MEET YOUR GUIDE

VETRA

DEEP DIVE ISLAND

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As your ship approaches the mysterious reef of Deep dive Island, something glimmers under the surface—tiny propellers, blinking cameras, and underwater explorers! Welcome to Deep dive Island Island: Marine Robotics, where sailors learn how robots explore the sea, protect nature, and support sailing adventures.

MISSION 1: WHAT ARE MARINE ROBOTS?

Let's dive into the fascinating world of marine technology! Before we can build or pilot anything, we need to understand what marine robots are, why they're useful, and how they help both scientists and sailors every day.

Your Challenge:

- Learn what marine robots are
- Discover the types of marine robots
- Understand how they're used in science, sailing, and more

Try This: Talk in pairs or small groups about these questions:

- Why do we need robots in the ocean?
- Where do you think marine robots go that people can't?
- What do you think they look like?

📖 *Learn:*
Marine robots are machines that go underwater to explore, monitor, or fix things. Some are like submarines, others like marine drones. Some drive themselves (autonomous), and others are controlled by a person using a remote (ROV = Remotely Operated Vehicle). They help scientists learn about the ocean, check for pollution, protect coral reefs, and even help sailors by checking boat hulls or sea conditions.

"A robot doesn't get tired, seasick, or scared of the deep! But it still needs a smart human to tell it what to do."

MISSION 2: HOW ROBOTS HELP SAILORS AND NATURE

Now that you know what marine robots are, let's discover what they can actually do! These high-tech helpers are not just cool—they're also incredibly useful for protecting nature and making sailing safer and smart.

Your Challenge:

- Discover how marine robots protect the environment
- Explore their roles in sailing

Try This: Look at photos or videos of marine robots in action. Talk or write about:

- How can marine robots help sailors?
- How can they find pollution or trash in the sea?

📖 *Learn: Marine robots can:*

- *Check under boats without lifting them out of the water*
- *Explore dangerous places like oil spills or deep sea vents*
- *Watch fish and coral without disturbing them*
- *Collect samples of water or sand*

"Sailors use them to check anchors, inspect hulls, or scout harbors. Scientists use them to protect marine life. Some marine robots are even solar-powered —clean energy for a clean sea!

MISSION 3: TRY PILOTING A REAL UNDERWATER DRONE!

Time to go hands-on! Today you will use your phone to pilot a real underwater drone called an ROV (Remotely Operated Vehicle).

Your Challenge:

- Connect your phone to the ROV system
- Use the Blueye app to pilot the drone underwater
- Complete a simple task (explore a pool, find an object, follow a line)

Setup Steps:

1. **Install the WireGuard App (Android or iOS)**

- Android: WireGuard on Google Play
- iOS: WireGuard on App Store
- Open the app after installing it.

2. **Add the VPN Tunnel**

- Tap the '+' or 'Add tunnel' button
- Choose 'Create from QR code'
- Scan the code provided by your teacher
- Name it something like "BlueyeWG"
- Tap the switch to activate the tunnel

3. **Install the Blueye App**

- Android: Blueye on Google Play
- iOS: Blueye on App Store

4. **Connect the Drone**

Your teacher will:

- Power on the surface unit (the drone's hub),
- Plug in the ethernet cable into a port near the pool,
- Activate the ROV with a magnet (watch the LED light blink!)

5. Start Piloting!

- Activate the WireGuard VPN
- Open the Blueye app
- Tap on the ROV name when it appears
- Tap "Start Dive" to begin
- Use the screen interface to steer, dive, turn, and turn on the lights

👀 **What to Observe:**

- What do you see underwater?
- Was it easy or hard to steer?
- How deep did you go?
- Did you notice anything unexpected?

📽️ **Features to Try:**

- Live video view Depth hold (hover at one depth)
- Tilt lock Light control Video recording

🗂️ **Extra Resources:**

- WireGuard official site
- Blueye Support

"ROV pilots need steady hands, sharp eyes, and a plan! What would you explore if you could dive anywhere in the sea?"

👉 Reflect:

"I used the ROV to _____."

"The hardest part of piloting was _____."

"I think marine robots are important because _____ _____."