Today I Learned What I Can Do

Description:

Many of us want to do something to help slow or prepare for climate change. But what exactly can we do? Students are guided through an activity to find an action or idea that fits their skills, interests, and motivations. Then, students have a conversation about climate change with a friend or family member and reflect on the process.

Skills & Objectives

SWBAT

- Identify one climate-related action or idea that fits their unique interests, skills, and personality.
- Have a conversation with a friend or family member about climate change.

Skills

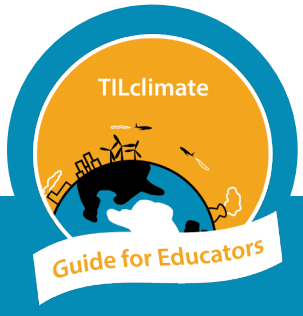
- Communication
- Self-reflection

Students Should Already Know That

- Climate change is caused by human actions, such as the burning of fossil fuels, that release carbon dioxide and other gases into the atmosphere. These gases act like a blanket, trapping heat. Trapped heat is changing Earth's climate, causing extreme weather, sea level rise, and more.

Standards Alignment:
CCSS.ELA-LITERACY.SL.1 Initiate and participate effectively in a range of collaborative discussions
CCSS.ELA-LITERACY.SL.6 Adapt speech to a variety of contexts and tasks

Disciplinary Core Ideas:
ESS2.A Earth Materials and Systems
ESS2.D Weather and Climate
ESS3.C Human Impacts on Earth Systems
ESS3.D Global Climate Change



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How To Use These Activities:

Pages with the circular "TILclimate Guide for Educators" logo and dark band across the top are intended for educators. Simpler pages without the dark band across the top are meant for students.

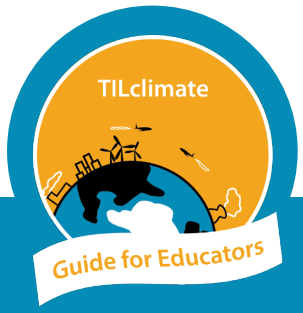
Each of the included activities is designed to be used as a standalone, in sequence, or integrated within other curriculum needs. A detailed table of contents, on the next page, explains what students will do in each activity.

A Note About Printing

All student pages are designed to be printable in grayscale

The worksheets do not leave space for students to answer questions. Students may answer these questions in whatever form is the norm for your classroom – a notebook, online form, or something else. This allows you, the teacher, to define what you consider a complete answer.

Podcasts in the Classroom: Throughout these Guides for Educators, we invite students to think about how they would share their learning with family and friends. One way to do this is to encourage your students to create their own podcasts - they're shareable, creative, and have multiple options for embedded assessment. We would love to hear any podcasts or see any other projects you or your students create! Email us at tilclimate@mit.edu, Tweet us @tilclimate, or tag us on Facebook @climateMIT.



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Detailed Table of Contents

Social-Emotional Learning

All climate change topics have the potential to be overwhelming or scary for students. The activities in this guide are more personal, so some students may find them more challenging from a social-emotional perspective. Consider:

- Discussion groups for both activities could be self-chosen, so that students can work with friends they trust.
- Sharing Venn diagrams should always be optional. While all students should join in the group discussions, they may make their comments more general.
- If a student is finding the Venn diagram activity challenging, they may fill out the diagram for a book or TV character or a character of their own making.
- Give enough time in the climate change conversation assignment for students to find someone they feel safer talking with – it may not be possible to have a conversation that night at dinner.
- Climate change conversations do not have to happen in person or out loud. Text or chat may be just as effective if it is the student's normal style of communication.

For more information on trauma-informed climate education, see pages 6&7 "How to Use TILclimate Educator Guides" (included with this guide or accessible from http://climate.mit.edu/til-what-i-can-do-educator-guide)

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Climate Engagement

This Educator Guide includes two activities and discussions. Educators may pick and choose among the pieces of the Guide, as suits their class needs.

Parts of this Guide may align with the following topics:

- Life/environmental science: Climate change as a socio-environmental issue
- History/social science: Climate change in the news, social movements, climate justice
- ELA/literature: Connections to climate fiction
- ELA/nonfiction: Conversations and clear communication.

