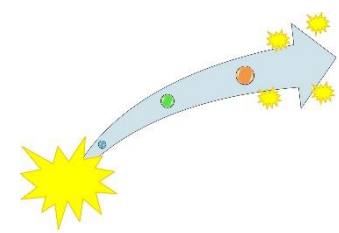
Students have to assess the lesson, an idea, theory of their learning using Edward de Bono's Six Thinking Hats Method.

In this process, thought is divided into six separate areas in order to develop greater clarity over each aspect and create a 'roadmap' through which to explore or judge something.

The six hats are noted to the left and more can be found out at –

http://www.debonogroup.com/six_thinking_hats.php

Story Time



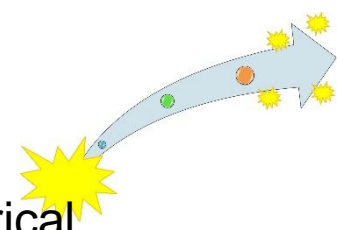
Ask students to write a story centring on some key aspect of the lesson.

Or, ask them to write a story in which the learning that has taken place is narrated out in 'the real world'.

Ensure students are challenged by giving criteria – i.e.

- The story should convey a deeper meaning about the aspect of the learning.
- The story should use an allegory to show the learning.
- The story should be a play in which the voices cannot mention the idea of learning directly.

In the mind of...

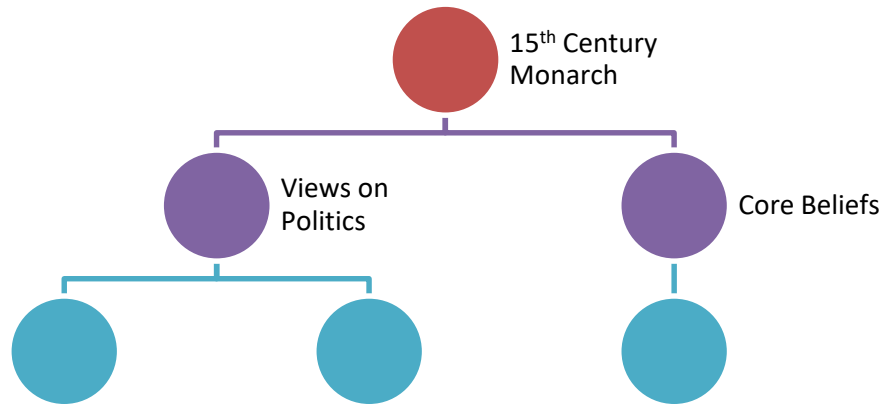


Give students a figure (historical, celebrity, political etc.) from whose point of view they must write.

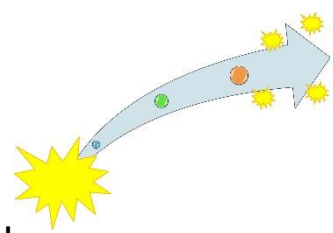
For example, in a session concerning coastal erosion a student could be challenged to write a piece about the phenomenon from the perspective of the Mayor of Scarborough.

Or, in a session looking at the origins of human rights, students could be asked to respond from the perspective of a 15th century monarch (depending on what periods they have studied in history!) or a dictator.

Extend by asking students to hot seat in front of the group as the figure, remaining in character whilst they are questioned.



Ambiguity

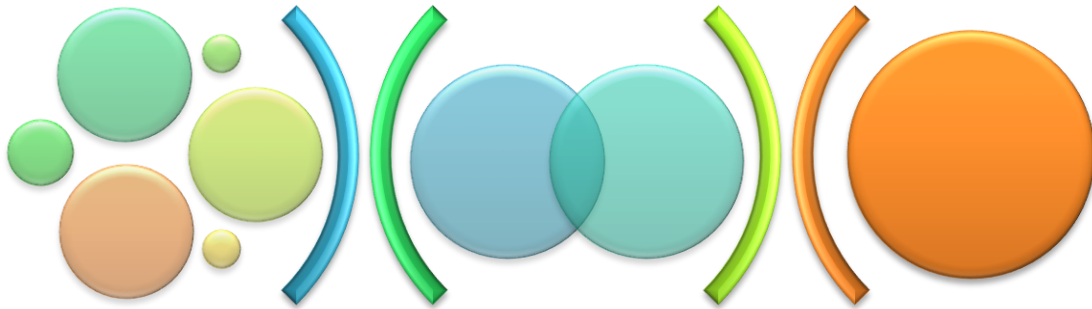


Set students deliberately ambiguous tasks or questions and offer them only limited help in completing them.

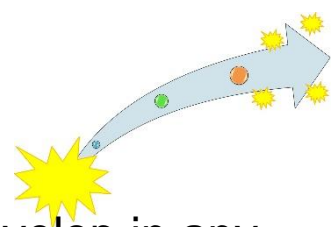
The vague nature of what is going on may lead students into difficulties, however it is here that they will be forced to apply problem-solving skills, try different approaches and develop a response they feel to be appropriate.

Give students the confidence to experiment by:

- Telling them it is good to fail as they can then explain what they have learnt by it.
- That answers are valid as long as they can be justified by the student.



Interpret



Interpretation is a hard skill to develop in any area of life. It requires knowledge of the subject, whatever that may be, a critical, analytical approach to evidence, the ability to question oneself and one's own motives and much more besides.

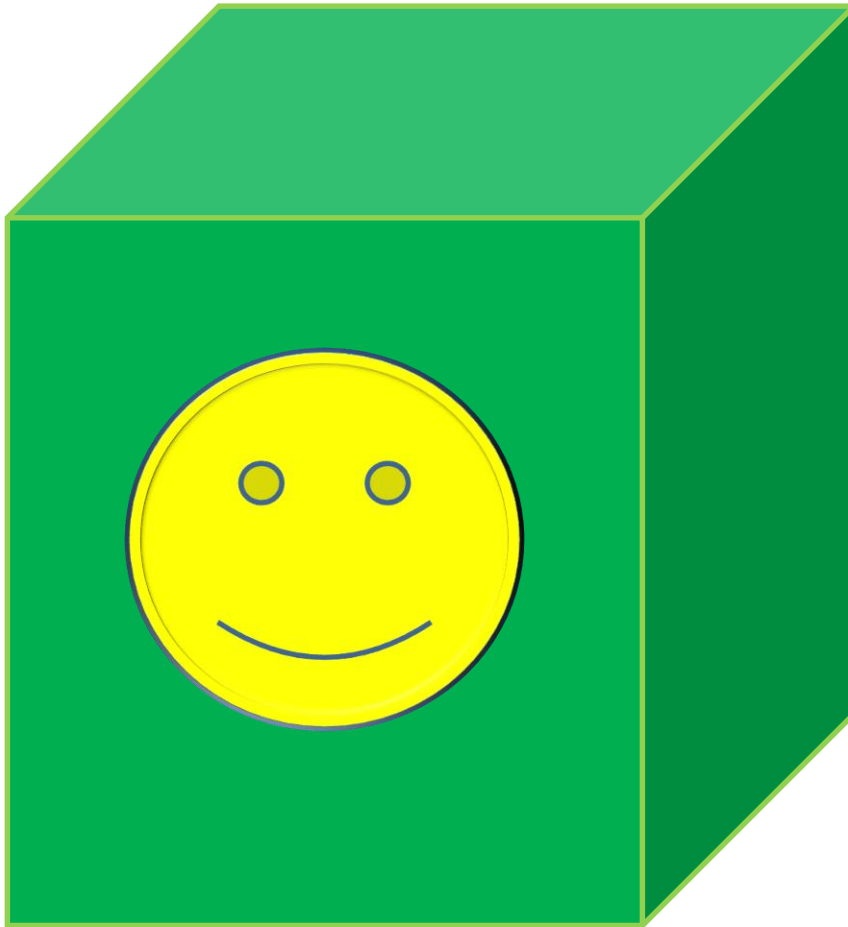
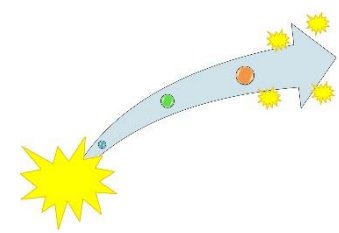
All the better to challenge students with then!

