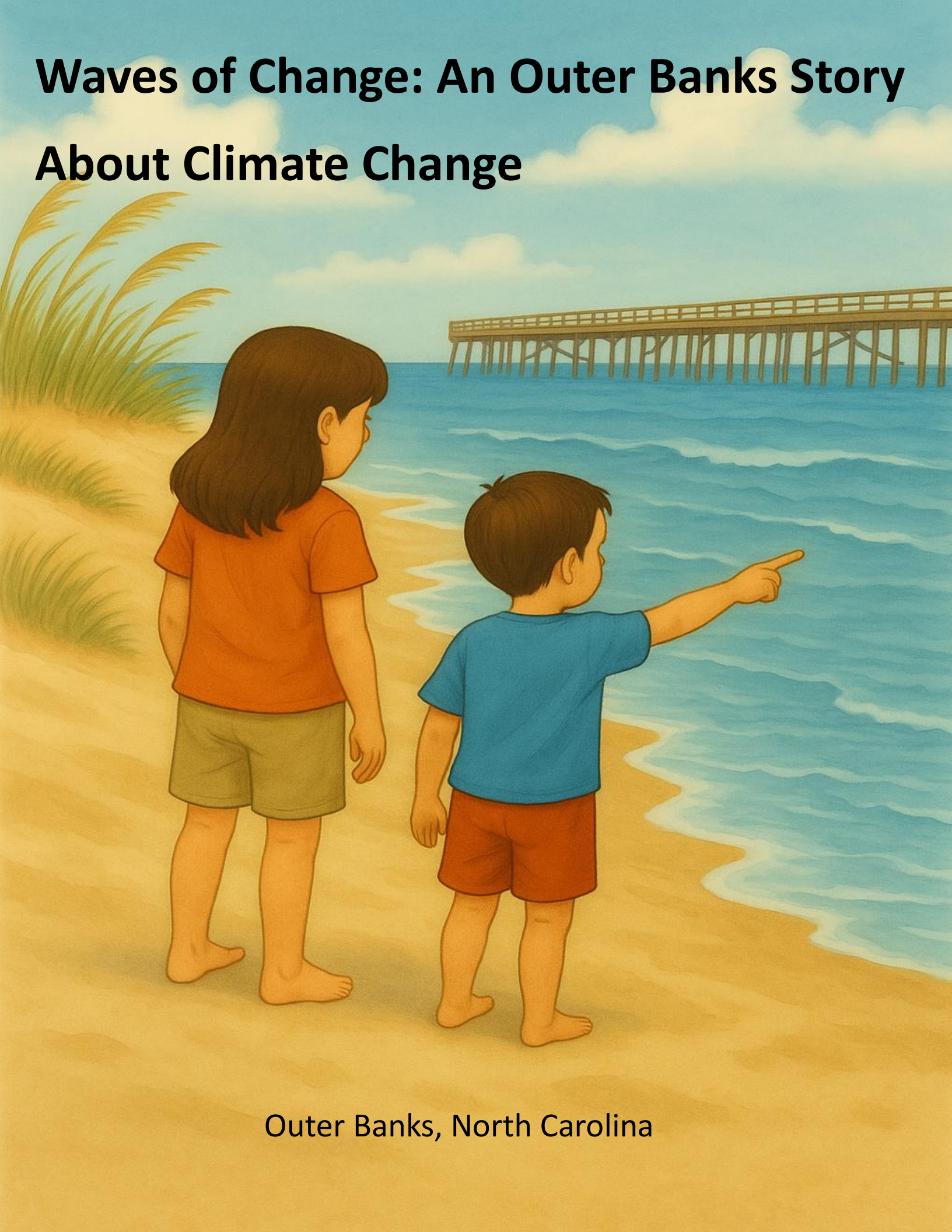
Waves of Change: An Outer Banks Story About Climate Change



Outer Banks, North Carolina

Forward

This storybook was created by the Outer Banks Coastal Conservation (OBCC), a nonprofit organization whose mission is to foster environmental stewardship and a deeper connection to the Outer Banks of North Carolina through outreach, education, and conservation efforts.

We believe that small stories can spark big change. That is why we have made this book available as a free resource for parents, teachers, and community members.

