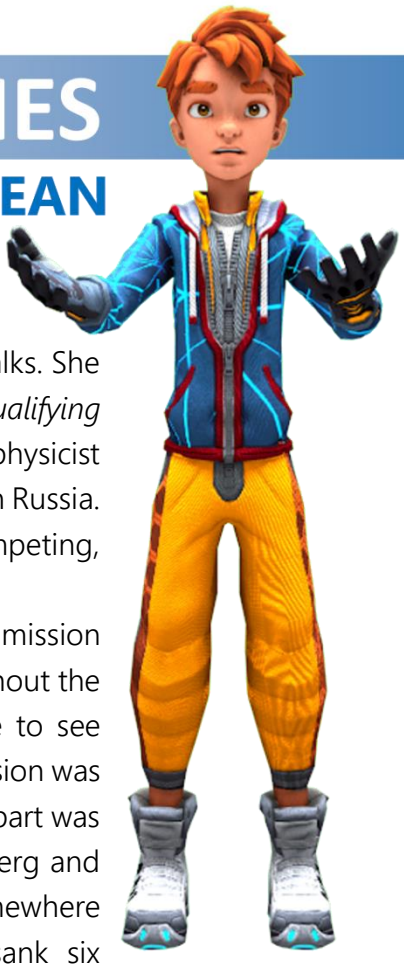
MILO'S STORIES

PECULIAR THINGS IN THE OCEAN

(AS TOLD BY MILO)



Svetlana and I were continuing to take our socially distanced walks. She was still fun to talk to even though her team was doing the *Qualifying* missions too. She told me that they got a really famous Russian physicist to join their team. He was a friend of her father when they lived in Russia. I wished her good luck in the race, but since our teams are competing, we agreed not to talk about it anymore.

I was the leader for our *Peculiar Things in the Ocean* mission which I annoyingly had to leave Svetlana to go do. The kids, without the adults, were going to take the *Cosmic Egg* on an ocean dive to see interesting things in the undersea world. The first part of the mission was to find peculiar sea creatures to photograph. The more difficult part was to find the wreck of the luxury cruise ship *Titanic.* It hit an iceberg and sank to the bottom of the ocean in 1912. We had to locate it somewhere in the vast North Atlantic Ocean. We knew only that it sank six hundred kilometers south-southeast of Newfoundland. We had to submit a report on it, which would be judged.

We all logged on to the *Virtual World* and teleported from the *Mystery Museum* to the *Cosmic Egg*. We headed for the crystal-clear waters of the Caribbean for our first dive.

Scene from "The Stardust Mystery Online - Introduction." The Stardust Mystery YouTube Channel

"Wow," Neddy shouted as we got to the shallow bottom. The scene outside the *Cosmic Egg* was amazing. It was beautiful. "Can we use our dive equipment and go outside the ship?"

"Sure," I said. "Awesome idea."

We put on our equipment, and out we went. It was a fantastic world of coral and beautiful sea creatures. The sunlight sparkled and rippled on the bottom as it was bent by the waves above.

"Look at all the turtles," Neddy called out. "I love turtles."

There were beautifully colored fish, jellyfish, and sharks too. We explored for over two hours. Then we headed for different parts of the ocean to find some unusual fish. We saw and took pictures of a *Siamese Battle Fish* and a giant *Whale Shark*.

"This is cool," yelled Lizzy pointing out the front window. "It's a fish with a big head and lots of sharp teeth." Johari and VC went over to take a closer look.

The three of them were staring at what we found out later was a *piranha*. I went to the *Cosmic Egg* controls and did a quick reduction of our size by a factor of fifty. All of a sudden, the sharp teeth were looming outside the front window. The girls screamed and scattered.

I went quickly back to normal size so that thing wouldn't swallow us. That could get us disqualified before even getting through the *Qualifying* round.

When the girls had figured out what had happened and who had done it, they surrounded me.

"You are going to so pay for that," threatened Lizzy.