Give a piece of text which is difficult or ambiguous and ask students to interpret it as best they can.

Or, give students evidence along with a set of questions that are not directly answered in the material. This means students must interpret and infer from what they have.

Extend by pushing students to justify their interpretations and contrast them with alternatives.

Animate Inanimates

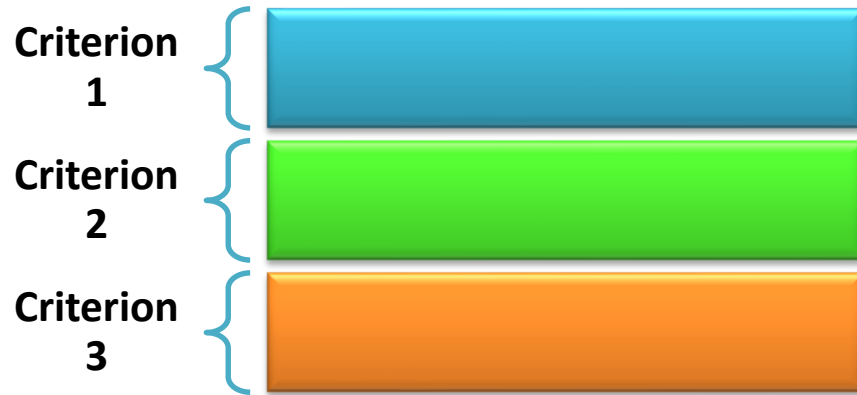
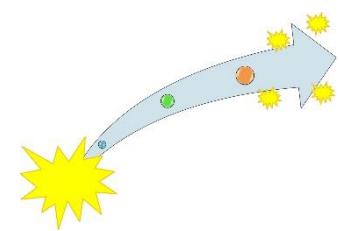


‘Stone was a sad old thing. All day he sat brooding, his grey body giving off a dull, depressing aura. Never would you see his face, turned, as it was, toward the ground in lamentation.’

Ask students to animate inanimate objects, paying attention to their qualities in the process.

Extend by challenging them to develop a purpose or reason behind the existence of the object based on their qualities (this is teleological and links to the purposes and meanings portrayed by myths)

What's Your Criteria



Whenever we make judgements we refer to some sort of criteria. These are often implicit and not stated. A good way of demonstrating this is to compare judgements made by two individuals with different backgrounds – quite often they may evaluate the same thing in very different ways.

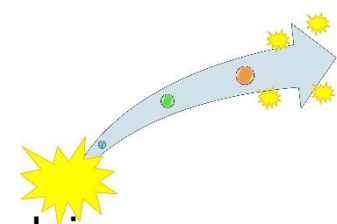
Ask students to make explicit the criteria they use to make judgements (or that the subject uses, or the department or exam board).

Certain areas could be given for analysis –

What criteria are used in judging the quality of a pencil drawing?

What criteria underlie judgements regarding the effectiveness of a government?

Change Over Time



How might X change over time? Explain your reasoning.

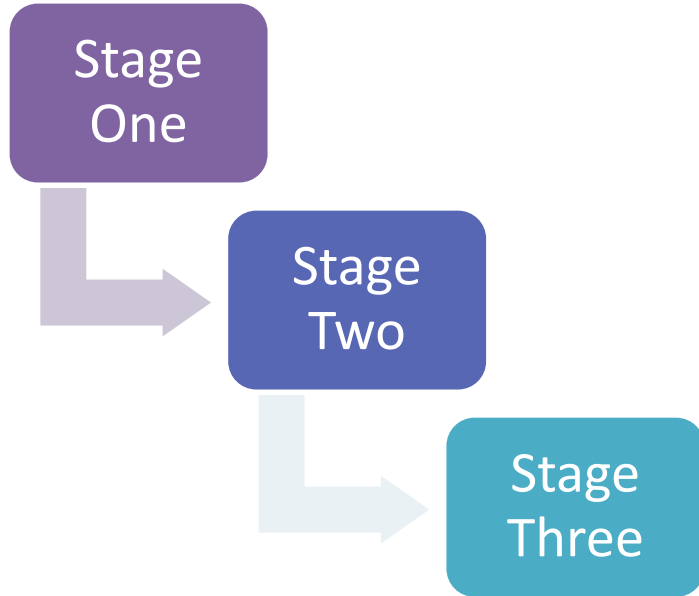
The question could be used in most sessions (perhaps not in aspects of maths) and encourages students to think hypothetically, but at the same time justify their ideas with reasoning.

For example:

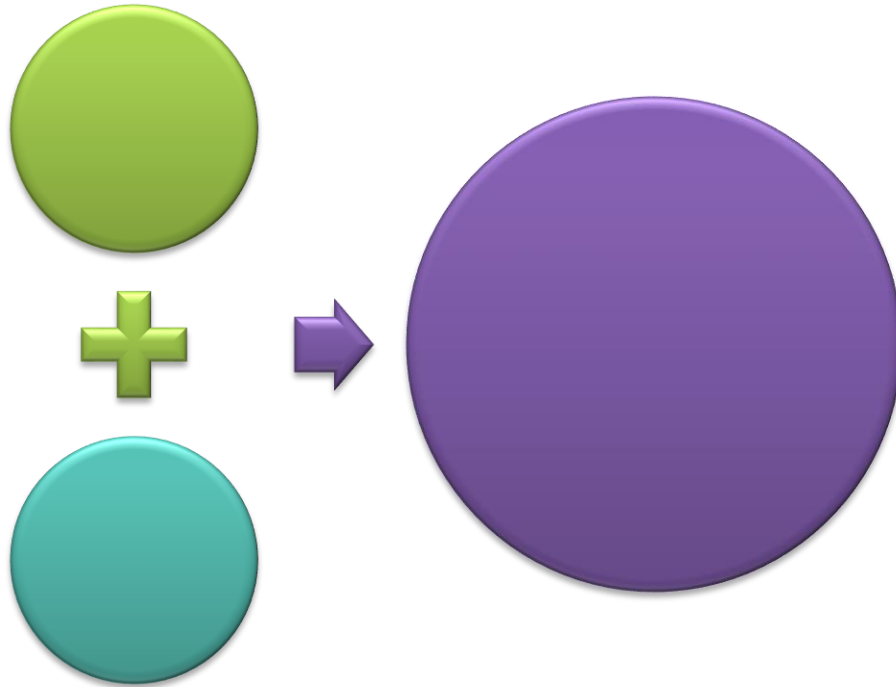
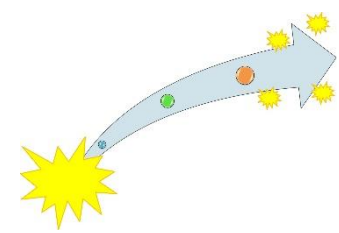
How might interpretations of World War Two change over time?

