

Journey Through the Polar Lands

Margate Primary School, / McNeil Canyon School



ICE E-MYSTERY

Journey Through the Polar Lands

A story written and illustrated by pupils at Margate Primary
School, Tasmania, Australia and McNeil Canyon School,
Alaska, USA





Margate Primary School, Tasmania, Australia

Margate is a small town 20km south of Hobart, the capital city of Tasmania. Surrounded by native bushland and the beautiful marine environment of North West Bay, the school has a population of 450 students from Kindergarten to Grade 6. In the summer months we all have to wear sun hats when ever we are outside, and if children don't they have to play in the shade.

Margate Primary School Class 5

Teacher: Anne Briggs

Students:	Erica Haskin	Sabrynah Smth
Josh Bones	River Kitchell	Lizzy Thurn
Brayden Crane	Zeke Lagerewskij	Lucy Tomlinson Smith
Megan DeMartino	Molly Lucas	Jacob Verdouw
Jenna Field	Danika Lukic	
Nathan Gaze	Jacob Mackay	
Molly Gilmore	James O'Donnell	
Brady Gordon	Nichola Overeem	
Kurt Haba	Brydie Pearce	



McNeil Canyon School, Alaska, USA

McNeil Canyon Elementary School, located 12 miles east of Homer, Alaska, was constructed in 1983. Homer is located on the north shore of Kachemak Bay on the southwestern Kenai Peninsula, at the southern most point of the Sterling Highway. The facility was originally built to house 225 students and currently serves 108 students in grades K-6. The relatively high altitude, 1350 feet, of the school site provides lots of snow and ice so students are able to skate and ski for almost half of the school year.

McNeil Canyon School Class 5/6

Teacher: Sheryl Sotelo	Keagan Jiron	Jonas Noomah
Students:	Anthony Jones	Irene Pellegrini
Isabelle Baillargeon-Radliff	Jessica Jones	Sunny Puterbaugh
Daniel Basargin	Morgan Kelly	Patrick Rainwater
Feodora Basargin	Andrean Kusnetxov	Filip Reutov
Brandon Beachy	Ulian Kuzmin	Beverly Schindler
Brittany Craig	Patrick Latimer	Abby Vaz
Axel Gillam	Misael Martushev	Zach Williams
Ilarion Ivanov	Demetria Marwedel	

Chapter One

Dad was talking to Mom. I tried to listen, but I could only make some words out. "Boat... luggage... uncle... trip."

"Jacob?" my father called.

"Yes Dad?" I answered, slowly turning to face him.

"Are you excited?"

"Very!" was the only word I could manage. "What is going on, anyway?"

"You and I are going with your aunt and uncle on a voyage. To retrace our ancestor, Captain Cook's, expeditions. Your mom won't be going because unfortunately she has to work."

"REALLY? You've got to be kidding!" The full force of the idea hit me and I jumped up and down and tackled my dad in a huge hug while my mother looked on with a smile.

"You know your cousins are coming along too," Dad added.

"Oh." My face fell. My cousins, Sam and John were much younger than me and always acted crazy. They didn't take things seriously.

Fact stop: Polar Lands

The Polar lands refer to two different areas at two opposite poles of the planet. There is the Arctic region which is around the North Pole and the Antarctic region which is around the South Pole.

Most of the Antarctica is covered with an enormous ice sheet. Antarctica is a very big continent larger than Europe or Australia. But unlike the other continents, Antarctica has no permanent population. It is regarded as international territory to be used for peaceful purposes only.

In winter, a thick, white sheet of ice covers Arctic Ocean for hundreds of miles in every direction. Around the edge of the Arctic Ocean there are flat lands known as the tundra. In summer, snow on the Arctic tundra melts and the top layer of soil becomes soft. Leaves and flowers grow, berries ripen, and small insects, such as mosquitoes, hatch. Suddenly the air is full of the sound of buzzing insects.

Musk oxen live on the tundra all year round. They protect themselves from hungry wolves by standing in a circle.

Seals live in both polar oceans, where they breed and along the coasts. The walrus come from the same family but they are only found in the Arctic. Seals and walruses are mammals. The female gives birth, or pup, and feed their offspring with milk.

Polar bears are very interesting creatures because they have an inch or two of fur covering their whole body. Polar bears are one of the world's largest animals. In winter when the sea is frozen over, polar bears catch seals by waiting for them to come up for air at their blow hole. One slap from a polar bear's paw is enough to kill a seal. Polar bears are only found in the Arctic.

Wildlife in Antarctica includes penguins of different types. The biggest penguin is the Emperor Penguin.

Today some industries in the Arctic have polluted the air and water and destroyed parts of the tundra. Pollution from other parts of the world also damages polar areas. Countries are now working together to protect the polar lands and seas.



Getting Ready Part 1

While I was brushing my teeth the next morning, I wondered when we would be going on the trip.

“I hope it’s soon.” I said to myself, “Even if my cousins are going to be there.” Downstairs in the kitchen there was a large buffet of eggs, bacon, and sausages. This was my favourite part about Saturday mornings, the Big Breakfast Saturdays. I quickly started eating and turned to my dad. “When are we going to leave?”

I had to wait patiently for Dad to finish chewing then he said, “We leave tomorrow afternoon.” I was ecstatic. “We have to go shopping today.”

After breakfast we went to Wal-Mart. We bought a giant stack of warm clothes then went home and started packing. I was getting distracted with the silliest things, like the crayon that was stuck in the bedroom carpet from almost a year ago.

It took a long time, longer than it should have, but I finally finished.

All packed and ready, I hopped into my dad’s car and buckled my seat belt. Mom leaned into the open window of the car and kissed my cheek. I wiped it off; I always get embarrassed when she does that.

“Be safe and careful, never go off on your own and be nice to your cousins while you’re there, okay Jacob?” Mom lectured.

“I will” I sighed. Dad climbed into the front seat.

“All ready to go?” he asked.

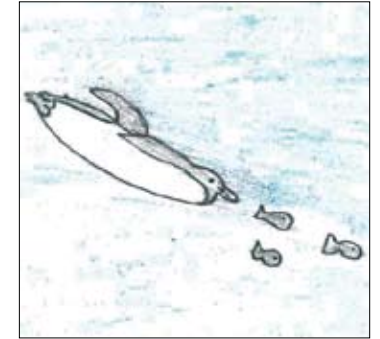
“YES!” I exclaimed.

Soon we were on the road, driving out onto the highway. I was ready for the great adventures that awaited me at my Aunt’s. I stared out the window as the car raced past trees and fields. After a while I took my book, *The Adventures of Captain Cook* out of my bag. It was one of my favourite books.

When I finished my book I had nothing to do for the rest of the six hour trip from my house in Texas to my Aunt Lucy and Uncle Steve’s house in Oklahoma. I started to think about ways to entertain myself. There were sheep on the side of the road and I decided to try counting them. I knew it was impossible to count all of them, but it would keep me occupied. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 It was not until too late, I remembered that counting sheep was a sure way to get you to sleep.

