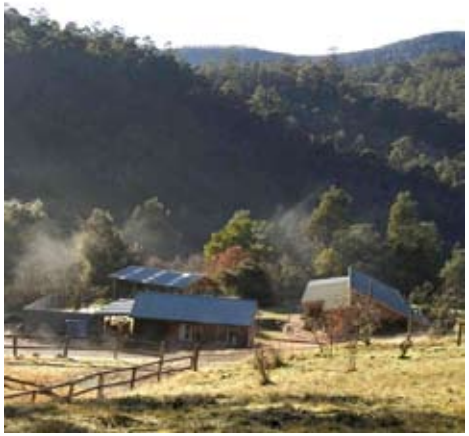
The Antarctic Mystery

Badger Road Elementary Primary School / Peregrine Community School

ICE E-MYSTERY

The Antarctic Mystery

A story written and illustrated by pupils at Badger Road Elementary Primary School, North Pole, Alaska, USA and Peregrine Community School, Tasmania, Australia



Peregrine Community School, Tasmania, Australia

Peregrine School is a small independent school located on a large bush property at Nicholls Rivulet (Southern Tasmania). Our property allows for many outdoor activities on the school site and we have recently established a beautiful walking track through our bush.

Peregrine School currently had 27 students ranging in age from 4–14 years old. The students learn in mixed-age classes and participation in learning activities is always based on the child's individual strengths and weaknesses rather than on age. We have classes in music, horse riding, gardening, Spanish, Auslan (Australian Sign Language), art, sport, woodwork as well as literacy, numeracy, history and science. We cook lunch each day using fresh fruit and vegetables and the students are involved in menu planning and preparation.

Peregrine Community School

Teacher: Wendy Lee

Students:
Niah Hennekam
Cooper Steel-Wood
Kindilan Hayes
Kalin Hayes
Ulalina Alderfox
Zeke McPherson
Ruby McPherson
Henry Daiyi
Seralda Daiyi
Asha Pearce
Morgan Rauenbusch
Jasmine Taylor-Cotterell
Lauren Tenni
Callum MacDonald
Frances Velnaar
Abigail Velnaar

Badger Road Elementary School, North Pole, Alaska, USA

Badger Road Elementary School was built in 1983 and serves families with children in kindergarten through fifth grade. Our enrollment is about 575 students, with 79 staff members. We have two special education programs: primary intensive resource and intermediate intensive resource. Staff members at Badger Road Elementary School work together as a team to help all students grow academically and socially. Everyone works to support the classroom teachers and special education teacher in order for them to provide the best possible instruction and learning environment for students.

Badger Road Elementary School Class 4

Teacher: Lisa Huffman

Students:
Miranda Noling
Noah Chance
Brooke Lynn McAbee
Samantha Sharr'e Sponsel
Brandon Keasler
Jared James Huffman
Wiley Jones
Dylan Rice
Brooke Fisher
Ezekiel Floto
Evan Milo Matthys
Josie Baker
Mya Lee Jonker-Chambers
Brady Brooks
Brittany Narow
Meghan Selby
Brittney Jayo
Abigail Bostic
Edward Borneo
Michaela Land
Alexandra Tomlinson
Brandon Antesberger
Aidan Clifford
Emily James

Chapter 1: On The Way

It was the greatest day of Zoe's life! She was on her way to Antarctica by ship from Hobart, Australia. Zoe couldn't wait to see Annie. They had been good friends since they were both at school. Zoe had already been to Antarctica twice; as a marine biologist there was plenty for her to investigate there.

Zoe would be spending the summer in Antarctica and then heading home before the weather turned cold.

The Aurora Australis started its main engine and slowly chugged away from Hobart with Zoe and the other scientists and explorers on board. It was going to be a long cold voyage.

Life was good on board the Aurora Australis. Some of the scientists suffered mild sea sickness, so it was good that the meteorologists had predicted a smooth voyage. As Zoe walked down the passage to her cabin, she met a young woman and man.

"Hi," they said in unison.

