

**SUMMER
CAP**

Tested, edited &
approved by:

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High School Senior

Under the Sea

Grades: K-3rd

Each of the five days is set to three-hour periods. Depending on how much time is allotted you may extend or shorten times if needed, however, the set minutes are a good time frame. Each day also has time built in for breaks, time overflows, cleanups, and playtime.

Day One:

Introductions - Ten Minutes: Have the entire group starting with the instructor state their name, age, and favorite ocean animal. Run through expectations for the kids throughout the week, such as listening skills, being a good friend, sharing, etc.

Ocean Zones in a Jar Activity - 50 Minutes:

Start by coloring each of the five liquids with food coloring in bowls. Corn syrup is black, dish soap is purple(if you buy it blue this step can be skipped), water is dark aqua, oil is dark blue(if optional coloring is used, and the rubbing alcohol light blue. Start by pouring the black corn syrup into the jar, being careful to not let it run down the sides. There are five zones in the ocean, so make sure that each layer only takes up a about $\frac{1}{5}$ th of the jar, not counting the neck area. Add the dish soap using a funnel. Next, use a funnel to add in the blue water. Make sure to do this step very slowly so the soap and the water do not mix. Add the oil next, using the funnel to carefully pour it in. Lastly, very carefully and slowly add in the rubbing alcohol on top of the oil, using either a dropper or syringe. This is very important: **do not shake the jar!!** If the jar is shaken, the different liquids will mix and they will no longer be layered in the jar. For the last step, label all of the different ocean zones. Starting from the bottom, the corn syrup is the trench zone, the dish soap is the abyss zone, water is the midnight zone, oil is

the twilight zone, and rubbing alcohol is the sunlight zone. Label each zone with a piece of masking tape or self adhesive labels, using the permanent marker to write them. A fun addition to the jar is a small ocean sea creature dropped into the inside. Once the jar is labeled, it is finished and you can enjoy your ocean zones in a jar!

Tide Pools Activity - 50 Minutes:

(Demonstration) Start by taking your bin of choice and filling it with rocks creating different levels, and add in sand on the bottom if you choose to. This will be the base of the tide pool. Next, place the sea creatures into the tide pool, discussing which ones may be underwater once the water is added. Add the water a bit at a time using a pitcher, noting which ones are underwater first. Continue until just a few rocks are visible above the water, which creates high tide. To create low tide, use a pitcher to scoop out water. As you do this, discuss which animals will be exposed to the air first. At low tide, most of the animals are exposed to air. At this point, the demonstration is over. However, if your group is small enough they may want to try simulating the tide as well. Make sure that if you choose to do this, it is on a surface that is ok to get wet(or sandy).

Sand Play Dough Craft - 40 Minutes:

The recipe is set to one batch, so each kid in your group needs the amount in the recipe. Start with one cup of all purpose flour, one cup of fine beach sand, ¼ cup of salt, one tablespoon of cream of tartar, one tablespoon of vegetable oil, and one tablespoon of glycerin. Add all of these together into a bowl and whisk them together. Once whisked, add ¾ cup of boiling water into the mixture. Before doing this step make sure that everyone knows to not touch the mixture until they are told they may. Using a spoon, mix the water and sand mixture together. When the dough is cool enough to safely touch, dump it out and knead it well. Let it cool completely before playing with it in order to get rid of any stickiness. In order to keep it, store it in an airtight container or plastic baggies.

Day Two:

Necklace Craft - 45 Minutes:

Cut a length of string or elastic to your desired length, and use the pliers to clamp on one end of a lobster claw clasp. Tape that end onto the table, and put on any beads or charms that you want. Leave about ¼ inch of elastic at the end, and clamp on the other half of the lobster clasp. The necklace will be able to be clasped and unclasped, so that it doesn't break when putting it on.



Soap Making Activity - One Hour:

Cut soap and microwave according to package instructions. If you have enough molds, let each child select one for their soap. Pour the soap into the mold for them, and let them whatever color and dye they like before mixing it together in the mold with a popsicle stick. If you choose, adding a small sea creature toy to the top adds some extra fun to the soap if it's a plain shape. Allow the soap to harden to package directions before removing it from the mold. To take it home, put it in a plastic bag.

Ocean Pollution Sensory Bin Activity - 40 Minutes:

(Demonstration) Start by filling your plastic tub halfway with water. Fill a plastic or glass bottle with a lid with some of the clean water, and set aside for later. Additionally, shred up a plastic grocery bag or two to set aside. Next, add in the ocean animals, seashells, and the toy boat. Let the kids play with this for a bit and make observations about the environment in the tub. In the small bowl, mix some of the cocoa powder and vegetable oil. Drizzle the mixture into the water, and over the animals and boat to represent an oil spill. Discuss the effects the "oil" has on the environment in the tub, and in real life. Add a few spoonfuls of coffee grounds into the water. After that, add in the shredded grocery bag pieces. The water should be murky, and the plastic should be getting stuck on animals and the boat. Using another bottle, take a sample of the polluted water and set it aside for later. Use the tweezers to remove all the plastic from the water, and remove it from any animals that may be stuck in it. Next, use the cotton balls and sponges to try and absorb the oil "spill" in the water. To clean the animals, use some dish soap and the small scrub brush to remove the oil. Stick a coffee filter inside the top of a bottle and pour some of the polluted water through it. Remove the filter and place the lid back on. Place all three bottles next to each other and discuss the devastating effects that pollution has on the ocean, even after doing our best to clean it. Finish by talking about some ways that we can prevent pollution and how to stop it.