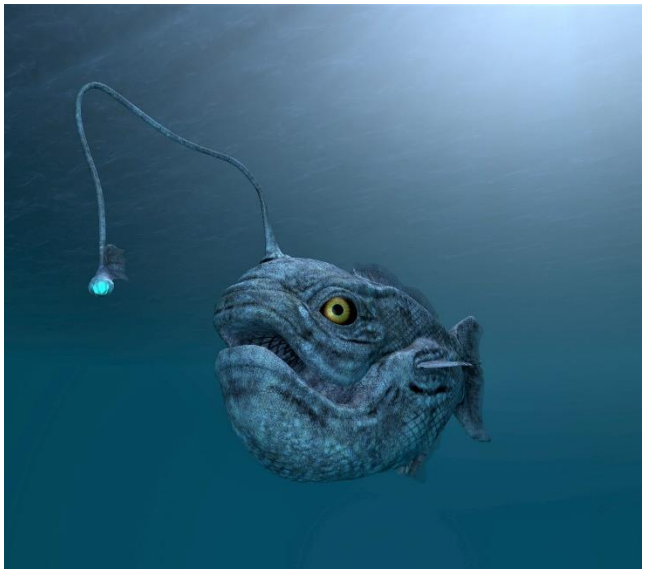
"Just you wait," growled Johari.

"We are going to get sweet revenge," agreed VC.

"I think it was a genius move," Jackson said for boy solidarity even though I got him too.

"Let's see if we can find some other unusual sea life," I said.

Richie called and pointed out a side window. "Hey, guys, look at that fish. It looks really strange."



"I know what that is," said Neddy. "It is an anglerfish. There was one in *Finding Nemo*. An angler is a fisherman, and this fish has a bioluminescent 'fishing pole' that hangs bait for its prey just in front of its huge mouth.

"The anglerfish was also discussed in my online science class," continue Neddy. "We're doing a unit on the *Theory of Evolution*, so we are discussing the principal of *Survival of the Fittest*. The anglerfish has this weird adaptation that gives it an advantage in finding food. That makes it fit."

While we were searching with our eyes for new fish, Neddy was using her *Composition* tool to look for chemical elements indicative of life. We followed an interesting trail of carbon and nitrogen readings and came to an area where there was liquid gushing out of the sea floor.

I did a measurement with my *Temperature* tool and found the liquid to be over one hundred degrees Celsius. We did a computer search and found that these fountains of hot liquid were called hydrothermal vents.

"It looks like there is a lot of carbon where the hydrothermal vent fluids mix with the surrounding seawater," announced Neddy.

We sucked up some of the carbon-rich fluid and examined it under our microscope. It looked like a bunch of fish eggs; tiny little spheres clumped together. We did a search on life in hydrothermal vents and found out that what we were seeing were hyperthermophiles. These are microorganisms that can live at temperatures of ninety degrees Celsius and above.

"The temperature there is one hundred and ten degrees Celsius," I said. "An organism that can live at that temperature is awesome! I guess that is another example of *survival of the fittest*."

"Maybe that's the kind of life that can live in the hot atmosphere of Venus that we saw evidence of on our solar system tour," offered Johari.

"OK team," I said, "let's finish this mission. We have to find the wreck of the Titanic." I was the *Navigator* for the mission, so I entered our destination as six hundred kilometers south-southeast of Newfoundland. I also really wanted to finish up to go see if I could take Svetlana on an underwater adventure date on *Mission KT*.