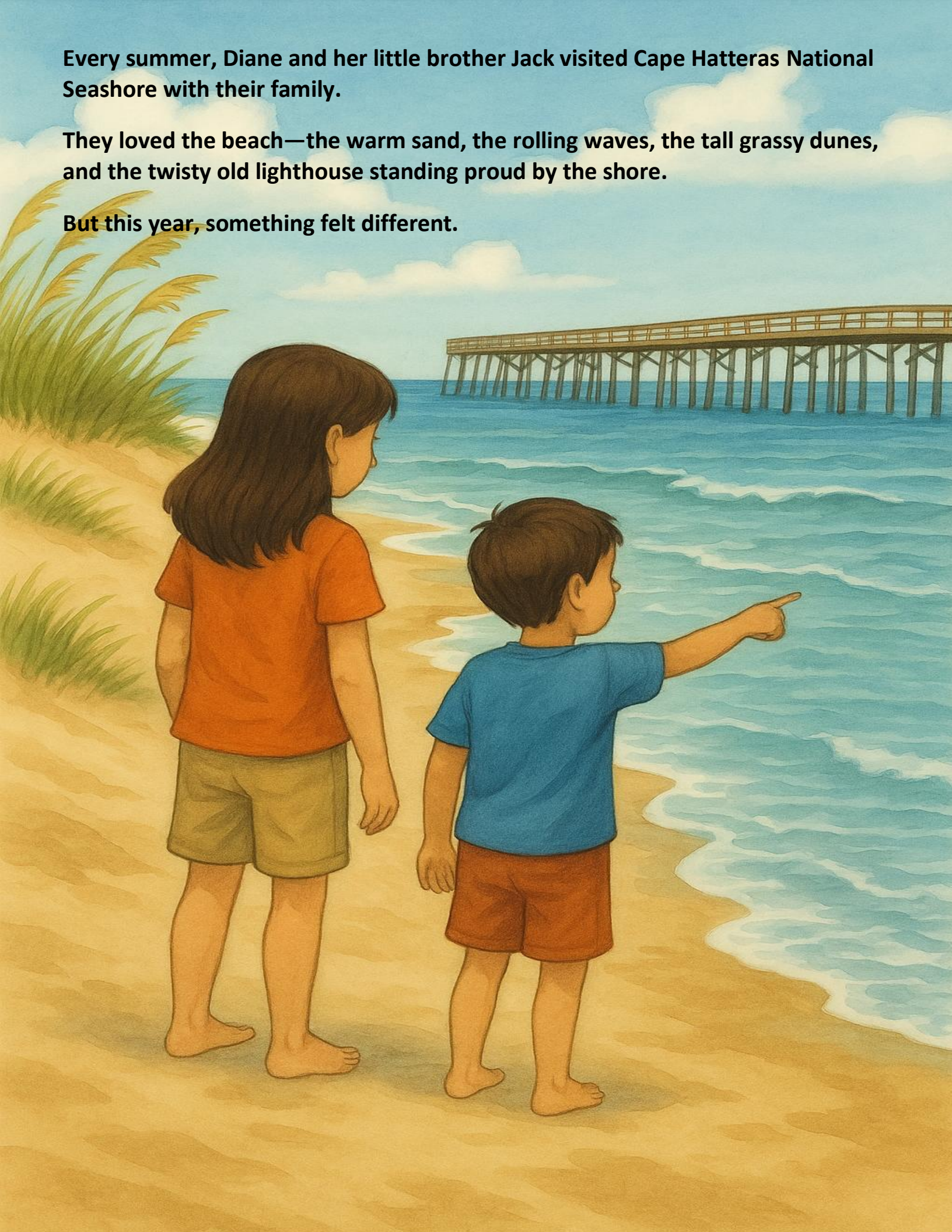
All materials in this book may be freely downloaded, shared, printed and used for educational or nonprofit purposes.

To learn more, access additional resources at: www.theobcc.org.

Every summer, Diane and her little brother Jack visited Cape Hatteras National Seashore with their family.

They loved the beach—the warm sand, the rolling waves, the tall grassy dunes, and the twisty old lighthouse standing proud by the shore.