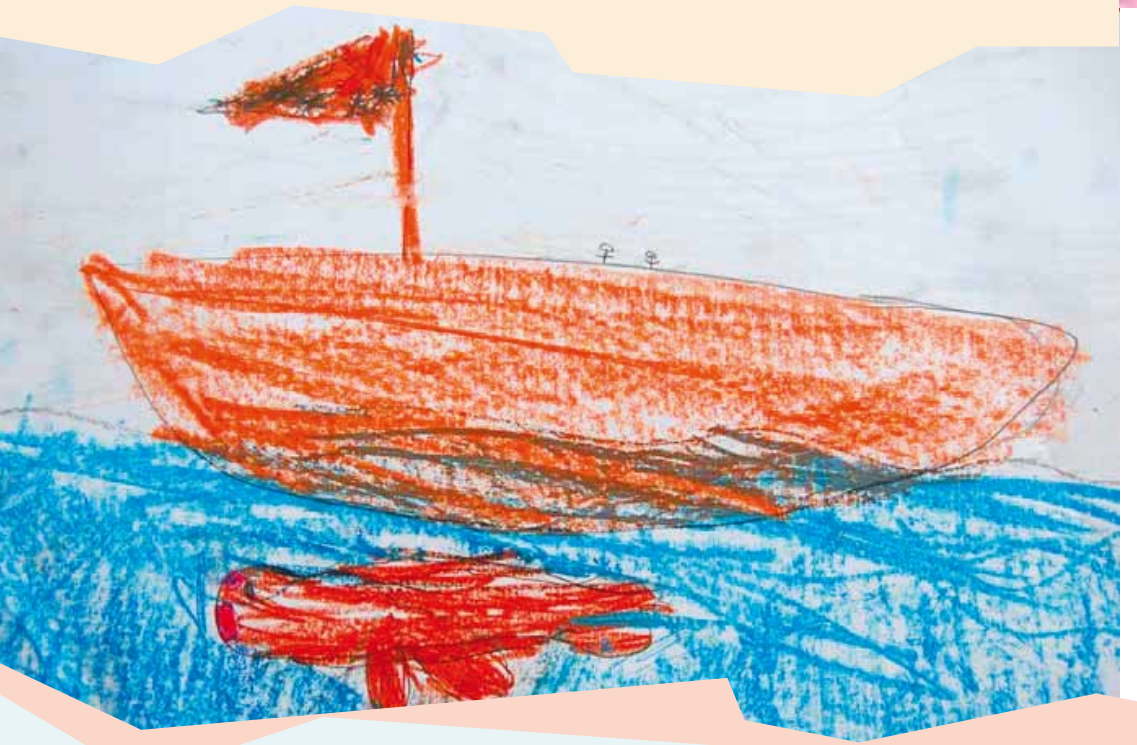
"Hi, what are your names?" Zoe asked.

"I'm Lilly and this is John," the woman replied. As they talked briefly, Zoe discovered that John was an ice core scientist.

Zoe continued on down the passage to her room. Through her porthole she looked down at the rolling waves. She could only just see the coast of Tasmania. It looked like a green line against the horizon.

Fact stop: M.V. Aurora Australis

- *The Aurora Austalis was launched in September 1989.*
- *It can hold 116 passengers.*
- *It can break ice up to 1.5 meters thick.*
- *The Aurora Australis is Australia's Antarctic flagship.*
- *It is named after the southern hemisphere's Aurora Australis (southern lights).*
- *It is equipped with a helipad and can fit three helicopters on board.*
- *The ll6 passengers can eat 4500 eggs, 1000 kg of potatoes and 280 litres of ice cream on a six week trip.*
- *People on the ship can phone anywhere in the world.*
- *The Aurora Australis is painted bright orange in color.*
- *There is a lot of room on the ship.*
- *The beds on the ship fold away into couches to save space in each cabin.*
- *Each cabin has its own bathroom and toilet.*
- *The passengers eat together in a large community area.*

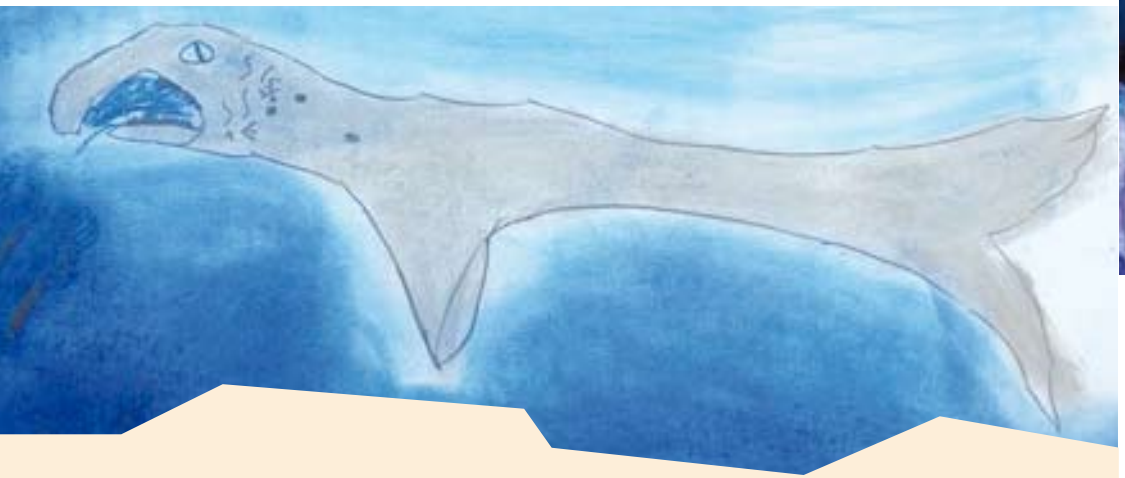


That night Zoe met many of the people travelling on the ship with her. One night she went to a lecture.

The lecturer started "Hm hmm. We are here tonight because we need to discuss the matter of climate change." As he tapped the wall, the screen behind him flicked on and a graph appeared. Zoe studied the graph. It showed weather patterns for the last 90,000 years. "As you can see," the lecturer continued, "the CO2 rose dramatically just before the last ice age, and now it is sky high again. We are lucky enough to have Dr. Alibi R.Harrington at Casey Station where she is conducting a research mission to discover more about climate change."