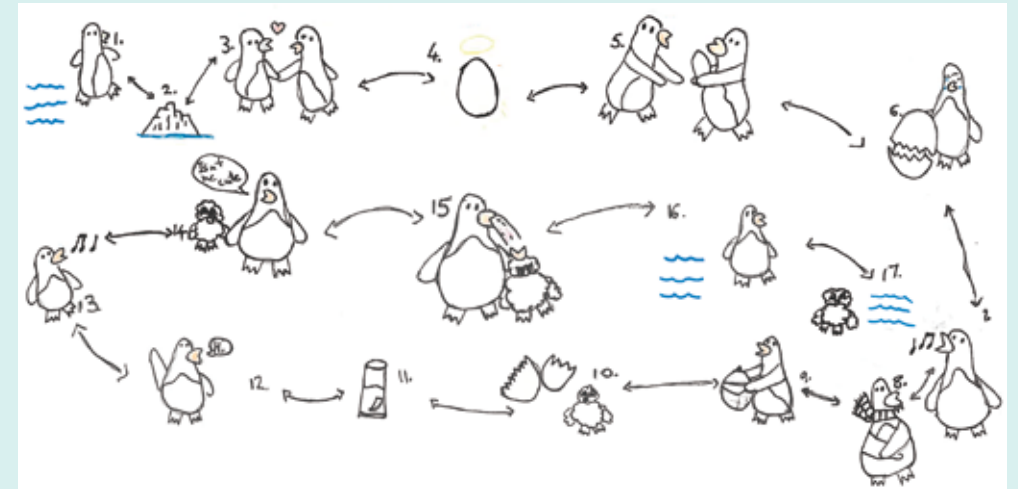
Aunt and Uncle's House

"WAKE UP! WAKE UP!" I was shaken violently by grimy hands. When I came to my senses, two laughing faces were about six inches from my eyes, yelling and screaming and whacking me on the forehead. I shoved them off and leaped away. I ran toward the house, but before I could change course, I was bowled over by two playful golden retrievers. I covered



Fact stop: Emperor Penguin life cycle

- Emperor penguins leave the ocean and begin their 70km long march.
- The penguins arrive at the place they were born.
- They search for a mate.
- The egg is hatched in early June.
- The female has to pass the egg to the male which can be very tricky.
- If the egg is dropped the relationship is broken.
- The female and male have to learn each other's voice and call.
- All females leave the males and go to collect food.
- The temperature drops and the males huddle in a circle. The temperature drops to -50°C . The temperature in the middle of the circle is much warmer so the penguins rotate.
- The male keeps the egg warm for 2 months and has to go without food for 125 days.
- In late July to early August the egg hatches and the chick comes out.
- The males give a milky substance to the chick.
- The females return from their long trip in late July.
- The parents find each other by call.
- The females finally see their chicks for the very first time.
- The mother gives the chick her regurgitated food.
- The males go back to the sea.
- The chick goes out to sea and stays for 4 years and so the cycle starts again.



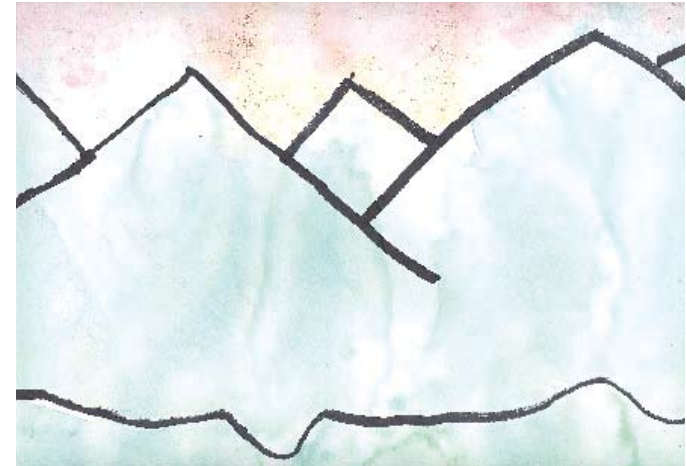
my face from their dripping tongues and pushed the dogs away. As soon as I got up the retrievers charged me again but this time I was prepared. When they hurled themselves at me I ducked and they sailed overhead. I then noticed two figures shuffling towards the door inside the house and Aunt Lucy and Uncle Steve came to meet me. I walked into their opened arms to get a very big sloppy hug and kiss.

Next morning we woke up at 6:00 and ate a quick breakfast before leaving. I remembered to grab a couple of books for the ride there. Once we were all in the car we were off to the airport.

Ride to England

The flight from Mansfield, Oklahoma to London, England took 9 hours! We waited for ages to board our plane. The airport was a very big and odd-smelling place. It had snack stands, dinner restaurants, and TVs plastered all over the walls playing news flashes and commercials. Luckily I had a Nintendo DS to help pass the time. I loved the game *Flight Disasters* where you fly your airplane as high as you can and then plummet to earth to create the most disastrous crash ever. I hoped our pilot doesn't like it as much as I do! Finally our flight was called and I got in line with my Aunt Lucy, Uncle Steve, Sam, John and Dad.

In my seat I noticed an interesting magazine in the pocket in front of me. The main headline was *DANGER FOR OUR COLD FRIENDS*. I read on; *Our friends are in grave danger. The poachers are now attacking the poor Arctic and Antarctic animals. The earth is already warming up and they are distressed so we think the poachers think it is prime time to kill illegally.*



We are determined to keep this from happening so we are sending teams out on the lookout for poachers. Please call if you hear anything about a poacher and if you want to sign up, also call. I handed the article to my dad. After he read it he said, "We might want to consider signing up son." He soon fell asleep. I sighed and then finally fell into a deep slumber too.

I woke up when we landed at London airport. It was quite a time change; here it was the middle of the night! We arrived at the training facility and started our course straight away.

First we learned that if we got separated we needed to immediately find shelter. Then he taught my dad and my uncle how to drive a snow-plane, and two kinds of snow-tracks. While my dad and uncle were learning to drive my aunt was getting training from the old man's wife on different medical treatments to use if anybody got hypothermia or frostbite. Then we all put on our polar clothing. I needed six layers!



Boat Trip

The harbourmaster took us down to the docks in Plymouth, England and showed us our vessel. "This ship is called the Endeavor II" explained the proud harbor master, "It is modelled after Captain Cook's boat but has a combustion engine and a metal hull."

I looked at the stunning boat. Her masts shot up into the sky and her rigging was like a lacy spider web. I think I was in love.

The Captain however was just the opposite. Even his voice sounded scratchy. He was very unfriendly. All he did was point at the stairs going down into the big boat and grunt. He had a parka with real white fur around the hood. I took my first step ever on a boat and my feelings about it instantly changed. The deck wasn't steady and the boat went up and down with the waves. I staggered around feeling dizzy. Maybe this trip wasn't such a fine idea.

