

# Refuting arguments

## Refute

To prove wrong by argument or evidence: show to be false or erroneous.

Merriam-Webster Dictionary

In addition to learning how to construct and recognize sound arguments, students should master taking them apart, noticing faulty logic and weak substantiation. This lesson plan has students spot and refute arguments made in news articles.

Duration	90 minutes
Students level	Beginner, Intermediate, Advanced
Materials	<ul style="list-style-type: none"><li>• Pen and paper</li><li>• Phone/ computer access</li><li>• White/blackboard</li></ul>
Overall skill development	<ul style="list-style-type: none"><li>• Learning how to differentiate between sound and faulty arguments or elements of argumentation</li><li>• Learning how to refute arguments</li></ul>
Activities	<ol style="list-style-type: none"><li>1. <b>Theory — 15 minutes — teacher-centered</b> Teacher introduces students to refutation and refutation strategies. <i>Aim: students understand the basics of refutation.</i></li><li>2. <b>Exercise 1 — 15 minutes — pairs or groups</b> Students are tasked with extracting arguments from the assigned article.</li></ol>



	<p><i>Aim: students improve their critical reading and argumentation skills.</i></p> <p>3. Presenting — 20 minutes — class</p> <p>Pairs (or groups) report on and discuss the arguments they found.</p> <p><i>Aim: students reflect on their work and start finding faults in the arguments presented.</i></p> <p>4. Exercise 2 — 20 minutes — pairs or groups</p> <p>Students work on refuting the arguments found earlier.</p> <p><i>Aim: students practice their refutation skills.</i></p> <p>5. Presenting — 20 minutes — class</p> <p>Students present their work and discuss the strength and quality of their refutation attempts.</p> <p><i>Aim: students reflect on their work and discuss refutation strategies.</i></p>
Keywords	Argumentation, Refutation, Critical thinking, Debate
Pedagogical tips	<ul style="list-style-type: none"> <li>• Before diving into refutation, you should cover at least “Basic argumentation.” “Advanced argumentation” and “Logical fallacies in arguments” are recommended.</li> <li>• This lesson plan is as challenging as the topic and articles (i.e., arguments) you decide to use with your class.</li> <li>• Once they master basic argument structure (statement, explanation, example, impact), students will begin recognizing arguments in any news article, so feel free to find articles discussing topics of importance for your class or environment. Almost any article will do if you want to practice refutation in general. We listed some examples under “Sources”.</li> </ul>

## Theory

How to refute an argument? Let us picture refutation through a metaphor. If you imagine an argument as a tree, with the leaves representing examples, branches the argument statement, trunk the explanation, and roots is the impact, the job of refutation is to destroy that tree most effectively.

The easiest thing we could do is start pulling off the leaves, which doesn't hurt our tree much. Similarly, suppose we only negate the examples of an argument. In that case, we do not harm the argument that much. This is because we are only disproving that specific example, instead of dismantling its logic.

The next thing we could do is start tearing down branches – which, in our case, would disagree with the statement. This does some damage, but not much if we don't engage in additional refutation/ tree destruction. Maybe we prove that the path to their goal is not optimal, but that is about as much as we can do.

Finally, if we take an axe to our tree and cut the trunk – or disprove the logic behind the argument, the explanation of why the statement is true – we are starting to inflict real damage.

The only final way of destroying our tree (or argument) is to pull out its roots or to prove that the impact of the argument we are refuting does not exist, is not significant, or that we shouldn't care about it (i.e., that there are more important things we should be concerning ourselves with).

But pulling a tree out of the ground is incredibly difficult if we haven't cut it down first. It is much easier to tear down branches without leaves and to cut down a tree without branches. This is also how refutation works. Very rarely will we ever negate only one part of the argument. Generally, we will try tackling multiple parts.

Similar to an argument, refutation has a structure. While it is not necessary to memorize this structure and be able to recite it by heart, it is useful to students, especially if they are beginners. In that case, we recommend that you let students use the structure and questions listed below. Use a projector, or a smartboard, or provide handouts/ send the following section of this lesson plan to students digitally.

### Structure of refutation

1. "They say..." – Debaters should establish what exactly they are responding to by stating the core idea of the particular point of the opposing side.
2. "We disagree with" – It should be established with what exactly they disagree with – the logic of the argument, the scope of the impact, relevance?
3. "Because" – One or more reasons why the disagreement is justified should be given.
4. "Therefore" – An explanation of what the refutation achieved and how it defeated the argument.

In addition to the structure outlined above, here are some questions your students can ask themselves to detect what is weak in an argument. The list is sorted from what is most difficult to achieve, but also most effective in tearing down an argument:

### Disputing the argument's relevance - IMPACT

Does this argument have an impact (on the topic at hand/ relevant stakeholders)? Is that impact significant enough? Should we care about it (over other concerns)?

Are the stakeholder(s) impacted (the most) relevant for this topic?

