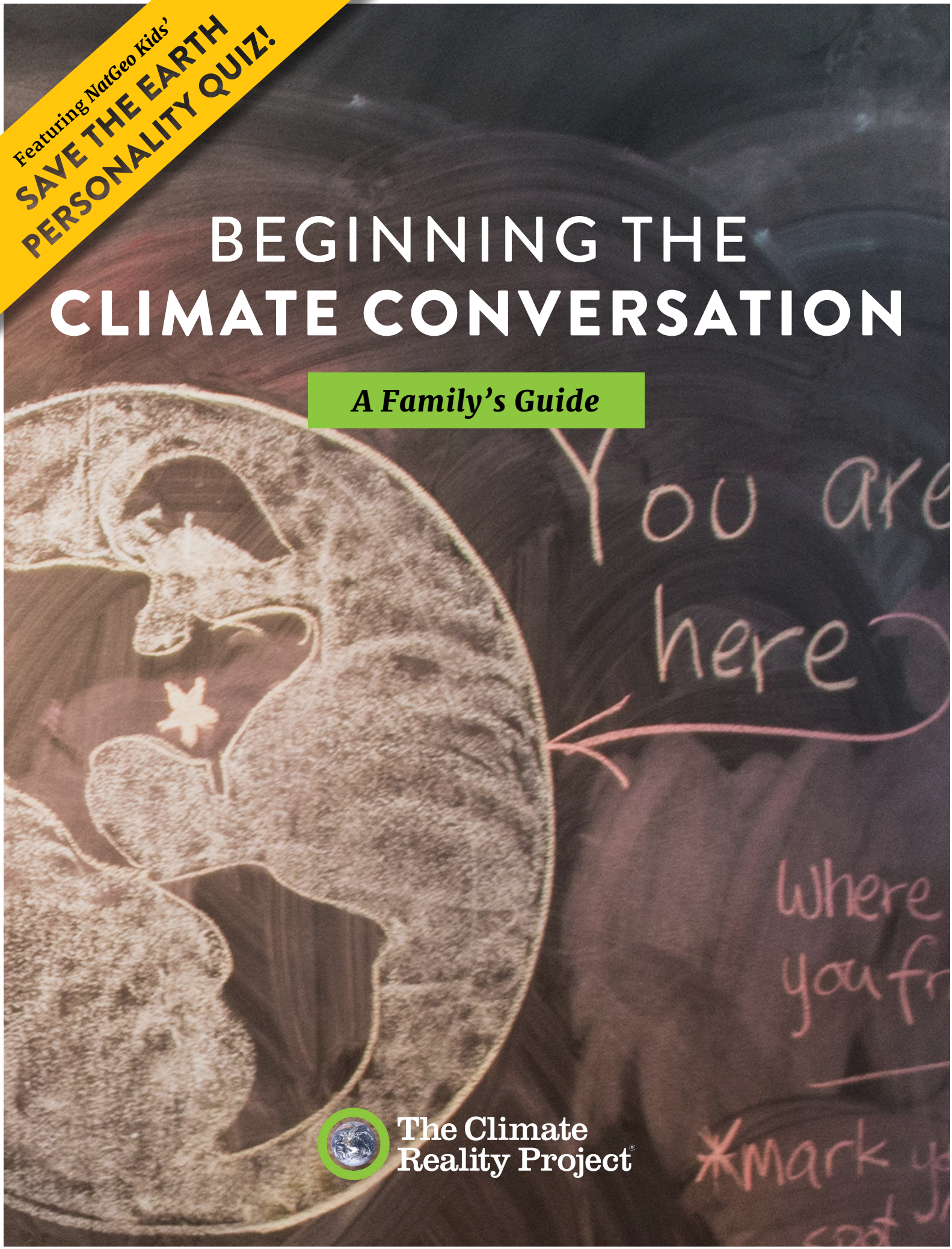
Featuring *NatGeo Kids'*
SAVE THE EARTH PERSONALITY QUIZ!

BEGINNING THE CLIMATE CONVERSATION

A Family's Guide



The Climate Reality Project®

INTRODUCTION

There's no way around it: discussing the climate crisis with young children can be a major challenge. It's an issue so big many adults aren't able to comprehend its scope. One so serious the literal future of life as we know it is at stake.

That's a lot to wrap your head around. Especially if you're a kid and your biggest concerns should involve playgrounds, snack time, or beating your friends at Mario Kart 8.

