

Thinking Skills

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Contents

Introduction: Thinking as a skill	4		
Part 1		Part 2	
Critical thinking	9	Problem solving	181
1 What is an argument?	10	29 What do we mean by a ‘problem’?	182
2 Recognising arguments	14	30 How do we solve problems?	186
3 Responding to arguments	19	31 Selecting and using information	190
4 Analysing arguments	23	32 Processing data	196
5 More complex arguments	28	33 Finding methods of solution	200
6 Claims	34	34 Solving problems by searching	205
7 Conclusions	39	35 Spatial reasoning	210
8 Drawing conclusions: inference	45	36 Recognising patterns	215
9 Assumptions	51	37 Making choices and decisions	220
10 Sound or unsound?	58	38 Using models	223
11 Finding flaws	67	39 Combining skills – using imagination	227
12 Challenging an argument	73	40 Using other mathematical methods	231
13 Lending support	79	41 Use of more complex diagrams	235
14 Explanation	84	42 Modelling and investigating	239
15 Looking at evidence	89	43 Analysis: hypotheses, reasons and inference	244
16 More about evidence	95	44 Have you solved it?	250
17 Case study: who’s telling the truth?	102		
18 Case study: collision course	106	End-of-unit assignments: answers and comments	253
19 Introducing longer arguments	111		
20 Applying analysis skills	119	Index	279
21 Critical evaluation	125		
22 Further argument	134		
23 The appliance of science	139		
24 Conditions	145		
25 Principles	152		
26 An argument under the microscope	158		
27 Synthesis	165		
28 Critical marking	175		

1 What is an argument?

Until a few hundred years ago it was generally believed that the world was flat. This was a natural belief to have because the Earth's surface *looks* flat. However, people had also observed (and been puzzled by the fact) that ships sailing away from land appeared to get lower and lower in the water, as if they were sinking, and to rise up again as they approached. Some argued – from this and other observations – that the Earth's surface could not be flat, but was curved. They drew this conclusion because if the Earth were flat, a ship would just appear to get smaller and smaller until it was too small to see. Put very plainly, the argument went like this:

[1] *Ships appear to drop out of sight as they sail away. Therefore the earth cannot be flat.*

This is a very simple argument. It consists of just one reason and a conclusion, and the connecting word 'therefore'. The words 'therefore' or 'so' are typically used before the conclusion of an argument, and are often called argument indicators for that reason.

However, this is not the only way to construct an argument. For example, [1] could have been written:

The Earth cannot be flat because ships appear to drop out of sight.

It is not even necessary to include an argument indicator at all: the reasoning may be perfectly clear without it, for example:

The Earth cannot be flat. Ships appear to drop out of sight as they sail away.

In each of these examples the argument is expressed and arranged differently. But it is still the same *argument*, with the same reason and same conclusion. All three could be written out as follows with the parts of the argument labelled R for reason and C for conclusion.

R *Ships appear to drop out of sight.*

Therefore

C *The Earth cannot be flat.*

'Oh yes it can!'

Of course not everyone has to accept an argument. Sometimes, even when you have given your reasons, people may still disagree with your conclusion. This certainly happened hundreds of years ago when the first 'Round-Earthers' began trying to persuade people that the world was spherical, not flat.

There may have been conversations similar to the one below. Read this conversation, preferably aloud with a partner, and then answer the questions that follow.

[2] 'Did you know, the Earth is really a large ball?'
'Don't be ridiculous. The Earth is a flat dish.'
'It can't be.'
'Well, it is. I'm telling you. And if you used your eyes you wouldn't need telling.'
'I am using my eyes, and they tell me the Earth is round.'
'Then I'll tell you something else. If you go round talking this kind of nonsense, someone is going to lock you up and throw away the key.'
'But just listen.'
'No, you listen. The Earth is flat.'
'It's round.'
'Flat. F-L-A-T, flat!'
'ROUND ... '

Activity

Is [2] an argument? If it is, is it the same kind of argument as [1]?

The answers are: yes to the first question, no to the second.

The problem with the English word 'argument' is that it has several meanings. Two of them are given by the following dictionary entry:

argument *noun* **1.** a reason or reasons supporting a conclusion; a case made for or against a point of view. **2.** a debate or dispute, especially a heated one.