How might our understanding of atomic structure change over time?

Extend by asking students to judge the validity of their own ideas and then analyse what criteria they are using to make such judgements.



Big Picture



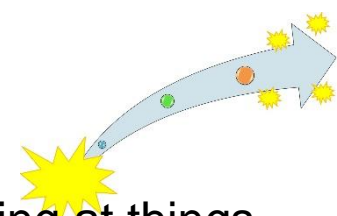
Often knowledge can become compartmentalised and lose its connection(s) to the real world.

Challenge students to re-forge these connections by transferring knowledge out of lectures and into society and the environment.

Ask them to analyse how what they are learning might link to jobs, ideas, actions, beliefs or relationships. Or, where it might have come from originally and why it might now be deemed important for students to know.

Extend by asking students to think backwards from their own bigger picture and develop a plan for what they think should be added to the curriculum.

Holism



Holistic thinking involves looking at things in their entirety – as a whole.

Challenge students to scale up their thinking about a particular topic so as to see it as part of a wider whole.

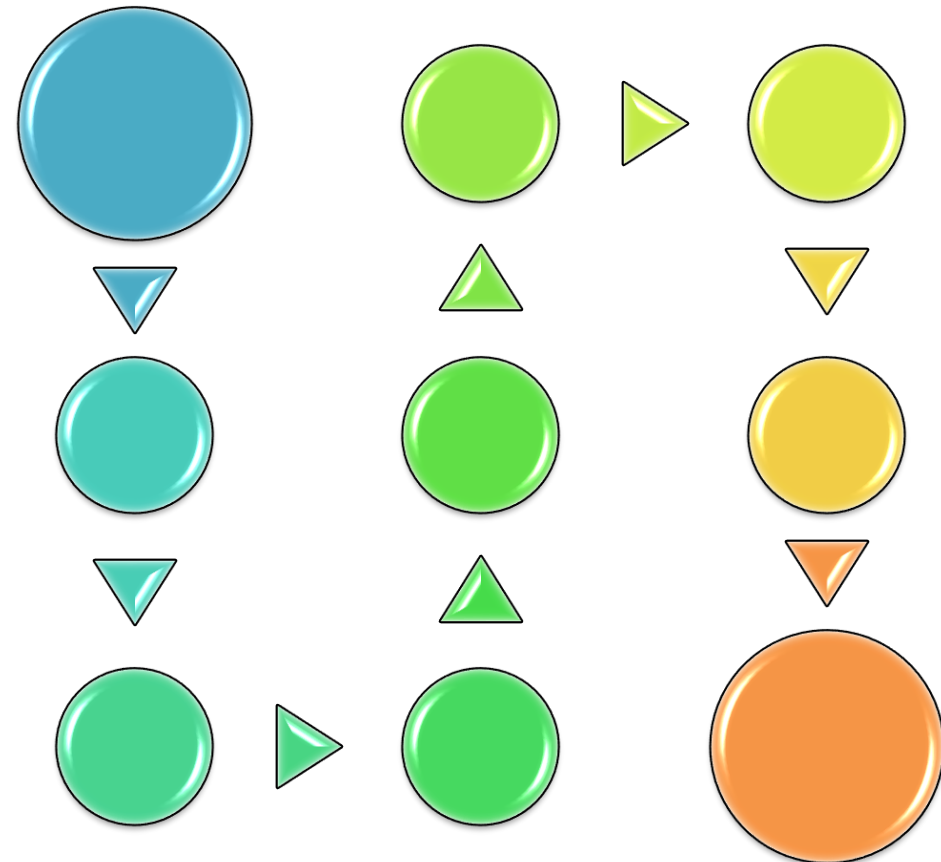
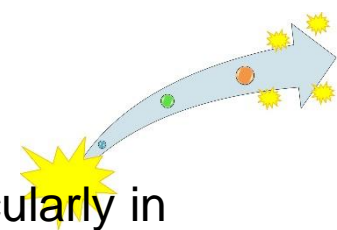
(e.g. From thinking about square roots to thinking about square roots as part of the logical relationships between all numbers)

They can spend time making connections, considering the role of their particular part in the whole or analysing how the wider system regulates that smaller part.

Extend by asking students to reflect on their day-to-day thinking and the relevance of an holistic viewpoint there.



Reduction



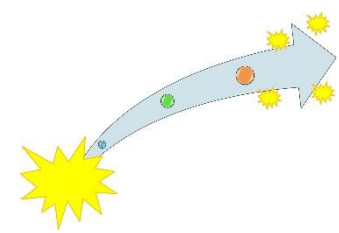
Often in science, and particularly in physics, the material world is reduced into smaller parts so as to aid experimentation, observation and analysis. This has pros and cons as it can also lead to a failure to think about things in a holistic way.

Nonetheless it is a useful tool and students can be asked to reduce their learning, ideas or theories into smaller parts.

These can then be studied independently in order to reveal more about their nature and workings.

Extend by asking students to reduce more complex phenomena or plan specific methods of investigation they wish to pursue via reduction.

Experimenter

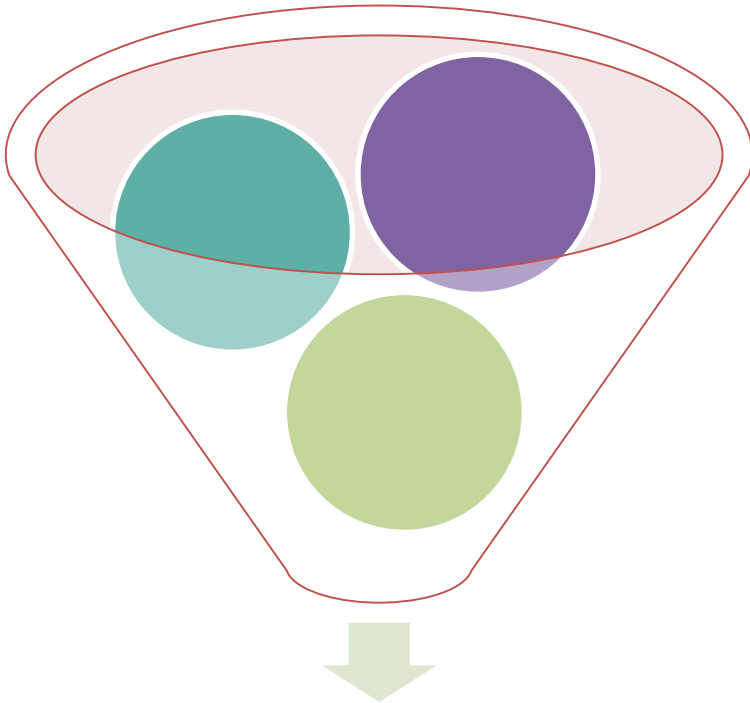


Students are asked to design an experiment which could be used to test the validity of:

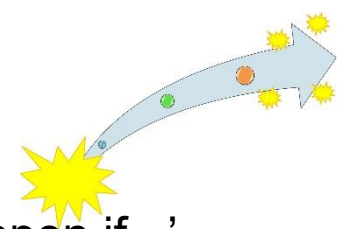
- What they have learnt
- Their opinions
- Their arguments
- The ideas of others

This works in subjects beyond science. For example in Citizenship a student could design an experiment that tests whether democracy promotes human rights.