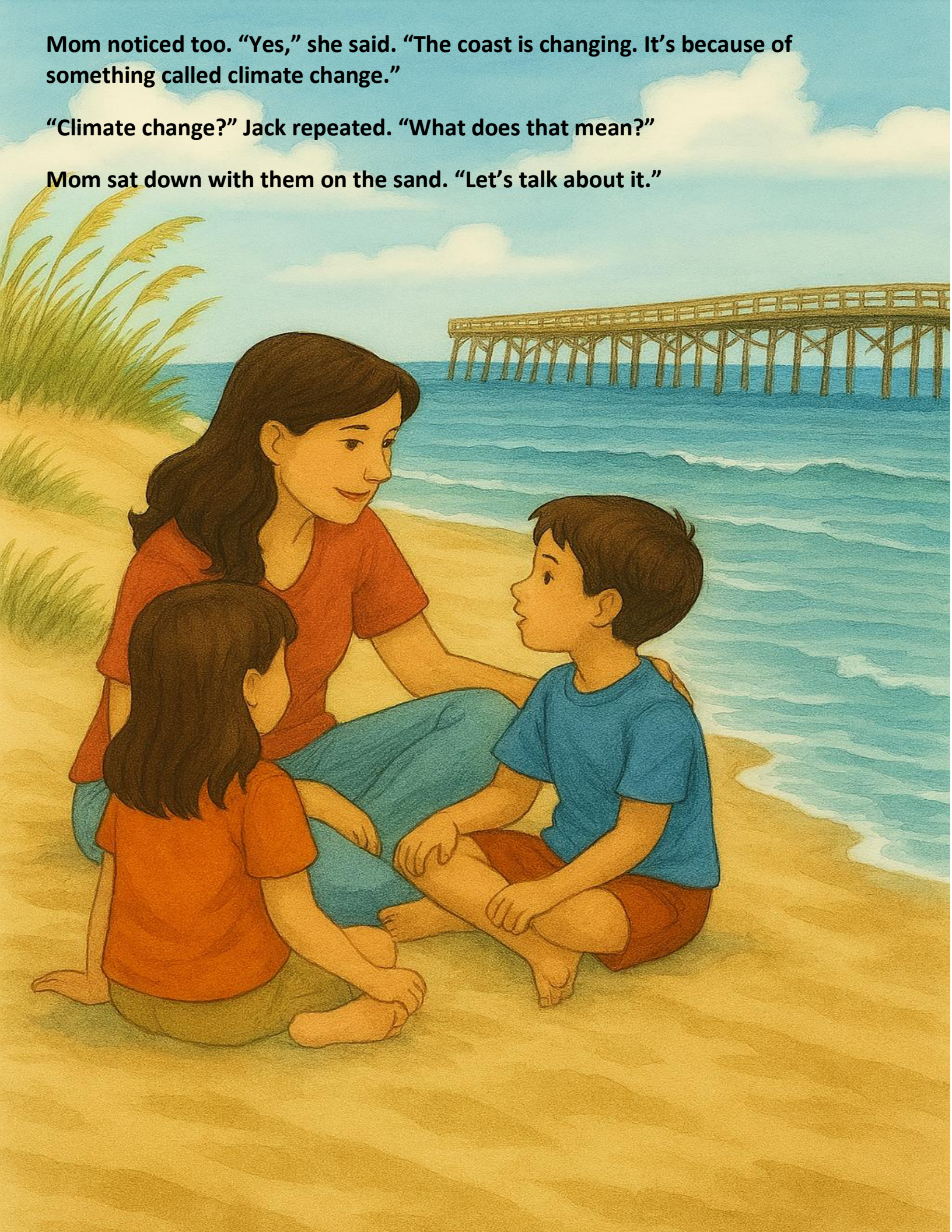
But this year, something felt different.



Mom noticed too. “Yes,” she said. “The coast is changing. It’s because of something called climate change.”

“Climate change?” Jack repeated. “What does that mean?”

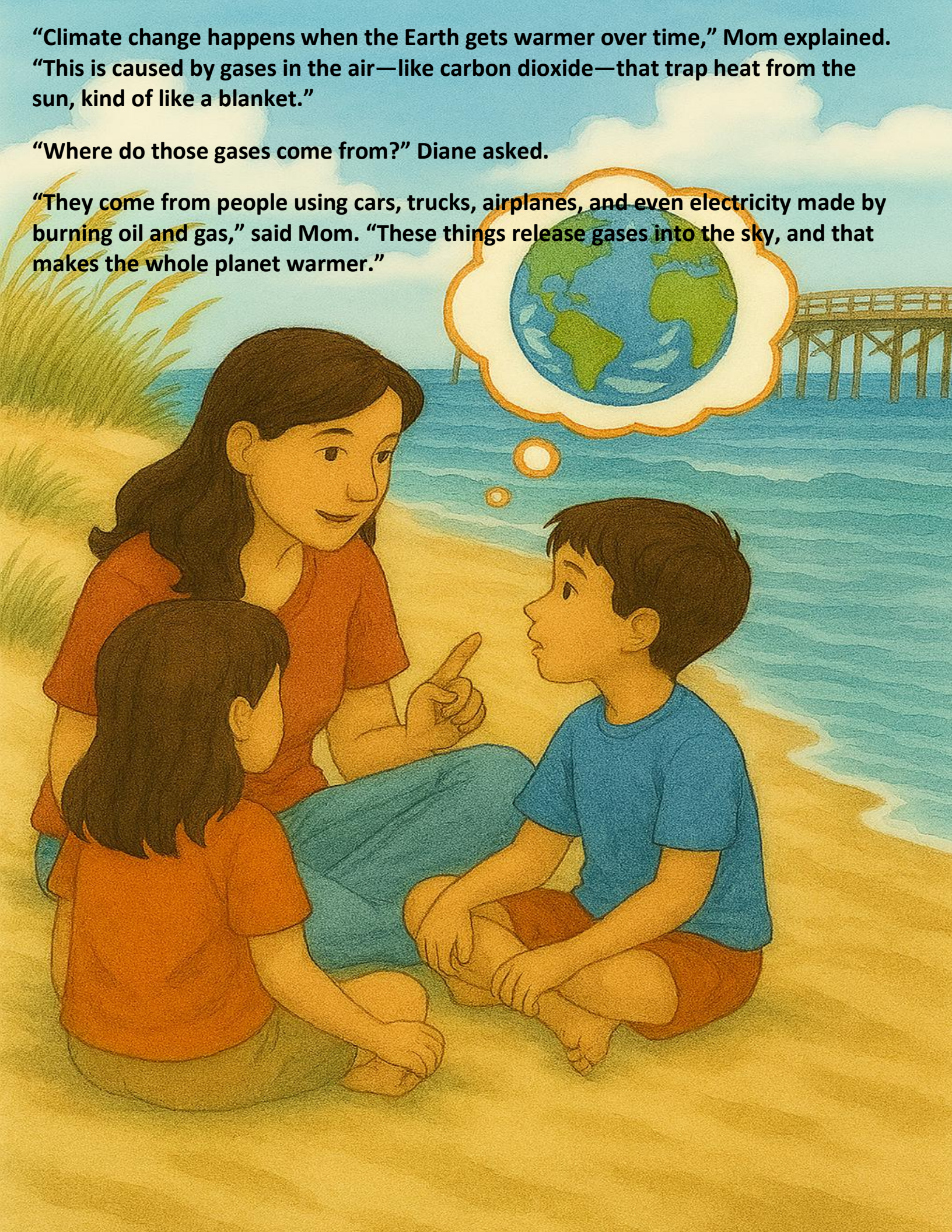
Mom sat down with them on the sand. “Let’s talk about it.”