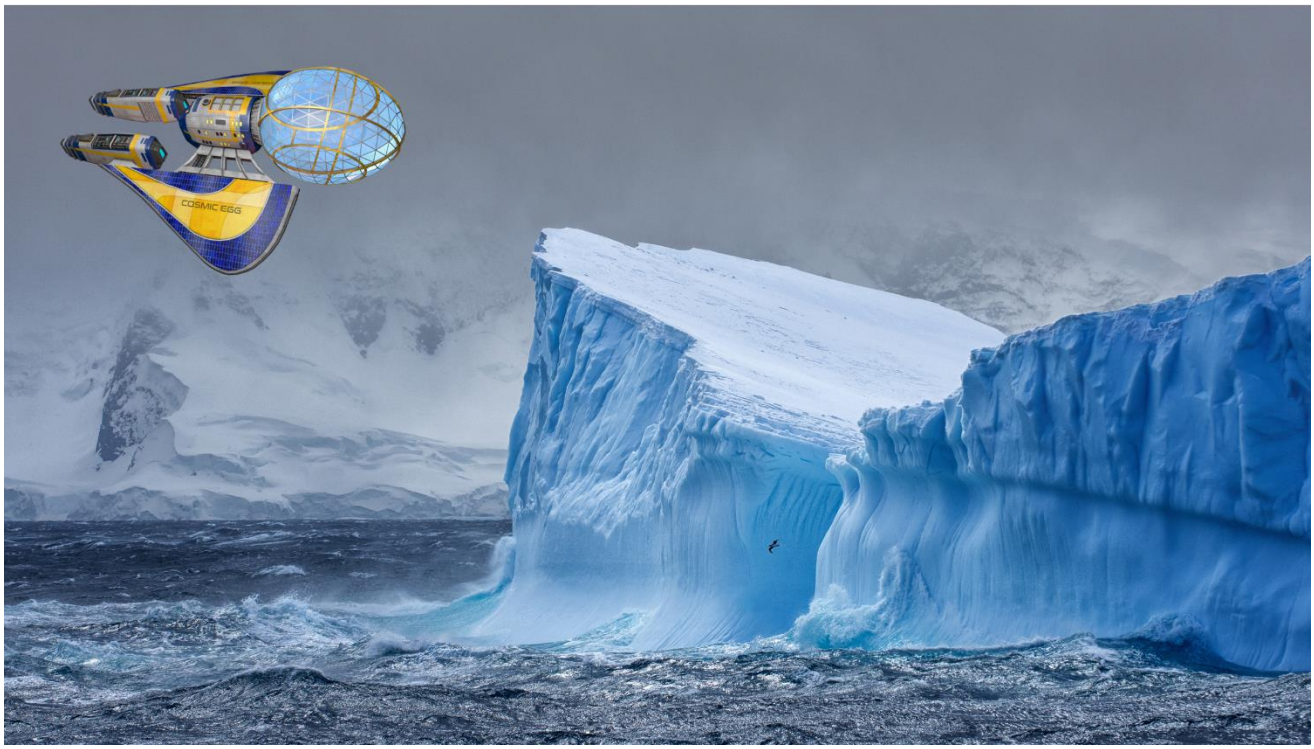
We came out of the ocean and flew above the water. When we got to the location, we all looked around.

VC said, "There's a lot of ocean out there. How do we find the shipwreck?"

Jackson came up with a brilliant idea. "Hey guys, since the *Cosmic Egg* time travels, let's go back in time to just before the Titanic sank and follow it."

"It sank just after April 14, 1912," added Johari.

We traveled back to the day of the sinking. There were plenty of icebergs in the water, but we did not see the Titanic.



"I'll search for iron with my *Composition* tool," offered Neddy. She did a 360-degree sweep of the area. "I got a faint iron signal off to the right."

We followed the signal as it got stronger. "I see smoke," said Lizzy. We followed the smoke and finally saw the Titanic steaming full speed ahead. We followed it until it hit the iceberg.

"I already saw the Titanic sink in the movie," Lizzy begged. "I really don't want to see that again."

I supported her because I was in a secret hurry. "OK," I said, "let's head back to the present time now that we have the exact location."

When we were back in the present, we dove the *Cosmic Egg* to the ocean bottom, but there was no sign of the shipwreck.

"I'll use my *Composition* tool again to look for iron," said Neddy.

We followed the signal, and about two miles from the starting location, we spotted it. It was looming out of the ocean's darkness, crusted with sea life.

"It's kinda creepy," whispered VC. "It's so big and silent. It is clearly a picture of something that went very, very wrong."