"Landlubber," chuckled the captain, as my little cousins scurried aboard and started running about like they were born there.

As the spots before my eyes started to recede the captain said, "Come on, you are going to spend a long time on this tub." He sounded a little friendlier, "Try and stay on deck in the fresh air."

Fact stop: Transport in Antarctica

Häggglunds

A Häggglund is like a caravan that has been adapted to survive the harsh off-road terrain of the Polar Regions. Rather than wheels the Häggglunds' have tracks similar to tanks. They are bright colours so they can be seen against the snow. The walls are much thicker with special insulation. A minimum thickness of sea ice for a Häggglunds to drive on is fifty centimetres. The distance a Häggglunds can travel is about 250 km dependent on speed, terrain and load.

Quad bike

Like every day Honda Quad bikes, these quads can only carry one person and cargo up to 30kg on the standard front rack and about 60kg on the rear carry rack. A special purpose built sled or trailer can be towed behind the quads carrying up to 200kg. These bikes are also made from different material to cope with polar temperatures and their tyres may have bead locks which allow the tyres to work with the low pressure required to drive on snow and rock. Under normal conditions a distance of about 120km can be expected from a full tank of fuel.

Snow Mobiles

Snow mobiles operate on skis with a track at the back. They will go many places that quads can't and are capable of carrying more weight. They can carry up to 60kgs and tow sleds with up to 500kg.

On deck we met the rest of the crew. A tall man, named Luke was the first mate, and a short man, Portly, was the cook. A friendly woman came forward and shook our hands.

“I’m Katie, the navigator.”

Another man came hesitantly forward, “Hello, I am Jeff the mechanic.” The rest of the people were deckhands and sailors. The captain led us to our bunk rooms. I shared a cabin with John, my dad, and my Uncle Steve. Sam and my Aunt shared another cabin. There were four bunks in the cabin, one small dresser and a bookshelf. On the shelf sat a drum with skin stretched across it, some native fans and an oil painting of an Eskimo killing a polar bear.

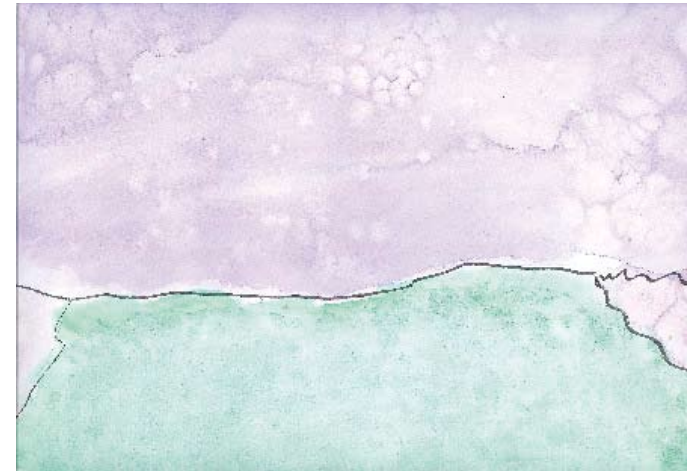
We sailed for days across the ocean to Jamaica. At first it was fun, but then Sam and Johnny got bored and decided to annoy me as much as possible.

“JacobJacobJacobJacob!” High pitched laughing voices interrupted my thoughts.

“Poke, ha-ha! Poke, ha-ha!”

“GAH” I yelled, “Go away and stop poking me!”

“Get off!” I jumped away from those small fists and hoisted John on my shoulders. AAAAAAGGGGGGHHH! This was torture! I put John down on his back and rolled him over at Sam. As soon as my hands were off him, I sprinted down the deck, dropped down the ladder, dashed into my room and locked the door. I plopped down on my bed and grabbed a book from the huge pile. This was going to be a long trip.



Arriving at Caribbean Island

When we arrived at Jamaica I saw dark brown sand beaches and palm trees. With a gentle thud, we docked!

I walked quickly to the exit and jumped off onto the wooden dock. I almost slipped because of the algae that were growing on the planks. My dad followed me along with Sam and John. “We are going to be here over night.” my dad said. “Are you hungry, would you like to eat something? There are a lot of bananas here, and citrus fruit.”

After we ate we had to go back to the boat. I wished I could sight see more, but I had to go help with cargo.

Later I walked down to the shore line and sat on a log, listening to the waves as they lapped up onto shore.

When I got back from the beach, it was time for dinner. Dad caught some fish on the way here and it was good.



The next day I looked back onto the beach as the Endeavor II sailed away. "It must be nice to live here all the time." I thought to myself. "Where are we going again?" I asked my dad. "We are heading to the Panama Canal." he told me.

I decided to go hunt for a good book. "Do you have any good books I can read, Katie?" I asked the navigator. "Well, it depends," she replied. "Do you like books about underwater Arctic life? If you do, I can lend you a pretty cool book on it." "Yes please." I replied.

Going through the Panama Canal

Before long we reached the Panama Canal. It was a terrific experience, but it would have been better if Sam and John kept quiet and enjoyed the ride instead of yelling their heads off.

"Can you brats keep quiet and let me enjoy the view!" I scolded them.

"We don't have to if we don't want to!" Sue remarked. I ignored her and looked out to the shore. It was beautiful! There were farms and forest land everywhere! Exotic fruit trees stood out from the rest of the forest with their red and yellow fruits.

I closed my eyes and enjoyed smells then suddenly John ran into me and I felt myself slipping over the handrails of the boat. I scrambled back, terrified and Samantha and John helped me up. When I was onboard again, I turned around to look at them, they were smiling, expecting praise for helping me, but their faces fell when they heard what I had to say.

"Samantha and John Cook! You guys are the most annoying kids on Earth! Get a life! Start helping people for a change and not wrecking everything you see!" I snapped at them.

"At least we aren't not loud mouths like you!" Sam snapped back and they both ran down to their room. Dad heard us and came up out of his room and I knew I was in big trouble.

"I'm sorry Dad! John pushed me over the handrail and I just got mad! I didn't mean to snap at them like that!" I said quickly before Dad had a chance to say anything.

"Come with me Jacob" Dad said with an odd tone. Dad and I walked down into his room and Dad sat me down on the bed.

