With the Fall weather quickly approaching, taking a dive into the tropical waters of the Coral Reef was a wonderful place for kindergartners to explore during our new unit. Students began by charting what they knew about coral, underwater animals and the Coral Reef. Our conversations helped to excite the students by building anticipation through questions, “I wonders” and sharing many personal connections. Our exploration into the Coral Reef began with building a submarine, making jellyfish using found materials, decorating rainbow fish, counting the suction cups of an octopus, learning how a scuba diver breathes underwater and much more. Students couldn’t wait to explore the types of coral, how a reef is built and the many creatures that call it home!
Located in warm, shallow tropical waters, coral reefs create an 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 exploring different types of shells and skeletons, navigated the smart board to explore the coral reef, touched hard and soft coral, and used snorkels to see and breathe under water like scuba divers.

CORAL CREATION

Coral reefs are created by millions of small marine invertebrate (without a backbone) animals called Polyps. Polyps live in large colonies by attaching themselves to each other and the stony, branching limestone skeletons of dead coral, creating an ever growing coral reef. Coral can be found in a variety of shapes and colors, and the names can often provide a mental image in one’s mind, such as brain coral, fan coral and branch coral. Reefs consists of hard coral (like brain coral), which are known as “reef builders”, and soft coral (like sea fingers), the “reef decorators”. Using objects from Pittsburgh’s Creative Reuse Center, students created hard and soft coral to bring to fruition a life-size coral reef in the classroom. Students were given plain white popcorn buckets, white glue and a table full of materials. Instructions were given to create any type of coral, using pictures from books or their imagination. As students worked, they discussed their creations, including the type of coral, its name and the animals that would use it for shelter or protection.
ABC AND NUMBER CHALLENGES

In Kindergarten, we incorporate math and language arts into our daily schedule. One exciting way to build enthusiasm into our learning is through Challenges! Each week or so, the students are required to complete an activity that demonstrates their understanding of numbers or letters, through identification and recognition of their value, order or sound. The first challenge of the year involved students placing the letters of the alphabet (written on seashells) in alphabetical order. One at a time, each student would complete the challenge. When the task was finished and checked by the teacher, an announcement would be made by flashing the lights and congratulating the student. Following the ABC seashell challenge was the number seashell challenge, placing numbers in order 0-20. Students later completed another number challenge, counting and placing beads on pipe cleaners based on the number labeled at the top of each pipe cleaner. Our current challenge involves students using pennies to retrieve letter gemstones from a gum ball machine, matching them to their alphabet paper and writing the letters. Students use 26 pennies, but may not retrieve each letter of the alphabet. Be sure to ask your child about our next Kindergarten Challenge!

TECHNOLOGY IN THE CLASSROOM

In the kindergarten classroom, students use technology on a daily basis. Each morning during circle time, students use the smart board to record the weather and date on the calendar. Our new smart board has also allowed us the opportunity to introduce interactive media into the classroom, such as video clips, google maps, writing, drawing and hands-on math lessons, such as patterning and sorting.

During free choice and activity time, students have the option of navigating the ipad or computer. Students have been eager to explore Kidpix (computer), Bugs and Bubbles and Bugs and Buttons (ipad).
The Science/Discovery Area has continued to be a busy place in the kindergarten classroom! We have explored several experiments involving water (in relation to the coral reef) and have sparked excitement and interest in the students for our future unit, Water.

Our first experiment involved putting dried corn, lentils and rice into carbonated water. We wanted students to observe how CO2 gas (carbonation) can make food “dance” when combined.

**The Dancing Food Experiment**

**I wonder...** what will happen when we drop corn, lentils and rice into carbonated water.

**I think...** The children worked with Mrs. Perovich to make some predictions about the dried food. Some friends said: “it will float.” “They will get soft.” “The food will shrink in size.” “The food will bob up and down a lot.”

**I learned...** that the surface of the corn, lentils and rice are rough, which attract the tiny bubbles in the water (of carbon dioxide gas). The bubbles “hook on” the food and increase the volume (how much space the food takes up) of the raisin, but not its weight. This results in the density (how close together the molecules are) of the food being lowered, creating a dancing movement as it’s being carried upward by the more dense liquid, carbonated water. For the food to float or dance, it must have less density that what it’s floating in.

**How a Submarine Floats in Water Experiment**

**I wonder...** how many gems we need to make the submarine tube float.

**I think...** “you need 20 gems to make it float.” “the tube will float on its own.” “The tube will need only a couple gems.”

**The Cartesian Experiment**

The third experiment focused on attaching a piece of paper (with a drawing of a sea animal) to a pen cap using modeling clay, and then placing the animal in a full bottle of water. When squeezing the bottle, the animal should descend towards the bottom of the bottle.

**I wonder...** what will happen to my sea animal when we squeeze a bottle full of water.

**I think...** The children worked with Mr. Rood to make some predictions about the movement of their sea animal. Some friends said: “It will drop.” “The animal will sink to the bottom.” “The animal will move around.”

**I learned...** that as you squeeze the bottle, the water is forced into the sea animal, the only place it can go. The tiny bit of air attached to the sea animal is compressed, and the overall density of the animal increases, causing it to sink.
To culminate our Coral reef unit we welcomed 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 bluefish and taste its meat, cooked as yummy fish nuggets. Many thanks to Mr. Carver and our friends at Wholey’s.

During the month of October, the kindergarten friends welcomed new pets into our classroom. We have two hermit crabs that live near the Discovery Center, along with their neighbors, 24 tropical fish. At the beginning of our unit, students were presented with pictures of nine different tropical fish and asked to vote for their favorite. Using tally marks, they took turns raising their hands and counting how many friends liked each fish (each child was allowed to vote for one fish). After voting, students counted the total amount, checking their addition to make sure it equalled the 24 students in the class. When the fish arrived, students helped prepare their new home by cleaning and filling the tank.

FISH EXPLORATION

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Thank you to all the families who came to our Kindergarten Open House on Wednesday, October 17th! We really enjoyed meeting all the moms, dads, grandparents, brothers and sisters. We hope everyone had a great time exploring our classroom and learning about our daily activities. Families experienced a daily work activity, searched the classroom on a scavenger hunt, counted a handful of unifix cubes, played with playdoh, interacted with the smart board and with Kidpix, and so much more! We look forward to meeting with you for conferences in November.