Extend by asking students to think about the limitations of their methodology, the limits to what we can know or the difficulties of conducting experiments.



What might happen if...



Ask students 'What might happen if...'

...religion was banned tomorrow

...the laws of physics were temporary

...mathematical functions altered over time

...birds did not migrate

...written translation was not reliable

Extend by asking students to come up with their own 'What ifs' which they then answer.

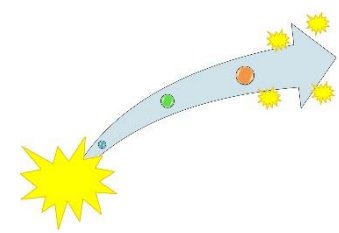
Or, challenge them to produce multiple answers and argue which is most likely/appealing/harmful etc.

What might happen if...

What might happen if...

What might happen if...

Changes



Ask students to recommend changes to something and explain why they have made such recommendations. For example:

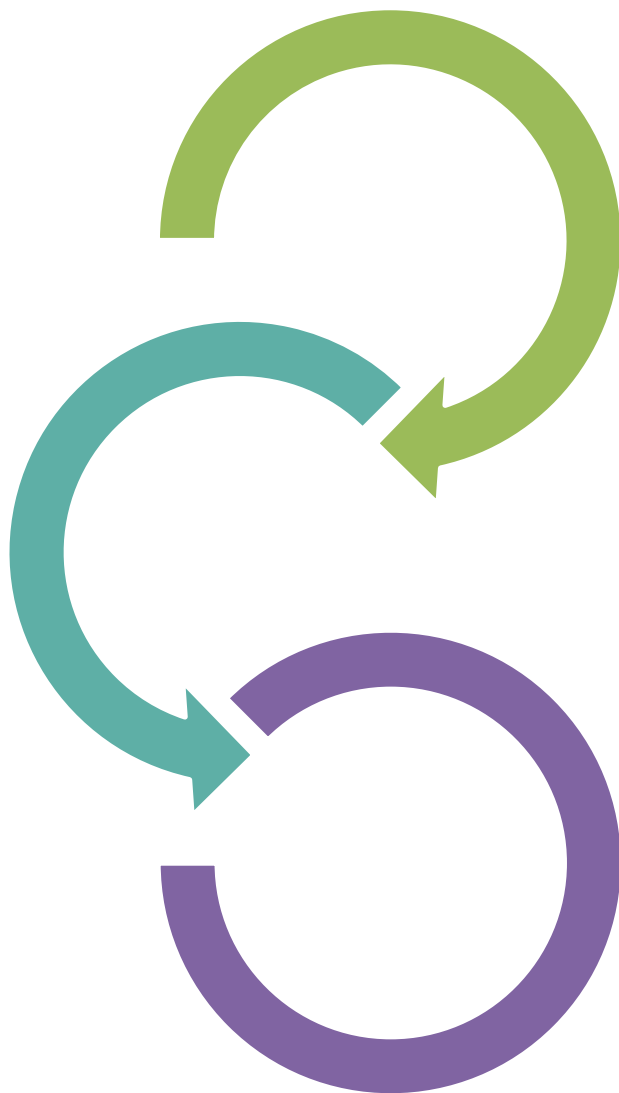
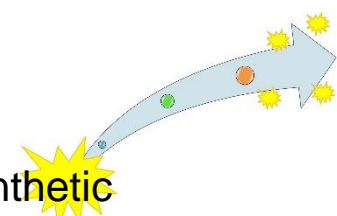
-How might you change the interpretation of the causes of World War One?

-How might you change the structure of the textbook to make it more user-friendly?

-How might you alter a lecture in order that future students learn more easily from it?



Inventors



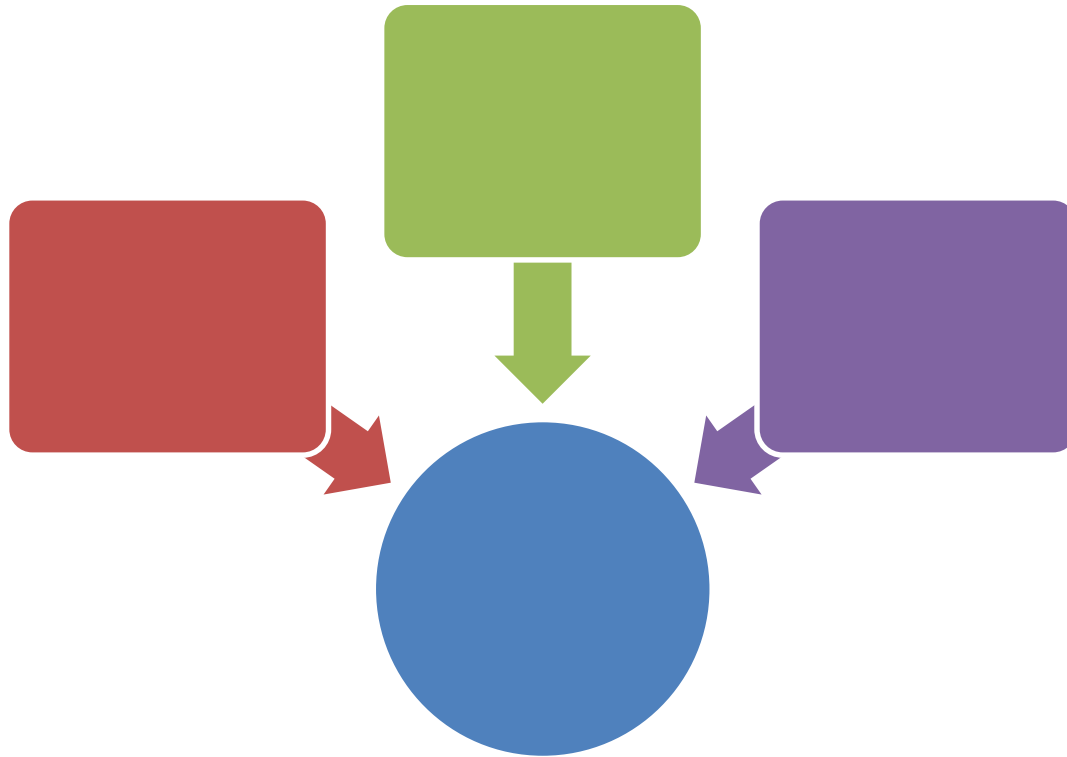
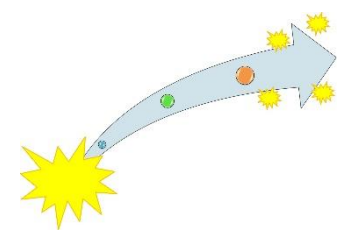
Invention requires creative, synthetic thinking, the use of the imagination and the proposal of possibilities. It requires an open mind, yet one that is also capable of honing in and sustaining a course of action; capable of cultivating an idea from seed to tree. What great skills for students to develop!

Challenge them to invent machines, slogans, theories, solutions, products, contraptions, advertisements...

You could set them a brief, provide criteria to fill, give a question or name a problem that needs cracking.

Extend by asking students to refine their inventions – what problems might they encounter and how could these be overcome?

Devise a way to...



Similar to invention but centred more on the notions of planning and action.

Set students a challenge related to the session in which they must devise a way to...