"Let me tell you something. One time when I was a kid, I always yelled at my little sister. We were always fighting, but not badly until one day when she took my book and I really yelled at her. I hurt her feelings so much that she did not talk to me for a month. One day I was outside when a bear came into the yard. My sister was on the porch and I told her to get Mom and Dad. She

said nothing, did nothing, like she did not hear me, just stared at me blankly. The bear was closing in on me, but I knew that if I moved I would be attacked. I yelled at her again, this time to shoot the gun we kept by the door for emergencies, but she still did nothing but stare. The bear decided then that I was a worthy lunch and charged me. I raced into the house just in time, but the bear did score some points" Dad said, and pulled up his sleeve, uncovering a huge scar a quarter of the way down his arm. "After that happened my little sister ran away into the woods one night and was never seen again. It is not me you need to say sorry to, but your cousins. It was an accident when John pushed you off. It is not worthy of your anger." I sighed, knowing Dad was right. I opened the door to John's cabin a crack to see what they were doing. John sat on his bed crying while Sam soothed him, a tear sliding down her cheek. I opened the door all the way and Samantha looked at me. Wiping her cheek, she yelled, "Go away loud mouth!" I sighed and walked in and sat next to John. "I'm sorry guys, I know it was an accident, I did not mean to snap at you guys. Will you forgive me?" Sue looked at me as if she could not believe what she was hearing. "I'll leave you two alone for a while" I said before leaving the room.

I went back up to the bow of the ship to enjoy the sights again. The water was churning as the boat raced down the canal. It was hard to believe it was man-made! It must have taken a long time to make. "Sorry for calling you a loud mouth" Sam said suddenly. I turned around to see Sam and John looking at me. "No, I'm sorry for snapping at you, come here, let me tell you about the canal" I said.

"The Panama Canal extends across the Isthmus of Panama from Colon on the Atlantic Ocean side, to Balboa and the Pacific Ocean. It was built in two stages; 1881-1888 by the French, followed by the Americans, they completed it in 1914. During the invasion of Panama by the United States in 1989, their successful effort to remove the *de facto* ruler General Manuel Noriega from office, the canal was closed for the first time in history. It was managed for decades by the U.S. The canal was returned to Panama on December 31, 1999." Sam and John clapped their hands, making me blush.

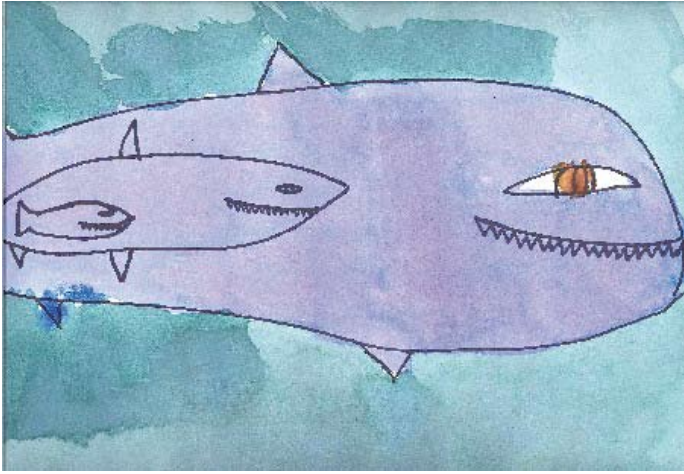
"I know!" I exclaimed, "Let's make our own board game! I have cardboard in my room and I'm sure Sam has markers, and you, John, have the creativity!" I announced, watching the look on John's face change when he heard me. We all agreed and I went to my room to get the cardboard while Sam went to find the markers, John was sitting on his bed thinking hard of what to do.

John had an idea. "Let's have the people on the board be us and the crew! And it will have all the places of Captain Cook's adventures across the sea!"

With that idea, we all started, John making the pieces, Sam making the pictures, and me, making the path that Captain Cook travelled. As soon as we were done, we started to play.

"Haha! I'm almost to the North Pole!" John yelled happily.

"Oh ya! I'm almost to Australia!" Sam shouted back. Just then we heard Dad calling to come to dinner.



We all rushed downstairs to the kitchen for dinner. My cousins and I sat down and looked down at our plates of fish. It seems like we have fish every night, I thought.

After dinner, we went up to our rooms to get ready for bed. In the morning we'll have left the great canal and gone into the Pacific. I brushed my teeth and said good night to Dad and the cousins before I drifted into a deep sleep.

I woke up with a start. I looked at the clock; it was 2:00 in the morning. I groaned and tried to sleep, but then there was a loud thud as something big hit the boat. I crept up stairs and carefully walked to the bow of the ship. It was a dark night, and yet the water was bright with bioluminescence. A huge Blue Whale was swimming through the glowing water. It was singing, making wonderful noises. Like us, it was cruising in the Pacific Ocean toward Alaska. I heard somebody approaching and I turned around to see John staring at the whale.

“What are you doing up John? Tell you what, come here and sit on my coat, I'll tell you a little about Blue Whales. The Blue Whale is a marine mammal and averages about 33 meters long and is believed to be the largest animal alive today. It eats things like krill and shrimp; it's hard to believe that such a large animal eats something so small.” I was glad that I remembered my report on the whales in school. As John and I watched the magnificent whale disappear into the ocean once more, I noticed that dawn was just breaking over the horizon. The crew would be waking up soon.

The rest of the boat trip up the west coast was uneventful. I spent many hours reading in my cabin. As we sailed away from Seattle, on our way to Alaska in the Endeavour Two we saw Orca whales jumping out of the water. That night the seas were rough and I got very sick.

Next morning I woke up and looked outside and there were no waves. Upstairs the cook made some pancakes and boy, those were delicious. Suddenly my dad rushed into the dining room. “There is a big storm coming and we have to tighten everything on the shelves so nothing can fall out”. We finished just before the big waves came.

Stopping at Anchorage Harbor and Getting Supplies

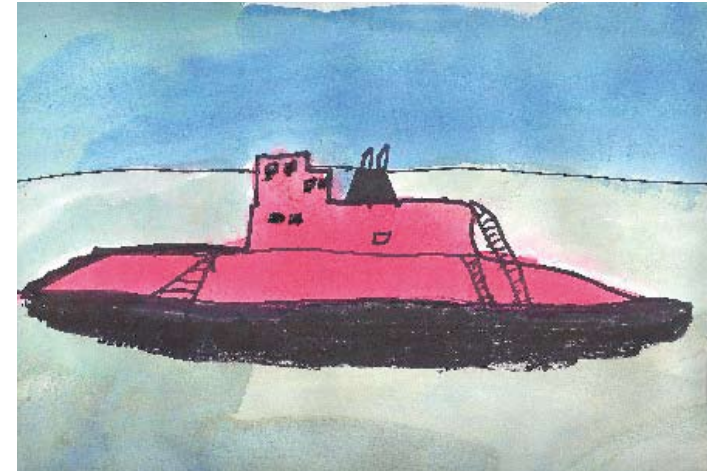
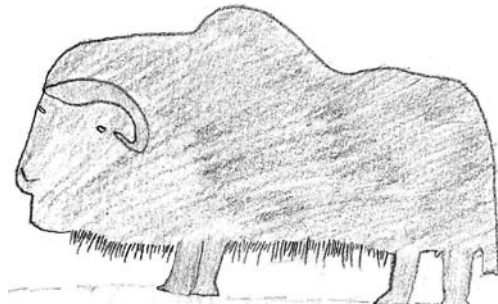
We arrived at the Anchorage harbor. I saw a barge slowly pass by with drums of oil. There was a cruise ship with hundreds of people getting on, and a tug boat drifted past us. Our ship, Endeavour Two, drifted onto the dock.