MIT Resources

We recommend the following as resources for your own better understanding of climate change or as depth for student investigations. Specific sections are listed below:

- Climate Science, Risk & Solutions, an interactive introduction to the basics of climate change. https://climateprimer.mit.edu/
  - Chapter 02 The greenhouse effect and us
  - Chapter 04 The climate is always changing
  - Chapter 06 Predicting climate
  - Chapter 08 What are the risks?
  - Chapter 10 What can we do?
- MIT Climate Portal Explainers are one-page articles describing a variety of climate topics. New Explainers are posted every month. https://climate.mit.edu/explainers
  - Climate-Resilient Infrastructure
  - Sea Level Rise
  - Urban Heat Islands
  - Coastal Ecosystems and Climate Change
  - Cities and Climate Change
  - Greenhouse Gases
  - Renewable Energy

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Wrap-Up Discussion Questions

- Why did Dr. Johnson choose these three circles for her model? Can you think of others that would also work?
- What story in the podcast episode stuck with you? Why?
- What might you do differently next time you have a conversation about climate change?
- What would make it easier to have these conversations in the future?
- What were some of the best things that happened in people's conversations?
- Why is it important for people who are not climate experts to talk about climate change?
- What stories have you heard of people who weren't involved in climate action getting involved? What caused them to begin?

Climate Solutions

Climate solutions can be thought of as falling into four categories outlined below. Across all categories, solutions at the community, state or federal level are generally more impactful than individual actions. For example, policies that increase the nuclear, solar and wind mix in the electric grid are generally more effective at reducing climate pollution than asking homeowners to install solar panels. For more on talking about climate change in the classroom, see "How to Use This Guide".

- **Energy Shift**
  How do decision-makers make the switch from carbon-producing energy to carbon-neutral and carbon-negative energy?
- **Energy Efficiency**
  What products and technologies exist to increase energy efficiency, especially in heating and cooling buildings?
- **Adaptation**
  How can cities and towns adapt to the impacts of climate change?
- **Talk About It**
  Talking about climate change with friends and family can feel overwhelming. What is one thing you have learned that you could share to start a conversation?

What solutions are the most exciting in your classes? We would love to hear from you or your students! Images, video, or audio of student projects or questions are always welcome. Email us at tilclimate@mit.edu, Tweet us @tilclimate, or tag us on Facebook @climateMIT.

Today I Learned What I Can Do

Many of us want to do something to help slow or prepare for climate change. But you might not want to be a climate activist, researcher, or politician. Perhaps you really want to be a chef, children's book author, engineer, or deep-sea diver. Since climate change touches all our lives, there are opportunities for everyone to be involved.

Dr. Ayana Elizabeth Johnson (a marine biologist, policy expert, and writer) suggests that people looking to make a difference draw a Venn diagram with three overlapping circles:

What Brings Me Joy? The exercise begins with joy, because it can be a source of energy in work that might otherwise feel overwhelming or scary. What keeps you energized and passionate? Is it being outside, music, your family, your friends? Without joy, climate action can lead to burnout.

In the podcast episode, Emily Her says, "There's so much power in your voice. You might not understand that until you actually go out and do something."

What is the Work That Needs Doing? Climate change has impacts and solutions in all parts of life. No one person can work on everything. Which challenges and solutions are you the most excited about? Solar power, helping your community adapt to sea level rise, participating in international negotiations, collecting weather data, or something else?

As Rev. Mariama White-Hammond says in the episode, "I don't think everybody needs to … stop what they're doing and work on climate change exclusively. I think what they need to do is integrate a response to climate change … into everything else that they're already doing."

What Am I Good At? What is the 'magic' that is uniquely yours? What skills, resources, networks, or influence do you have? Do you make hilarious videos, love to solve engineering problems, or know leaders in your community? If you find it difficult to list your skills and resources, switch worksheets with a trusted friend or family member. Boost each other's best qualities.