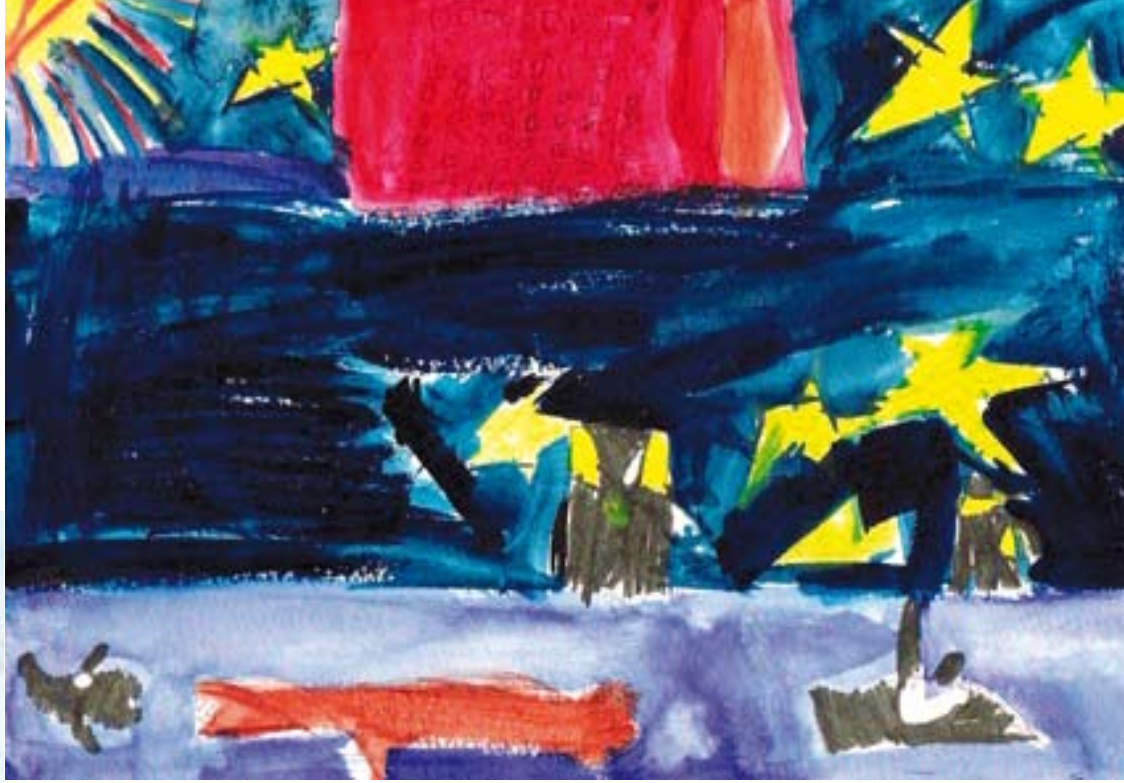
When Zoe finally climbed into bed, her head was full of climate change information. She slept soundly.

The next morning she went out onto the deck and one of the other explorers said, "Zoe, look down! There's a whale." Zoe's red plaits were swaying in the bitter wind and as her green eyes looked down at the water, she realized that it wasn't a whale. It was an enormous elephant seal.



Fact stop: Elephant Seals

- *Southern Elephant seals are named because of their huge size.*
- *The males also have trunk-like nose.*
- *Elephant seals lay around the beach to sunbathe in the sun.*
- *They have brownish skin with square-shaped heads.*
- *Elephant seals have strong front flippers and flipper tails.*
- *Male elephant seals are much bigger than females.*
- *They are very good swimmers.*
- *Elephant seals eat large fish, squid, and occasionally penguins.*
- *Breeding season is in August and September.*
- *Males are very aggressive during breeding season.*



As they went further south the seas were rough and the waves were high. "So much for calm weather," Zoe thought. The icy water splashed on her cheeks and they burned as the cold wind buffeted her face. The ice breaker swayed violently as it rode on the waves.

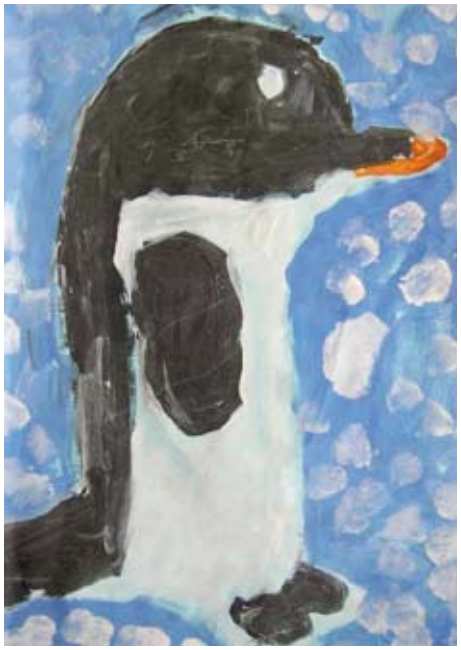
The days passed until they passed small icebergs and heard the occasional loud squawk of seabirds and seals. The Aurora Australis began cracking through the shimmering white ice as they got closer to Antarctica. Zoe could see a thin white line of what would be her home for the next three months. She was feeling cold out on the deck of the ship and was thinking about how warm it would be in Casey Station. She knew that facilities at the station were fantastic. If they weren't able to