But nevertheless, here we are. Climate change is a truly global concern, and with news stories appearing daily, awareness at a record high, people on both sides fired up, and the hard work toward solutions really only just beginning, it isn't going away soon.

And of course, kids today will face the challenges of a warming world head-on. They have a right to understand the realities of the climate crisis and what it means for them – and as a parent, guardian, and/or caregiver, you have a responsibility to provide that knowledge as best you can.

But when? And how?

THAT'S WHERE WE COME IN.

In this guide, we discuss when to start the climate conversation and how to approach the topic with children. It is not designed as a substitute for formal science instruction. Our goal is to help you navigate a tricky topic so your children can grow into informed young people excited to learn more about how they can make the world a better place.

FIRST, KNOW YOUR FACTS

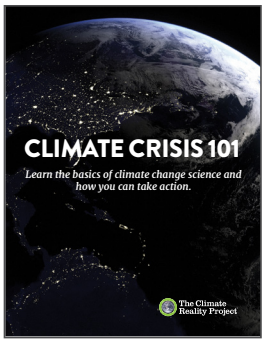
Climate change can be an incredibly complex, multi-faceted topic. But the basic truths of the crisis – that the science overwhelmingly demonstrates that modern global warming is a man-made phenomenon, for example — are readily accessible to everyone.

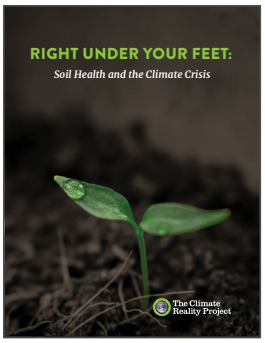
So while an advanced science degree isn't required to share the fundamentals of how climate change works, a commitment to objective facts is. Discussions of climate, even among otherwise rational people, can sometimes become clouded with misinformation and denial, making it more important than ever to first consult evidence-based science.

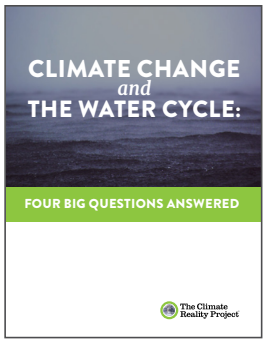
Though you're not looking to undertake a science lesson, you are looking to have a productive conversation about the crisis with your child – and that means knowing what you're talking about. Kids are curious, so you've got to be as prepared as possible for any number of possible questions.

While this resource focuses on when and how to begin talking about climate change with children, The Climate Reality Project has created a number of easy-to-read informational pieces about the science of climate change and its impacts. Use them to reacquaint yourself with the facts and to brainstorm points of entry for your discussions. The more you know, the better.

CLIMATE REALITY EDUCATIONAL RESOURCES:







CLIMATE CRISIS 101: HOW YOU CAN TAKE ACTION: In Climate Crisis 101, we outline the basics of climate change in plain language, and provide tips on how to take action. This resource answers key questions like: What do we mean by "climate change"? What are the causes of climate change? And how do we know climate change is happening?

RIGHT UNDER YOUR FEET: SOIL HEALTH AND THE CLIMATE CRISIS: We're already beginning to see what a warmer future has in store for us – and it's not a pleasant sight. Learn more about climate change's impact on soil health, what's at stake, and what you can do to support a world where we can provide our booming population with fresh, healthy food grown in a sustainable soil ecosystem.

CLIMATE CHANGE AND THE WATER CYCLE: FOUR BIG QUESTIONS ANSWERED: The climate crisis is impacting weather patterns and the water cycle in dangerous ways. Some of these impacts can be hard to understand. Why does climate change increase our risk of both heavy rains and extreme droughts? Aren't the two contradictory? Get the answers to these questions and much more.

EXTREME WEATHER AND THE CLIMATE CRISIS: WHAT YOU NEED TO KNOW: Is climate change really making weather more extreme? The simple answer is yes. In this e-book, we explain in plain language how burning fossil fuels is driving climate change and making our weather more intense and dangerous.

HAVING THE TOUGH TALK

“One of the toughest jobs of parenting is talking to your kids about difficult subjects. It’s hard enough to explain when Mr. Teddy Bear gets eaten by the washing machine. Or how their bike got stolen at school,” Common Sense Media writes. “It feels impossible to put into words the really big issues, such as violence, racism, drugs, and other weighty topics.”

Climate change is one such topic – and choosing the right time to begin talking to your child or children about the crisis is an important decision.