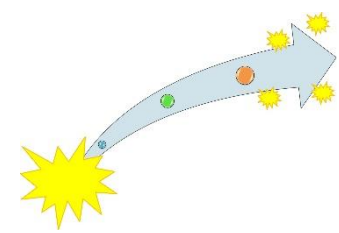
...ensure the compliance of companies with government legislation

...circumvent the laws of thermodynamics

...remember irregular verbs in German

Or whatever might be appropriate.

Make a Proposal



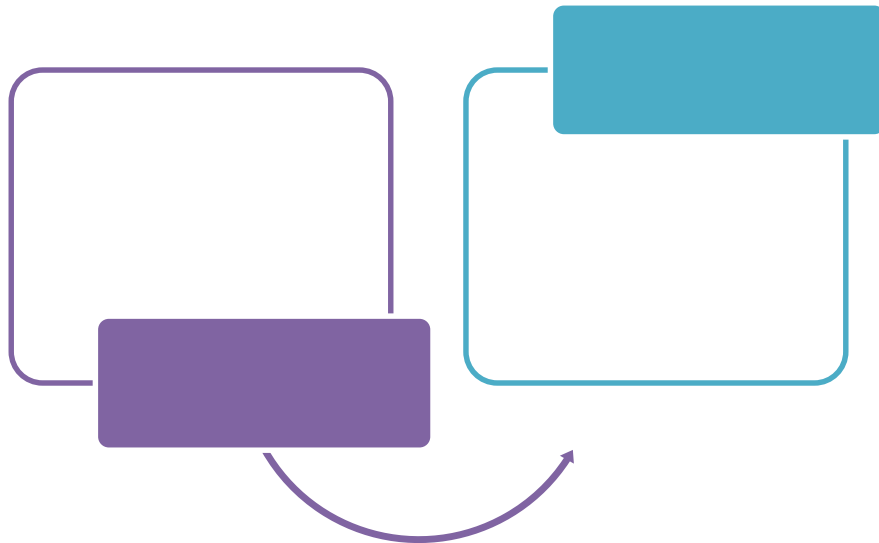
Challenge students to make a proposal for something. This could be given to them by the PAL leader or they could be asked to come up with it themselves.

Proposals should focus on something new or something that could be changed. The proposal can be left up to students or scaffolded with a set of criteria.

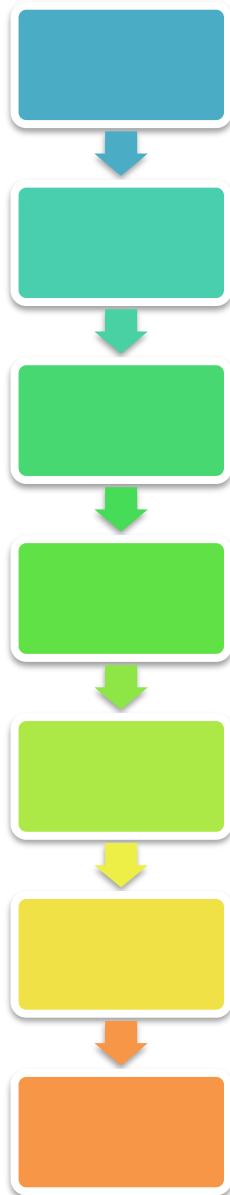
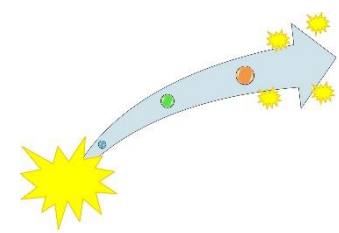
Examples might be:

- Come up with a proposal for reducing CO2 emissions in the UK

- Make a proposal for how we might reinterpret Macbeth for a modern audience



Ultimate Reasoning



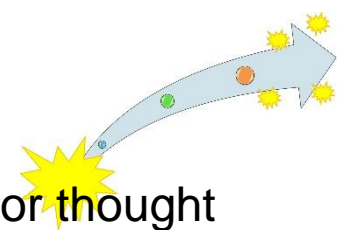
What are the ultimate reasons or purposes underlying our actions?

Do we always act with a conscious knowledge of why we are acting?

Challenge students to interrogate their own reasoning, or the reasoning of others (in the session or beyond), and attempt to reach what they believe to be the ultimate reasoning or motive for what has been advocated.

When they reach what appears to be a stopping point, challenge them to start again from that point and question why that reason or motive is deemed legitimate (and therefore where it comes from).

Round Table



Take a specific idea, question or thought linked to the session and ask students to imagine it as the focal point for a roundtable discussion.

They must then construct a debate in which the different contributors discuss and argue back and forth with one another.

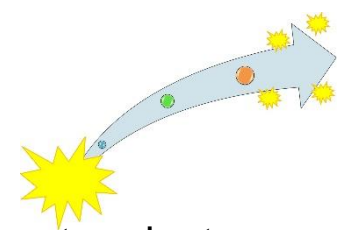
You could give students a list of participants or ask them to come up with their own.

Example:

-Is freedom a human right?

Participants: A dictator, a farmer in the third world, a middle-class professional, a school-age child.