You heard Linda Cheung say, "I do think the individual has a lot of power when it comes to influencing their networks. Everyone has something unique to offer to this movement and whether it be through your job or through your hobby or through your voice - everyone can do something."

The union (middle overlap) of your Venn diagram will give you some ideas of ways you could be involved. For some people, this exercise may change their career path. For others, work on climate change may be related to their hobby or a community they are a member of. People's Venn diagrams may shift over time or depending on what issue they are thinking about. On the following pages, find a few examples and then a blank for yourself.

Concept and language inspired by Dr. Ayana Elizabeth Johnson, https://www.ayanaelizabeth.com/
Images from The Noun Project by Nathaniel Smith, Ardiezt, and Paul Verhulst

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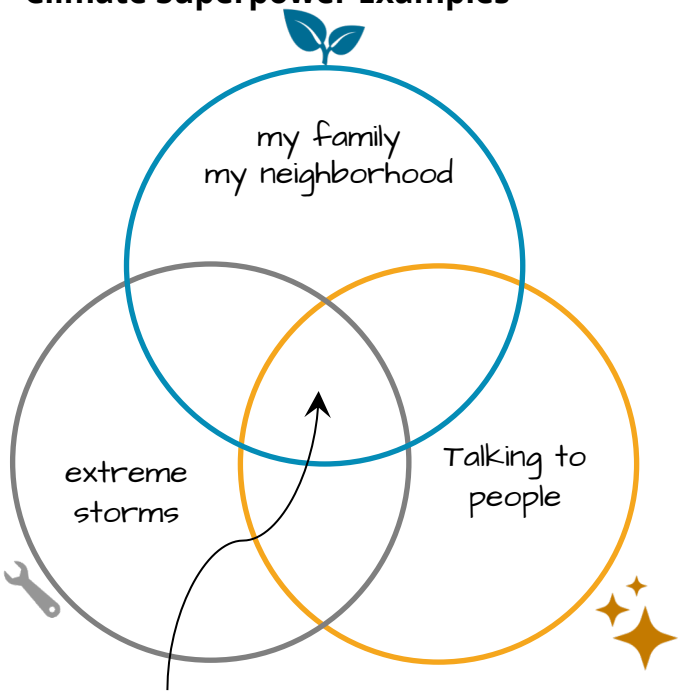
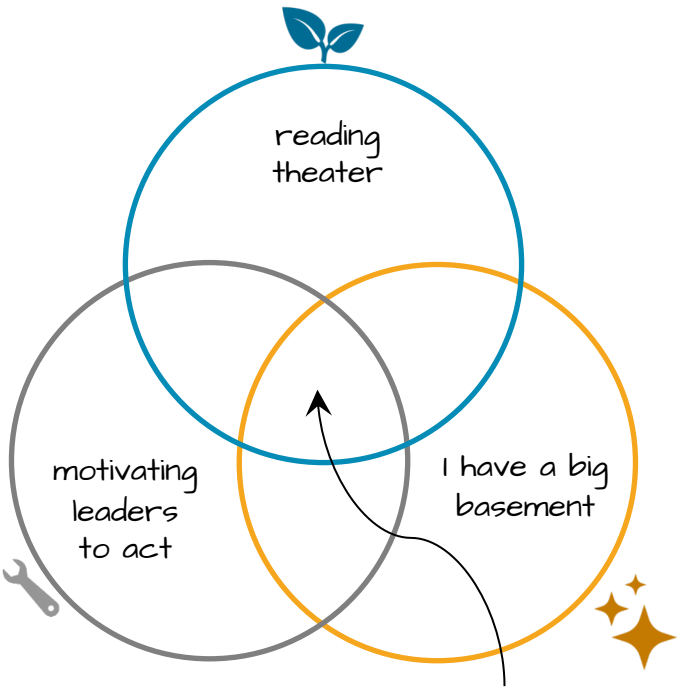
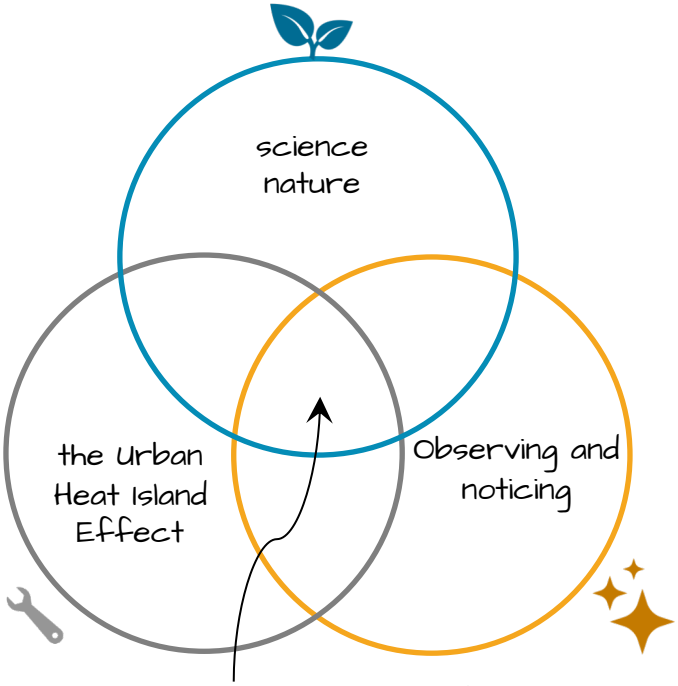
Climate Superpower Examples



