With the start of the new year and the cold weather, taking a dive into the tropical waters of the Coral Reef was a wonderful place for kindergartners to explore. The children began by charting what they knew about coral, underwater animals and the Coral Reef. Our discussion helped to excite the students by building anticipation through questions and the sharing of many personal connections. Our exploration into the Coral Reef began with building our own reef in the hallway. We painted coral and anemones, made jellyfish to hang, added sea stars and fish, created an octopus, and drew ourselves snorkeling. The children shared many facts about the coral reef and these were added to the hallway bulletin board.
Located in warm, shallow tropical waters, coral reefs create a habitat for a variety of large and small plants and animals. The coral reef’s massive structures are formed over thousands of years from coral polyps, tiny underwater animals. These reefs provide shelter for many animals, including sponges, clownfish, jellyfish, anemones, sea stars, turtles, and moray eels. These animals thrive in their environment using a variety of adaptations, such as body shape, colorations and feeding structures.

A clownfish and a sea anemone share a symbiotic relationship, helping one another by sharing food and providing protection. Brittle starfish create their homes in vase sponges, while parrotfish have special fused teeth to nibble hard coral. Butterfly fish use their coloration as a distraction method, confusing predators, while a stonefish’s coloring and texture helps it camouflage with sand and the ocean’s floor.

Students delved into the coral reef by observing different types of shells with the Zoomy tool, watching the smart board to explore the coral reef, touching hard and soft coral, recreating coral and polyps with model magic and beads, making starfish with foam paint, camouflaging sea creatures, and drawing themselves as a scuba diver!
Studying the Coral Reef gave us the opportunity to explore water and learn about its properties. We began by having the children practice pouring water from one container to another. This was a good introduction to volume. We heard lots of discussion pertaining to how much liquid a container could hold. This led into a volume activity. Various shaped containers were filled with the same amount of liquid. The children had to determine if the amount of water varied between containers.

Adding water beads to the containers gave additional fine motor practice to the pouring activity.

We continued our exploration of water by testing our knowledge of what objects sink or float. The children chose five objects, predicted whether the object would sink or float and then tested their predictions. It was interesting to hear their explanations on why an object did not do what they had predicted.

The children were able to put their theories to the test by spending a morning building a variety of floating vessels. The principle of displacement was practiced when Miss Dzina gave the children a piece of tin foil and asked them to fashion a boat that would hold the most pennies. With lots of trial and error, the children began to understand how to create a boat that was wide enough to displace the weight of the pennies without sinking the boat.

At another center, Mrs. Ofperman gave the children a variety of recycled materials, tape and glue and asked them to build a boat that would float while supporting a Lego figurine. The children worked hard to create a floatable boat. The boats were tested and rebuilt in order to accomplish the goal.
WATER EXPLORATION

We continued our exploration of water by experimenting with the concepts of absorb and repel. The children tested a variety of materials to check if the material could absorb water or repel the water. It was interesting to find that some materials could repel the water for a time but then would end up slowly absorbing the water. We expanded on the concept by placing gummy bears and gummy fish in a cup of water and letting them sit overnight. The children examined the candies and described the results. They found that the water was absorbed which caused the candy to get bigger. Some candy dissolved while others lost their color. All the candy softened in texture.

We played with air pressure and water by moving water between two bottles using a tube and a balloon. The children were fascinated to learn that the water level in both bottles stayed even due to the air pressure.

We learned that the water cycle describes how water evaporates from the surface of the earth, rises into the atmosphere, cools and condenses into rain or snow in clouds, and falls again to the surface as precipitation. We made our own model of the water cycle using plastic bottles.

During Shark Week, we learned that sharks have a liver made up of oil that helps them float in the water. To help with our understanding of why this would work, we added drops of colored water into a glass of baby oil. We watched as the water droplets sunk to the bottom of the glass, proving to us that oil floats on water because it is lighter. This is one way that a shark stays afloat even though it can be very heavy.

Other fish also have an organ that helps them to maintain its depth, the swim bladder. We set up helium balloons tied to a coffee filter basket and gave the children the mission to get the balloon to hover at a certain height. The children used lots of trial and error to add or subtract a variety of small objects into the basket to achieve the correct weight.

SCUBA AND BUBBLES

Marie Stapinski, Atticus’ mom, is a certified scuba diver. She brought her scuba equipment into the classroom and spent the morning telling us about this exciting pastime. We were able to ask questions and try on the various pieces of dive gear.

After the presentation, we explored bubbles!
A coral reef is a beautiful place in shallow water. It has lots of beautiful colors and they make me so happy! The water has to be hot so a lot of coral reefs are near the equator. There are also lots of coral reefs in Australia called the Great Barrier Reef. - Ava

Hermit crabs need new shells when they outgrow their shells. Octopuses can camouflage. Jellyfish are kind of made out of water. Sea anemone are cousins with coral and jellyfish. - Jun

Once a year, on the exact same night, all coral lays its eggs. - Nicolas

Coral reefs and the fish and sea creatures that live there are in a symbiotic relationship. That means they help each other survive. - Shreya

Crabs have 10 arms. Seahorses live in a coral reef and are really good at hunting for food and eat through their snout. Male seahorses have babies! - Maggie

Coral is made of lots of tiny things called polyps. The coral grows super sloooowwww. - Emma

Coral reefs live in warm, shallow water near the equator. - Felix

A coral reef is a living animal. - John

Octopuses camouflage and have 3 hearts. - Cam

I learned about sea turtles. They don't have teeth and when they lay eggs, they do it at night. Their predators are crocodiles, alligators, orcas, and sharks. Green sea turtles have patterns on their backs which tell people what family they belong to. Under the shells, the sea turtle is smooth. On top of the shell, the sea turtle is bumpy. Anenomes is not a kind of coral, it is a poisonous animal that uses its venom to catch small fish. Clown fish don't get attacked though. They are friends with the anemone and rub its body against the anemone to get the slime all over them which protects the clown fish from its predators. - Aras
To culminate our Coral reef unit we welcomed Pastor Dave Carver (Dr. Carver’s husband) into the classroom for an exciting demonstration. Mr. Carver, an avid fisherman, shared his skills with us, explaining how fish swim under water, the importance of their gills and how they’re similar and different from humans. Students then had the opportunity to dissect a both fish and taste the meat, cooked as yummy fish nuggets. Many thanks to Pastor Dave.

CORAL REEF DIORAMA

Our unit culminated with the children using their story telling skills from last month to write a fictional story about the coral reef with Miss Dzina. The children then worked with Mrs. Opferman to create a coral reef diorama that illustrated their stories. Using shoe boxes, paint, model magic, pipe cleaners, shells, sand, colored paper, beads, tinsel, ribbon, they were able to create an underwater scene.

FISH ORIGAMI

A special thank you to Jamie’s dad, Jeffrey, for spending the morning teaching us how to fold paper to create an origami fish. This class has shown an interest in paper folding all year long. We were so excited to have someone to teach us how to make something beautiful!

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