

Pool Courses – Marine Debris Objects

2021 SeaPerch Season

www.seaperch.org

The details provided here are for marine debris (floating and sunken trash) used in the 2021 SeaPerch Challenge. Recycled items will be used for this Challenge. Items have been selected based on wide availability and it is recommended that SeaPerch Regional Competition Coordinators use similar items.

Debris used for competitions will vary across regional competitions, please check with your SeaPerch Regional Competition Coordinator for information regarding the regional competition you plan to attend.

Teams will have to create innovative designs that are capable of grabbing or capturing a wide variety of objects of different sizes and shapes in order to complete the Mission Challenge.

Floating Trash – There will be five objects floating in the Garbage Patch (*Figure 1*).

- **Plastic 6-Pack Ring** with $\frac{1}{4}$ " x 6" long Polypropylene Rope threaded through the 6-pack ring (*see Figure 2*).
 - To add buoyancy to the 6-pack ring, untwist the ends of the $\frac{1}{4}$ " diameter polypropylene rope and insert a section of the ring between the strands in the rope.
 - Heat or hot glue the ends of the rope to seal the ends to lock the rope in place.
- **Large Drink Bottle (2)** – 16.9 oz water bottle – half filled with water and capped.
- **Small Drink Bottle (2)** – 12 oz. sports drink bottles – half filled with water and capped.

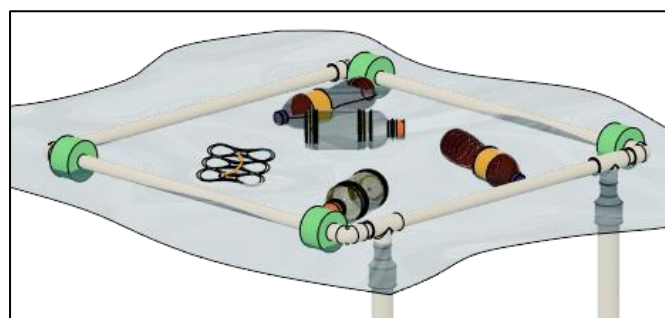


Figure 1 – Task 3: The Garbage Patch

Note: Weights are approximate. Each drink bottle will be weighted with four $\frac{1}{4}$ " Stainless Steel Washers, 0.055" thick, 1.5" outside diameter (the same washers used in the weighted Wiffle Balls, see [Mission Course: Canisters](#)).

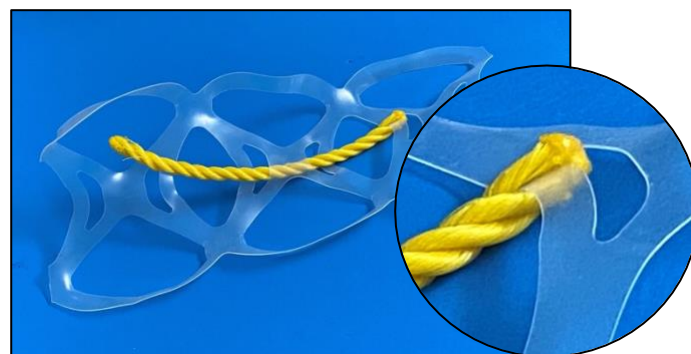


Figure 2 – Plastic 6-Pack Ring

Sunken Trash – There will be three items of sunken waste and two mines on the Waste Platform (*Figure 3*). Waste objects may have bright colored tape to increase visibility.

- **Mines (2)** – One large (i.e. softball size) weighted Wiffle ball, and one medium (i.e. baseball size) weighted Wiffle ball. Weight = 65 grams water (max), large = 126 grams in air, medium = 100 grams in air.
- **Food Can** – One 16 oz metal food can with lid removed. Weight = 40 grams weight in water, 49 grams in air.
- **Small Drink Bottle** – 12 oz. sports drink bottle. Weight = 45 grams weight in water, 70 grams in air.
- **Large Drink Bottle** – 16.9 oz water bottle. Weight = 42 grams in water, 58 grams in air.

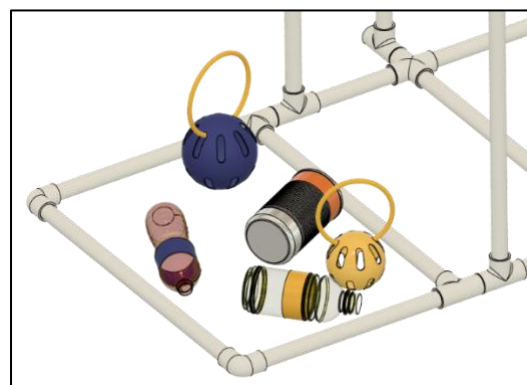


Figure 3 – Task 4: Sunken Waste