"I agree," said Neddy. "I can almost see the ghosts of the passengers who went down with the ship."

We circled around the wreck and took some pictures to complete our mission.

"Hey Guys," said Neddy. "I'd like to do one more thing before we quit. There was this really cool story about Mary Anning in my science unit on evolution. She is the girl from the

tongue twister *she sells seashells by the seashore*. She was actually known as one of the greatest fossil hunters of all time. And this is what is so cool. She found her first fantastic fossil when she was just 12 years old. That's *my* age!

Then Neddy pulled out her phone and started reading from her Evolution Unit notes. "Mary Anning's father had a business of selling interesting things that he found on the local beach on the coast of England. He died when Mary was just 11 years old, and she took over the family business. She explored the beaches and cliffs near her home hunting for things to sell to tourists. When she was 12, her brother dug up a 4-foot long animal skull, and then Mary found the rest of the skeleton. It was the fossil of an *Ichthyosaurus*, a large extinct sea reptile. Years later she found the first complete fossil of a *Plesiosaurus*, another extinct sea reptile that was 3.5 meters long and lived 200 million years ago. These fossils were the first evidence that there were species that once lived on earth and were now extinct. This information was important to Charles Darwin as he formulated his *Theory of Evolution*.

Neddy stopped reading and said, "Let's time-travel and see if we can find one of those creatures."

I was not happy with the delay of my date, but I agreed, "OK, but just one of them. We'll go the coast of England 200 million years ago and look for *Plesiosaurs*."

When we got to the right time and location, Neddy teleported down to the ocean floor along with Jackson, Johari, and VC. Richie deployed the drone to take video so the rest of the team could see too. They explored for a half hour and saw some sharks and turtles, but no *Plesiosaurs*.

"Wait, I see one," yelled Neddy as the team walked closer for a better look.

All of a sudden, another *Plesiosaurus* appeared from around a rock showing his huge set of white teeth up close and personal.

"I'm so outta here," screamed VC as she quickly teleported back to the Cosmic Egg. Neddy, Jackson and Johari quickly followed.

With everyone safely back on board, we headed back to the *Mystery Museum* in the present time and logged off. Neddy was happy that she got some pictures that she could show for her science class. I wrote up the mission for our *Journal* and to submit for the *Qualifying Round*. Then I went to see about my date.

GRANDPA'S GLOSSARY

Theory of Evolution: Charles Darwin's theory of evolution was first presented in his book *On the Origin of Species* in 1859. Darwin described the process by which organisms change over time as a result of changes in inherited or behavioral traits. Changes that allow an organism to better adapt to its environment will help it acquire its needed resources to survive and have more offspring. This is the principal of *Survival of the Fittest*. What species is fittest may be dictated by changes in the environment, as is seen in numerous species extinction events where some species are better suited to the new environment. We now know that changes in an organism's DNA (mutations) can lead to alterations passed down to subsequent generations. This can sometimes lead to a new species, which will be successful if it is fit for its environment.

Ichthyosaurus: Ichthyosaurs are extinct large marine reptiles. The first complete fossil was discovered by Mary Anning and her brother in 1811. Ichthyosaurs overlapped in time with dinosaurs but are not related to them. Ichthyosaurs lived during much of the Mesozoic era (250 to 65 million years ago), first appearing around 250 million years ago and becoming extinct around 90 million years ago, possibly due to the rise in Earth's temperature. The Ichthyosaur species varied in length from 1 to 16 meters. Ichthyosaurs resembled both modern fish and dolphins. The fossil found by the Annings was displayed in the British Museum. The discovery of an unsuspected extinct large marine reptile generated much publicity during the nineteenth century.

Plesiosaurus: Plesiosaurs are extinct large marine reptiles that first appeared during the early part of the Jurassic Period around 200 million years ago. They became extinct at the same time as the dinosaurs in the K-T extinction event, 65 million years ago. The first complete skeleton of a Plesiosaurus was discovered by Mary Anning in 1823. They are up to 3.5 meters in length.

THE STARDUST MYSTERY PROJECT

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