



15 Deductive Reasoning Examples

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Deductive reasoning is a logical process that involves taking a generally true statement and narrowing it down to apply to a specific instance.

It is the opposite of inductive reasoning in which we take a specific piece of information and generalize it.

Here's how it works:



Deductive Logic

a) All bachelors are unmarried men.
(**General statement**)

b) John is an unmarried man.

c) Therefore, John is a bachelor.
(**Specific conclusion**)

Inductive Logic

a) It was sunny on the 1st of July last year. (**Specific statement**)

b) It was sunny on the 1st of July the year before last.

c) Therefore, it will be sunny on the 1st of July this year. (**General conclusion**)

Sometimes referred to as 'top-down' reasoning, or deductive logic, this form of reasoning is extraordinarily common and used implicitly by people on a daily basis.

We use deductive logic to formulate correct and logical arguments, along with their corresponding conclusions.

[See more inductive reasoning examples here.](#)

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Deductive Reasoning Examples



- All bachelors are unmarried men. John is an unmarried man. Therefore, John is a bachelor.
- All thrift stores sell used clothes. This shirt is from a thrift store. Therefore, this shirt has been used.
- All Canadians have free healthcare. Sarah is Canadian. Sarah has free healthcare.
- All men are mortal. Socrates is a man. Therefore, Socrates is mortal.
- Anyone born in late August to late September is a Virgo. Ashley was born on September 4th. Therefore, Ashley is a Virgo.
- To apply to law school you have to take the LSAT (Law School Admissions Test.) Sam is applying to law school. Sam has to take the LSAT.
- To get your driver's license, you have to be at least 16 years old. Jack is not yet 16 years old. Therefore, Jack cannot get his driver's license.
- All kids are required by law to go to public schools at the age of six. Daniel is seven years old. Daniel must go to public school.
- Any species that is endangered cannot be hunted. The Pika is an endangered species. Therefore, Pikas cannot be hunted.
- All fruits have seeds. Apples are a kind of fruit. Therefore, apples have seeds.
- Susan wants to bake a cake, but she doesn't have any flour. Susan knows that to bake a cake, she needs flour. Since she has no flour, she cannot bake a cake.

The Examples Explained

1. John Is A Bachelor



All bachelors are unmarried men. John is an unmarried man. Therefore, John is a bachelor.

This example illustrates deductive reasoning by starting with a general premise, ‘*all bachelors are unmarried men,*’ and then shrinking the statement to apply to the particular or specific instance.

In this case: John is a man, and he is not married; therefore, John is a bachelor. The conclusion is indisputable, unlike in inductive reasoning, where the conclusions are just educated guesses.

2. Buying Second-Hand Clothes

All thrift stores sell used clothes. This shirt is from a thrift store. Therefore, this shirt has been used.

The first premise ‘*all thrift stores sell used clothes,*’ is a broad and general statement that applies to any clothes sold at thrift stores. The second premise, ‘*this shirt is from a thrift store,*’ is where we can clearly see how deductive reasoning ‘deduces’ from a broad claim, or moves from the general to the specific to form a conclusion.

This set of premises work to form a logical conclusion, though it is relevant to mention that deductive reasoning can result in an incorrect or illogical conclusion (even in cases where the premises may themselves be true.)

3. Canada and Free Healthcare



All Canadians have free healthcare. Sarah is Canadian. Sarah has free healthcare.

If all Canadians have free healthcare, and Sarah is Canadian, then Sarah *must* have free healthcare. We don't really have any way around this because Sarah fits perfectly into the definitive category of 'Canadians'. The blanket rule, without exceptions, that Canadians have healthcare means that we can conclude with certainty that Sarah gets healthcare for free.

4. Socrates Is Mortal

All men are mortal. Socrates is a man. Therefore, Socrates is mortal.

This is the quintessential example of deductive reasoning, (which you have likely encountered if you've taken a philosophy course.

This is a case in point of deductive reasoning, and clearly demonstrates the power of deductive logic as a process to arrive at the correct conclusion when the independent premises hold, and are themselves true.

5. Zodiac Signs

Anyone born in late August to late September is a Virgo. Ashley was born on September 4th. Therefore, Ashley is a Virgo.

While deductive logic goes from the top-down, based on the set of premises given in this example it's clear that we could induce (or build-up,) to the correct

conclusion as well.



Bottom-up reasoning, or arriving at a broad conclusion based on specific premises is known as inductive reasoning, and is in contrast to deductive reasoning.

6. Applying To Law School

To apply to law school you have to take the [LSAT](#) (Law School Admissions Test.) Sam is applying to law school. Sam has to take the LSAT.

As it turns out, not all law schools require applicants to take the LSAT in order to be admitted. [Standardized tests](#), in general, are under scrutiny as a form of assessment. The example illustrated above still uses deductive logic correctly, though the conclusion may not be true in each case.