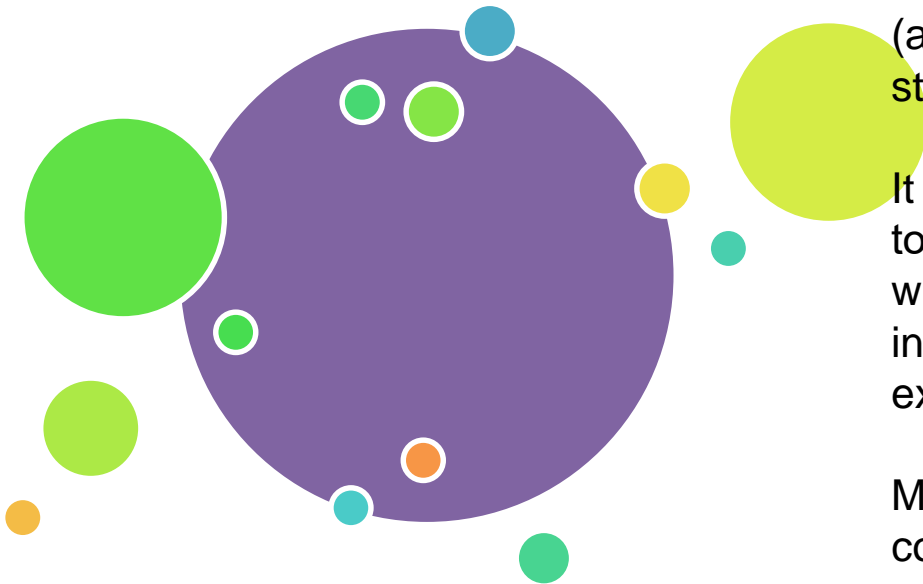
Conceptual Confusion



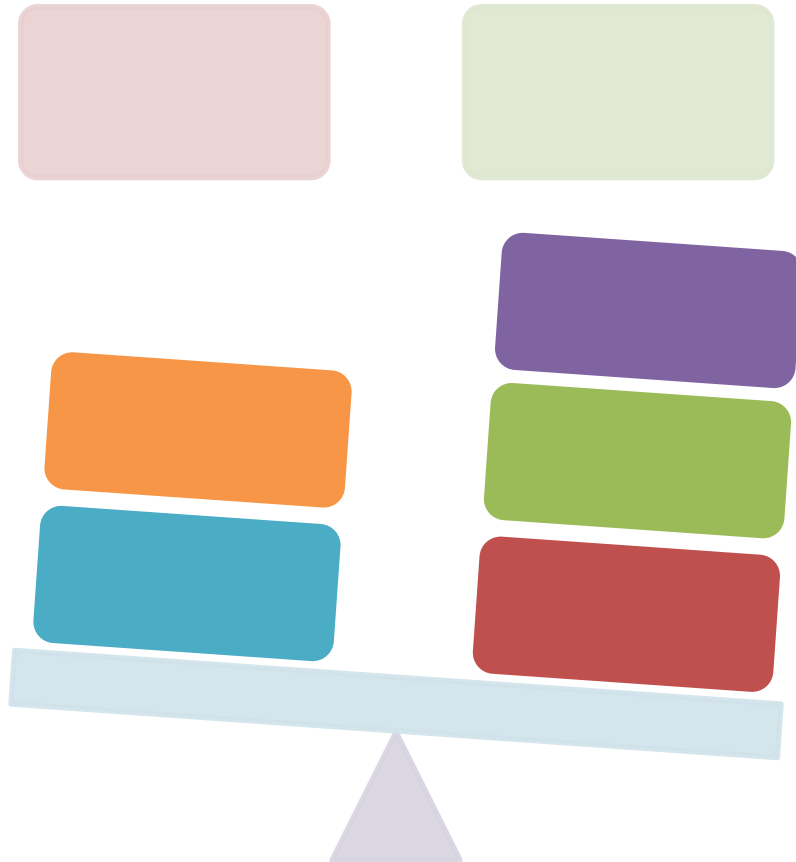
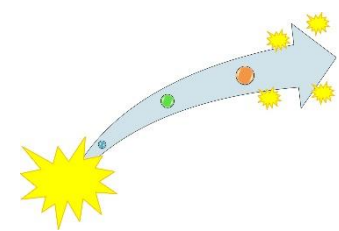
We all rely on concepts as a means to orient ourselves to the world. They help us to understand, order, classify and judge information amongst many other functions. They also enable us to communicate (although, of course, not always as straightforwardly as we may believe).

It can be intellectually and emotionally difficult to have one's concepts challenged, however when managed carefully it can be an incredibly rewarding – sometimes revelatory – experience.

Make a point of explicitly challenging students' concepts; push their reasoning, use counterexamples, counterfactual thinking, your own wider base of knowledge. Then, ask students to reflect on their concepts and consider what process has taken place and what it might mean for their future thought.



Decisions



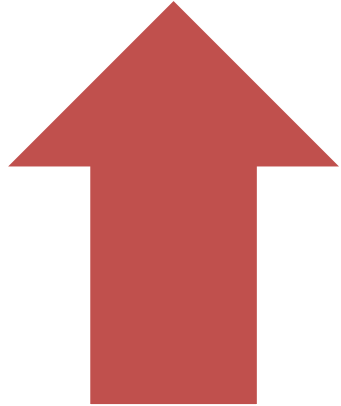
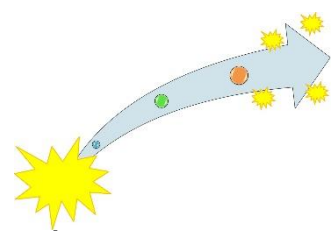
Making good decisions often requires careful thought and consideration, weighing up of options and an understanding of the motives of ourselves and others.

Set students decisions which they have to make and ask them to explain and/or justify the reasoning behind what they have chosen.

For example;

- How should taxes be spent?
- What should we learn next session?
- Is it better to conduct field or laboratory experiments in this topic?

Fact or Opinion



Fact...



**Or
Opinion?**

Separating fact and opinion is an important skill in everyday life – when in contact with the media, talking with others, at work etc.

Ask students to pull apart articles, reports or other texts in order to discern which aspects are factual and which are opinion.

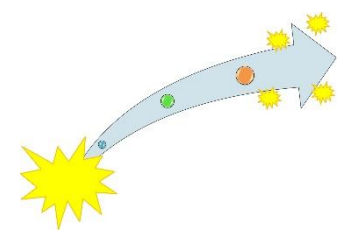
Extend by:

-Challenging students to think about the comparative validity of fact and opinion.

-Asking what 'facts' *can* be definitely known.

-Getting students to analyse what authorities the facts and opinions rely on.

Looking for Bias



Bias is everywhere, the nature of human experience is that it is partial. Ask students to engage with this idea by analysing texts or information related to the session to look for bias.

Extend by:

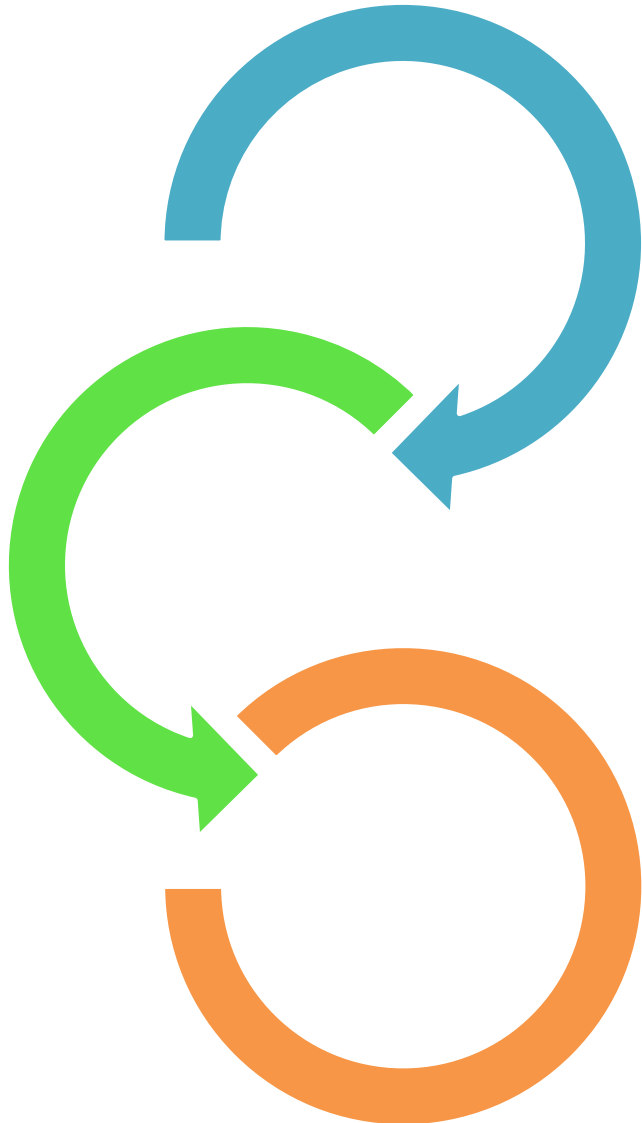
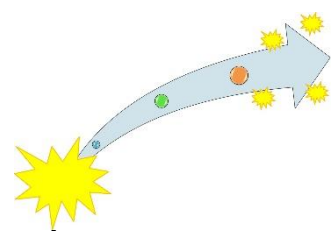
-Asking for a set of criteria for spotting bias.

-Questioning whether bias is ever legitimate.

-Challenging students to compare different accounts of the same event or idea and synthesise them into a balanced piece of work.