Day Three:

Pool Noodle Boats Craft - 30 Minutes:

An adult should cut the pool noodle into roughly 1" pieces using a knife. Use the scissors to poke a small hole on a flat side of the noodle slice. After that, cut a 3" piece off of straw to be the boat's mast. Cut a 2" tall triangle out of foam to make a sail. It may be helpful to first create a triangle template out of paper for younger kids to trace onto the foam. Use the hole punch to make two holes in the foam sails, one near the top point of the triangle, and one near the bottom straight down from the other on top. Insert the straw piece into the sail, so that the straw enters and exits the same side of the foam. Stick the bottom of the straws into the hole in



the noodle slice, and your boat is ready to set sail! The boats are water safe, so if there is extra time during the week a good activity would be to take the boats sailing.

Shell Picture Frames Craft - One Hour:

Start the project by selecting and arranging shells onto the front of the picture frame. They can stick out a bit on the sides and top, but make sure that they don't on the bottom so that it will still stand. Once the shells are arranged, hot glue them onto the picture frame. If you are satisfied with the end product, you can finish after this step. However, the optional glitter/glitter glue can be used to add a personal touch to the end project.

Why Sharks Don't Sink Activity - 30 Minutes:

This experiment is a great way to show how sharks float without using a swim bladder like most other fish. Some types of sharks use their oil filled liver to stay buoyant! Take two empty bottles and fill one up with oil, and the other with water. If you are crafty, draw a shark face on each of the bottles to look like two sharks. Have a discussion about what the two bottles will do once they are in the water. Put the bottles into the water and observe what happens. The oil bottle should float, while the water bottle sinks. Oil is lighter than water, so it sits on top of it instead of sinking like the water bottle. The oil in the bottle keeps it buoyant, which is how some sharks such as great whites stay afloat.

Blubber Activity - 30 Minutes:

The ocean can be a cold place, so some animals have adaptations to help them live better in their environment. Some animals, such as whales, have blubber, and this experiment will demonstrate how it keeps animals warm. Start by filling a large bowl with ice and water. Take a ziploc bag and turn it inside out, then put your hand inside. Use a spatula to cover both sides of the bag with vegetable shortening. Place the bag with shortening inside of another bag, and seal if possible. Take another bag, turn it inside out, and place it into another bag, again sealing if possible. Put your other hand into the bag without shortening, and place both hands into the bowl of ice water. Observe how your hands feel, and use a thermometer to check the temperature inside of both bags. If you want to try more experimenting, use the thermometer to check the temperature of the bag before placing it in the ice water. You can also try adding different things in the bags instead of vegetable shortening to see if they work to keep your hand warm.



Day Four:

Light Up Coral Reef Craft - One Hour:

[Light Up Coral Reef](#)

Coral reefs are a great example of diverse sea creatures. This project is a fun way to create your own that can be used as a nightlight. Use the in depth tutorial provided to make the coral reef.

Coral Reef Sponge Painting Craft - 30 Minutes:

Start by drawing different coral shapes onto the cleaning sponges with a permanent marker. Use scissors to cut the coral shapes out. Put a generous amount of paint onto a paper plate, using a different color on each one. Dip the sponges into the paint and make sure to get the paint rubbed in. Press the paint side onto the blue construction paper to make textured corals. Use different colors of paint and sponge shapes to create a coral reef scene. Use and scraps of sponge with a tan colored paint to make an ocean floor below the sponges. Once the corals are dry, you can finish the picture by painting on some fish or other sea creatures. Corals are actually white, and get their color from the algae living inside them!

Life-sized Chalk Whale Activity - One Hour:

To begin with, find a large pavement area to draw your whale on. A parking lot or driveway are great options, as long as it's not in a busy area. Pick out your whale of choice and find out how long it is (make sure that it can fit on your pavement space). Once you have that measurement, use your tape measure and draw a line the length of that measurement. Use the line as a length reference for your whale, and begin to sketch it out, and use a picture of your chosen whale as a guide. It may be easier to draw an outline before adding any details you want. Different colors for different parts of the whale will make it easier to see, and more fun to draw. Once the whale is done, stand at opposite ends of the drawing. This helps show how enormous whales are, and you can also take pictures with the whale to show the kids how big the whale is in comparison.

Day Five:

Swimming - Full Day

OR*

Ocean Party - Full Day: Instead of a full day plan, if you choose to do the ocean party there are ideas and suggestions in the supply list. This is a great time to catch up on any projects if some kids weren't able to get finished with them in the allotted time. For the party, have a movie, treats, drinks, and let the kids enjoy themselves. If desired, instead of having snacks and



drinks ready ahead of time, have the kids help make them, such as frosting the cupcakes or stirring the lemonade.