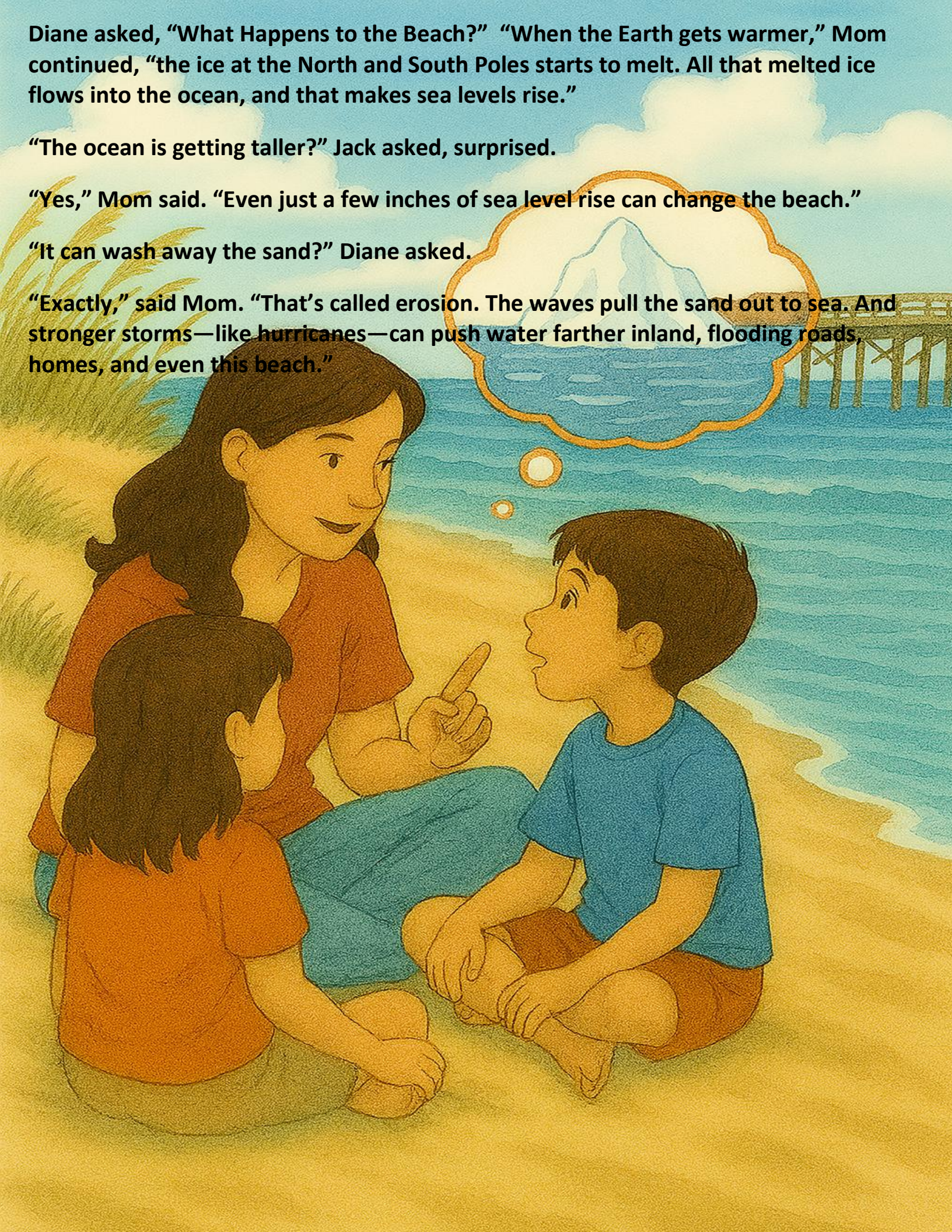


“Climate change happens when the Earth gets warmer over time,” Mom explained. “This is caused by gases in the air—like carbon dioxide—that trap heat from the sun, kind of like a blanket.”

