

# Sea Oats School

## Science Lesson

# What Is Marine Debris?



Outer Banks, North Carolina

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## Foreward

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](http://www.theobcc.org).

# A Curious Question

After a morning of scurrying along the wrack line, Scoot Dunehopper stopped suddenly.

Something shiny was mixed in with the seaweed and shells.

He picked it up.  
It bent in his claw.

“Mama?” Scoot asked. “This doesn’t feel like a shell.”

Mama knelt beside him and sighed softly.

“All along the beach,” she said, “trash has mixed in with nature.”

“That,” Papa added, “is called marine debris.”

Scoot frowned.

“But how did it get here?”



# Wednesday at Sea Oats School

At 11:00 a.m. sharp, the Sea Oats School auditorium filled with fluttering wings, clicking claws, and hopping legs.

Professor Green stepped onto the stage, holding a small bucket.

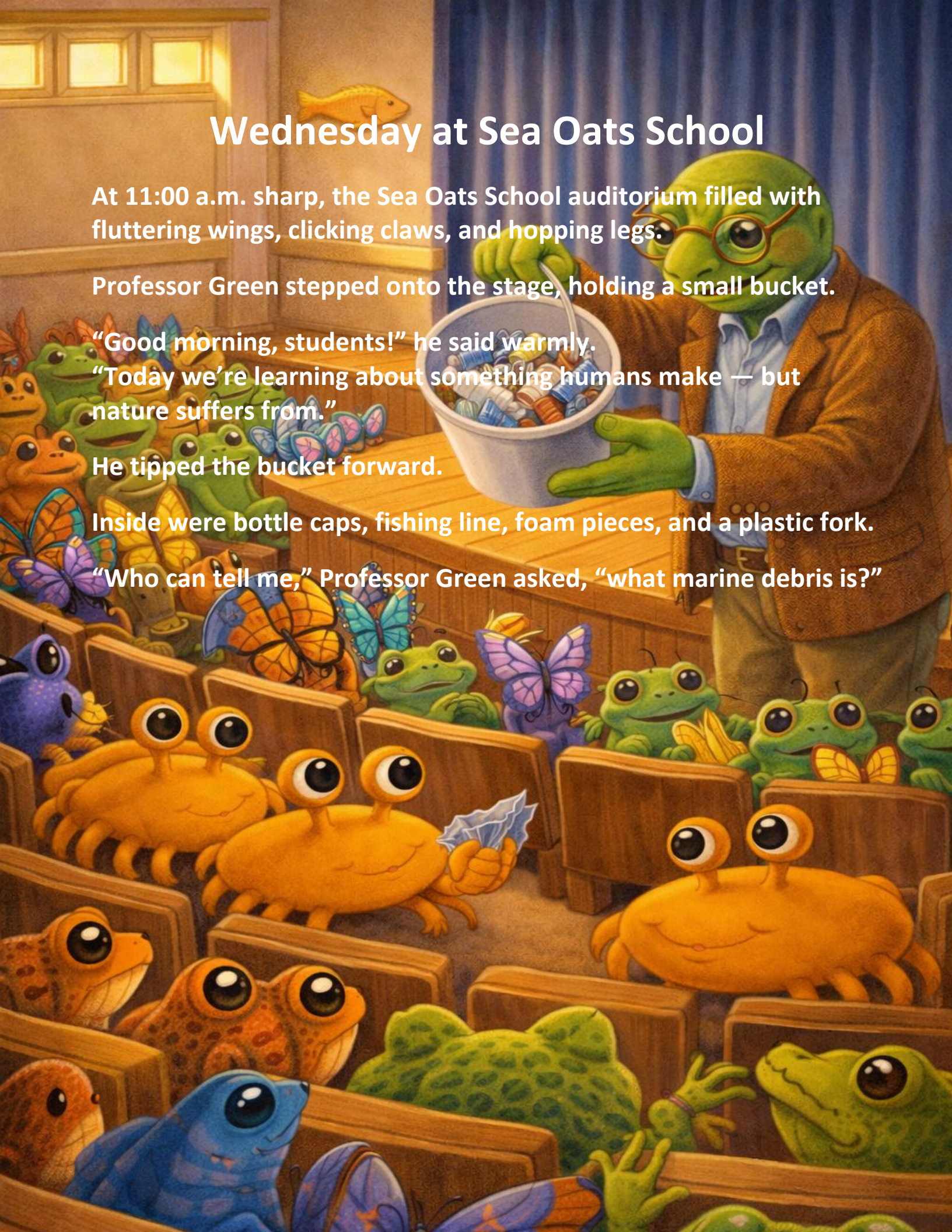
“Good morning, students!” he said warmly.