*If your association has access to a swimming pool, on the final day take your group to go swimming. Just ensure that there is enough supervision for your group, and they have proper floatation devices.



Supplies: (Unless stated in the activity, each project is done by each child or a small group, so the number of items depends on the size of your group.)

- **Day One**

- Ocean Zones in a Jar
 - 8 or 16 oz clear jars
 - Five bowls
 - Corn syrup
 - Canola/vegetable oil
 - Dish soap
 - Rubbing alcohol
 - Food coloring
 - Funnels
 - Droppers or plastic syringes
 - Masking tape or self adhesive labels
 - Black permanent markers
 - Optional: medium blue oil based food coloring
- Tide Pools Activity
 - Large dish pan or plastic tub
 - Plenty of rocks and stones in various sizes
 - Small plastic toy sea creatures
 - Pitcher
 - Water
 - Optional: sand
- Sand Play Dough
 - Medium size bowls, enough for each in your group
 - Whisks or forks, enough for each in your group
 - Mixing spoons
 - All purpose flour
 - Fine beach sand (not craft sand)
 - Salt
 - Cream of tartar
 - Vegetable oil
 - Glycerin
 - Water
 - Plastic baggies

- **Day Two**

- Necklace Craft



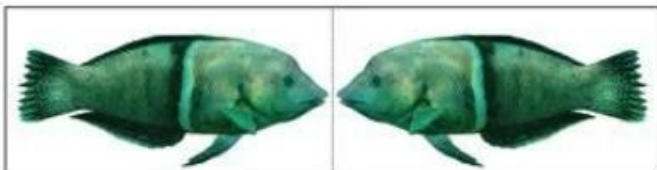
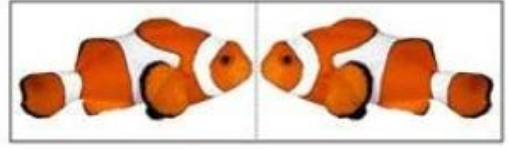
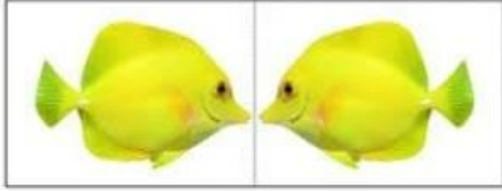
- Elastic cord or thread
- Various beads in beachy or ocean colors
- Ocean themed charms
- Lobster claw clasps with cord ends
- Needle nose pliers
- Tape
- Soap Making
 - Glycerin soap base
 - Microwave safe containers(pour spouts are helpful if they have them)
 - Mixing spoons and spatulas
 - Soap dye in ocean colors
 - Soap fragrance oils in ocean scents
 - Soap molds
 - Popsicle sticks
 - Optional: Mini toy sea creatures
- Ocean Pollution Sensory Bin
 - Large plastic tub
 - Cocoa powder
 - Vegetable oil
 - Coffee grounds
 - Plastic toy sea animals
 - Seashells
 - Plastic toy boat
 - Plastic bags
 - Sponges
 - Cotton balls
 - Dish soap
 - Small scrub brush
 - Tweezers
 - Small plastic or glass bottles with lids
 - Coffee filters
 - Plastic grocery bags
 - Small bowl
 - Water
- **Day Three**
 - Pool Noodle Boats
 - Pool noodle



- Plastic straws
 - Foam sheets in different colors
 - Scissors
 - Hole punch
 - Kitchen knife
- Picture Frames
 - 4x6" picture frames
 - Small seashells that will fit on the frame
 - Hot glue + hot glue gun
 - Optional: glitter and glitter glue
- Why Sharks Don't Sink
 - Plastic water bottles
 - Vegetable oil
 - Large plastic tub
 - Water
 - Optional: plastic toy shark and black permanent markers
- Blubber Activity
 - Large bowls
 - Ice
 - Cold water
 - Ziploc sandwich bags
 - Vegetable shortening
 - Spatulas
 - Towels
 - Optional: thermometer
- **Day Four**
 - Light Up Coral Reef - <https://www.thecrafttrain.com/light-up-reef-craft/>
 - Mini egg cartons
 - LED tea light candles
 - Tissue paper in various colors
 - Loom bands
 - Pipe cleaners
 - Fish printable or other fish pictures
 - Glue sticks
 - Scissors
 - Optional: metal skewer
 - Coral Reef Sponge Painting

- Light blue construction paper
- Acrylic paint in various bright colors
- Sponges
- Permanent black marker
- Paper plates
- Small paint brushes
- Scissors
- Life-Sized Chalk Whale
 - Tape measure
 - Large bucket of sidewalk chalk
 - Picture and length of any choice of whale
- **Day Five**
 - Snacks
 - Graham cracker snacks
 - Cupcakes
 - Ocean jello
 - Drinks
 - Lemonade tinted blue with blue food coloring
 - Blue punch mixed with clear soda
 - Movies
 - Finding Nemo
 - Finding Dory
 - Moana
 - The Little Mermaid
 - Educational ocean movies





Tropical fish

