

## Logical fallacies in arguments

This lesson plan focuses on learning how to recognize common logical fallacies in media content, be it news articles, user comments, or social media posts.

Duration	90 minutes
Students level	Beginner, Intermediate
Materials	<ul style="list-style-type: none"><li>• White/blackboard</li><li>• Pen and paper</li></ul>
Goals	<ul style="list-style-type: none"><li>• Introduction to common logical fallacies</li><li>• Learning how to recognize and refute logical fallacies</li></ul>
Activities	<ol style="list-style-type: none"><li>1. <b>Theory — 20 minutes — teacher-centered</b> Teacher explains logical fallacies and lists the most common examples. <i>Aim: students understand the theory behind logical fallacies.</i></li><li>2. <b>Exercise — 10 minutes — group work</b> Students practice refuting arguments. <i>Aim: students get familiar with recognizing faulty logic.</i></li><li>3. <b>Exercise — 15 minutes — group work</b> Students practice spotting logical fallacies in arguments produced by their peers. <i>Aim: students continue to practice their refutation skills.</i></li><li>4. <b>Exercise — 20 minutes — group work</b></li></ol>

	<p>Students practice looking for logical fallacies in media content.</p> <p><i>Aim: students apply their skills to real-life examples.</i></p> <p>5. Discussion — 15 minutes — class</p> <p>Students discuss their findings.</p> <p><i>Aim: students reflect on the exercise.</i></p>
Keywords	<p>Logical fallacies, Refutation, Argumentation, Critical thinking, Critical reading</p>

## Theory

Logical fallacies are mistakes in reasoning. In logic, some conclusions are legitimate, and some are not. If we say:

*When it rains, the roads are wet, and today it is raining; therefore **the roads will be wet,***

our reasoning is legitimate. But if we say:

*When it rains, the roads are wet, and today the roads are wet; therefore **it is raining,***

we are, in fact, wrong: we cannot imply that it is raining just from the fact that the roads are wet. We are free to invent new and outlandish logical fallacies when making whacky arguments. However, many logical fallacies occur so frequently that they have names.

Let's go through the most common fallacies here:

1. **Strawman:** misrepresentation of an opponent's argument in order to make it easier to negate.

*If someone claims that we should raise taxes to fund public services properly, a strawman response would be to claim "They want an authoritarian government and destroy any free economic initiative!" in refutation.*

2. **Ad Hominem:** Criticising a person instead of their argument.

*"You cannot trust Matija's argument about climate change; he is a philosopher, not a scientist."*

3. **Argumentum ad verecundiam:** Using an individual's authority to support an argument:

*"Dr. Berlusconi says low taxes lead to more progress for all, and he is an economist, so he surely knows best."*

4. **Argumentum ad passiones:** Appealing to emotion instead of logical arguments.

*"You must truly hate the elderly if you support age limits on driving."*

5. **Argumentum ad antiquitatem:** Citing a traditional approach to something as an argument for it.

*"We have always had a king. Therefore, we must always have one."*

6. **Post hoc ergo propter hoc:** Assuming that just because some phenomenon came after some other phenomenon, the former is a consequence of the latter.

- a. *"After the rain started falling, my knee started hurting. Therefore, rain is causing my knee to hurt."*

7. **Non Sequitur:** Concluding something that does not follow from its premises.

*"This food in this restaurant is cheap. Therefore, it must be bad."*

8. **False Choice:** Presenting only two options while there are, in fact, more.

*"You either support our president, or you are not a patriot."*

For more common logical fallacies, [here](#) is an example of a free resource offering web-based and downloadable content.

## Exercises

This exercise is very straightforward. You should split students into small groups (up to 4 students) and have them practice. There are three exercises you should do:

### Creating sample bad arguments

Students are tasked with creating sample bad arguments, or finding examples of faulty arguments online. This can range in complexity depending on the level of your students. You can print them out and give them to groups or work on them together.

You can construct many more such arguments, making them more complex and more difficult to refute and criticize as your students progress.

### Refuting arguments

Groups swap their work and are tasked with finding and, if possible, naming the logical fallacy committed in each argument. They are free to refer to the list of logical fallacies presented in the “Theory” section.

Here is a list of sample dummy arguments:

1. Nuclear energy is bad for the environment because it is dangerous to humans
  - a. Atomic bombs killed many people. Therefore, nuclear energy is very dangerous to humans.
  - b. Furthermore, scientists also agree that nuclear power is not safe.
  - c. Your choice today rests between choosing nuclear power and the clear danger it presents, or safety.
  - d. If you choose nuclear power, you clearly do not like humanity.
  
2. Humans do not cause Climate Change
  - a. We have evidence that climate change already happened in history, therefore, it cannot be caused by humans.

- b. Some scientists say it is caused by humans, and some that it is not. The truth must be in the middle.
  - c. Most people do not believe in climate change, therefore, it is unlikely to be true.
3. We should not ban cars
- a. We have always used cars. Therefore it would be strange to change suddenly.
  - b. Opponents of cars only represent city folk. They want people in the rural areas to lose their jobs.
  - c. You are just naive if you believe in a car-less society.
  - d. The choice is cars or no cars — it is clear that cars are a must.

Argument 1: a) non sequitur, b) appeal to authority, c) false choice, d) appeal to emotion

Argument 2: a) reverse ad hoc ergo propter hoc, b) false middle, c) appeal to popularity

Argument 3: a) appeal to tradition, b) strawman, c) ad hominem, d) false choice

### Refuting bad arguments in media content

You can select either a) examples of poor argumentation in different articles or, if that is too difficult, you can also search examples of comments under posts and news articles — as long as they are not offensive and too toxic.

Samples of news articles with ample logical fallacies:

- [Nova24tv.eu - Are Calls For An International Investigation Into Prime Minister Golob's Affair The Reason For Foreign Minister Fajon's Visit To Kosovo?](https://nova24tv.eu/are-calls-for-an-international-investigation-into-prime-minister-golob-s-affair-the-reason-for-foreign-minister-fajon-s-visit-to-kosovo/)
- [Dailymail - DAN WOOTTON: Jeremy Clarkson made a mistake, but Amazon and ITV looking to cancel one of Britain's favourite TV stars at the behest of Harry and Meghan is chilling. The woke warriors won't stop till he's destroyed](https://www.dailymail.co.uk/news/article-6881111/DAN-WOOTTON-Jeremy-Clarkson-made-a-mistake-but-Amazon-and-ITV-looking-to-cancel-one-of-Britain-s-favourite-TV-stars-at-the-behest-of-Harry-and-Meghan-is-chilling-The-woke-warriors-won-t-stop-till-hes-destroyed.html)

If you print out these articles or share the link with students (and similar articles you find yourself), you can have groups of students working on them, finding logical fallacies and reporting them at the end of the exercise. If the students have issues, you can also go through the article together.

## Discussion questions

1. What is your favorite logical fallacy?
2. Were you surprised some argumentation styles officially carry the badge of a logical fallacy?
3. Which logical fallacy/ fallacies do you come across more often?
4. What did you find the most challenging?

## Related lessons

Basic argument structure, Advanced argumentation, Refuting arguments

## Sources

<https://yourlogicalfallacyis.com/>

[Nova24tv.eu - Are Calls For An International Investigation Into Prime Minister Golob's Affair The Reason For Foreign Minister Fajon's Visit To Kosovo?](#)

[DailyMail - DAN WOOTTON: Jeremy Clarkson made a mistake, but Amazon and ITV looking to cancel one of Britain's favourite TV stars at the behest of Harry and Meghan is chilling. The woke warriors won't stop till he's destroyed](#)