

## What is the difference between inductive vs. deductive reasoning?

Inductive reasoning involves starting from specific premises and forming a general conclusion, while deductive reasoning involves using general premises to form a specific conclusion.

Conclusions reached via deductive reasoning cannot be incorrect if the premises are true. That's because the conclusion doesn't contain information that's not in the premises.

Unlike deductive reasoning, though, a conclusion reached via inductive reasoning goes beyond the information contained within the premises—it's a generalization, and generalizations aren't always accurate.

The best way to understand the difference between inductive and deductive reasoning is probably through examples.

### Examples of inductive and deductive reasoning

#### Examples of inductive reasoning

**Premise:** All known fish species in this genus have yellow fins.

**Conclusion:** Any newly discovered species in the genus is likely to have yellow fins.

**Premises:** This volcano has erupted about every 500 years for the last 1 million years. It last erupted 499 years ago.

**Conclusion:** It will erupt again soon.

#### Examples of deductive reasoning

**Premises:** All plants with rainbow berries are poisonous. This plant has rainbow berries.

**Conclusion:** This plant is poisonous.

**Premises:** I am lactose intolerant. Lactose intolerant people get sick when they consume dairy. This milkshake contains dairy.

**Conclusion:** I will get sick if I drink this milkshake.