“Where do those gases come from?” Diane asked.

“They come from people using cars, trucks, airplanes, and even electricity made by burning oil and gas,” said Mom. “These things release gases into the sky, and that makes the whole planet warmer.”





Diane asked, “What Happens to the Beach?” “When the Earth gets warmer,” Mom continued, “the ice at the North and South Poles starts to melt. All that melted ice flows into the ocean, and that makes sea levels rise.”

“The ocean is getting taller?” Jack asked, surprised.

“Yes,” Mom said. “Even just a few inches of sea level rise can change the beach.”

“It can wash away the sand?” Diane asked.

“Exactly,” said Mom. “That’s called erosion. The waves pull the sand out to sea. And stronger storms—like hurricanes—can push water farther inland, flooding roads, homes, and even this beach.”

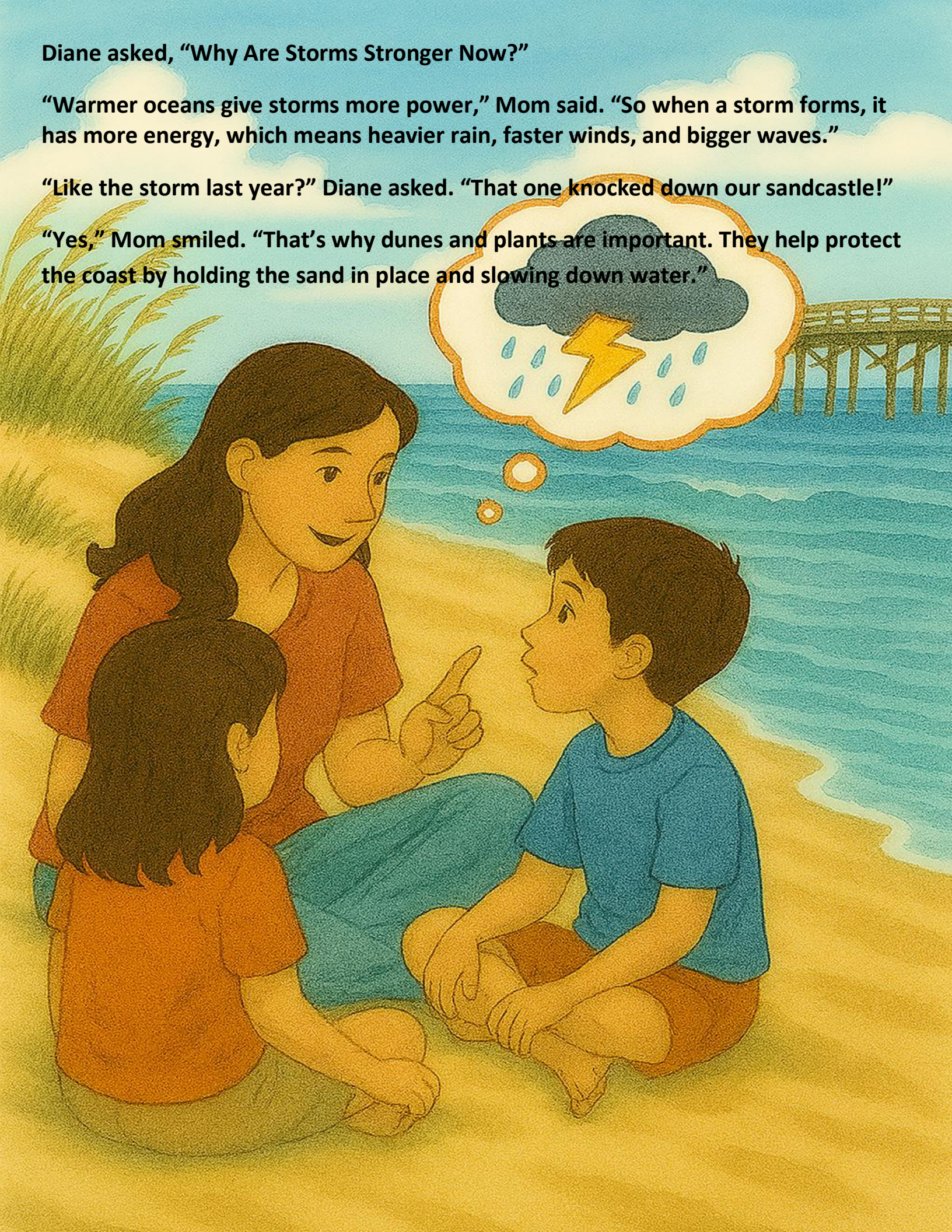
Mom showed Diane and Jack a picture on her phone of the consequences of climate change for coastal areas like Cape Hatteras National Seashore.