While many kids may not be fully equipped to truly tackle the science and stakes of the climate crisis until they’re well into elementary school, you can lay a foundation for future learning by engaging in straightforward-but-age-appropriate discussions about some important climate fundamentals.

WHEN TO START THE CONVERSATION?

As any parent knows, if a child wants to know something, they'll ask.

Michelle Nijhuis, a writer whose work has appeared in *National Geographic* and the *New Yorker*, advocates for letting the child decide when they are ready to talk about the issue.

"Too many of the climate-change education materials I see deprive kids of that choice," she writes. "When we explain to elementary-school students why the sea ice is melting and polar bears are starving, are we truly satisfying their curiosity — or are we just sharing our own burdens of worry and responsibility?"

Your young child will ask you a question related to our changing climate. It may come after hearing something directly during a play date or preschool, or through their own observation, perhaps following a strong storm or after seeing activists collecting petition signatures in a public park. And of course, we live in a time when even the youngest kids can sometimes be exposed to really serious stories by simply flipping through TV channels looking for their favorite shows.

So when your child begins to ask questions about global warming or climate change, be sure to not ignore their curiosity – it could diminish their long-term interest or come off like you don't think climate change is a big deal (and, to follow, neither should they).

Instead, acknowledge their interest and find out what they already know.

You might simply ask, "What have you heard?" This gives your child agency, allowing them to explain what they think they understand (or misunderstand) as well any worries that may have prompted the question.

With that information at hand, you now have a jumping-off point to begin your own discussions about our warming world.

WHAT TO SHARE

An important first step in knowing what information is appropriate to share is understanding that children progress through different stages of cognitive development.

The gold standard here was created by Swiss psychologist and genetic epistemologist Jean Piaget, who posited that normal intellectual development progresses through four stages, from infancy through adulthood.

Piaget's Four Stages

While Piaget acknowledged that "some children may pass through the stages at different ages than the averages … [and] some children may show characteristics of more than one stage at a given time," he was resolute that intellectual development "always follows this sequence, that stages cannot be skipped, and that each stage is marked by new intellectual abilities and a more complex understanding of the world."

Piaget's four stages of cognitive development and the characteristics of each stage are as follows:

- **Sensorimotor** (birth through ages 18-24 months) – Learning is based on experiences through trial and error.
- **Preoperational** (ages two to seven) – Language, memory, and imagination develop. "Intelligence is both egocentric and intuitive."
- **Concrete operational** (ages seven to 12) – Awareness of the outside world and events, and the "logical and methodical manipulation of symbols," takes hold.
- **Formal operational** (adolescence through adulthood) – A grasp of abstract concepts and an ability to make hypotheses is found, and the use of symbols to relate to abstract concepts materializes.

For the remainder of this e-book, we will focus largely on communicating climate change to children in the preoperational stage (ages two to seven).

Children in the sensorimotor stage are mostly unable to find their noses, so a delicate conversation about why the world is heating up is more likely to elicit a coo than intellectual curiosity.

Meanwhile, kids in the concrete and formal operational stages are likely to be at varying levels of their formal science education. They're able to think abstractly about complex issues, and "are ready to learn about current events, including global warming," according to educational publisher Scholastic.

These learners are ready to take the next, more-advanced step in their climate educations – one requiring a high degree of pedagogy.

That's why we're focusing on the earlier, formative preoperational stage. This is your opportunity to instill – in a personal, less-formal way – a foundational and age-appropriate introduction to climate change that will set them up well for later learning and could inform their perspective on the crisis for years to come.

Meeting Your Learner Where They're At

During the preoperational stage, according to WebMD, "young children are able to think about things symbolically. Their language use becomes more mature. They also develop memory and imagination, which allows them to understand the difference between past and future, and engage in make-believe."

Children of this age, however, do struggle with logic and more-complex concepts, including comparison and cause-and-effect. This is important to keep in mind, because at even its most reductive, discussions of climate change often zero in squarely on comparing the present and future against the past.

The California Department of Education notes that by about age three, children demonstrate a low-level understanding of basic cause and effect "by making predictions about what could happen and reflect[ing] upon what caused something to happen."

So, none of this is to say you can't get them there – just that it may take a little more time and engagement, and that you should set your bar for what you'd like to convey to them (and what you expect them to gain from it) accordingly.

And while they may be less able than older children to immediately connect the dots between fossil fuel emissions and our warming world (the greenhouse effect may be out of their reach), you can definitely engage children ages two to seven in a way that provides key concepts that will make later learning easier as well as engendering an interest in protecting the natural world. You can get them to a point where they want to know more so they can take action – like the superhero they are.