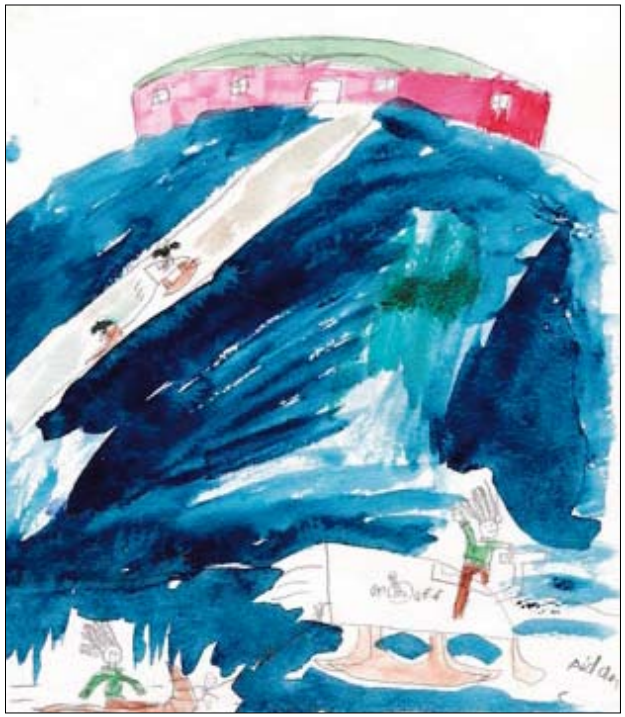
get close to the station, the ship helicopters would unload the scientists and their gear.

Just to the left of the Aurora Australis was an iceberg. It took a while for Zoe to register that the blob on the iceberg was an elephant seal. She was still amazed by the size of these seals. Zoe said under her breath, "That elephant seal looks like a tank." The elephant seal swam after the boat as if it was following her.

Chapter 2: Arrival

On the helicopter there was not much chatter because most people were staring out at the ice below. Now Zoe could see a colony of Emperor Penguins and beyond that, Casey Station.





Zoe watched as an elegant Emperor Penguin slowly waddled along the slippery glimmering ice. Halfway along his journey, he suddenly dropped onto his belly and slid the rest of the way to the pale blue water. He splashed into the ocean and swam away. Zoe was moved by the sight of her first Emperor Penguin on this voyage and was reminded of why she chose to become a marine biologist.

Finally, Zoe stumbled out of the helicopter onto the icy plain. She shivered and set her cumbersome backpack down on a sled. She went back inside the helicopter to get more supplies. Zoe had a big bag and some food with her. When she got back, she found that her friend Annie was attaching the sled to the back of a snow mobile.

"Hi, Zoe," Annie called. "Good to see you. Do you want to have a quick look around before we get going?"

"Hi, Annie. Sure, thank you!" Zoe called back through chattering teeth.

Annie had arrived a month earlier than Zoe to help set up the equipment for this year's ice core drilling season. She was eager to get her job started. They had a successful season last year and she hoped this year's expedition was going to be just as good.

Zoe put her helmet on and Annie started the snow mobile. As they drove, Annie saw a blur in the blue sky. It was a wandering albatross. It's wings appeared all white as it flashed across the silky blue sky. Annie and Zoe watched the bird as it landed on the shimmering, shiny ice.

"Let's stop the snow mobile so we can get a better look," suggested Zoe.

Annie and Zoe stopped the snow mobile to watch the bird as it landed on the hard cold ice. Annie gazed at the giant creature in amazement. Its silky feathers glistened in the light. Its webbed feet made a soft pitter patter on the ice. Zoe was excited. In all her years of marine biology in Antarctica, she had never been so close to an albatross. This was why she was in Antarctica, not to drill ice core samples.

The albatross just sat there, like it was in a fashion show. Suddenly a small gust of wind came along. The albatross fluttered off, then straightened its black and white wings and let the wind pull it away. When Annie got back to the snow mobile, the albatross was just a dot in the distance.