Diane asked, “Why Are Storms Stronger Now?”

“Warmer oceans give storms more power,” Mom said. “So when a storm forms, it has more energy, which means heavier rain, faster winds, and bigger waves.”

“Like the storm last year?” Diane asked. “That one knocked down our sandcastle!”

“Yes,” Mom smiled. “That’s why dunes and plants are important. They help protect the coast by holding the sand in place and slowing down water.”



Jack looked worried. “Is there anything children can do?”

“There’s lots we can do,” Mom said. “We can save electricity by turning off lights and using fans instead of air conditioning. We can ride bikes or walk instead of taking the car. And we can use less plastic and always clean up trash.”

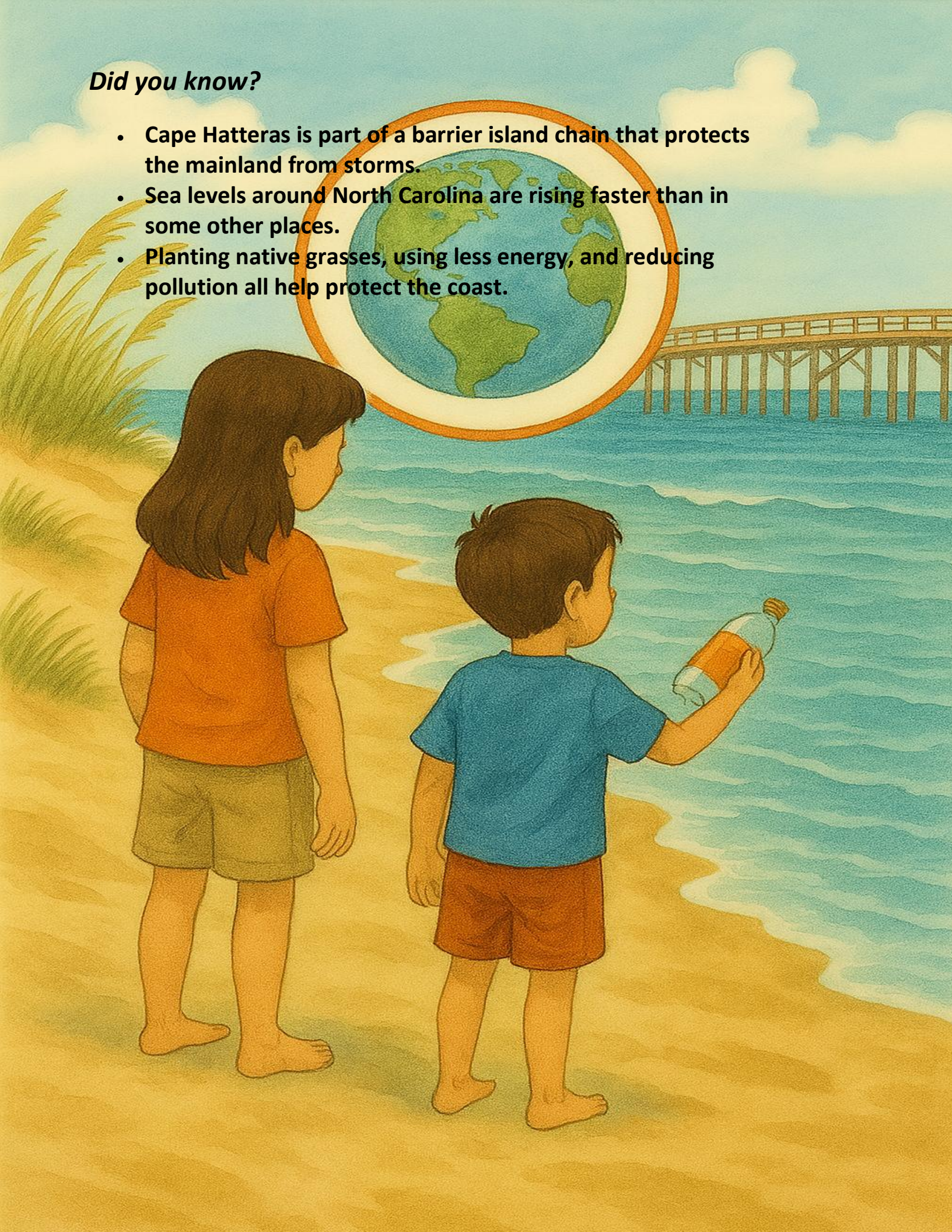
Diane nodded. “We can also plant dune grass, right?”

“Absolutely!” said Mom. “That helps hold the dunes together and keeps the beach strong.”

