

CLIMATE TRUE OR FALSE #1

Renewable energy is more expensive than fossil fuels

CLIMATE TRUE OR FALSE #2

Renewable energy only works when it's really sunny or really windy

#1 FALSE

Solar power & wind are cheaper than nuclear & fossil fuels. But-fossil fuels often still appear cheaper because their production is heavily subsidized by government. If wind & solar were subsidized in the same way, solar panels & wind turbine production costs would go down, & the demand for them would rise, further reducing their cost.

Sources: Office of the Auditor General of Canada, World Wildlife Fund

#2 FALSE

Technology is advancing rapidly with the ability of solar & wind to generate power even on cloudy & less windy days. Battery efficiency is also improving so that energy can be stored for days with less wind & sun.

Fun Fact: in BC we are lucky that power is hydroelectric, where water is stored in reservoirs to be released when power is needed.

Source: World Wildlife Fund

CLIMATE TRUE OR FALSE # 3

Electric cars don't work well in cold climates

CLIMATE TRUE OR FALSE #4

Electric vehicles are worse for the climate than gasoline cars because of battery manufacturing

#3 TRUE & FALSE

While EV's lose 20-30% of their battery range in cold weather, modern EV's have battery heating options that reduce range drop. Maximum winter range of new EVs can be around 320 km, with a summer range being around 500 km. 90% of new car sales in Norway are EV models because of advances in battery range & cold weather battery options.

**Source: US Government Environmental Protection Agency
InsideEVs/reviews**

#4 FALSE

Over their lifetime EVs produce fewer GHG emissions than gas cars, even when accounting for battery manufacturing. Making an EV can generate more emissions upfront, but EVs emit less over their life cycle.

EV battery recycling further reduces emissions by decreasing the need for new materials. Research continues to improve battery life, technology & recycling processes.

And.. Battery failure is rare. A study of 15,000 EVs showed post-2016 models below 0.5% failure rate, which are covered by vehicle warranties.

Source: US Government Environmental Protection Agency

CLIMATE TRUE OR FALSE # 5

Job losses in forestry are because of too many government regulations

CLIMATE TRUE OR FALSE # 6

We need fast growing young trees to quickly suck up carbon

#5 FALSE

Most old growth forests have been logged, this decline in accessible, high-quality forest is a major driver of job loss.

Technology has dramatically reduced the workers needed.

The Liberal government (2003) removed requirements for local processing of logs. Companies exported raw logs instead of supporting BC mills.

Many companies shifted operations to regions with fast growing trees, like the U.S. Southeast, causing mill closures in BC.

Sources: Northern BC Business, Business in BC, The Tyee, Evergreen Alliance

#6 FALSE

Young, fast-growing trees absorb CO₂ faster per hectare than old-growth forests, but mature & old-growth forests store 2 to 3 times more carbon, due to their large biomass & soils (often not included in industry calculations).

Clearcutting releases carbon stored in trees & soil, also often not included in calculations. The lost carbon can take 200 years to reabsorb, longer than BC's 50–80 year logging cycle.

Sources: BC Government Strategic Review Panel, US. Forest Service, Business in BC, Canadian Science Publishing, Ancient Forest Alliance

CLIMATE TRUE OR FALSE # 7

**In cold weather car engines need to idle for
~10 minutes to warm up**

CLIMATE TRUE OR FALSE #8

**Items returned to Amazon most often end up
in the landfill**

#7 FALSE

Idling is not an effective way to warm up your vehicle—even in cold weather. Driving warms it faster (especially driving slowly in the first few minutes). Idling for over 10 seconds wastes more fuel than restarting. Letting a car idle too long is not good for the engine as it can damage spark plugs & the exhaust system because the engine isn't hot enough to burn fuel efficiently.

Car exhaust is harmful to human health, especially kids. Breathing in exhaust can lead to lung problems, & even early death.

Source: Natural Resources Canada, Cummins Engine Company

#8 TRUE

Up to 40% of online purchases are returned. Most of these returns end up in landfills due to the high cost of processing returns. Free return policies encourage over-purchasing, which increases waste. When new items are returned & then discarded, the energy & materials used to make & ship them are wasted—adding to the environmental cost of online shopping. Public outcry in France over these practices caused the government to pass an anti-waste law that forces online retailers to recycle or donate returned merchandise.

Source: CBC Marketplace

CLIMATE TRUE OR FALSE #9

Liquified Natural Gas is good for the environment & human health

CLIMATE TRUE OR FALSE #10

BC has a *right to repair* law

#9 FALSE

Fracking & the full LNG lifecycle have serious risks. LNG operations emit large amounts of greenhouse gases, including CO2 & methane, which significantly worsens LNG's overall climate footprint. The process also releases harmful air pollutants that contribute to respiratory diseases. Water contamination adds salts & heavy metals to drinking water. Studies found links between fracking exposure & low birth weight, neurological problems & possible hormone disruption.

Source: Cornell University, University of Toronto, US National Institute of Environmental Health Sciences

#10 FALSE

We do not have a *right to repair* law in BC. This law would ensure that people can fix products a fair price & within a reasonable time. The federal government is considering actions to stop planned obsolescence, improve product durability, & support *right to repair* laws. In 2021 the Union of BC Municipalities passed a resolution urging the Province to create such a law, so far it has not been passed. The European Union adopted a *Right to Repair* law in 2024.

Sources: UBCM, CanRepair.ca

CLIMATE CHANGE MYTHS True/False GAME

Level: Grade 5-12

Duration: 45 minutes to 2 hours

Goal: expose common climate misinformation, research current climate myths & the facts behind them.

Background: There are a variety of reasons why climate myths are common:

Climate change involves science that can be hard to understand. People might get confused or believe something that sounds simpler, even if it's wrong. And, solutions vary depending on geographic & social situations.

Companies might spread misinformation because they don't want to stop polluting since it makes them money.

If someone doesn't want to believe in climate change, they may listen to people who agree with them.

Climate change can seem like a problem for the future or other places, so they think it doesn't matter.

Some people feel scared, so they pretend it's not real. If people don't learn the facts, they're more likely to believe myths.

LESSON INSTRUCTIONS:

1. Photocopy the 10 true/false myth cards (2 per double sided page). Copy as many times as you need for each pair of students to have a myth card (students may do it alone or in triplets). **Cut cards in half.**
2. Introduce the topic with a class discussion or a think/pair/share activity of some climate ideas they have heard and are not sure about (ie. humans are not the cause, we need CO2, a few degrees warming is good, it's a natural warming cycle). Don't try to solve these now, just note the brainstorm on the board.
3. Write: *I never thought of that, interesting point, that's another perspective*, on the board & encourage students to use them during discussions instead of: *no, you're wrong, that's dumb*, etc.
4. Hand out one card per group, ask students to only look at the front (question side) to discuss what they think the answer is. They can flip the card over to read the answer. (5-10 minutes)
5. Students share the myth with the class & have students move to a true or false side of the room. Then the pair reads the answer (there is better discussion if the reader doesn't yell out TRUE! Or FALSE! Instead, they should just read the rationale, the class will stay engaged & listening).
6. Class discussion about what they learned, wonder, have questions about.
7. Discuss or do a think/pair/share, about WHY people might believe climate myths.
8. Extension activity: discuss more climate myths and have students research and create their own climate myth cards. There are excellent sites that you can have available, so students don't go down any internet rabbit holes. To do so, Google climate+myths+Canada to choose websites that are reputable ones, like the UN, Sierra Club of Canada, Greenpeace, NRDC, The Globe and Mail, or Citizens for Public Justice.