We went ashore to get supplies. After an hour of shopping, we finally got out of the store and loaded into the cab. I was starving. "Can we eat somewhere? I'm starving!" I asked my dad. He thought a moment, and then gave in. "All right we'll stop at McDonald's for a burger." We finished eating and went to the airport.

Leaving Anchorage

We went to the terminal where our plane to Barrow boarded. It was a little plane. The ride was long and bumpy; it felt like I was in an old car on a potholed road. I looked out the window and saw some big furry horned things far below that the pilot said were musk oxen.



Finally we landed. "Welcome to Barrow," the pilot said. It was extremely cold as we walked to a small airport building. We grabbed our luggage then went to the harbor and got onto the boat. The boat was a huge tug boat called a Crowley Tugboat. It looked old but sturdy. The boat had tyres running up and down its sides of the boat and one big tyre that had been split and attached to the bow. The name of this boat was the "Iceman". My aunt said that we could explore but not get off the boat. I immediately run up the stais to the wheel house and there was Captain Rick from the Endeavour Two! A cold breeze blew through and I shivered.

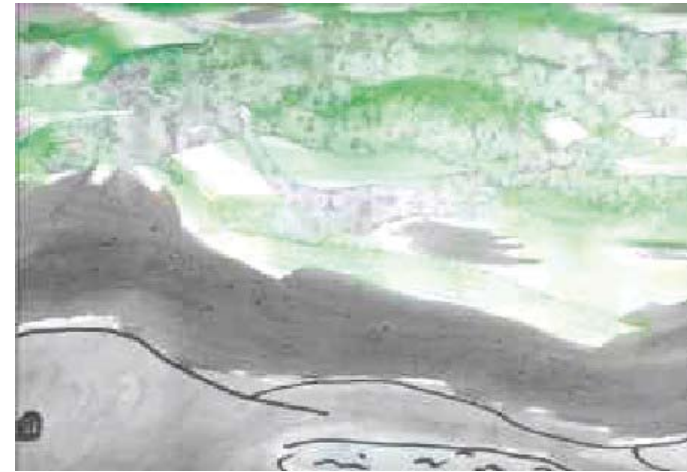
I got my down jacket on and all my warm clothes and I went out on the deck to watch our bow break the thin ice. When I looked inside the life boat I almost screamed to see a small crippled blood stained ball of white fur. I knew it was a polar bear cub. I decided not to tell anyone about it, yet.



Our boat continued until it ran into a storm. Our boat was almost keeling at a ninety degree angle. Huge waves were breaking over our bow and coming onto the deck. The captain's voice came through the speakers, "Steve Cook, William Cullen, and Jacob Cullen, please come to the wheel room." We raced up the stairs to the wheel room and the captain pointed outside.

"Our boat is icing up. I need you three to use the ice cleats to break the ice off the deck. You ice chippers need to tie yourselves to the ladders so that if you fall overboard we can retrieve you easily." As we struck off the ice my dad suddenly yelled, "Get off the deck! Hold on! A huge wave is coming!" The wave was twice the size of our boat and coming at us fast. All at once I felt my rope tighten and then I was under water. Everything went black.

"Almost got washed away..." "I think he's coming round." I opened my eyes and saw all the crew looking down at me. I sat up and my



leg hurt like crazy. My father said, "You let go of the ladder and when the wave retreated your leg scraped against a sharp corner."

Our boat continued onward. We had sunny and smooth days, a nice change from the storm. My cousins talked to me like I was a hero.

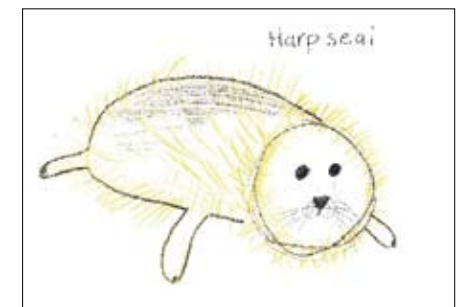
"You were in the water." said Sam.

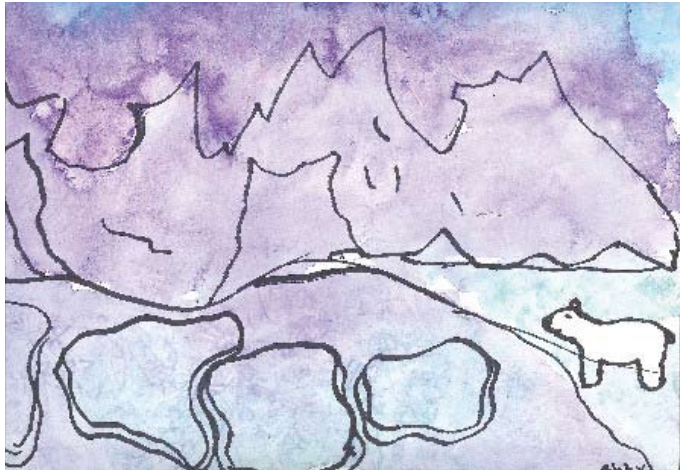
"You took on a wave twice the size of our boat." said John.

Camp

"Ice ho!" My cousins yelled. We were just inside the Arctic Circle.

We carried our supplies on to the ice. By the time we reached a flat spot a long way from the edge of the water, I felt like my





arms were going to freeze solid and break off. The bags were cold and heavy.

After we set up our tents I decided to spend some time alone and began my walk through the freezing snow. A chill ran down my spine as the wind blew powdery snow down past my hood into my shirt.

Then I saw a crevice in the snow and decided to take a look but the ice collapsed beneath me and I fell.

I found myself at the bottom of a large crevice. I tried to climb out but it was too slippery so I decided to look around. At the back of the crevice was a small hole and I wriggled through. The space got bigger and bigger and an eerie light came from the end of the tunnel.

The tunnel opened up into a big chamber. Light was coming from a kerosene lamp nailed into the top of the icy cave. I saw a

Fact stop: Polar bears

The polar bear is a native to the Arctic Ocean and the surrounding oceans. The polar bear is the largest predator found on land. They are most active during the first third of the day and not that active during the last third of the day.

The female polar bear hunts with her cubs about 19% of the spring time. The polar bears nostrils close when the polar bear is under water. Polar bears use the dog paddle style to swim. Polar bears fur is easy to shake off any water because it is very slick.

