

# Ocean Zones

## EPIPELAGIC ZONE OR SUNLIGHT ZONE

The surface layer starts at the surface of the ocean and goes down 200 meters (660 feet). This is the zone where the most sunlight exists, which allows for light and heat.

## MESOPELAGIC ZONE OR TWILIGHT ZONE

Below surface layer is the twilight zone, it extends from 200 meters (660 feet) to 1,000 meters (3,300 feet). Sunlight can reach some of this zone, but it's VERY faint. Temperature changes are the greatest in this zone because it contains the **thermocline**, a region where water temperature decreases rapidly with increasing depth.

## BATHYPELAGIC ZONE OR MIDNIGHT ZONE

Between 1,000 meters (3,300 feet) to 4,000 meters (13,100 feet) is the midnight zone, it's shrouded in constant darkness. The temperature in this zone is a constant, chilly 4°C (39°F), and the pressure is intense.

## ABYSSOPELAGIC ZONE OR THE ABYSS

The oceanic Abyss extends from 4,000 meters (13,100 feet) to 6,000 meters (19,700 feet). This layer is pitch black, and is constantly near freezing, and only a few creatures can be found at these crushing depths.

## HADALPELAGIC ZONE OR THE TRENCHES

The hadalpelagic zone extends from 6,000 meters (19,700 feet) to the very bottom, 10,994 meters (36,070 feet) in the Mariana Trench off the coast of Japan. The temperature here is *just above* freezing and the water pressure is unbearable!

# OCEAN LAYERS

Explore the layers of the ocean with a liquid density tower experiment for kids.

## INSTRUCTIONS

**TRENCH LAYER:** Measure 3/4 cup of corn syrup, mix with black food coloring and pour into the bottom of your mason jar.

**ABYSS LAYER:** Measure 3/4 cup of dish soap and slowly pour into the bottom of your mason jar on top of the corn syrup.

**MIDNIGHT LAYER:** Measure 3/4 cup of water, mix with dark blue food coloring and carefully pour into the bottom of your mason jar on top of the dish soap.

**TWILIGHT LAYER:** Measure 3/4 cup of oil and pour into the bottom of your mason jar on top of the water.

**SUNLIGHT LAYER:** Measure 3/4 cup of rubbing alcohol, mix with light blue food coloring and pour into your mason jar on top of the oil layer.

## THE SCIENCE

The top three layers include sunlight, twilight, and midnight zones. These zones make up the pelagic zone. The abyss and trench zones are found in the benthic zone.

The ocean is a type of marine biome and the layers or levels of the ocean represent how much sunlight each layer receives. The amount of light dictates what lives in what layer!

## SUPPLIES

Large jar  
Vegetable Oil  
Dawn dish soap  
Light corn syrup  
Water  
Rubbing Alcohol  
Black, blue and dark blue food coloring  
5 paper cups  
5 plastic spoons



# EXPLORING OCEAN LAYERS

Materials I Used:

What I think will happen:



What I did:

What I Saw:

Draw it:

What Happened:

# Ocean Layers Jar Observations

Use this worksheet to process and evaluate your observations.

What do you think will happen when the liquids are added together?

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Which liquid do you think will sink to the bottom? Which might float?

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Did any liquids move, swirl, or mix as new layers were poured?

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Which liquid was easiest to pour without mixing? Which was hardest?

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Why do you think some liquids floated while others sank?

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What do you notice about the thickness (viscosity) of the liquids?

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# NEXT STEPS ™ LITTLE BINS ™ LITTLE HANDS

IF YOU LIKED THIS ACTIVITY, TRY THESE PROJECTS:



- OCEAN LAYERS JAR
- OCEAN CURRENTS
- WAVE IN A BOTTLE
- HOW DO SQUID MOVE?



**5-DAY  
LESSON  
PLAN!**

**TURN THIS INTO A  
FULL OCEAN SCIENCE UNIT!  
OCEAN STEM LABS**



**EVERY PACK  
EVERY PRINTABLE  
Get the ALL  
ACCESS PASS!**



## ALL-ACCESS science & Art Pass

**FOUNDATIONS OF SCIENCE: MONTH 2**

Theme: Exploring Fall Science From Weather to Wildlife

Audience: Grades 4-6 Science Teachers or Classroom Teachers

Purpose: This month will explore how the changing seasons affect weather, plants, animals, and even the ground beneath our feet.

**WEEK 1: Weather & Seasons**  
Theme: How does weather change, and why do we see seasons?

**WEEK 2: Plants in Fall**  
Theme: What happens to plants as seasons change?

**WEEK 3: Animals in Fall**  
Theme: How do animals prepare for winter?

**WEEK 4: Earth & Rocks**  
Theme: What's under our feet? Exploring soil and rocks.

**FOUNDATIONS OF ART: MONTH 2**

Theme: Imagines that 7 projects of art with lessons, artist studies and process-based projects.

Audience: Grades 4-6 Art Teachers or Classroom Teachers

Purpose: Essential color concepts, explore basic materials, build basic drawing habits.

**WEEK 1: Color & Space - "Pointillism Fall Trees"**  
Artist: Georges Seurat

**WEEK 2: Shape & Value - "Castle and Sun Collage"**  
Artist: Paul Klee

**WEEK 3: Repetition & Form - "Polka Dot Pumpkins"**  
Artist: Yayoi Kusama

**WEEK 4: Storytelling & Texture - "Story Quills"**  
Artist: Faith Ringgold

- ✓ Never Expires!
- ✓ Monthly Science & Art Lessons!
- ✓ All Our Packs & Printables!



Little Bins for Little Hands helps make hands-on learning easy for families and educators by providing simple, engaging science experiments, STEM activities, art projects, and printable resources that encourage curiosity, creativity, and learning through play.