Influence



Set students the task of influencing others in the class. This could be over an idea, a perspective or a particular way of viewing the work or learning.

The task itself could take various forms –

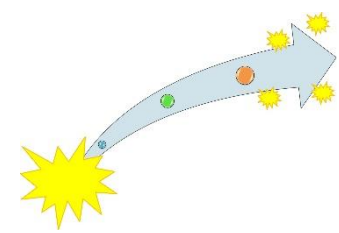
Students must write a speech promoting what they believe;

Produce a presentation to persuade the audience of the veracity of their ideas;

Speak to other students individually and try to convince them face-to-face.

Extend by asking students to evaluate their attempts at influencing others and how they would advise others to go about it.

Typology

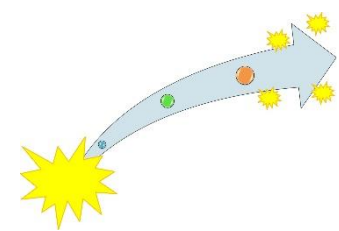


A typology is a division of certain items into a classification system.

Challenge students to turn a collection of material into a typology. This could be related to the individual session, to the topic being studied or to the subject as a whole.

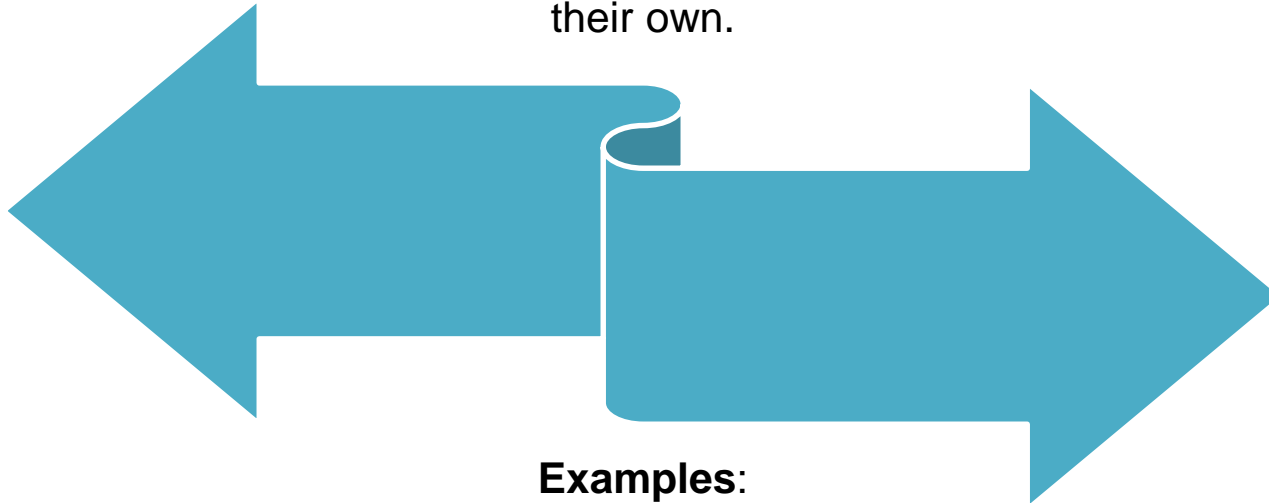
Extend by asking students to write a guide to their typology explaining how to use it and what logical system has been used to order the items contained within.

Counterfactual



Counterfactual thinking is thinking that runs counter to the facts. It is similar to 'What if...' thinking where one is '*expressing what has not happened but could, would, or might under differing conditions*'

Ask students to consider the ramifications of counterfactual statements, or, to come up with their own.



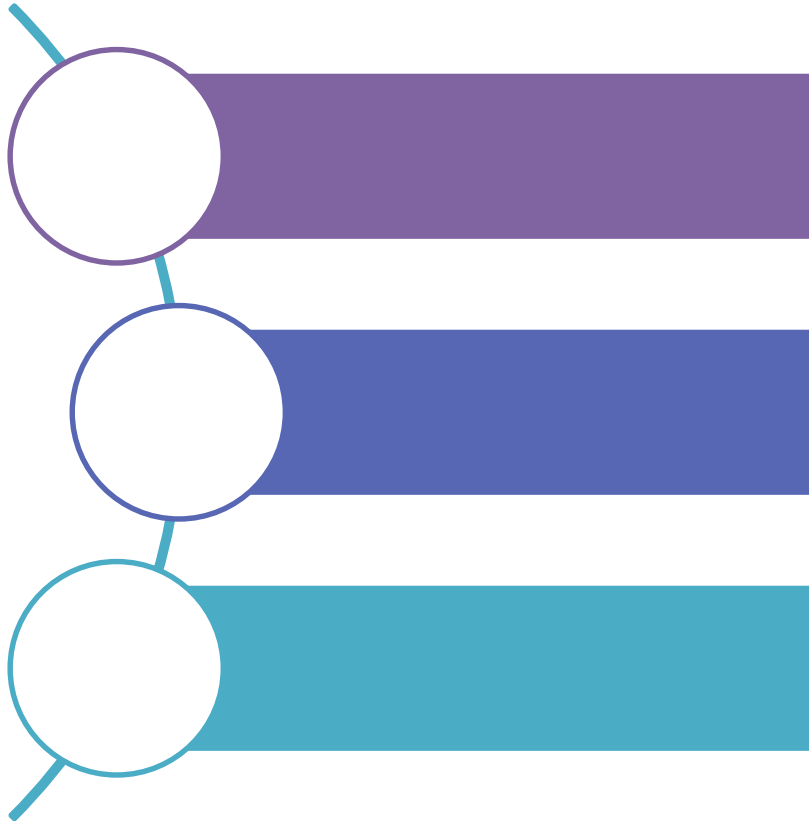
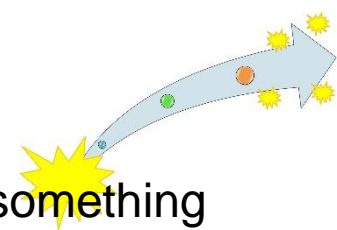
Examples:

What if America had chosen not to get involved in World War Two?

How might the world be different if Barack Obama had lost the 2008 presidential election?

What if Martin Luther had been ignored by Christians in Germany?

Aesthetic Judgement



Students are asked to judge something aesthetically and then support this judgement with argument. They could also be asked to analyse the criteria which lay beneath the judgement they have made.

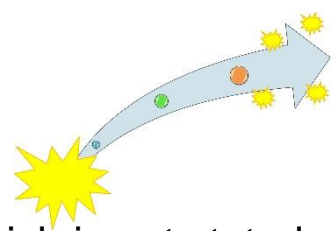
Further, once students have begun to feel comfortable with making, explaining and defending aesthetic judgements, they can be challenged to investigate the philosophical consequences/problems that lead from this.

For example;

Do aesthetic judgements rely on external criteria, or simply individual feelings?;

Is there a standard of 'good' in aesthetics that can be known, or only personal positions that can be defended?