“Today we’re learning about something humans make — but nature suffers from.”

He tipped the bucket forward.

Inside were bottle caps, fishing line, foam pieces, and a plastic fork.

“Who can tell me,” Professor Green asked, “what marine debris is?”



# What Is Marine Debris?

Georgina the grasshopper hopped up.

“It’s trash that ends up in the ocean and on beaches!”

“Exactly,” Professor Green said.

Marine debris is any trash made by people that ends up in:

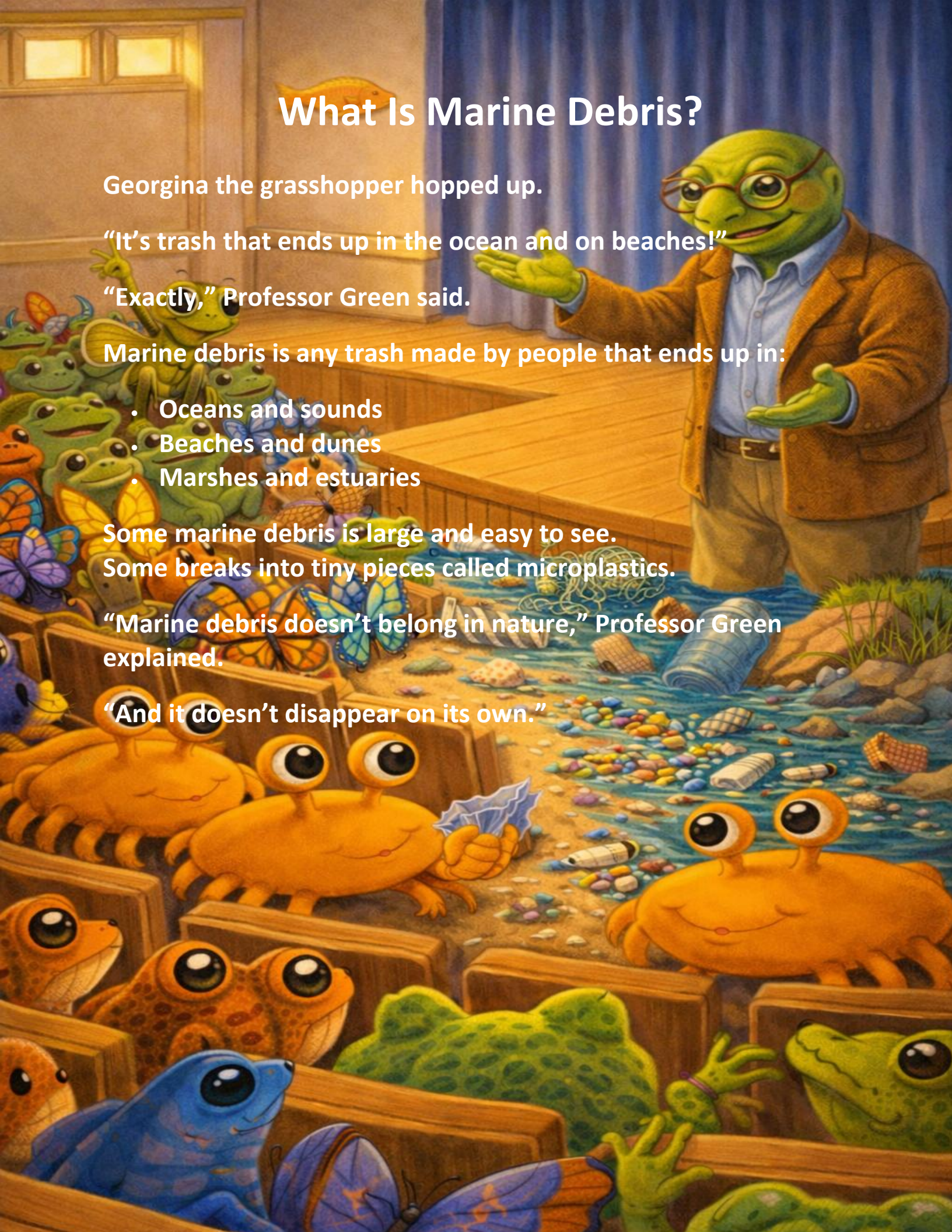
- Oceans and sounds
- Beaches and dunes
- Marshes and estuaries

Some marine debris is large and easy to see.