That afternoon, instead of buying toys at the gift shop, Diane and Jack picked up trash along the shoreline. They talked to other children and told them what they learned.

“This beach is special,” Diane said. “And we want it to stay that way.”

They didn’t bring home seashells this time.
They brought home knowledge—and a mission to help protect the coast.



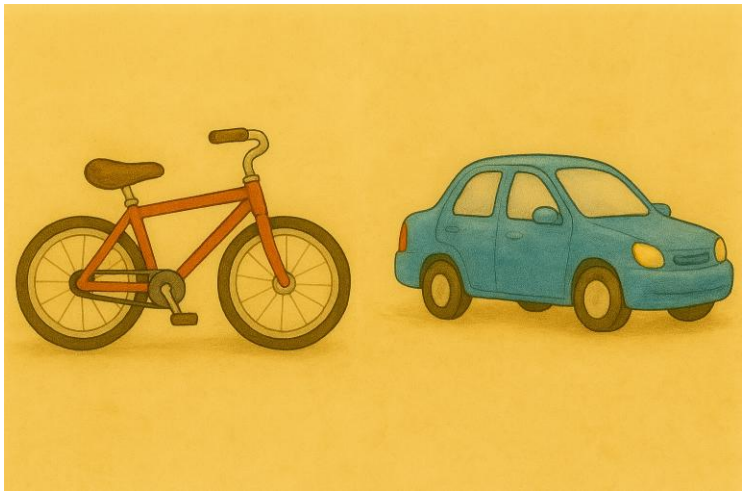
Did you know?

- **Cape Hatteras is part of a barrier island chain that protects the mainland from storms.**
- **Sea levels around North Carolina are rising faster than in some other places.**
- **Planting native grasses, using less energy, and reducing pollution all help protect the coast.**

Quiz

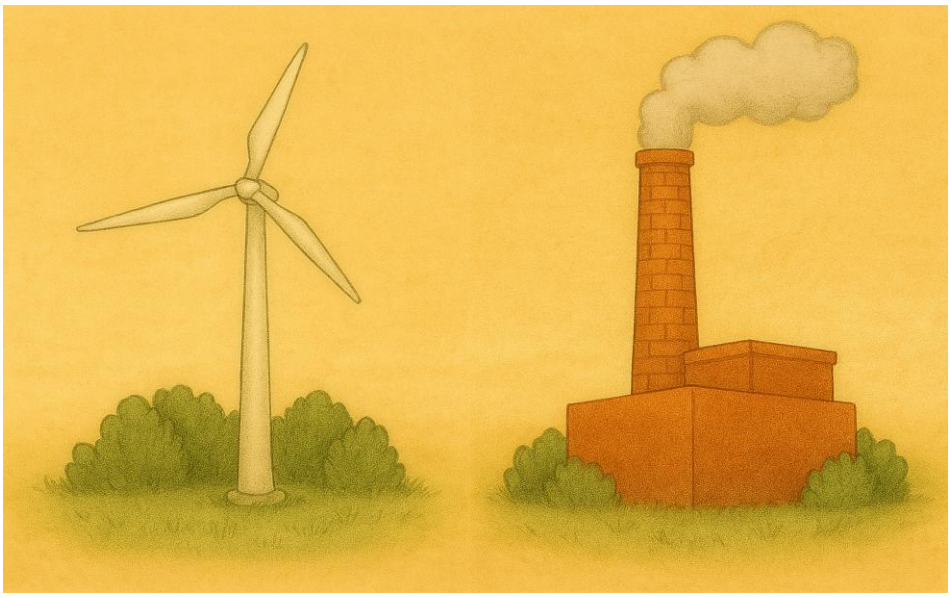
Which one is better for the earth?

1) Riding a bicycle (zero emissions) or driving a car (gasoline use)