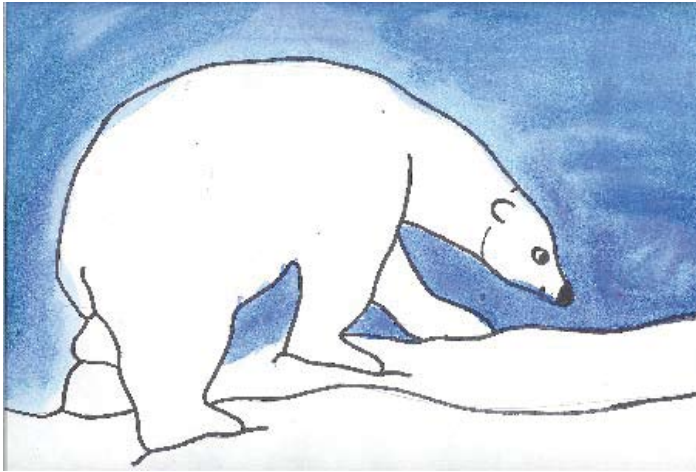
Polar bears mate in April or June. The girl polar bear is pregnant for six to nine months. Some polar bears use their same dens all their life. Their dens go to 6-20 feet down in the snow. The snow protects the polar bears from blizzards and bad things outside the snow hole.

The cubs are born about six weeks after the mother enters her den in the snow. The newborn cubs drink the mother's milk as much as they can. The biggest polar bear ever to live was 11.12 ft from nose to tail. A polar bear's weight all depends on how it eats. Their stomachs can hold up to 150 lbs of food.

Polar bears skin is black which absorbs heat. Under the polar bears skin is a thick layer of fat or blubber which keeps the heat from coming out of the polar bears body. Their ears are small so they lose less heat. They also do not have any eye lashes so they don't collect any ice.

*The polar bear has a third eyelid called a nictitating membrane, to protect the eyes from bright light. The nose part of the body has a super good sense of smell. It can smell something dead from very far away. The polar bears feet are covered in fur so it doesn't slip on the snow and so it can move silently. Their claws are very sharp to grip their prey. The polar bears Latin name is **Ursus maritimus** and it means sea bear.*





cage and walked over to it and then felt searing pain as a claw slashed through my left arm. The claw struck again but I dodged it and rolled away.

Then I remembered the story in the magazine, on the plane. Polar bears...poachers! I knew what was going on. I raced back to the crevice and looked up. Two faces peered down at me. My cousins! They screamed when they saw my arm. "Stop screaming like two year olds and shape up!" I hissed at them. "This is a poacher's camp and they could come back anytime now." My cousins helped me climb out with a rope they had and I told them what had happened.

I stumbled through the freezing snow of the Arctic, clutching my gashed arm, following my cousins. I tramped until we had reached the campsite. Dad and my aunt and uncle were huddled around the fire. They were relieved to see us.

"How did this happen?"

As Aunt Sue bandaged my arm I told the adults about the polar bears. "We have to rescue the polar bears!" I said. "The poachers are going to kill them."

I knew Dad and Uncle Steve were worried but we were determined to save the polar bears. When we reached the crevice where the poachers had the polar bears my uncle asked, "Ready everyone?" "Yes." I said, looking into the icy tunnel.

There were tranquilizer guns and traps everywhere. Our footsteps echoed on the hard icy floor. We were trying to be quiet but even when we tip toed it still made a noise. "How are we going to get the polar bears out of here?" I asked. "We're going to have to use a tranquilizer gun to get the mother away from the cubs." Dad said. Uncle Steve slowly pulled the trigger and the mother slowly began to wobble then she fell down and was asleep. Her cubs gathered around her looking to see what happened. We opened the cage and put the mother on the cart. It took a while because she was huge. I led the cubs and Sam and John helped Uncle Steve push the cart.

Dad and Uncle John got the mother off the cart and pushed the cart back into the entrance. We waited a while until the mother had started to wake up so the cubs wouldn't run off when we took the ropes off. Once the mother was fully awake we released the cubs and watched them walk away. Back at camp Aunt Lucy was waiting for us. "How did it go?" she asked.

"The polar bears are back into the wild and are safe." said Uncle Steve



What is an Iceberg?

An iceberg is a free floating object made out of ice. They're usually broken off the shelf of Antarctica.

Calved from the Ross Ice shelf in March 2000, B-15 (largest iceberg in Antarctica) broke up into several pieces in 2000, 2002 and 2003. The largest of these icebergs is known to scientists as B-15A. It was the world's largest free floating object at 27 x 122 km (17 x 76 mi) with an area of 3,100 square kilometres.

In December 2003 a small knife-shaped ice berg, B-15K (about 300km²) detached itself from the main body of B-15A and started drifting northward. In 2005 prevailing currents took B-15A slowly past the Drygalski ice tongue; the collision broke off the tip Drygalski in mid-April. Then the ice berg sailed on along the coast leaving McMurdo Sound until it ran aground off Cape Adare in Victoria Land and broke into several smaller pieces on 27-28 October 2005

The Poachers Get Away

We came back inside the camp to get warm after our journey to save the polar bears. It felt good to feel warm again. "So, where did the poachers go?" Aunt Lucy asked. Uncle Steve paused and looked at Dad with a very confused look on his face. "I really don't know where they went." he said with an eyebrow raised. "We were so happy to free the bears we forgot about the poachers." "Do you mean you don't know where they went?" Aunt Lucy yelled. "They could be out there poaching some other animal! You need to find out where they went before it's too late." "Okay." said Uncle Steve. "We'll go back to the poachers cave and find out where they went."

When we reached the cave again we were exhausted. We went inside and found a snow built table with a piece of paper that had a plan on it. The poachers were going to Antarctica to poach a flock of penguins!

“We need to get to Antarctica and catch these poachers.” I said, holding the piece of paper. “I know.” said Uncle Steve. “We must get back to the camp and pack up. Aunt Lucy needs to know.”

As our tugboat pulled slowly into the Barrow harbor I cradled my arm. It had healed a little bit but it still hurt. As the plane took off I looked at the pilot and the people on the plane instead of looking out the window. I noticed that the first mate was fidgeting with his hands and seemed nervous. When we landed in Anchorage I noticed that the captain and the first mate shuffled out of the airport in a hurry.

Plane ride to Hawaii and finding grave

We decided to go to Antarctica via Hawaii, to keep following Captain Cook’s voyages. We were excited to be going somewhere hot. As soon as we landed, I bought a bottle of water and drank it all. We stayed in a hotel and slept in water beds, with fake but real looking fish in them.

In the morning we went to look for Captain Cook’s grave at Kealakekua Bay. There was a big, white grave stone with inscriptions on it. Palm trees swayed in the breeze, making it sound like voices whispering gently to me. I walked up to the grave and put flowers in front of the stone then said kind words to the grave; I hoped that Captain Cook got our message.

Captain Cook spent twelve years sailing around the Pacific. He had a theory that the Polynesians had originally migrated from Asia.



Dad said that we were going to Australia next. Captain Cook was the first European to visit the Eastern coastline of Australia. We could travel to Antarctica from Tasmania.

On the flight to Australia I dreamt that I saw Captain James Cook. He was in Hawaii at Kealakekua Bay. He was killed by natives. I woke up when I heard a voice say, “Ladies and gentlemen, we have now landed in Sydney, Australia.”