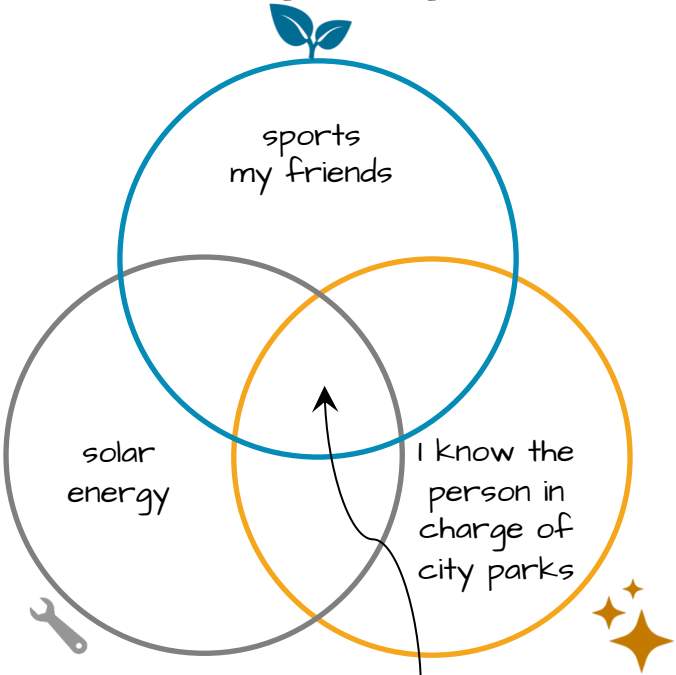
I can make sure my neighbors all have plans and buddies if there's a storm.



I can host a sign-making party before a climate protest - even though I don't go to protests.



I can join a project to collect data on my phone for scientists studying heat.



My friends and I can meet with the parks department - we should power field night lights with solar panels.

Concept and language from Dr. Ayana Elizabeth Johnson, https://www.ayanaelizabeth.com/

