

## Critical Evaluation of a Claim

The ability to critically evaluate claims made by reporters, politicians, insurance sellers, etc. is an important skill you'll be able to use throughout your life. It's a skill particularly vital to scientists. To help you exercise your critical thinking skills, we'll use a five-step framework for evaluating claims.

**Step 1.** Identify a specific claim and restate it clearly. Determine its importance.

In addition to simply identifying a claim, ask:

What are possible alternate views?

What are the consequences of the claim being right or wrong?

**Step 2.** Identify evidence relevant to the claim. What information is provided to support the claim?

**Step 3.** Evaluate the quality of the evidence you've found. Some types of evidence are more convincing than others. Consider your own bias and values as well as the source of the claim.

The best scientific evidence is a fact or measurement of something that actually exists or has occurred e.g., an experimental result or an observation of nature. Such evidence must be attributed to a reliable source e.g., a specific scientist or an article in a scientific journal.

Other evidence that might have a bearing on your acceptance or rejection of a claim could include:

"Anecdotal" evidence.

An opinion of a respected person with experience in the area where the claim is made.

The claimant's point of view. (How does the claim affect the claimant?)

A reasonable opposing claim. (Is there evidence for the opposing claim?)

**Step 4.** Evaluate the validity of the claim

If the evidence supports the claim — *conditionally* accept the claim

If the evidence contradicts the claim — do not accept the claim

If the evidence is insufficient — do not accept the claim

**Step 5.** Summarize the reasoning you used to evaluate the claim. What additional evidence would you need to help you make a decision?