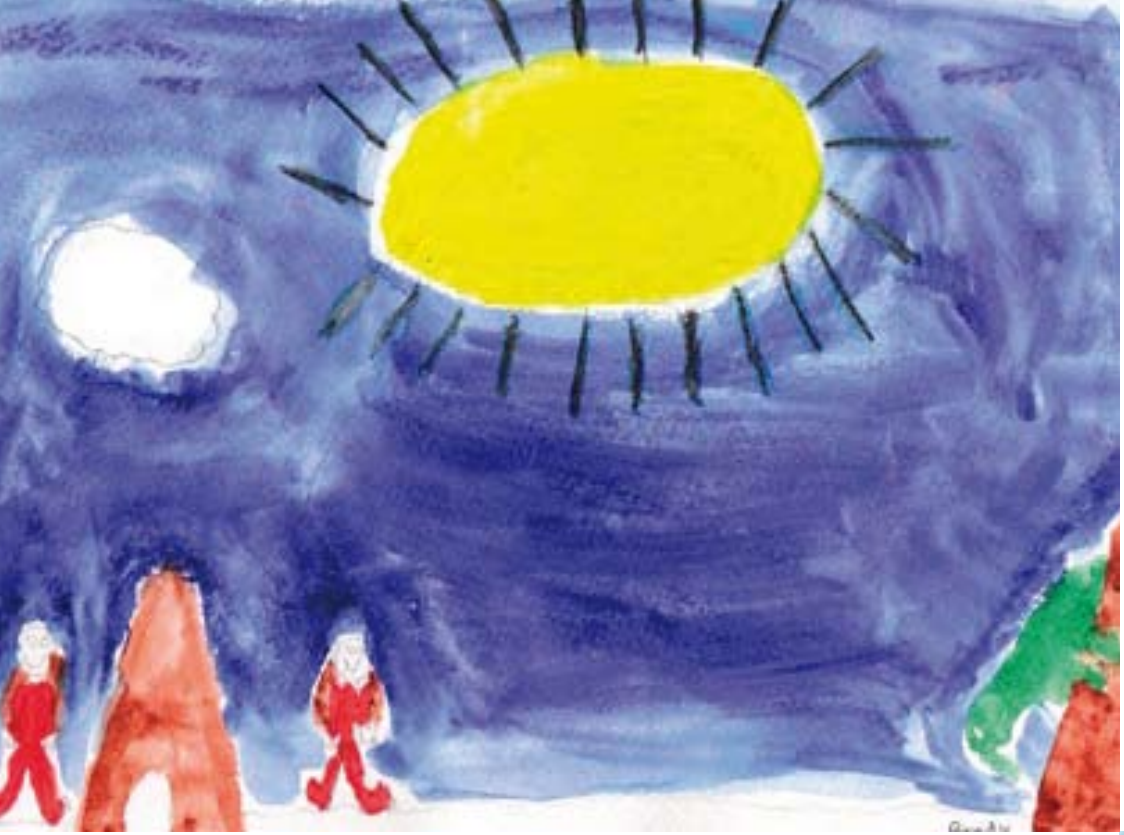
Annie tried to start the engine, but there was only silence. She jumped off and lifted up the cowling.

"The engine is dead," she said unhappily.

"Darn nab-it," said Zoe. "What now? Pitch a tent?"

"No, we'll call base on my radio." Annie tried to report in to base team leader Dr. Alibi R. Harrington, head scientist at Casey Station. "Please send a search team," she said hopefully.

"Has everybody passed us? I barely even noticed them," said Zoe. "It looks like we'll be here alone until somebody comes to get us. What shall we do while we are waiting?" Zoe asked. They were only about one hundred meters away from the ocean, so it was likely they would see a sea animal. And they did. It was an elephant seal. Zoe couldn't believe it. It was the elephant seal that reminded her of the tank. There it was just lumbering over the ice. It was as though the seal was following her.



"Look, Annie. There's Tank," yelled Zoe.

"What? Who's Tank?" asked Annie.

"He's one of the biggest elephant seals I've ever seen. I saw him on the ship as we were coming south," answered Zoe.

"He's huge," said Annie. She called out to Tank, "Hey boy, come over here."

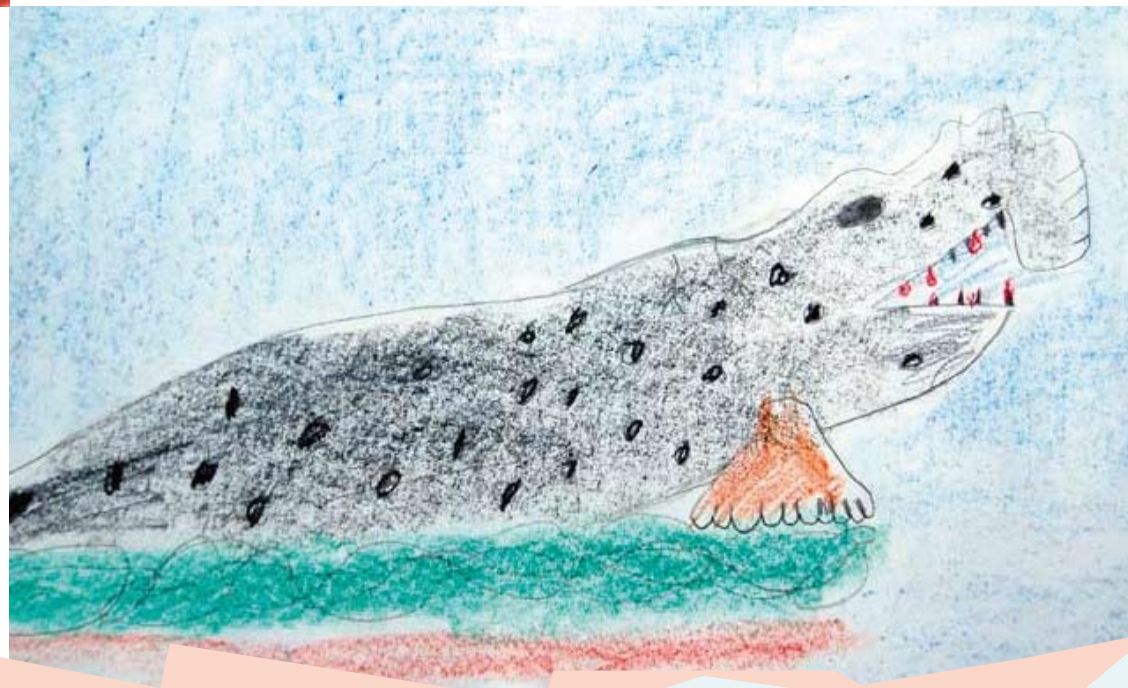
Zoe yelled, "Annie, you are not allowed to call the Antarctic animals over to you. Did you forget?"