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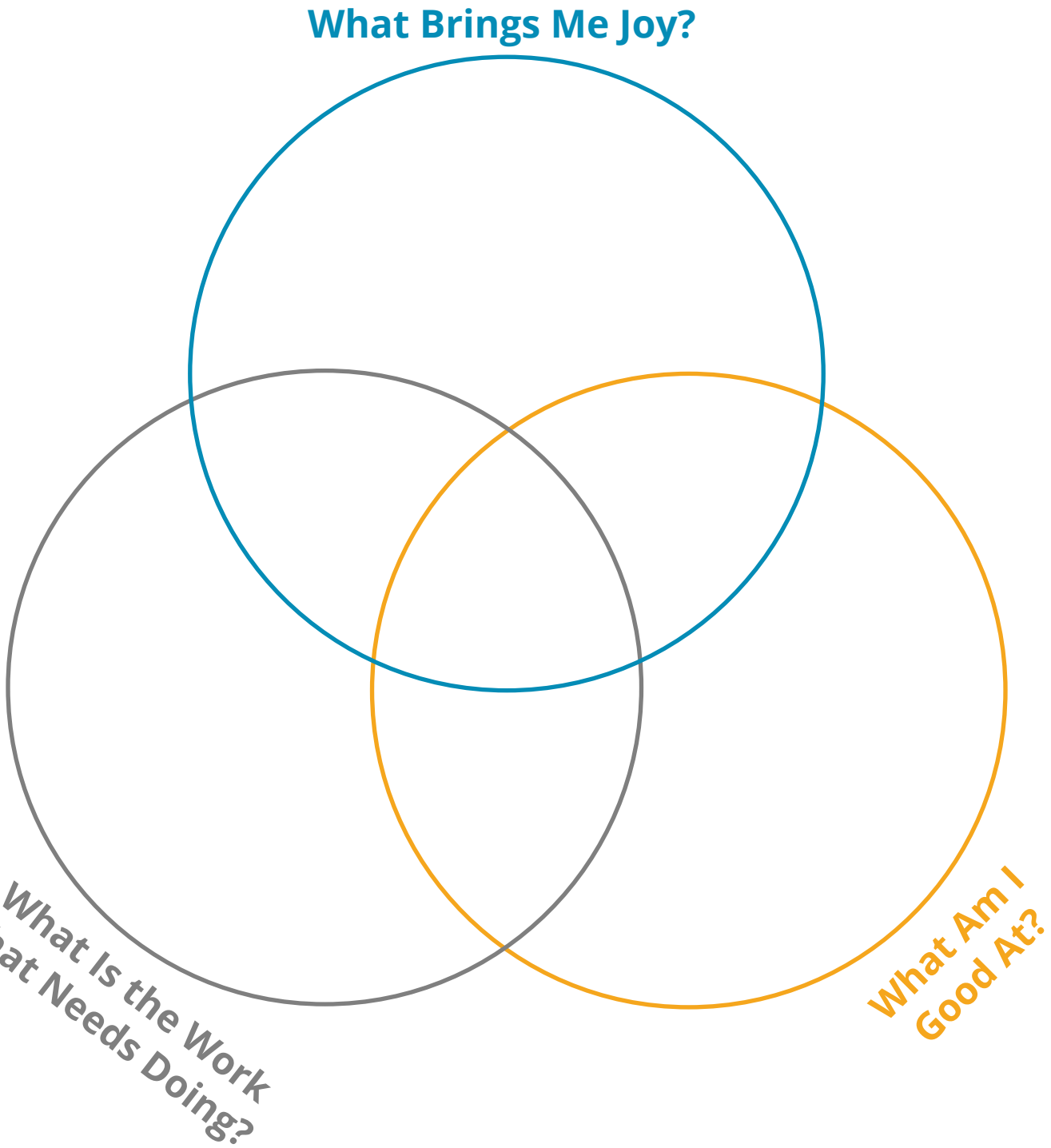
What Is Your Climate Superpower?



Concept and language from Dr. Ayana Elizabeth Johnson, https://www.ayanaelizabeth.com/

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"You are a citizen, a member of a company or organization, a member of communities. You have skills and connections and topics that you're passionate about. So my question to you is: how can you leverage these to make a difference beyond your own household?"
Laur Hesse Fisher, MIT Environmental Solutions Initiative
TILclimate podcast: Today I Learned What I Can Do

Your Place in the Action

As you work on your Venn diagram, consider:

1. Which circle is the most difficult to fill in for you?

- *What brings you joy?* Think about what activities, groups, or ideas get you excited. Ask your friends or family what topics they know they can always get to you talk about.
- *What are you good at?* Think about skills, but also networks and resources. Ask your friends or family what shines about you.
- *What is the work that needs doing?* What topics in climate change are you the most interested in or concerned about? Be as specific or as broad as you like.

