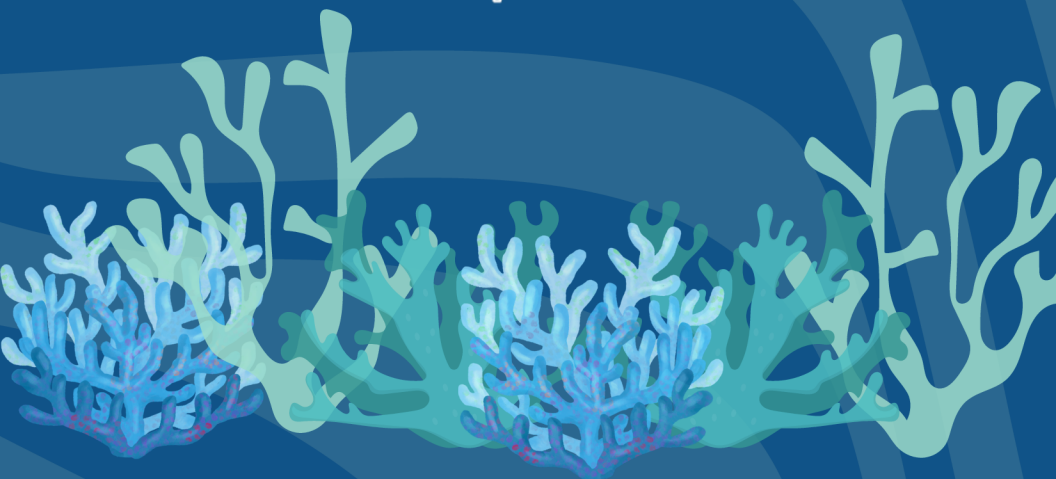


ACTIVITY SHEET

ANSWERS

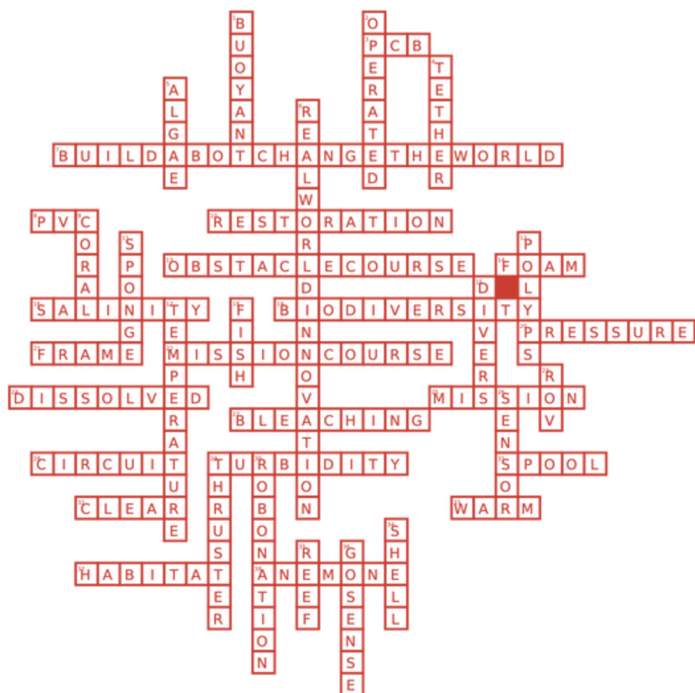


seaperch™





CROSSWORD KEY



ACROSS

3. Printed Circuit Board
7. RoboNation tagline.
8. Polyvinyl Chloride (*think plastic pipes*)
10. Coral Reef _____
13. Get through the hoops quickly.
14. Keeps you afloat.
16. Measures how salty the water is.
19. Many different life forms. *Coral reefs have it!*
20. Volume passing through a point per second.
21. Body of your SeaPerch.
22. *Coral Sample Collection* is one of its tasks.
24. Total _____ Solids.
25. What an ROV is sent to do.
27. When stressed coral turns white.
28. Complete path that electricity flows through.
29. How clear or cloudy the water is.
31. Wrap your tether on this.
32. Coral thrives in _____ and warm water.
33. Coral thrives in clear and _____ water.
37. Natural home of a plant or animal.
38. Clownfish live in this stinging creature.

DOWN

1. Able to float in water.
2. Remotely _____ Vehicle.
4. A cable that connects an ROV to its controller.
5. Provides food for coral through photosynthesis.
6. Using a SeaPerch for a real-world problem.
9. Marine invertebrates that form colonies.
11. Squishy creatures found on reefs. (*Not bob* 🐡)
12. Tiny creature that makes up coral.
15. They keep an eye on your SeaPerch in the water.
17. How warm or cold it is.
18. *Gone _____ ing.* 🐟🐡
23. A SeaPerch is an ____.
26. Detects and measures environmental changes.
29. Helps the SeaPerch move.
30. We are _____. (*Think orange and blue bots.*)
34. Coral _____.
35. New RoboNation product.
36. Found on many molluscs.

