

## *Key Climate Principles Educational Overview (Appendix B)*

For 8-12 year olds, learning about climate change—its causes, consequences, and solutions—in a clear and concise way can help young people understand and process the world around them and the world they will inherit. It can help build knowledge essential for future understanding, well-being, citizenship, and economic success. Children will understand that our changing climate is reshaping our world and working together we can make the changes we need. With foundational understanding, children will be able to discern effective solutions to address the main causes and main impacts of climate change.

This includes:

- **The Base:** Understanding that our atmosphere has created the just right climate for life to thrive
- **The Change:** Understanding that we are changing our atmosphere with carbon pollution, trapping more heat and making our planet hotter
- **The Consequences:** Understanding the changing climate impacts people all across the world in many ways
- **The Causes:** Understanding the main causes of our carbon pollution—our decisions on electricity, transportation, manufacturing, buildings, agriculture, and land-use
- **The solutions:** Understanding that we can advance solutions to reduce carbon pollution and adapt to a changing climate and that this requires individual and collective change

### **Best Practices**

- **Make it relatable:** Ground stories in the real experiences of kids.
  - For instance, outdoor recess being canceled from wildfire smoke, schools closing for heat days, changing to electric school buses, these are all things that are in kids lives so it can help them understand the connection between climate change and their lives.
- **Connect problem to solution.** Connecting the problem to the solution can help build understanding of what can be done.
  - For instance, if a story focuses on carbon pollution from electricity, it can also show how we can get electricity from clean sources like sun and wind and how we use less electricity in our homes—turning off lights, not turning up the AC or heat too high.
  - If a story focuses on how we can prepare for the way climate change impacts us, it could talk about if it is too hot we might need to stay inside in the middle of the day, stay in the shade if outside, drink water, or go to the playground at a different time of day.

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### **Best Practices (con't)**

- **Connect the need for individual and collective action.** Recognizing that we need to do things ourselves and we need to do big things together is an important focus.
  - For instance, it makes a difference to reduce our carbon pollution with transportation if we walk, bike, or take the bus more, and it makes an even bigger difference if everyone in your community did or if your school got electric school buses.
- **Use images.** Showing visuals alongside the concepts will help support understanding.
- **Keep it simple.** Focus on conveying these messages in a simple, clear, and direct way to help dispel the notion that they are too complicated for people to understand.
- **Define terms.** Words like atmosphere and heat-trapping gasses may be new for children. Being sure that the visual imagery and script help to define the terms can support understanding.

### **Examples:**

Below we provide some examples of key ways climate change is impacting young people and solutions we can advance.

#### ***It's changing now. Examples of how climate change impacts kids:***

- Schools closed for “heat days”
- Homes and schools wrecked in floods, wildfires, and storms
- Allergies and asthma getting worse
- Recess and outdoor activities canceled because of heat or smoke
- Playgrounds being too hot
- Changes in the ocean becoming hotter
- Hear stories on the news about storms, wildfires, heat, and other extreme weather
- Evacuating homes for wildfires or hurricanes

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### ***It's us. Examples of carbon pollution:***

- **Electricity (how we power on):** Pollution comes from the burning of fossil fuels, like coal, oil, and natural gas to make electricity. It comes from both how we make electricity and how we use electricity in our homes. Electricity helps us turn on lights, do laundry, charge ipads, watch tv, and more.
- **Transportation (how we get around):** Pollution comes from burning fossil fuels to use cars, trucks, airplanes, boats, and trains.
- **Manufacturing (how we make things):** Pollution comes from how we make the stuff we use. When we make stuff like cement for sidewalks, plastic for toys, or clothing to wear, it uses a lot of energy and has reactions that make pollution.
- **Food (how we grow things to eat):** Pollution comes from how we grow crops and raise animals for food. The way we take care of the soil and even cow burps release carbon pollution.
- **Buildings (how we live):** Pollution comes from burning fossil fuels to heat and cool homes and buildings or to cook on the stove top. It also comes from how we get rid of our trash and food waste.
- **Land-use (how we change the land and take care of nature):** Trees, wetlands, rainforests, grasslands, mangroves, and the ocean help us by absorbing carbon pollution. But if we cut down trees and rainforests and hurt natural habitats, they can't help us get rid of carbon pollution.

***But together, we can make the changes we need for a better future.***

### ***Examples of solutions:***

In each case, we provide examples of how action can be taken at different levels (system, schools, and home) to help generate examples for individual and collective action.

- **Talk about it! We can talk about why we care and what we are doing. This can be one of the biggest ways to make a difference.**
- **Electricity: We can reduce our carbon pollution by changing how we power on**
  - System examples: Making electricity from renewable sources, like solar and wind;
  - School and home examples: Can add solar panels to get electricity from the sun and try to use less electricity by turning off the lights or powering down electronics

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- **Transportation: We can reduce our carbon pollution by changing how we get around**
  - System examples: Making more vehicles that can run on clean energy, like electric cars; Make public transportation easier to use; Make communities more walkable
  - School examples: Electric school buses; walking days; or “bike buses” where students bike together
  - Home examples: Take public transportation, walk, scoot, or bike more, electric cars
- **Manufacturing: We can also reduce our carbon pollution if we change how we make things and buy things**
  - System examples: Use less energy to make things; reuse old materials to make new things;
  - Home and schools: Buy fewer new things, reuse, repair, or repurpose stuff you already have, buy second-hand, buy from companies that reduce their pollution.
- **Food: We can also reduce our carbon pollution if we change how we grow things and eat**
  - System examples: Farms can change how they take care of plants and animals
  - School and home examples: Eat more vegetables, get food from local farms or farmers markets, school, family, or community gardens
- **Buildings: We can also reduce our carbon pollution if we change how we live**
  - Schools and home: Switch out heating, cooling, and cooking systems that burn fossil fuels with heat pumps or induction stoves that run on clean electricity; reduce waste by reusing or composting food waste, reusing, recycling, or repurposing clothes, toys, and materials
- **Land-use/nature: We can also reduce our carbon pollution if we change how we take care of nature**
  - Systems, schools and home: Protect natural habitats, plant native plants, plant trees

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- **Prepare: We can prepare for and adapt to the ways climate change might impact us.**
  - System and school examples: Better understand how climate change will affect communities to put plans in place to keep people safe, like when is the air or heat safe for kids to be outside; create cooling centers or safe places for people to go
  - Home examples: Learn about how climate change is impacting your community; look for the helpers, create a plan at home, and follow guidelines for parents, teachers, and caregivers; find new times to go to the playground if its too hot; stay inside if the air has wildfire smoke; check on friends to make sure they are OK
- **Learn: We can learn about new jobs and come up with new ideas to help our families, our communities and the world.**
  - School examples: Teach about taking care of nature, climate change and solutions; the new jobs being created;
  - Home examples: Explore, learn, create, and try new things to help us all build a more sustainable world and talk about why you care and what you are doing.