2. Is the thing in the center of your Venn diagram a career or an action? It could be either or both – for some people, climate action is what they do all day. For others, it is worked in with their other interests, activities, and responsibilities.
3. Your Venn diagram will change over time and depending on context. The first time you do this exercise, you might have trouble finding something at the center. As you keep working on it, talking to others, and learning more, it will get easier.

Group Conversation

In a small group, share your diagrams and what you have been thinking about. It is okay if your diagrams aren't complete, or if you are still struggling with how to define the three circles. Work together to discuss:

- What are some kinds of actions you have heard about? How would they fit into someone's Venn diagram?
- Imagine you were making a Venn diagram for a friend, family member, or celebrity – what would be in the center for them?
- Why did Dr. Johnson choose these three circles for her model? Can you think of others that would also work?
- What story in the podcast episode stuck with you? Why?

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"You will always have some people are super engaged want to do a lot. The question is can you have your work trickle down to the people who maybe didn't hear? Can you make them excited about it? Can you help them to see an impact that they wouldn't have seen naturally?"

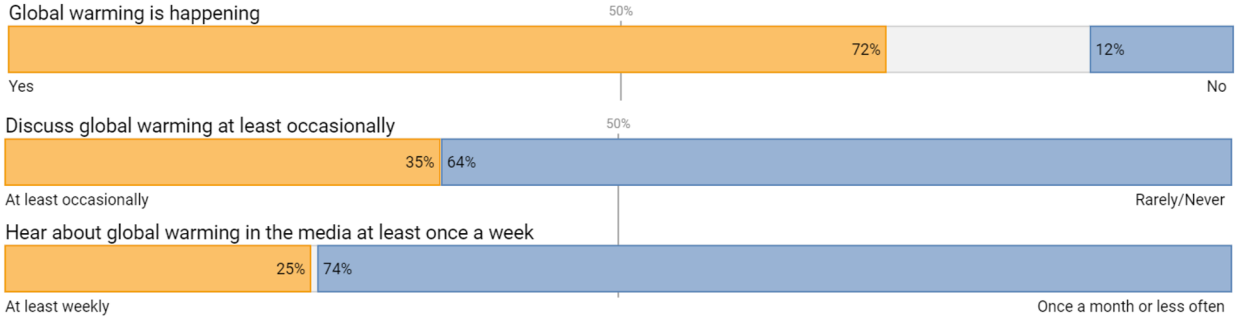
Rev. Mariama White-Hammond

TILclimate podcast: Today I Learned What I Can Do

Who Is Thinking About Climate Change?

According to the Yale Program on Climate Change Communication, 72% of American adults understand that global warming is happening and 63% are worried about it, but only 35% discuss it with anyone, and even fewer (25%) hear about global warming in the media.[1] This means that many people feel that they are alone in thinking and worrying about climate change.

In media, we are often presented with an 'equal sides' debate about climate change. However, the same scientists at Yale University have found that only 8% of American adults are convinced that climate change isn't happening and isn't human-caused. More than half (55%) of American adults are either 'alarmed' or 'concerned' about climate change – and that number is growing.[2]



Talking About Climate Change

As you learn about climate change, you may learn things you would like to share with friends or family – but you may be nervous about starting the conversation. We hear about climate change so little in the news, and much of the time what we hear makes us think that no one agrees that it is happening. But as we know from the studies above, this just isn't true. On the next page, there are some guidelines for having a successful conversation about climate change with a friend or family member.

Take a chance. Try it out. You may find that your conversation partner is eager to learn – and even more eager to share what they have been thinking about!

1 Yale Climate Opinion Maps 2020 https://climatecommunication.yale.edu/visualizations-data/ycom-us/
2 Global Warming's Six Americas 2020 https://climatecommunication.yale.edu/about/projects/global-warmings-six-americas/
Image from Pixabay

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Plan for Success: Talking About Climate Change

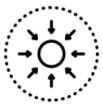
There are techniques that can best set you up for success in a conversation about climate change. Read through the following six concepts. Then, on the next page, match the ideas to the quotes.