At the outset, as you begin to brainstorm ideas on ways you might go about introducing your child to elements of the climate crisis, remember to:

- **Keep it simple.** The climate crisis is an overwhelming topic in almost every way – the science can get complicated fast and the consequences are life-altering. Kids this age are unable to grasp multifaceted topics. Choose your words carefully so you don't overwhelm them with overly complex or scary information.
- **Make it personal.** Children in the preoperational stage of cognitive development are egocentric – they struggle to see any situation from a point of view other than their own. This renders stories about faraway people and places less impactful to them than they might be to an adolescent, who has developed

abstract thought and more-complex emotions like empathy.
By focusing on the natural world right outside their own front door, or things that play to their existing interests, you may have better luck communicating the stakes of the crisis.

- **Stress that they are safe.** Any discussion of the climate crisis can get a little scary pretty fast, particularly if your child's first exposure to it comes not from you but from a news story they don't understand. While being careful to not minimize or discount their fears, reassure them that they are safe, that grownups are on the case, and that it's your job to protect them – and you're very good at doing just that.

It's also important to frame your discussions on the topic hopefully. Yes, climate change is a large and urgent challenge, but we are far from powerless against it. **Doom and gloom are not your friend.**

Common Sense Media offers a number of additional, more specific tips for talking to kids about difficult or charged subjects like climate change, including:

- **Avoid news stories on climate change.** Most television news is created for an adult audience. Do what you can to limit their exposure to age-inappropriate material.
- **Address their feelings – and yours.** Let them know that feelings like fear, sadness, and confusion are normal and natural when talking about big topics. And that you feel them as an adult too.

- **Use vocabulary and relationships they understand.** Very young children are unlikely to know in any concrete way what the atmosphere is. Same with the polar ice caps. But the "sky"? They know what that is. And they probably know where Santa Claus lives too.
- **Leave your own biases at the door.** Avoid condescending terms or tone as well as editorializing unless it's relevant to your discussion. Be as straightforward as possible.

For children ages eight and under, Scholastic encourages you to "strive to strengthen his or her relationship with the environment so that when the time comes, he/she will have already developed a passion and appreciation for nature." Taking your child camping, allowing them to garden, and (perhaps particularly) reading books about our oceans, forests, plants, and animals will instill values to "help your child become a protector of the planet and a better learner."

*Take advantage of your child's current interests by discovering whether they are a **Habitat Hero**, **Biodiversity Champion**, **Climate Change Warrior**, or **Pollution Preventer** with National Geographic Kids' Personality Quiz now. Then, use the outcome to lean into their environmental interests to introduce them to foundational, standalone elements of climate science, impacts, and solutions.*

NATIONAL GEOGRAPHIC KIDS

PERSONALITY QUIZ

By Kay Boatner

Courtesy of *National Geographic Kids*

Attention all Earth lovers: You know this planet is an amazing place to live ... but it needs your help. If every Nat Geo Kids reader takes action, just think what we can accomplish together.

But first, take our quiz to see which challenge you're most suited to tackle. Then get going. There's a planet to protect!

SPEND IT, DUH!

SAVE IT, OF COURSE!

Would you rather: Dive like an orca or hop like a kangaroo?

What would you do if you saw an alien?

HOP!

INTRODUCE YOURSELF

OBSERVE FROM AFAR

Would you rather: go five days without fizzy water or two months without snacks?

Would you rather take up a new hobby or learn a new language?

NO SNACKS

DIVE!

HOBBY

NO FIZZY WATER

Are you more of a lone wolf or do you prefer to be part of a pack?

Choose a trio of animals.

LONE WOLF

Pick one: You can fall asleep on command or you never need to sleep at all.

LANGUAGE

LIONS, TIGERS, AND BEARS.

SHARKS, SEALS, AND DOLPHINS.

PART OF A PACK

SLEEP ON COMMAND.

NEVER NEED TO SLEEP.

POLLUTION PREVENTER

CLIMATE CHANGE WARRIOR

HABITAT HERO

BIODIVERSITY CHAMPION

POLLUTION PREVENTER

You probably recycle and reuse everything—yay, you! Whether you're collecting trash from the street or making masterpieces from junk, you're always coming up with creative ways to avoid being wasteful. The pollution problem could use thoughtful, creative people like you!