"Oops, must have slipped my mind," said Annie with a touch of embarrassment in her voice. She knew that the Antarctic Treaty said that it was not okay to approach animals in Antarctica.

"Why is his name Tank?" Annie questioned Zoe.

"I thought of that name for him because he reminds me of a small army tank," Zoe replied.

Tank was in Antarctica because he was coming to spend the summer there. He would spend it swimming, sleeping, and, of course, eating. Tank was a fat, strong elephant seal. He had a big nose and was very tough, but attractive to the female elephant seals. Tank had scars all over from fights he had experienced while guarding his harem of elephant seals on the beach back at Macquarie Island, halfway between Australia and Antarctica. On Macquarie Island, he was the dominant beachmaster.



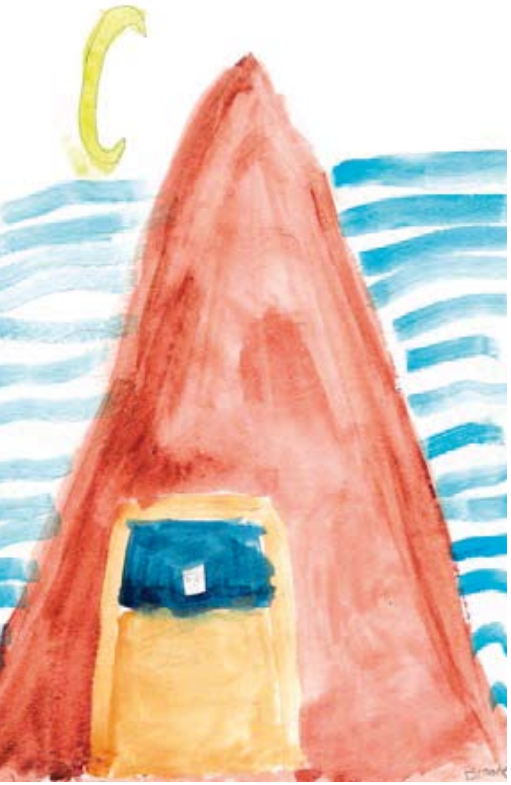
Four hours later, the search team arrived. Mike, the mechanic quickly got to work, trying to start the snow mobile. "Hmmmm. You're right, Annie. It won't start. Let's take a look."

Mike opened the cowling and began to look around."Well, this is interesting. The spark plug wire is disconnected. I wonder how that could have happened," he said as he hooked up the wires."Annie, give it a try now," he said. Annie tried the snow mobile and it started. "Thanks, Mike!"

"That was an easy fix. Strange, though," wondered Mike aloud.

With the snow mobile running again, Zoe hopped on the hard, frozen seat. Her pale, white cheeks were pink with the cold. It was almost 34 degrees celsius below zero (30 degrees below zero fahrenheit). "Let's go, Annie," she said quickly.

In the past two years, Zoe had helped out with the ice core drilling research missions, although she preferred her marine biology work. She would be doing the same this year with several other scientists. Their team had been hoping their ice core samples would tell them what the climate was like 1,000,000 years ago. In her role of marine biologist, Zoe took the opportunity to study the wildlife that was living near the drilling site, and when there was none around, she would assist the ice core team with the drilling.



They would be drilling about 500 kilometers (310 miles) away from Casey Station. The thickest ice in Antarctica is found in Wilkes Land. The ice can reach up to 4,776 meters (5,223 yards) deep.

The snow mobile raced across the icy plains towards Casey Station. When the station came into sight, Zoe thought how out of place the red building looked on the plain of ice. It looked like a shipping crate; just a big red storage container. The station looked bleak and unwelcoming. It was bitterly cold. The Hagglund all-terrain trucks were parked outside.

Chapter 3: Drilling Season

On the morning of the drilling, Mike's alarm clock went off and he pulled off his covers and got out of bed. He walked over to the dressing table, got out his comb and brushed his hair and beard. Then he got dressed and walked out the door into the kitchen where Lilly was making some food.

"Mmmph, morning," said Mike sleepily.

"Hey," said Lilly.

He got out the cornflakes, poured some milk into a bowl and stuffed his face.

"Yuck, Mike," said Lilly, obviously disgusted.

Mike ran out of the station, hurried up to the Hagglund and tried to start the engine. Brrum, brumm it complained. He jogged to the next one and started its engine. Drrum, brumm; it started. Then he walked over to the helicopter and hopped in. Mike started the engine and woosh, woosh, the blades started to turn.