Listen First You may be excited about what you have been learning about, but if you come to the conversation already talking, you may overwhelm or alienate the person you are talking to. Ask questions and listen first.

Lead with Values What are the values you and the person share? Do you both believe in protecting people and places from harm? What about managing Earth's resources responsibly? Connect to shared values and beliefs.

Tell a Story Facts and figures may have their place in a science classroom, but in day-to-day life most people understand stories better. Use a metaphor to explain the science you want to share or tell a story about a community that found a solution you are excited about.

You Do Not Need to Be an Expert We talk about what to cook for dinner even if we aren't five-star chefs. You do not need to know everything about climate change to be able to talk about it. If questions come up in conversation, all the better – now you have a reason to continue your conversation another time!



Be Specific It is easy to find yourself listing every possible impact from climate change – the list is long and overwhelming! You and your conversation partner are more likely to have a successful talk if you focus on just one or two topics.

Balance Worry with Hope Conversations about climate change can be overwhelming and scary. Share stories of solutions you have learned about or imagined. Talk about the people whose work you are excited about.

Images from The Noun Project by Rediffusion, Larea, Kraya, Francisco Garcia Gallegos, WebTechOps, and KP Arts

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Try It Out: Talking About Climate Change

Match the ideas from the previous page with the quotes on this page. Some quotes may connect to more than one idea.

"I really want to make sure our community stays safe as the climate continues to change. What do you think we should do to protect our neighborhood?"

"I'd love to tell you about some things I've been learning about climate change. What have you been hearing or reading about it?"

"That's a really good question. I don't know the answer, but I bet we could find a resource."

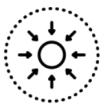
"I've been learning a lot about sea level rise, so it's the climate change impact I'm most interested in right now."

"They're working on restoring the salt marshes around the harbor – they're a natural sponge, absorbing extra water during storms and protecting the land behind them."

"When we burn fossil fuels like coal, oil, and natural gas, it releases carbon dioxide into the atmosphere. Carbon dioxide acts like a blanket around Earth, trapping heat. This trapped heat is warming our Earth, air, and ocean."

"It sounds like you're worried about storms. Did you know our city has an emergency preparedness plan, and they are looking for neighborhood captains?"

"I heard about this really cool project that is building a new park that will protect the neighborhood from flooding while also giving people a safe park to play in."



"Part of the reason the sea level is rising is that warmer water molecules move around more and take up more space – like people on a dance floor with a faster song."

"Oh wow, I had never thought about that. I will ask my classmates and teacher tomorrow – maybe one of them has heard about it."

"I was really excited to see more solar panels going up along the highway. It seems like such a good use of that space."

"It is important to recycle, but I'm much more interested in how our electricity is made and if that is adding to the carbon dioxide blanket."

Images from The Noun Project by Rediffusion, Larea, Kraya, Francisco Garcia Gallegos, WebTechOps, and KP Arts

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"We hope that in listening to these stories, you'll find your own way to lend your voice your effort towards something bigger: the collective action that we need to move the needle on climate change."
Laur Hesse Fisher, MIT Environmental Solutions Initiative
TILclimate podcast: Today I Learned What I Can Do

Before You Talk

As you prepare to have a conversation with a friend or family member, consider:

1. Do you already know anything about this person's thoughts about climate change? If this is your first time discussing climate outside of class, choose someone who you think might be open to the conversation.
2. Practice a few key phrases: What metaphors, stories, and values do you want to use?
3. What are your goals for this conversation? Do not plan to go from climate skeptic to climate activist in one afternoon.

After Your Conversation

After you have your conversation, take a few minutes to reflect:

- Did anything surprise you?
- What was your favorite part of the conversation?
- What would you do differently next time?
- Did any questions come up you didn't know the answer to? How might you find answers?

Group Discussion

In your small groups, share the best and most challenging parts of your conversations. As a group, consider:

1. What might you do differently next time you have a conversation about climate change?
2. What would make it easier to have these conversations in the future?
3. What were some of the best things that happened in people's conversations?