### Disputing the mechanization of the argument - EXPLANATION

Is the logic of the explanation sound, or are there premises and/or conclusions that don't follow from the rest of the explanation? Did the speaker commit an obvious logical fallacy (appeal to authority or emotion without analysis, assuming the truth of something that requires proving...)?

Are there any other reasons/ mechanisms that could disprove the logic?

### Mitigating the impacts of an argument - IMPACT

To what extent can the impact of the arguments be achieved through different means than what the argument is advocating for?

Is the harm/ benefit presented really that important, or are there more important considerations?

### Addressing the examples in the argument - EXAMPLE

Is the example representative? Does it show that there is a tendency for something to happen, or does it describe a singular event?

Is the source trustworthy?

## Exercise

Have the students work in pairs for 15 minutes. If you are working with a large group, split them into groups of 4 at most. For this exercise, the students need to read the assigned article and extract every argument they can find in the article. They have to fill in each element of the basic argument structure (statement, explanation, example, impact) for each argument they find.

Often, arguments we encounter in media don't strictly follow the basic structure of an argument, yet make statements and provide explanations all the same in different order. This exercise will help students learn how to spot arguments "in the wild" and understand which statements are being put forward.

For example, let's look at this BBC [article](#) on homework and extract some arguments from there.

**Statement:** Homework plays a crucial role in a student's academic success, and there is hard evidence from research that homework truly improves students' achievements.

**Explanation:** Homework is well-supported by research as an effective tool for reinforcing classroom learning, promoting independent study habits, and improving students' academic performance. It offers opportunities to practice and solidify knowledge while nurturing valuable skills like time management and responsibility. However, excessive homework can be counterproductive, and its effectiveness varies among individuals, emphasizing the importance of a balanced approach.

**Example:** A study by the Department for Education found that the amount of time spent on homework strongly predicted success in secondary school exams. Pupils who spent two to three hours doing homework on a typical school night were almost 10 times more likely to achieve five good GCSEs compared to those who did not do any homework.

**Impact:** The benefits of homework are essential as they contribute to improved academic performance, foster critical skills, and enhance students' ability to apply and consolidate their learning, ultimately preparing them for success in both education and real-life situations.

## Presenting

Have the students present and discuss their findings. Did they all detect the same arguments? What are the differences in how they perceived the argumentation put forward in the article? Did any pair or group misunderstand any of the arguments put forward in the article? How challenging was the exercise?

## Exercise

Pairs (or groups) continue their work, this time by developing refutation to the arguments extracted from the article. Have the students refer to the structure of refutation and refutation questions listed earlier in this lesson plan, especially if they are working on refuting arguments for the first time. Refutation can be challenging, even for experienced debaters. Allow the students to use the internet for research.

To offer an example, we return to the homework article to refute one of its arguments. We will use the structure of refutation introduced earlier:

**They say** homework positively impacts academic performance.

**We disagree with** them because they overstate the impact of homework on students as a whole.

**Because:** While homework can positively affect academic performance, its impact is limited and varies among students. Additionally, the argument assumes that academic performance is the sole measure of a student's success, neglecting other crucial aspects of education such as practical skills, creativity, and personal development.

**Therefore:** By disputing the relevance and scope of this argument, we challenge the idea that homework is the ultimate determinant of a student's success and emphasize the need for a more comprehensive approach to education that values diverse skills and growth beyond academic achievements.

**They say** homework positively impacts academic performance because it reinforces classroom learning and fosters independent study habits.

**We disagree with** the mechanization of this argument and its logical validity.

**Because:** The argument oversimplifies the relationship between homework and academic performance. It assumes that all students benefit equally from homework, disregarding differences in individual learning styles and needs. Furthermore, it relies on the premise that homework is the sole factor contributing to academic success, neglecting other crucial variables such as teaching quality, student motivation, and family support.

**Therefore:** By disputing the mechanization and logical validity of this argument, we show that we cannot really conclude that homework is as helpful as they claim, meaning that its positive influence is much lesser than what they would have you believe.

**They say** homework positively impacts academic performance, as studies show that students who complete homework tend to perform better in exams.

**We disagree with** the reliability and representativeness of the example provided.

**Because:** The example relies on general correlations between homework completion and exam performance without considering confounding variables. It fails to account for factors like student motivation, teacher effectiveness, and the quality of homework assignments, which could also influence exam results. Additionally, the example assumes a one-size-fits-all approach to education, overlooking student needs and abilities variations.

**Therefore:** By disputing the example's reliability and representativeness, we show that even though the examples they mention sound nice, they cannot lead us to conclude that homework is the one thing that makes or breaks the educational process.

Presenting:

Have the students present and discuss their refutation strategies. What did they find the most challenging? Do they feel like they successfully refuted any of the arguments?

## Related lessons

Basic argument structure, Advanced argumentation, Logical fallacies in arguments

## Sources

[BBC - Is Homework Worth the Hassle?](#)

[Longreads - Inside the Chaos of Immigration Court](#)

[The New York Times - Against Headphones](#)

[Wired - Of Course We're Living in a Simulation](#)