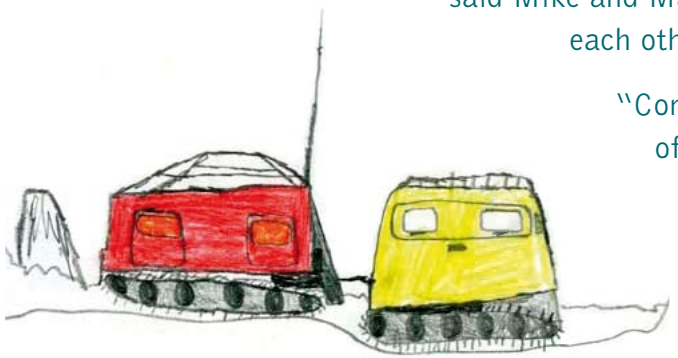
"Hi, Mike. Early morning, ehh?" said Max.

"Yo, dude. You named it," shouted Mike above the noise of the blades.

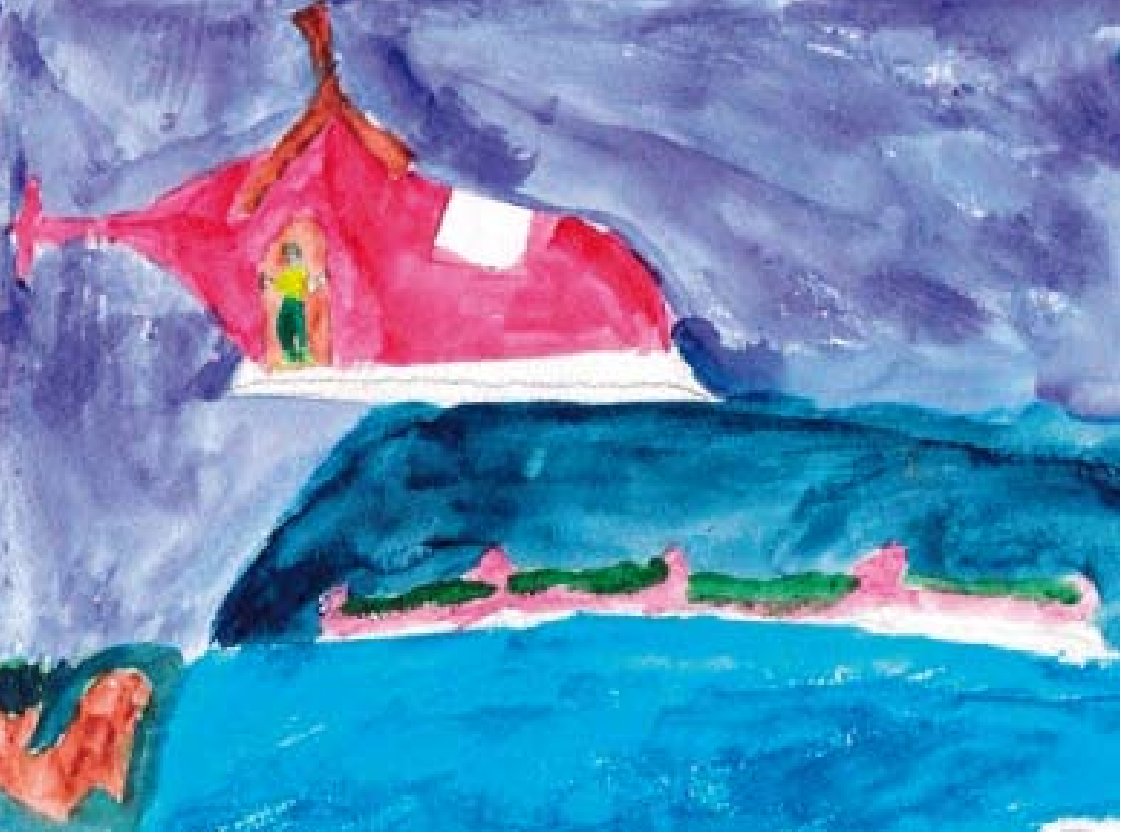
Mike and Max started to pack some of the equipment; the ice core drill parts, the apple dome and tents. Lilly came to tell them the food was ready to take out to the Hagglund and the chopper.

For the next hour and a half Mike, Lilly and Max packed the Hagglund full of equipment. Mike looked at his watch.

One by one the other scientists filed out and started to help. By 11 a.m., Mike and the others had finished packing. "Yes!" said Mike and Max. They gave each other a high five.



"Come on guys, all of you into the Hagglund," said Dr Alibi.



All of the team including Zoe, Max, Jack, Cally, John, and Lilly climbed into the vehicles.

Mike, Dr. Alibi, Annie, and the pilot all jumped up into the helicopter. The pilot turned the engine on again and the blades started to spin. Whoosh, whoosh, woosh went the helicopter.

As the helicopter lifted off, Dr. Alibi clutched Mike's arm. "I'm afraid of heights," she explained.

The single rotor helicopter flew smoothly over the ice below. As they looked out of the

helicopter, they gasped at the beauty. The helicopter flew ahead of the Hagglunds with the pilot and Dr. Alibi scanning the ground for crevasses. They recorded where they were, to pass onto the team that was travelling on the ground.