Australia

As we took off from Sydney on our way to Tasmania I saw the

Sydney Opera House on the edge of the harbour. We arrived in Hobart, the capital of Tasmania. I really liked it but Sydney was much warmer!

We stayed at the Hotel Grand Chancellor. Nearby was the port with boats of all kinds including the ice-breaker Aurora Australis!

We went to the Tasmanian Museum and Art Gallery. There was an exhibit of an animal which many believe to be extinct, called the Tasmanian tiger. It made me cry.

On Monday we went to a place called Bruny Island which is south east of Hobart. The beach we went to was called Adventure Bay. Captain Cook visited in 1777 and spent four days on the island. Dad had organised to go on an eco-boat called the Bruny Island Charters. We saw a seal colony, a pod of dolphins and a wandering albatross. In the early years of European settlement Bruny had a whaling industry. There were once four whaling stations but we only got to see the remains of three.

South to Antarctica

Captain Cook was one of the first to cross the Antarctic Circle. He almost reached the mainland of Antarctica in 1774 in his ship the Resolution. However, he couldn't make it because of all the ice. We would probably be faced with the same problem. The Australian Government was very interested in our journey, retracing our descendant's trail and gave us special permission to join the Aurora Australis to take us south to Antarctica. Special consideration was given to the crew of Endeavour Two and they were allowed to join us.

The voyage was to take about eight days. On board the ship were scientists who were heading to Casey Station to drill for ice core samples to aid research on climate change.

We saw the Hobart lights fading into the fog. Not far out of

Fact stop: Global Warming and how it affects the Polar Regions

Why is the ice melting you may ask. Well there isn't any way to make this sound good. The earth is getting hotter. This is called global warming.

Global warming can happen by gases like carbon dioxide, methane, nitrous oxide and fluorocarbons. They can get trapped in by the atmosphere. This is called the greenhouse effect. The atmosphere is a layer of gases that surrounds a material body of sufficient mass. The atmosphere protects us from the dangers of the sun's radiation and things floating in space.

You also may ask how this affects the Polar Regions? The Polar Regions are melting which means that the ice is melting and animals are losing their habitat. This means that there probably won't be as many animals in the Antarctic because they will run out of food and many also need the ice to survive.

How can you help Global warming? If we can stop adding greenhouse gases, we can reduce our carbon footprint and help slow the warming trend. You can help by using alternate energies like wind power, solar power, wave power. You can also help by using hybrid cars or walking. You can do things in your house to like unplugging the T.V. when you have finished watching it. Or have a compost pile in your back yard to fertilize your garden. There are other things you can do to. Just keep your mind open.

Fact stop: Adelie Penguins

Adelie Penguins are much more at home in the water than in the air. Instead of wings penguins have flippers that they use as paddles. Penguin's feathers are waterproof to keep a penguin dry no matter how long it is in the water.

The first thing a pair of penguins would do is build a nest. To make a nest they make a hollow in the ground. The Adelie penguins build nests in rocky frozen ground. Both male and female lie down on the ground and use the warmth of their bodies to thaw a spot for their nest. When their nests are finished Adelie penguins start their courtship and mating.

Each female usually has 2 eggs, which she lays 2 or 3 days apart. It takes about 35 days for their eggs to hatch. When she is done laying the eggs she goes out to the ocean. The male keeps the eggs warm until the female comes back. The female is gone hunting for food for several weeks. When she comes back then he gets to go feed. Then they take turns keeping the eggs warm until they hatch. When the chicks break out of their eggs, they don't look much like their parents. They are covered with soft, fluffy feathers called down. The new chicks are very small, and they still need to be protected from the cold. They stay in the nests for 2 or 3 weeks and huddle under the warm body of one of their parents. After 3 or 4 weeks the chicks need so much food that both parents must go hunting at the same time and the chicks huddle together in crèches to keep warm. Soon the baby Adelie penguins will go hunting by themselves and get food.



Hobart we entered the waters of the Southern Ocean. As the ship moved closer to Antarctica, we wondered what was in store for us.

The captain warned us that a storm was about to hit. Many people felt queasy and woozy. The crew handed out sea-sickness tablets. Sam and John were feeling very sick and were confined to their bunks until they felt better. The next morning I got up early and saw a wandering albatross gliding over the dark blue waters of the ocean. For breakfast I had scrambled eggs with bacon. Then I grabbed a mango and went up to the deck. Dad came up with me. He said that I should build up my blubber layer for the cold Antarctic weather. The temperature was already dropping.

Hijackers Hijack Boat

When we reached Antarctica and the ship was set in ice, all at once the ship was ambushed. My uncle heard a noise and went outside. Six men were coming at him. Uncle Steve ran inside but tripped and broke his ankle. I heard a scream and I knew it was my uncle. I went to Aunt Lucy and told her we had to hide somewhere, but when we went out the door the men were standing there with the captain in handcuffs. "Don't move." one of them said. "The captain's coming with us."

They smashed the radio then handcuffed the entire crew, marched them off the ship and away across the ice.

We were alone now. No captain and no radio. "Uncle Steve!" I yelled and went running down the hall. Uncle Steve was lying on



the ground holding his ankle. "Aunt Lucy!" I screamed and she came rushing along with Dad and my cousins behind her. "I think his ankle's broken." I said, worried.

Aunt Lucy put a splint on the broken leg. "We have to go find these hijackers," she said.

Aunt Lucy and Dad decided that we would stay here and look after Uncle Steve and they would go look for the captain and the crew. They went and got their gear and came back to say goodbye to us.

"Bye you three. Be careful and take care of your uncle." Aunt Lucy said. "If anything or anybody comes hide somewhere, Okay?" We all nodded and smiled. Aunt Lucy and Dad went out the door and were gone.

After a few hours Aunt Lucy and Dad came back with loads of boxes and food. "What is that?" I asked, confused. "We

went to the poachers head quarters and took all their food and equipment." said Aunt Lucy. "Now they won't have any choice except to come here and we'll trap them."

The Capture

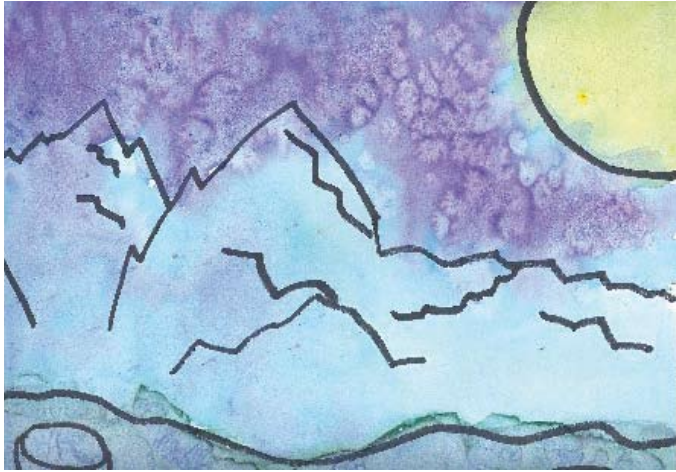
We were in position when we saw dark figures crossing the ice. The men were getting nearer and we could tell that they were very angry by the way they looked at each other and by how they walked.