Assumptions

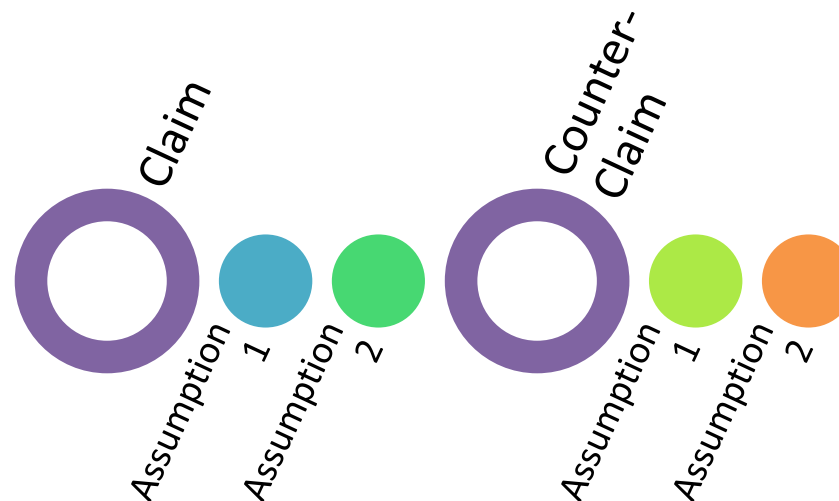


In critical thinking an assumption is a missing step in the reasoning. A reason which is not stated but on which an argument depends for its conclusion. For example:

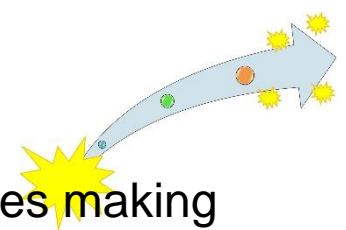
Chris works here.
The safe is broken and the money gone.
Chris is not in today.
Therefore Chris must have stolen the money.

The assumption here is that Chris does not have some other reason for being absent. Give students arguments or newspaper articles and ask them to identify assumptions made by authors.

Extend by asking students to develop arguments which contain assumptions and have them guess one another's.



Hypothetical Reasoning



Hypothetical reasoning involves making a prediction. It generally takes the form: If X, then Y.

For example:

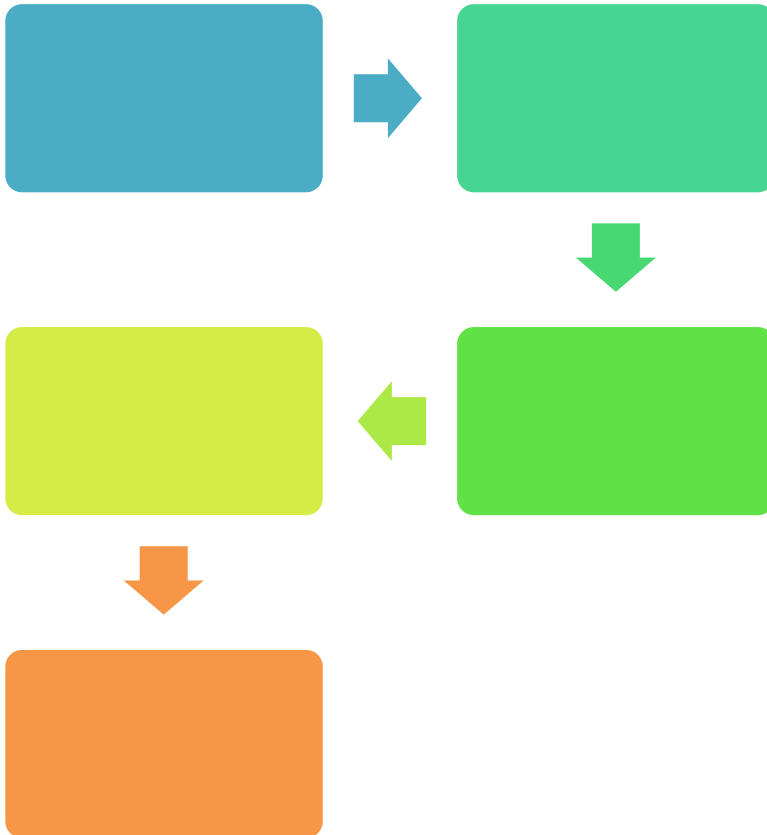
If it rains tomorrow, then I won't be going to the park.

Or,

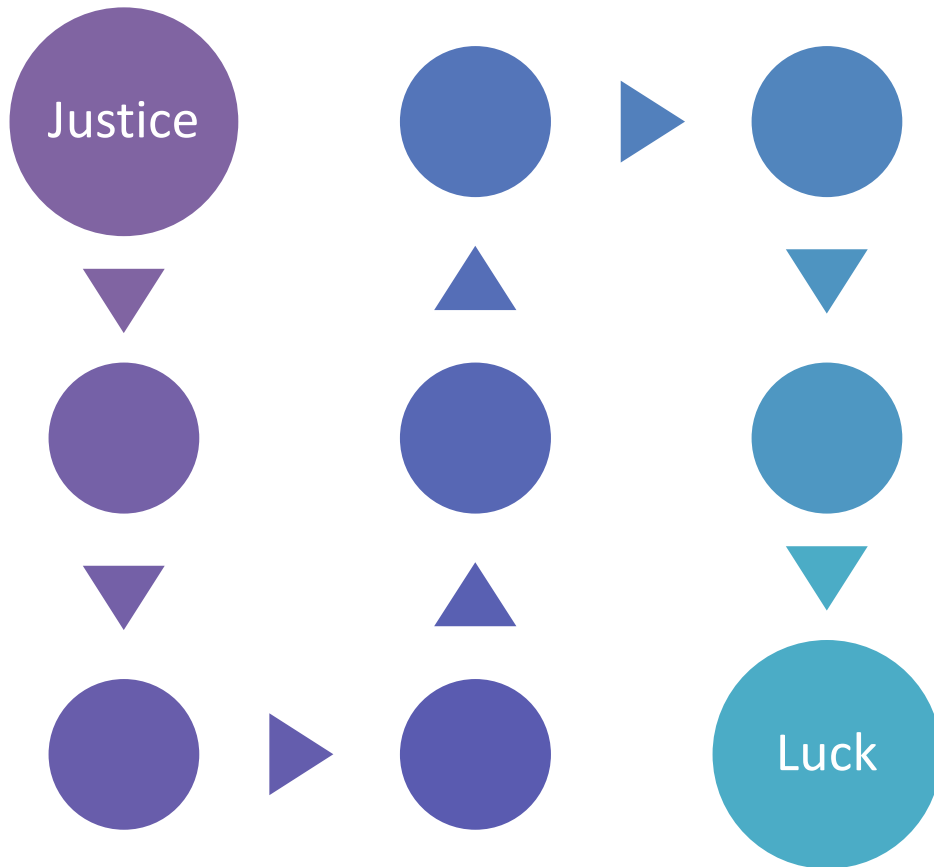
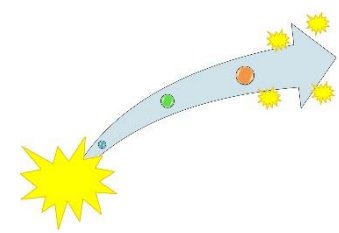
If the government raises taxes, then many people will leave the UK.

Ask students to come up with their own hypothetical reasoning and defend the likely validity of their arguments.

Extend by asking students to swap arguments and challenge the validity of one another's.



Tube Line



Give students a blank tube map and place a key concept at one or both ends. Ask them to fill in the rest of the stations so that there is a clear connection between each consecutive one.

Students must be ready to explain their connections and give legitimate reasons for their choices.

Extend by giving interconnecting tube lines with different starting-off concepts.