As you can see, example [1] is an argument of the sort given by definition **1**. [2] matches definition **2**. The main difference is that the second type of argument is a disagreement or quarrel between two or more people. It may involve some reasoning from one side or the other or both, but it doesn't have to. In [2], for example, there is no attempt at reasoning. The two speakers are simply exchanging opinions, without giving any supporting reasons to back them up.

Critical thinking is generally more concerned with arguments of type [1] than type [2]. But the main thing is to be aware of the different meanings of the word and to be clear which one you mean when you use it.

More reasons

Argument [1] might seem like a strong argument to you now, because you already accept that the Earth is round. But, as we also know from history, it was not enough to convince the general public. They needed more reasons than this if they were going to give up a belief that had persisted for centuries.

Activity

Imagine you were sent back in time several hundred years and had to convince people that the Earth was not flat. What would you take with you: pictures from space; stories of people who have sailed round the world? These would be a good start. Armed with such evidence, and more, construct an argument with three or four reasons instead of just one.

To show that it is an argument, write it out with the reasons numbered R1, R2 etc. and the conclusion marked with C.

There are many arguments you could come up with. The following is just one example.

[3] Ships appear to sink lower and lower the further they are from land. But they cannot actually be sinking, or they would not come back. Also, sailors have proved that if you keep going in one general direction, for example, east or west, you arrive back where you started from. These facts show that the Earth cannot be flat. Besides, photographs have been taken from space that show the Earth's curvature.

Here three reasons are given in support of the conclusion, which begins with the phrase: 'These facts show that', another way of saying, 'Therefore'. Two of the reasons are given first; then the conclusion; then a further, seemingly indisputable, reason. So the structure of the argument is:

R1 Ships appear to sink.

R2 They can't actually be sinking or they wouldn't come back.

R3 Ships sail away in one direction but return to their starting point.

R4 Pictures from space show the curvature.

Therefore

C The Earth cannot be flat.

Obviously [3] is a much stronger argument than [1]. Whether it is convincing or not will depend on the willingness of the audience to accept the evidence. But *if* they believe the claims you are making, then it would be very difficult for them not to also accept the conclusion.

Claims

But this 'if' is always a big if. In all probability the audience from that time would *not* accept your claims. They would lock you up – or worse – and carry on believing what they had always believed and could see with their own eyes: a flat Earth surrounded by flat sea.

This is why 'claim' is the right word for the statements of the kind that appear in arguments. Some of the claims made in an argument may be known facts, but others may be forecasts, suggestions, beliefs or opinions. They may also be *false*. It is perfectly possible to construct an argument from false claims, either out of mistaken belief, or deliberately in order to deceive. (That is probably what people hundreds of years ago would have suspected you of, as they slammed the dungeon door.)

This point is important in understanding what argument is. An argument presents reasons and a conclusion. It does not guarantee that either the reasons or the conclusion are *true*. It is still an argument even if any or all the claims in it turn out to be false.

Premises

Another word for a reason, as used in arguments, is 'premise'. Literally it means 'put before', because logically a conclusion *follows from* the premises that are used to support it. 'Premise' is the more technical term, and sometimes more precise, since 'reason' has a wider range of uses. Both words will be used in this book, and you can use either or both yourself.

Summary

The key words in this chapter are: argument, reason, conclusion, claim and premise.
A reasoned case consists of reasons given in support of a conclusion.

End-of-unit assignments

- 1** Think of a suitable conclusion that you could add to the following to make it into an argument:

Ice ages last for around 100,000 years. Interglacials, the periods between ice ages, are normally between 10 and 15 thousand years long. The present interglacial has lasted around 10,000 years. *Therefore...*
- 2** Think of one or two reasons that could be used to support the following viewpoints, and use them to construct arguments:
 - (a) It is wrong to charge foreign students higher fees than other students.
 - (b) Private cars with fewer than four occupants should be banned from city centres.
 - (c) The stars of football, baseball and other popular sports deserve the huge earnings that they get.
- 3** Find a short argument published in a newspaper or magazine or on the Internet. Copy it down and underline its conclusion.
- 4** Write a short argument of your own consisting of two or three reasons and a conclusion that they support.

Answers and comments are on page 254.