



To earn this patch, begin by completing the required introduction step to get a general overview of the drivers of climate change. Then choose 1–2 of the activities in the Discover section to explore a specific driver of climate change in more depth. Finally, complete one activity from each of the Connect and Take Action sections.

Introduction Step

Many different factors are contributing to climate change. Watch the [Our Climate Our Future](#) video (approximately 40 minutes), to get an overview of the Climate and Consumption topic. After the video, have a group discussion to share your understanding of the different drivers of climate change. Use the Drivers of a Changing Climate Discussion Guide to guide your review.

The following topics were touched on in the [Our Climate Our Future](#) video. Choose 1–2 of the activities in the Discover section to explore a specific driver of climate change in more depth.

DISCOVER

Earth's Greenhouse Effect

- [Dinosaur Breath](#)
- [Part A – Greenhouse Effect Exploration Lab Guide](#)
- [The Greenhouse Effect and Our Planet – National Geographic Encyclopedic Entry](#)
- [Greenhouse Effect Demo and Greenhouse Effect Lab](#)

Carbon Cycle and Being Carbon Neutral

- [Carbon Cycle Game](#)
- [The Incredible Carbon Journey](#)

Energy

- [Off the Grid](#) – Check out activities *Power Your House with Water* or *Power Your House with Wind* under the Associated Activities sections.
- [Choices for Tomorrow with Optimal and Sustainable: Renewable Energy Revamp](#)
(Complete Fossil and Renewable Reading & Worksheets - and for extra fun challenge, the student activity)



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Use the following questions to guide your troop's discussion on understanding climate change. Consider conducting additional research to deepen your understanding.

Present the following topics in discussion:

1. *What is the Earth's Greenhouse Effect?*
 - What are the major greenhouse gases (GhG) and how do they contribute to a warming planet?
 - Identify the role and balance of Carbon Dioxide (CO₂), Water Vapor, Methane, NO₃ nitroxide in keeping our planet's climate stable.
 - What are the sources of these GhG?

2. *Understand the Carbon Cycle - What are carbon sinks and sequestration? Name a few.*

3. *What are the different forms of energy we use?*
 Energy is involved in creating all products, transportation modes, building lights, heating, and air conditioning. Explain why they have these names and list some in each category.
 - What is a fossil fuel? Where was most of the carbon previously stored before it became fuel?
 - What is an example of clean energy?
 - What is an example of renewable energy?

4. *What is the relationship between the objects we purchase and GhG emissions? Discuss the term Life Cycle Assessment and what it considers.*
 - Consider the materials they are made from and the packaging they are sold with.
 - Consider the distance the item traveled.
 - How long do we use the item, and can it be reused?

5. *What does it mean for a company or person to say "We are carbon neutral?"*
 - Is being "carbon neutral" enough to limit the impact of a changing climate on our society?
 - What do you think is the most effective way to convince companies, cities, and other organizations to minimize their carbon footprint?

Additional Resources:

Basic

- *The New Climate War: The Fight to Take Back Our Planet* Hardcover by Michael E. Mann 2021
- *Drawdown: The Most Comprehensive Plan Ever Proposed to Reverse Global Warming* Paperback – Illustrated by Paul Hawken 2017
- *The Uninhabitable Earth: Life After Warming* by David Walker-Wells ©2019 (overview of impacts)
- *What We Know About Climate* by Kerry Emanuel ©2007 & 2018 (not too long, good primer)
- *The Sixth Extinction* by Elizabeth Kolbert ©2014 (loss of biodiversity)
- *Merchants of Doubt* by Naomi Oreskes & Erik Conway ©2010 (who is shaping the policy narrative)

Topic focused

- *The Story of More* by Hope Jahren ©2020 (how the world should use less and share more)
- *The Water will Come* by Jeff Goodell ©2017 (focused on coastal cities globally, including Miami)
- *Windfall* by McKenzie Funk ©2014 (profiteering from climate inaction)

Novels

- *The Wall* by John Lanchester ©2019 (a dystopian novel)
- *The Overstory* by Richard Powers ©2018 (about the destruction of trees and forest)
- *Parable of the Sower* by Octavia Butler ©1993 (a classic from a teenager's perspective)

Note: Questions 4 and 5 are intended to help guide discussion related to the Connect and Take Action section.



CONNECT

- 1 We should think about waste in terms of “Reduce, Reuse, and Recycle,” in that order. Over the course of a week, conduct a garbage inventory to take a look at what is thrown out in your family’s trash and what is recycled. Weigh the amount of trash your family throws out. Weigh the recycling. How much is organic food waste? Estimate the amount per category: organic food waste, plastic bags and packaging, clothing, bulk items, etc. Compare this with teammates. Think of creative ways to reuse something that would become garbage and share your ideas and a prototype with your friends.
- 2 Using the [EPA’s Carbon Footprint Calculator](#), calculate your household’s carbon footprint. Then identify actions or habits that you could change to reduce your carbon footprint. Consider offsetting one week’s worth of your carbon footprint to an organization. What measures are not included in the calculator? Compare your results to your friends and discuss your findings with your family.
- 3 Pick three products that you love to use or buy. Identify the company that produces them and look up the company’s website to see if they have a social responsibility statement, or climate impact statement. Evaluate the efforts they claim to make toward environmental sustainability. Pick one and compose a letter to the company’s President, or appropriate Vice President of Operations, Corporate Responsibility, or Public Relations, explaining your appreciation or concern about their efforts to curb greenhouse gas emissions. Don’t forget to mention that you love their products and are a consumer.

TAKE ACTION

- 1 Reducing energy consumption at home, in schools, and at the workplace is an important strategy to reduce GhG emissions. Identify ways to conserve energy and create a clever video to encourage your friends and family to not waste energy resources. Post the video on your social media and see how many views and likes you can get.
- 2 Reach out to a climate advocacy organization in your region (Climate Reality Chapter, Growing Climate Solutions, Citizen’s Climate Lobby, the Southwest Florida Regional Climate Compact, the Conservancy of Southwest Florida, etc.) or nationally to learn the group’s goals, and the strategies they use to move policy action. Pick one that has a “call to action” and follow through on the commitment they ask. It could be writing a letter to a local paper, elected official, talking at a City Council meeting, or attending a rally. What would make the organization more effective and how can you help?
- 3 Learn about Renewal Energy, Renewable Energy Credits/Certificates, and Carbon Offset programs offered by your utility. Prepare a presentation about how they work and how they address climate challenges. Arrange to meet with two organizations in your area (local business, church, nonprofit, school) and explain the importance of supporting renewable clean energy options. See if you can get one organization to take steps to supporting clean energy options.

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