

# In Context Toolbox – How to Build an Argument

The **In Context Toolbox** tip sheets are designed to help middle school and high school researchers prepare a written report. This document will explain how to **build an argument** in your report.

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When you want to convince your friends that your opinion about something is true, do you just blurt out your opinion and expect them to believe it? No way! Instead, you tell your friends *why* they should believe your opinion. You give them good reasons to support your view, using words intended to persuade. When your reasons have the "ring of truth," your friends will probably agree with your opinion.

Report writing is a similar process. When you write a report, your goal is to persuade readers that your points and conclusions are true. You do this by providing readers reasons why they should accept your points as valid. These reasons are called arguments. When you back up your points with strong arguments, your readers will be persuaded that your points are true.

The trick, of course, is to come up with strong arguments. Fortunately, there are a number of techniques you can use to help you develop arguments that ring true to readers:

- Approach all issues from the point of view of a **skeptical reader**
- Use formal **logic** and other **rhetorical devices**
- Order your arguments for **maximum effect**.

## Adopt a Skeptic's Point of View

Remember: the purpose of an argument is to persuade others to accept your points as true. When writing to persuade, whose point of view is most important? Not yours - you are already convinced that your points are true! The people you want to convince are the ones who are skeptical of your points. Therefore, when writing to persuade, you should adopt a skeptic's point of view. When skeptics read arguments, they raise doubts and questions. The most persuasive arguments are the ones that anticipate these doubts and questions and respond to them in advance. You anticipate questions by playing the Devil's Advocate; that is, by adopting the point of view of someone who disagrees with you.

Before you use an argument in a report, test its quality by playing the Devil's Advocate. Consider your argument from the perspective of someone who disagrees with it. Try to think of questions and concerns that cast doubt on your argument. Then, try to think of responses to these questions and concerns. If you can't think of any responses, then your argument is probably too weak to use in your report. On the other hand, if you can think of convincing replies to a skeptic's questions and concerns about your argument, then your argument is strong enough to use in your report. Bolster your argument with these responses, and your argument will be stronger still!

## Use Logic

Logic is a powerful tool to prove a point. But the rules of formal logic are rigorous. You can use logic to prove a conclusion, but only if you follow the rules exactly. The first rule of logic is simple: start with a *proposition*. A proposition is strictly a true-or-false statement - either it's true or it isn't. Logic is concerned exclusively with these

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true-or-false propositions. When the point you're trying to prove is a statement that must either be true or false, you can use logic to prove it.

In logic, arguments are propositions that fit together in a structure. The structure is composed of *premises* and the *conclusions* that follow from them. Let's say you're trying to prove that gorillas can communicate with people. Here's how you might structure your arguments:

**Premise:** Koko has been taught to communicate with humans.

**Premise:** Koko is a gorilla.

**Conclusion:** Gorillas can be taught to communicate with humans.

You can use logic to create an *extended argument*. In an extended argument, the conclusion of one set of propositions is used as a premise in another set of propositions. For example, here's a detail-rich extended argument in favor of the proposition "Gorillas can learn complex linguistic systems humans use to communicate.":

**Premise:** Sign language is a complex linguistic system some humans use as their principal means of communication.

**Premise:** Koko has mastered sign language.

**Conclusion:** Koko has mastered a complex linguistic system that some humans use as their principal means of communication.

**Premise:** Koko has mastered a complex linguistic system that some humans use as their principal means of communication.

**Premise:** Koko is a gorilla.

**Conclusion:** Gorillas can learn complex linguistic systems humans use to communicate.

Of course, in order for a conclusion to be true and valid, all of the premises that underlay it must be true and valid. What if the premise "Koko has mastered sign language" is false? Then the conclusions based on it are invalid. So, when using logic to prove a point, make sure that all of your premises are known to be true.

## Other Rhetorical Devices

The rules of formal logic provide an elegant, rigorous framework you can use to prove your points. But there are other rhetorical techniques you can use to persuade readers. These include:

### Argument by analogy

When two things are known to be similar in important ways, you can argue by analogy that they are also similar in other ways. For example, if the transmission in your father's 1995 Ford Mustang needed to be repaired after 90,000 miles, and your friend has a 1995 Ford Mustang with 85,000 miles on it, you can argue that your friend's car is likely to need transmission work soon.

### Hypothesis

It's often useful to assume for the sake of argument that a certain statement is true, and then test it to see if it really is true. Argument by hypothesis is especially common in science reports, because you can use experimental research to test your hypothesis. For example, you could pose a hypothesis that ants are attracted to the scent of honey, and then devise a simple experiment to prove your hypothesis.

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## Aristotle's special topics

The Classical philosopher Aristotle recognized that emphasizing the good and unique aspects of a topic often has a powerful persuasive effect. Readers tend to respond favorably when an argument heightens their awareness of beauty, or appeals to their sense of fairness, or otherwise calls attention to the intrinsic good in something. Arguments based on special topics are especially useful when discussing matters of public policy. For example, say someone in your home town wants to tear down your neighborhood playground to build a parking lot. You could argue that the greenery surrounding your playground makes the neighborhood beautiful. You could also argue that it isn't fair to the children in the neighborhood to take their local park away from them.

## Order Your Arguments for Maximum Effect

Always try to substantiate your points with at least three good arguments. Once you've thought of three solid arguments, evaluate them before you begin writing your report. Decide which ones are the most convincing, and which one is the weakest. Once you've identified your weakest argument, put it in the middle, in between your stronger arguments. Psychological research has shown that people tend to pay the most attention to whatever comes first and to whatever comes last. Psychologists call this phenomenon the *law of primacy and recency*. Take advantage of the primacy and recency phenomenon! Make your best argument first, your weakest argument second, and your second-best argument last. Readers may find your report more persuasive if you order your arguments in this way.

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