7. Driver's License

To get your driver's license, you have to be at least 16 years old. Jack is not yet 16 years old. Therefore, Jack cannot get his driver's license.

This example utilizes deductive logic to determine whether or not Jack can apply to get his license. In day-to-day life, we do not lay out our thought processes as one would in a philosophy essay, (or in this blog for example). That said, we implicitly use deductive forms of reasoning all the time to arrive at conclusions and shape our beliefs and views.

8. Public School Age Requirement



All kids are required by law to go to [public schools](#) at the age of six. Daniel is seven years old. Daniel must go to public school.

This example demonstrates the correct use of deductive logic; however, because the first premise is not true in and of itself (other types of education are permitted, i.e., homeschooling, [charter schools](#) and private schools) the following conclusion will not hold.

To revise the argument so it is true, we could consider modifying the initial premise to ‘all kids must go to school at the age of six. Daniel is seven years old. Therefore, Daniel must go to school.’

9. Protected Wildlife And Endangered Species

Any species that is endangered cannot be hunted. The [Pika](#) is an endangered species. Therefore, Pikas cannot be hunted.

This is a straightforward and successful case that shows precisely how deductive reasoning takes a general statement (namely, any endangered species cannot be hunted.) Subsequently, the scope is narrowed to apply to the particular: Pika’s are endangered; therefore, it is not permissible to hunt Pika’s.

10. Fruits And Seeds

All fruits have seeds. Apples are a kind of fruit. Therefore, apples have seeds.



Pretty much all fruits have seeds, and those that appear not to have seeds (like bananas) have been genetically modified, and do produce seeds when they grow naturally in the wild. This example of deductive logic works; still, it's important to pay close attention to the individual premises because deductive logic is not foolproof and can result in an illogical conclusion.

11. Baking A Cake

Susan wants to bake a cake, but she doesn't have any flour. Susan knows that to bake a cake, she needs flour. Since she has no flour, she cannot bake a cake.

Susan may not be able to bake a cake, but at least she's able to use her deductive reasoning skills to realize it. While it is not always apparent to the person that is utilizing their deductive skills, Susan started with understanding a general claim about baking cakes—namely, that you need flour.

Subsequently, she realized she had no flour; which then led her to ultimately conclude that she can't bake a cake (all as a result of her ability to deduce information from a broad claim!)

12. Change Of Seasons

Ray lives in Canada, and he knows it gets extremely cold during the winter. Since it is approaching winter, Ray decided to buy a parka to get him through the winter seasons and stay warm.



Assuming that this is not Ray's first Canadian winter, most likely he knows about Canadian winters, and what to expect weather-wise during that time of year. As a result, Ray is able to deduce (based on the fact that it is nearing winter,) that he's going to need a new coat to keep warm.

Ray used his deductive logic skills to arrive at the conclusion that he needs a new jacket for winter.

13. Competing In A Triathlon

Noah wants to sign up for a triathlon, but he does not know how to swim. The triathlon involves swimming, so Noah cannot sign up to compete unless he learns how to swim first.

In this case, Noah is able to deduce two important pieces of information by using his deductive reasoning skills: triathlons require swimming, and he needs to know how to swim if he is to compete in the triathlon.

Through the ability to deduct from broader information, Noah is able to form the conclusion that if he is to compete in the triathlon, he has to learn how to swim first.

14. Graduating With A Philosophy Degree

Max needs to pass the logic class in order to graduate from university and earn his philosophy degree. Max failed the course on logic, so Max cannot graduate from university this year.



Since Max is aware of the requirements he needs to fulfill to get his degree, he knows that he has to pass logic to earn his philosophy degree. Max is pulling broad information, (the requirements to earn a degree in philosophy) and applying it to his situation, where it is applicable.

In other words, Max can deduce based on a general set of rules what applies to him specifically, or in the particular.

15. Paying Rent

Morgan wants to move out of her parent's house, but to do so she has to be able to afford to pay rent. Morgan knows she doesn't have enough money saved to pay rent, and so she can't move out of her parent's house and has to save more.

Based on what she knows of the cost of rent, Morgan is able to determine that she doesn't have enough money saved to move out of her parent's house. She furthermore realizes that she has to save more money if she is to move out eventually.

Clearly, Morgan has the ability to deduce general information and apply it to her specific situation to understand what she needs to do to be able to move out. Morgan is using deductive logic to arrive at the conclusion that she has to save more before moving out.

Read Next: [Abductive Reasoning Examples](#)

Conclusion

As we've now seen from the above examples, deductive logic is one of the most common and widely-used forms of reasoning, and oftentimes it results in the correct conclusion. Deductive reasoning, however, is not infallible; and it's easier than you'd think to arrive at a false conclusion based on premises that appear to be true.



Now that you are aware of deductive reasoning and the way it works, you'll realize when you use deductive logic your own arguments, and hopefully, you'll be able to identify when others rely on deductive reasoning to support their conclusions.

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