CLIMATE CHANGE WARRIOR

You have a big heart and want to make the world a better place for everyone, today and in the future. You know that small actions can make a difference when it comes to keeping Earth from overheating—a phenomenon known as global warming.

HABITAT HERO

You love spending time outdoors, whether you're trekking through a national park or playing barefoot in your backyard. You think that every creature deserves a home—they aren't just for humans, after all!

BIODIVERSITY CHAMPION

Whether it's giant humpback whale in the ocean or a tiny ant on the ground, you're wild about wildlife. Often found snuggling with your pets or checking out critters in a local park, you enjoy learning about birds, mammals, and reptiles all around the planet.

Visit National Geographic Kids' Save the Earth hub, as well as NatGeo Family, to learn more about climate change and ways you and your family can take climate action.

WHAT TO SAY

Writing for the Rainforest Alliance, soil scientist Danielle Cranmer perfectly sums up why you need to choose your words very carefully and not overwhelm with information when introducing your child to a particularly challenging topic:

"One day when my son was about three, my husband — a professor of physics at New York University — decided to teach our little boy about the life cycle of stars. It was all going well until he casually mentioned that in about 5 billion years the sun would become a flaming red mass that would engulf the Earth in fire," she writes. "After a moment of silence, our son burst into hysterical tears — and his anxiety didn't fully subside for several months. (As it turns out, telling a three-year-old 'it doesn't matter because you'll be dead in 5 billion years anyway' does not have a calming effect.)"

Her then-three-year-old didn't yet have the emotional or cognitive tools to understand a topic that far-reaching and (frankly) existentially distressing. For

three- (and four- and five-) year-olds everywhere, the same is true of the climate crisis.

The single most important thing here is to talk to your child on their own terms. **This isn't about you or what information you think they need to hear.** There will be time for that; you'll get there together, we promise.

Below, to help guide your earliest climate conversations, are some examples of simple facts about our environment and changing climate based around the personality quiz created by our friends at *National Geographic Kids* for their special April 2018 Save the Earth issue, "52 Ways to Protect the Planet."

Many of the provided conversation starters and follow-up suggestions are taken from *National Geographic Kids'* special Save the Earth issue as well. They are just that – suggestions – meant to serve as examples of the approach we've recommended throughout this e-book.

Click here to learn more about or subscribe to National Geographic Kids.

HABITAT HERO

Habitat Heroes love all things outdoors. They like to get out and have fun themselves, and they also think every creature deserves a happy home too.

Climate change threatens the habitats of numerous species in many ways. Changing precipitation patterns can lead to desertification of once-teeming ecosystems. Rising water temperatures and acidification are already fundamentally changing our oceans.

And of course, land degradation, including deforestation and destruction of wetlands, can release massive amounts of carbon into the atmosphere.

Conversation Starter:

"Tropical rain forests cover only a tiny bit of the Earth's land, but they're home to around half of all of its plant and animal species."

Follow-up:

"So it's not good for all of those animals that a lot of trees are being cut down for wood to build more and more things."

"Do you think we need to find a balance between what people need and what animals need? Some scientists do – they say, if we make sure half of Earth's land and water are set aside for nature, we can make sure almost all of the plants and animals are OK."

"You know how you breathe in and out? Trees kind of do that too. But they don't breathe oxygen like you and I. They breathe in something called carbon dioxide – and it's a good thing they do, because there's too much of it."

BIODIVERSITY CHAMPION

Biodiversity Champions love critters both big and small.

Because of climate change, biodiversity is in decline. "That's not great news, because in general, the more species that live in an area, the healthier that

ecosystem is — and the better off we humans are," according to Columbia University. "Healthy ecosystems require a vast assortment of plant and animal life, from soil microbes to top level predators like bears and wolves. If one or more species is removed from this environment, no longer serving its niche, it can harm the ecosystem."

Conversation Starter:

"Did you know that all sorts of plants and animals need each other? Just like you need mommy and daddy and your friends and broccoli, even though you don't like it."

Follow-up:

"When a bunch of plants and animals work well together like that it's called 'biodiversity.'"

"But things like pollution – that's a big word for smoky air and garbage where it's not supposed to be, and stuff like that – and the weather changing are making it harder for plants and animals to live where they're supposed to."

"That's not good and it means a lot of plants and animals might go away, if we don't fix it."