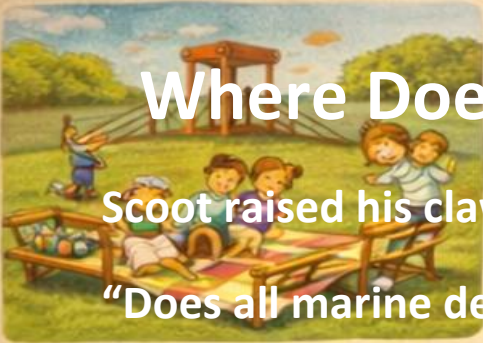
Some breaks into tiny pieces called microplastics.

“Marine debris doesn’t belong in nature,” Professor Green explained.

“And it doesn’t disappear on its own.”



# Where Does Marine Debris Come From?



Scout raised his claw.

“Does all marine debris start at the beach?”

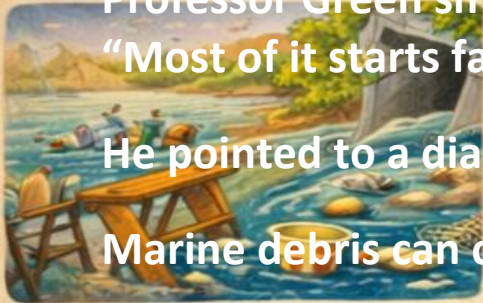
Picnics & playgrounds



Streets and sidewalks

Professor Green smiled.

“Most of it starts far away from the ocean.”



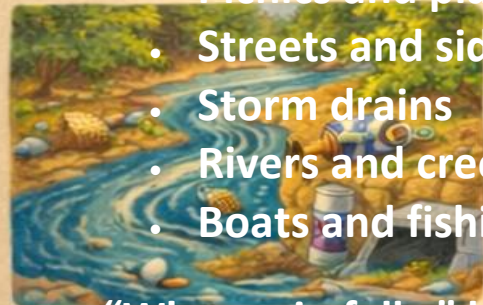
Storm drains



Rivers and creeks

Marine debris can come from:

- Picnics and playgrounds
- Streets and sidewalks
- Storm drains
- Rivers and creeks
- Boats and fishing gear



Rivers and creeks



Boats and fishing gear

“When rain falls,” he explained, “trash travels downhill — all the way to the sea.”



# Why Marine Debris Is Dangerous

Tom the sea turtle lifted his flipper.

“I got tangled in fishing line once,” he said quietly.

The room grew still.

Professor Green nodded.

“That’s why this lesson matters.”

Marine debris can:

- Trap animals
- Look like food
- Break into microplastics
- Injure wildlife
- Harm habitats for years

“Plastic doesn’t rot like seaweed,” Professor Green said.

“It breaks — but it never truly goes away.”



# How Marine Debris Affects the Outer Banks

Professor Green continued:

- Ghost crabs can swallow plastic mixed into sand
- Sea turtles may mistake bags for jellyfish
- Seabirds can feed plastic to their chicks
- Fish and plankton eat microplastics first, passing them up the food chain

“Even beaches that look clean,” he said, “can still hide plastic.”



# What Can Humans Do to Help?

Professor Green held up a reusable bottle.

“The good news,” he said, “is that marine debris is preventable.”

At the Beach

At the Beach

- Pick up trash (with an adult)
- Never leave wrappers behind
- Stay off dunes so plants trap sand, not trash

At Home

At Home

- Use reusable bottles and containers
- Avoid single-use plastics when possible
- Recycle correctly

In the Community

In the Community

- Join cleanups
- Support smart environmental rules
- Encourage businesses to reduce plastic



# Did You Know?

- Most marine debris starts on land, not in the ocean
- Wind and rain carry trash into waterways
- Plastic can last hundreds of years
- Preventing trash is more effective than cleaning it up



# References

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United Nations Environment Programme. (2023). *From pollution to solution*



# Sea Oats School Science Lesson:

## What is Marine Debris?

is a children's story set on the Outer Banks where Scoot Dunehopper and his friends discover trash mixed into their beach and learn how it got there. Guided by Professor Green at Sea Oats School, the students explore what marine debris is, where it comes from, why it harms wildlife and habitats, and how even tiny pieces can last a long time in nature. Through clear explanations, relatable examples, and hopeful actions families can take at the beach, at home, and in the community, the story shows that marine debris is a people problem—but one people can fix—reminding readers that small choices add up to healthier shores for everyone.

### About the Publisher

Outer Banks Coastal Conservation (OBCC) is a nonprofit organization dedicated to fostering environmental stewardship and a deeper connection to the Outer Banks of North Carolina through education, outreach, and conservation initiatives.

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