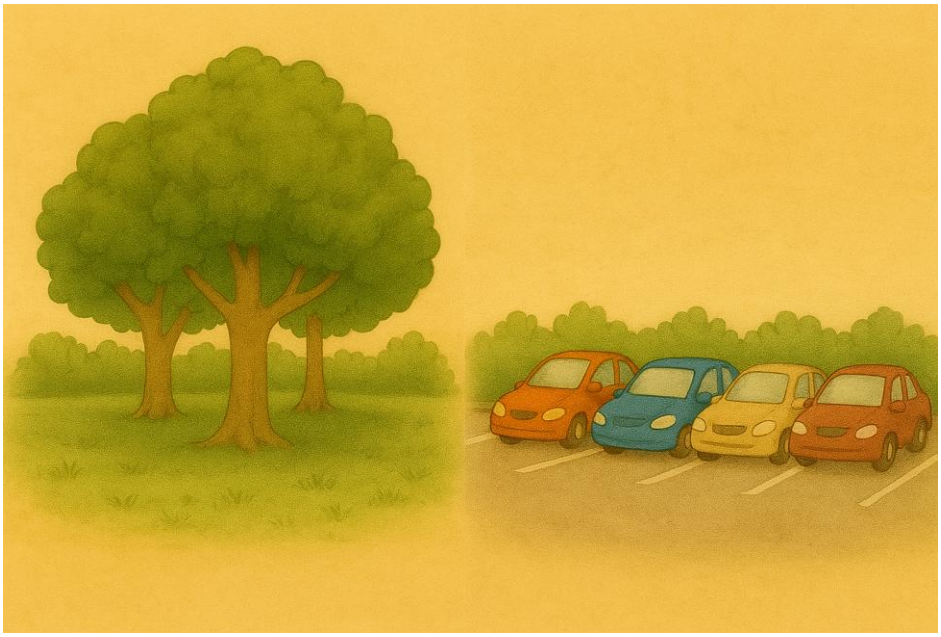


2) Burning wood or solar panels for heat

3) Wind turbine or smoke stack

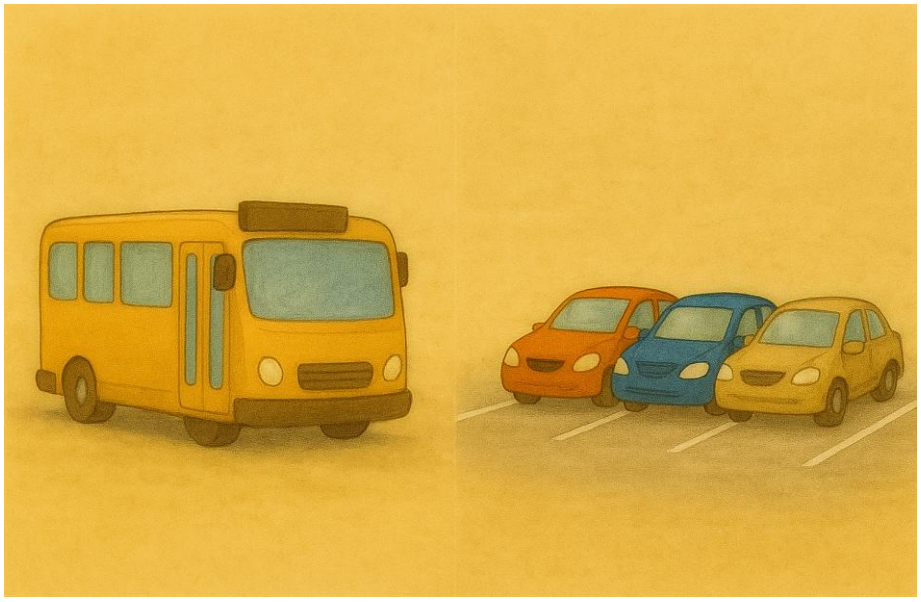


4) Tree filled park or parking lot



5) Reusable water bottle or plastic bottle

6) Public bus or many single cars



Answers:

1) Riding a bicycle.

    - **No pollution** – Bikes don't burn fuel, so they don't release greenhouse gases or dirty the air.
    - **Saves energy** – Making and using a bike takes much less energy than a car.
    - **Protects nature** – Bikes need less space, so more land can stay green.

    Bikes run on your legs, not gas—clean air, cool Earth, and a fun ride!

2) Using solar panels for heat.

    - **No smoke** – Solar panels don't release harmful gases or particles like burning wood does.
    - **Renewable energy** – The sun's power never runs out, while wood takes years to grow back.
    - **Cleaner air** – No smoke means healthier air for people and animals.

    Sun power makes heat without smoke—clean, endless, and good for the planet!

3) Wind turbine.

    - **No pollution** – Wind makes electricity without releasing harmful gases or smoke.
    - **Renewable energy** – Wind never runs out, unlike fuels burned in smokestacks.
    - **Cleaner air** – No smoke means fresher air for people and wildlife.

Wind makes power with no smoke—clean, endless, and safe for our Earth!

4) Tree filled park.

- **Cleans the air** – Trees absorb carbon dioxide and give us oxygen.
- **Keeps it cool** – Trees provide shade and lower temperatures.
- **Helps wildlife** – Parks give animals a safe home, unlike parking lots.

Trees clean the air, keep us cool, and give animals a home.

5) Reusable water bottle.

- **Less waste** – It can be used over and over, so fewer bottles end up as trash.
- **Saves resources** – Uses less plastic and energy to make over time.
- **Cleaner oceans** – Helps stop plastic from polluting water and harming wildlife.

Use it again and again—less trash, less plastic, cleaner Earth!

6) Public bus.

- **Less pollution** – One bus makes fewer emissions than many cars.
- **Saves energy** – More people share the ride, so less fuel is used per person.
- **Less traffic** – Fewer cars mean less congestion and cleaner air.

Share the ride—less gas, less smoke, cleaner air!

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