CLIMATE CHANGE WARRIOR

Climate Change Warriors are likely to be on the older side of the two-to-seven age spectrum we've been talking about. They're described by *National Geographic*

Kids as exuding understanding – "a big heart and want to make the world a better place for everyone" – and exhibiting higher-level thinking – "You know that even small actions can make a difference when it comes to keeping Earth from overheating—a phenomenon known as global warming."

They're right on the verge of being ready for the next step in their climate education, so you can include (slightly) more challenging information.

Conversation Starter:

"Did you know that the planet is more than 1.6 degrees Fahrenheit warmer than it was just 100 or so years ago?"

Follow-up:

"That might not sound like much, but it is when it's the average from everywhere, and even little changes can make big things happen – like lots of ice melting or storms getting stronger so it rains a lot more."

"Most plants and animals have gotten pretty used to the way things are too. Like polar bears. They rely on sea ice to hunt, rest, and even raise baby bears."

"But lately sea ice has been going away – and some scientists think it might be gone entirely in the summer time by mid-century from the Arctic, where the polar bears live."

POLLUTION PREVENTER

Pollution Preventers understand that a bunch of junk is bad for the planet and everything on it. They might not know exactly why just yet – other than the obvious (and accurate) "that's gross" – but they understand that a clean ocean is a healthy ocean. They're responsible and know that if you make a mess, you have to clean it up.

Conversation Starter:

"When you throw it away, plastic doesn't break down into pieces the way paper and food that's not good anymore do."

Follow-up:

"When pieces of plastic get thrown away, they can end up in all kind of places, including places they shouldn't be like the ocean, and they stay there for a very long time."

"And if they get in the ocean, they can really hurt fish and other animals there. Sometimes plastic looks like food to fish and animals and they eat it. Sometimes chemicals even come off of plastic and that's bad for the water and the animals too."

MOVING FORWARD

These are just a few climate conversations you can have with your child. And there are countless more to be had on a broad range of topics related to the climate crisis.

If you think your child is ready for more instruction or conversation on climate, there are a number of materials you can consult for everything from climate science literacy guidelines and early childhood activities right up to grade-level appropriate curricula and lesson plans that adhere to Common Core State Standards.

Many parents and caregivers may be uncomfortable and believe it best to leave further climate discussions to school science teachers. That's fair and understandable – and in a perfect world, it would be ideal.

But it's important to understand that in many places, climate change is sometimes not taught at all, just skimmed over, or presented as a theory rather than a fact or as an ongoing scientific debate with two equal and opposing sides.

Get to know your school's approach to climate science education. And be sure to advocate loudly in your community for science instruction that includes robust, standards-based curricula on climate change.

"Parents can play a strong role, climate education advocates say, in facilitating the adoption of those standards and development of robust curricula in their states and states across the country," according to Yale Climate Connections. "Supportive parents also can stand up for teachers who may face political pressures or resistance from parents, the community, and even other teachers and administration, within the school."

At home, be sure to turn as much as you can into a teaching experience.

If you're lucky enough to be able to travel, consider taking your kids to see places and things that you can turn into a climate discussion. For example, few things can bring home the magnitude and power of the ocean better than seeing it – and with the waters lapping against the shore, a quick discussion of sea-level rise may feel more concrete.

As you make energy efficient upgrades to your home – right down to swapping out your old lightbulbs – make sure you're telling your kids why you're doing it. The same goes for other everyday things you do to lead a more climate-friendly life, from keeping the thermostat set at a reasonable temperature to buying local produce at the farmers market.

Modeling and discussing these smaller behavior changes for your kids can go a long way toward instilling a strong sense of personal responsibility for the planet as well as helping to make the larger climate solutions we need seem infinitely more achievable.

Eventually, you'll learn that everything can be a lesson. And when your child grows up into a responsible, compassionate adult who cares as much about the future of the planet as you do, you'll be glad you started the conversation.

The Climate Reality Project®

Founded and chaired by former US Vice President and Nobel Laureate Al Gore, The Climate Reality Project is dedicated to catalyzing a global solution to the climate crisis by making urgent action a necessity across every level of society.

Today, climate change is standing in the way of a healthy tomorrow for all of us. But we know that practical solutions are right in front of us. We can create a healthy, sustainable, and prosperous future by making a planet-wide shift from dirty fossil fuels to clean, reliable, and affordable renewable energy. At Climate Reality, we combine digital media initiatives, global organizing events, and peer-to-peer outreach programs to share this good news with citizens everywhere and build overwhelming popular support for policies that accelerate the global transition to a clean energy economy.

To learn more, visit www.climaterealityproject.org