WORD SEARCH



WORD LIST:

- | | |
|-----------------|-------------------|
| Algae | Nematocyst |
| Manta Ray | Sponge Coral |
| Salt Dome | Octopus |
| Barracuda | Star Coral |
| Marine Debris | Crab |
| Scuba | Parrotfish |
| Bleaching | Urchin |
| Mesophotic Zone | Current |
| Shark | Polyp |
| Boat | Waves |
| Mooring | Jellyfish |
| Buoy | Reef |
| Shrimp | Zooxanthellae |
| Brain Coral | Loggerhead Turtle |
| Moray Eel | Conch |
| Spiny Lobster | |

WORD SCRAMBLE

E E S R H P C A
↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓
S E A P E R C H

ROCAL EFER
BELU MONECOY
ICTPOITMNOE
ENNSGERIE
EXOTARLPON
IRGT
RTESROAINTO
RBOOTIANON
INITVONNOA
OECAN
CESIRLNYEI
OIRCOTB
ISSIESCNTT
NSISPSAOTHPUR
MELENVNTAIRON
TELREMY OPEEDTAR

CORAL REEF
BLUE ECONOMY
COMPETITION
ENGINEERS
EXPLORATION
GRIT
RESTORATION
ROBONATION
INNOVATION
OCEAN
RESILIENCY
ROBOTIC
SCIENTISTS

SPONSORSHIP **OOPS THERE IS AN EXTRA T AND U
ENVIRONMENTAL
REMOTELY OPERATED

DID YOU KNOW?



The SS United States, was once the fastest ocean liner in history! The hull will be submerged in parts and become a man-made coral habitat. Coral polyps naturally attach to hard surfaces like sunken ships, forming colonies that grow reefs over time. These artificial reefs provide shelter and breeding grounds for marine life, boosting biodiversity in surrounding waters.



ROV *TOOLS & TASKS:* MATCH-UP CHALLENGE



ROVs are critical tools in underwater science and exploration. Match each ROV component to the task it's best suited for. Then answer the bonus question at the bottom to show your mission-ready mind!

ROV Tools

A. Manipulator Arm

Used by NOAA's Deep Discoverer

B. Sonar System

Used by Ocean Exploration Trust's ROV Hercules

C. Sediment Scoop

Used by Woods Hole Oceanographic Institute's ROV Jason

D. Hydraulic Cutter

Used by Saab's Seabeve Cougar XT

E. Camera System

Used by NOAA's Deep Discoverer

F. Buoyancy Control Unit

Used by Schmidt Ocean Institute's ROV SuBastian

G. Water Quality Sensor

Used by NOAA's Deep Discoverer

H. Sample Retrieval Basket

Used by University of Miami's Bethnic ROV

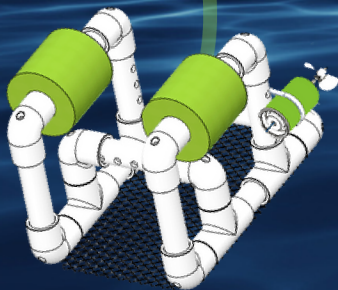
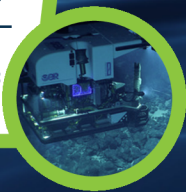
ROV Tasks

1. Collect footage of a manta ray in the wild
2. Slice away a tangled net from reef coral
3. Scan seafloor to locate a sunken drone
4. Retrieve sand from around a hydrothermal vent
5. Adjust depth when navigating underwater canyons
6. Grip and install coral fragments on an artificial reef
7. Transport collected biological specimens safely to the surface
8. Measure pH and temperature changes near a coral bleaching site

DID YOU KNOW?



Some ROVs can dive over 6 miles deep—deeper than Mount Everest is tall!



HOW FAR DOES LIGHT TRAVEL IN THE OCEAN?

Light may be detected as far as 1,000 meters down in the ocean. The ocean is divided into three zones based on depth and light level.

Although some sea creatures depend on light to live, others can do without it.

'Photic' is a derivative of 'photon,' the word for a particle of light.

Can you place all the sea creatures from the STICKER SHEET at the right sea level?

SEA LEVEL

EUPHOTIC ZONE

(Sunlight)

Sunlight rarely penetrates beyond this zone.

Corals, Hammerhead Shark, Tuna, Yellow Perch, Sea Turtles, Starfish, Bay Sea, Tuna Fish

200 METERS

DYSPHOTIC ZONE

(Twilight)

Sunlight decreases rapidly with depth. Photosynthesis is not possible here.

Crabs, Octopus, Shrimp, Spotted Whale, Sponges, Swordfish

1000 METERS & BELOW

APHOTIC ZONE

(The Dark Ocean)

Sunlight does not penetrate. This zone is bathed in darkness.

Anemone, Angler Fish, Brittle Star, Giant Squid, Gulper Eel, Ratfish, Tripod Fish

