

CHAPTER 1

A storm was raging—wind and water tossed the small sailboat this way and that on the choppy waves. Lucy gripped the guardrail for dear life, hoping not to get thrown overboard. This was *not* what she'd expected when she signed up for a mission in the warm and sunny [tropics](#).


Everything started when Lucy's teacher, Professor [Meridian](#), told her about the Great Barrier Reef: the biggest structure in the world built by living things. Lucy had imagined it to be a huge human-made building or something like the Great Wall of China. (They both had “great” in the name, after all.) But the professor had explained that the Great Barrier Reef wasn't made by humans at all. It was made by [coral](#).

Lucy hadn't known much about coral, but she'd been eager to find out more—especially after the professor mentioned that corals were in danger of becoming [extinct](#). She got her best friend, Oliver, and her parrot, Moe, and set out on another adventure. The three of them were members of the Locators: a group of kids who solved problems in the world with maps, technology, and spatial thinking. Helping endangered species was one of her favorite parts about being a Locator—she got to save animals *and* prevent vital [ecosystems](#) from falling apart.

At the time, Lucy couldn't think of a more important problem to solve than the biggest structure in the world being destroyed. But now that they were trapped in the middle of a tropical storm, she realized they had more immediate things to worry about. Like not sinking!

As a wave rocked the front of the boat, Moe slid across the deck. “Why can't we ever go on a *normal* vacation?” he squawked. For once, Lucy couldn't disagree with him. All the motion was making her seasick.

Oliver stood at the [helm](#), gripping the boat's steering wheel and



turning it to help guide them through the waves. During their last mission, an adventure that took them across South America, Oliver had learned a lot about how to navigate while acting as their pilot. He was probably wishing he was in the air right about now.

“I think we’re almost through!” Oliver shouted over the roar of the storm.

“Almost through?” Moe said. “More like almost finished! I won’t last much longer.”

“Don’t worry,” Lucy yelled, trying to stay calm. “Just think of it like a roller coaster.”

She looked ahead and her stomach sank. The biggest wave yet rose ahead of them, higher than a two-story house. Oliver held the wheel steady as the wave lifted the boat up. It really did feel like a roller coaster... except nobody was buckled in.

“Help!” Moe shrieked. The small parrot was being blown off the boat by a huge gust of wind. Lucy acted fast. She jumped forward and grabbed Moe by the first thing she could reach—his beak. Only muffled, angry squawking came out as Lucy pulled him to her. At the same time, the boat reached the crest of the wave. She gulped.

“Everyone hold onnnnn!” Oliver yelled, as the boat went down.





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Phew, thought Lucy. They'd made it. Just barely, but they'd made it. The boat now drifted on a much calmer sea as the clouds parted and rays of warm [equatorial](#) sun shone down. All three of them let out a deep sigh, thankful it was over.

"You did it, Oliver," Lucy said and hugged him tightly. "Without you, we never would've survived that [cyclone](#)."

Oliver rubbed the back of his head and smiled shyly. "Believe me, I was terrified. But if I didn't do something, we would've capsized for sure."

Moe, however, couldn't have looked more unhappy. "My beautiful feathers... I spent so long preening them. Now they're all soaked."

While Lucy patted the bird to console him, Oliver examined the boat. "The good news is we didn't spring a leak. The bad news is..." He pointed to where the equipment the Locators used for navigation, communication, and [spatial analysis](#) had fallen. "I think our computers are busted. Radio, too."

"Can you fix them?" Lucy asked. Oliver loved to tinker with broken tech—which was becoming an increasingly handy skill since they had developed a habit of getting themselves into difficult situations.

"I'll try..."

While Oliver went to work on the computers, Lucy decided to find out where exactly they were. From a compartment in the helm, she found a [paper map](#) that had managed to stay dry. The map showed the coast of [Australia](#), the nearby ocean, and several islands.

Because their computers were broken, they couldn't use [GPS](#) to find out where they were. But they *could* use a system Lucy invented herself: BPS! (Short for Bird Positioning System.)

She looked over at the parrot currently drying his feathers. "Hey, Moe. I have a job for you."

“No way!” Moe said. “I refuse. I’ve already nearly drowned today, I won’t—”

“I’ll give you a cracker,” Lucy said.

At the mention of food, Moe perked up. “Three crackers.”

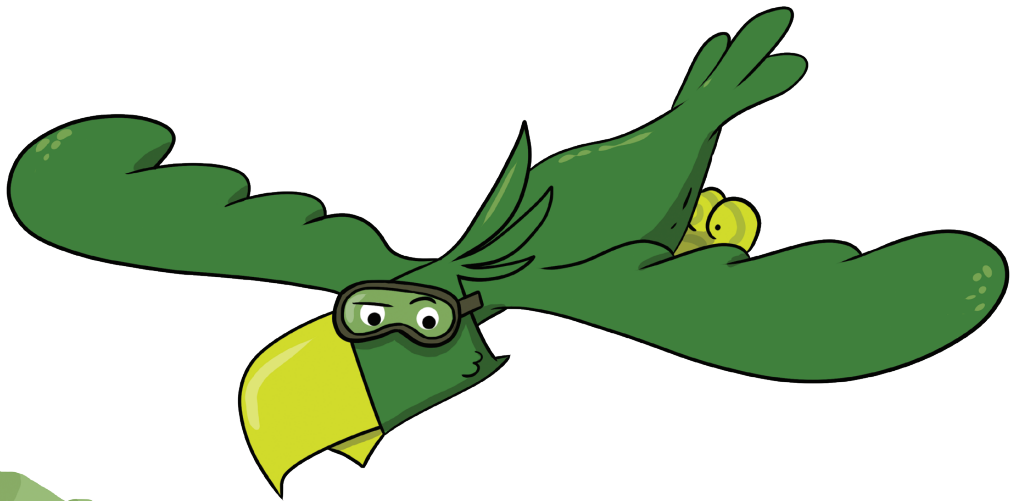
“Two,” she countered. “I won’t go any higher.”

“You drive a hard bargain, Lucy,” Moe said. “I accept!”

GPS uses [satellites](#) orbiting the planet to tell someone where they are. Since Lucy didn’t have a satellite, her BPS would use a different high-flying object: Moe. Once Moe got his instructions, he flapped his wings and took off into the sky.

A few minutes later, Moe returned, a little out of breath. “There’s an island not far to the north of here,” he explained. “It looks like a five-pointed star. Now hand over those crackers.”

While he chomped down his reward, Lucy took out her trusty [compass](#) and looked at the map. The compass told her the four [cardinal directions](#): north, south, east, and west. If she could find the star-shaped island on her map, then she would be able to figure out where they were thanks to Moe’s description. Time to get to work!





LOST AT SEA

Mark an X where Lucy, Oliver, and Moe are located. They are directly south of an island. The island has rocks directly north. Also, the island has debris (broken wood) directly west.

MISSION 01

