

# SUMMER CAMPS

MIDLAND  
CENTER  
FOR THE  
ARTS

## Layers of the Ocean

**Description:** Explore the properties of density and the different levels of the ocean in this hands-on activity!

**Recommended Ages:** PreK – 8<sup>th</sup>

### Materials:

- Glass Jar
- Vegetable oil
- Blue Dawn dish soap
- Light corn syrup
- Water
- Rubbing alcohol
- Black & blue food coloring
- Extra cups (to mix solutions & food coloring)
- Spoons (to mix)
- Optional: Paper, marker, and tape to label your layers

### Procedure:

1. Oceans have five distinct layers. From bottom to top, these are: trench layer, abyss layer, midnight layer, twilight layer, and sunlight layer. We will first make the trench layer by mixing black food coloring with  $\frac{1}{2}$  cup of corn syrup.
2. Pour this layer into the bottom of the jar.
3. Next, we will make the abyss layer (second deepest layer). Measure  $\frac{1}{2}$  cup of dish soap and pour it carefully on top of your corn syrup layer.
4. The next layer will be water. Dye  $\frac{1}{2}$  cup water with some blue food coloring, to be slightly lighter than the color of the dish soap.
5. Pour carefully into your jar.
6. Mix  $\frac{1}{2}$  cup of vegetable oil with a single drop of food coloring. This will be your twilight ocean layer. Carefully pour into the jar.
7. To finish your ocean layers, pour a  $\frac{1}{2}$  cup of rubbing alcohol- the sunlight layer- on top of the jar.

### Explanation:

Different liquids have different **densities**, which creates the separate layers in your jar. If they mix together while pouring, let them sit out for about an hour and they should separate into their own distinct areas again.

Depending on the amount of sunlight different areas of the ocean get, the different types of animals that can live there. Explore the differences between the pelagic zone (sunlight, twilight, and midnight layers) and the benthic zone (trench and abyss layers). Ask your camper what kinds of animals might live in each zone.