As the men neared the ship we all tensed. Even my cousins stopped shuffling their feet. I was nervous. The plan was that when the men came on board they would walk on the net that was strewn about on the deck and we would hoist them into the air by pushing a counter-weight off the ship. The gang reached the boat and were clambering up the port side. This was perfect! They were hollering to us; "Come out! Come out wherever you are!" We did not say a word. The first mate Luke had now reached the net and was stepping on it. One of the men said, "Wait, this may be a trap, we can't risk it!"

"Come on, get your sorry soul over here!" Soon all of the men had walked on the net. Dad gave us the signal and we pushed the block over with a sickening creak! The next few seconds were chaotic. I heard men hooting and screaming at the top of their lungs.

I shouted with glee. We had done it! The men were all tangled in the net! Our plan had worked perfectly, we were heroes!

My dad walked up to the bundle of people hanging above the deck and demanded, "We know that you captured our captain



and are holding him somewhere around here." He picked up a pile of snow and held it threateningly close to a poacher's face. "If I were you I would tell us where to get our captain back."

"We'll never give in!" called a poacher.

"Uh," stuttered the hesitating poacher, "I won't tell."

My dad ripped back the poachers face mask and shoved the snow in his face. The poacher endured it until my dad sprinkled snow down his neck then he cracked and spilled the beans.

"Our headquarters are two miles north of the South Pole research base. There is a little hump in the snow and you get in by..."

The poacher fell unconscious as Luke hit him on the head. Then our old first mate pulled out his knife and started cutting part of the net. We hadn't thought of that. There was only one thing we could do, run. We ran off the boat and pulled the ladder down behind us. That would give us a head start. Luckily my



dad had a GPS so we could find the research base. It took a long time to run to the base and when we got there I found a cave was just like the poacher's den in the Arctic. I heard a muffled snoring coming from a chamber and there was Captain Rick, tied up, looking sorry and cold. At one side of the room there were tools and the other side was polar bear hides and bottles of penguin oil. I untied the captains bonds. "Thanks," he praised, "I thought I was going to freeze to death here."

"Yeah, Yeah." I said. "We better get going because the poachers are coming." Just then we heard the roar of an engine and coming towards us was a troop of large strange looking snow machines. They stopped by us and asked, "Are you William and Jacob Cullen? Are you Sam and John Cook? Are you Captain Rick McAllen?"

"Yes." We replied.

Fact stop: Who eats What – Antarctic Food Chain

There are many fish out there in the ocean; some eat other fish and some don't.

The primary producers are called diatoms. They are small plankton. Krill eats phytoplankton. The most well known phytoplankton is algae. Krill are at the bottom end of the food chain because there are many other animals that eat krill.

Krill are related to shrimp, but they do not get as big. Penguins' main diet is fish or shrimp. Whales eat krill, shrimp, small fish and squid. Seals eat shrimp and small fish. The top predator is the killer whale. They will eat anything they catch like seals, fish, and penguins.

The krill population is getting lower than usual because of global warming. The reason why is because the krill eats the algae in the ice, which is melting. The oceans are getting warmer. If there is no ice there are no algae so the krill's don't have as much food to eat and so they are decreasing. The krill population is down by 80% since the 1970's. They are dying out so fast. The scientists think that because of the krill dying out they will soon be able to tell how many penguins are being lost per day.

They say this is bad news for animals living on the frozen continent, as less food around means they are already having fewer babies each year because the babies need to feed off the food too. Like the female penguin needs the food to feed her babies because the ocean is too cold and dangers for the baby penguins. Their mothers vomit in the babies' mouth. I know it sound gross, but that is the way they keep them alive.

There are many seabirds around Antarctica. They include albatross, petrels, gulls, shag, skua, and snowy sheathbill. Sheathbills are the only bird in Antarctica that do not have webbed feet.

Wandering Albatross are the largest albatross. They can get to 18 pounds (8kg) and their wingspan can get to 11 feet (3.5m). Their diet is squid and fish. I would love to have that diet.



Epilogue

The police ambushed the poachers and took them to an international prison for the courts to deal justice to them later. Jacob and his family flew from New Zealand to Oklahoma. When he got home Jacob stayed in bed for days, overjoyed that finally he was away from his cousins. Jacob wrote a book about their travels. When Captain Rick recovered from his ordeal he decided to educate other ship captains in emergencies involving hijackers. The government hired him to train oil tanker crews going to the Persian Gulf about how to deal with pirate attacks.

THE END

Ice E-Mystery

This book is one of a series of e-books resulting from a collaborative writing project between Australian and Alaskan school classes based around polar science. The ICE E-MYSTERY: Global student Polar e-books project ran through 2008/9 and involved over 400 students in 24 classes from these two countries.

The Ice e-Mystery Project explored polar science through an innovative approach to science, art and literacy education. Students from throughout Australia and North America worked together (paired classes across the hemispheres) to write and illustrate on-line e-books in a predominately mystery genre focused around the themes of polar science. Students were guided by Teacher Associates trained in Antarctic science, classroom teachers trained in the project methodology and polar sciences and resources from national research organisations such as the Australian Antarctic Division, Commonwealth Scientific and Industrial Research Organisation (CSIRO), the Tasmanian Museum and Art Gallery and Antarctic related Cooperative Research Centres. Classroom activities were augmented by visits to museums, science organisations and contact with researchers in Antarctica.

A key outcome of the project was the development of an international learning community of school students, teachers, postgraduate students and scientists.

The project workspace can be viewed at www.iem.tmag.tas.gov.au where students drafted their collaborations and posted comments to each other on developmental ideas. The full range of e-books in the series is also viewable at this site.

The project was coordinated by the Tasmanian Museum and Art Gallery.

Key partners were the Australian Government, National Science Foundation (USA), University of Alaska (Fairbanks), the University of Tasmania and the Education Departments of Tasmanian, Queensland and Alaska.

Acknowledgements

Andy Baird	Project Coordinator
Sandy Zicus	Deputy Coordinator
Elena B. Sparrow	Alaskan Convener
Martha Kopplin	Deputy Alaska Convener
Alan Miller	Project liaison Alaska
Joel Pedro	Post Graduate Teacher Associate
Jacqui Foster	Post Graduate Teacher Associate
Alex Fraser	Post Graduate Teacher Associate
Alison Lester	Editor
Jess Atkinson	Graphic Designer
Brian Martin	Web Designer

Tasmanian Museum & Art Gallery



© Tasmanian Museum and Art Gallery 2009

This material has been developed as a part of the Australian School Innovation in Science, Technology and Mathematics Project funded by the Australian Government Department of Education, Science and Training as a part of the Boosting Innovation in Science, Technology and Mathematics Teaching (BISTMT) Programme.