On the trip, Jack was the field guide. He would fly back in one of the helicopters later that day.

As they drove to the drilling site, the scientists all looked out at the amazing white landscape. Cally was sitting quietly when she noticed a column of ice rising out of the whiteness. The shimmering ice sculpture shone miraculously, like the shape of a woman. It was just sitting there on the bleak ice.

The ice sculpture looked as though her hair was cascading down her back. Her dress was splayed out over her slim body. Her body was shaped with such precise accuracy that she looked almost real. Her face was shaped in the ice with a shining smile. The ice glittered. She had an icy cold stare and the light shone as though a teardrop was falling from her eye. Cally was amazed by the sight and found that she couldn't pull her eyes away from it.

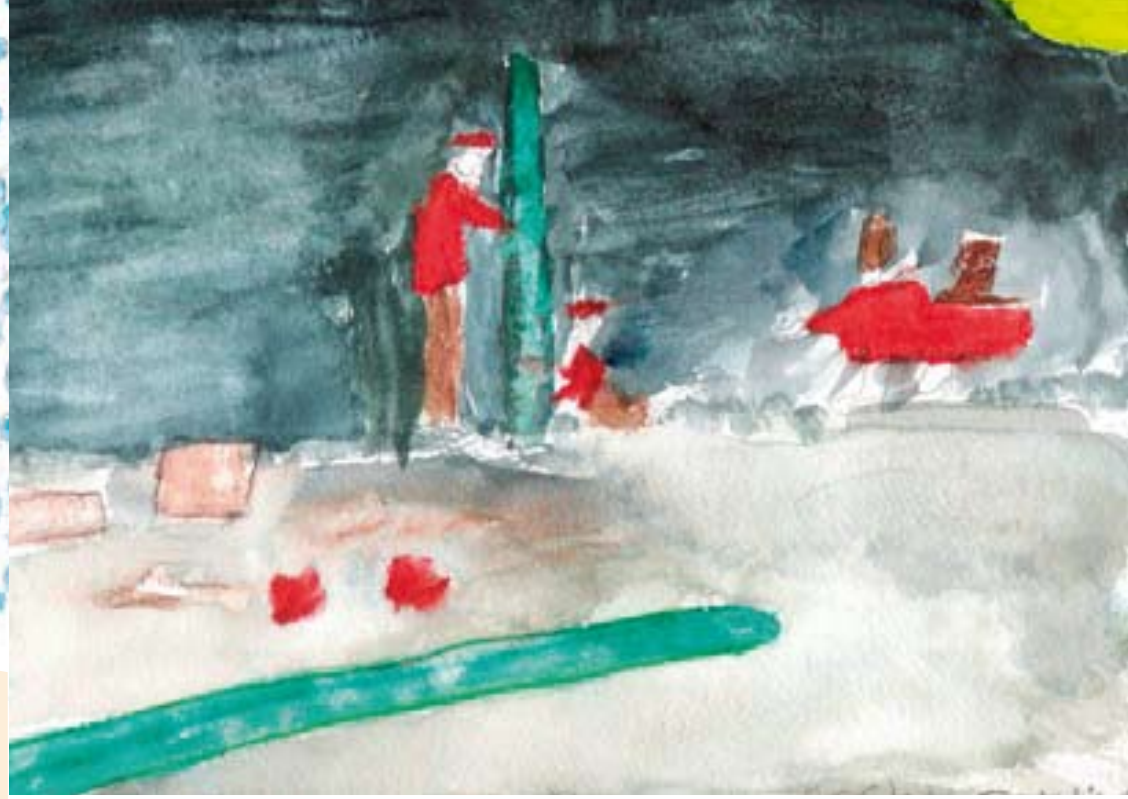
As soon as they arrived at the drilling site, the scientists began to put up the tents. Because of the cold, it was difficult to push the pegs into the freezing ice. Max tried to put up one of the main tents in the bitter cold and the gale force winds. He felt as though he was getting frostbite. He dropped one of the icy white pegs and was frightened he might slip on the ice. The wind buffeted him like he was in a small hurricane. A cry of surprise ripped from Max's lips as he slipped. He needed John to help him up and hammer in the last frozen peg. "Can you help me put the last tent peg in?" Max asked John with a slight quiver in his voice.

Fact stop: Dressing in Antarctica

- *Antarctica has extreme weather.*
- *Cold temperatures and big winds are common.*
- *The wind chill effect can cause humans to get hypothermia. If you get too sweaty, you can get hypothermia.*
- *If people don't dress correctly, they can get frostbite.*
- *You could lose your fingers if you don't use proper gloves.*
- *The rule of thumb for living in a cold environment is to stack on lots of insulation and to take it off one layer at a time as you start sweating.*

Dressing in Layers

- *First Layer: The first layer should fit tight and be made of nonabsorbent material that keeps moisture away from the body.*
- *Mid Layers: The next layers should be loose fitting clothes that trap warm body air, but keep moisture away.*
- *Insulation and Shell Layer: This layer should be thick. The clothing should provide warmth, protection from the wind and water. It also needs to be breathable.*
- *Accessories: This includes things like additional protection for the head, neck, and hands to keep the extremeties warm.*



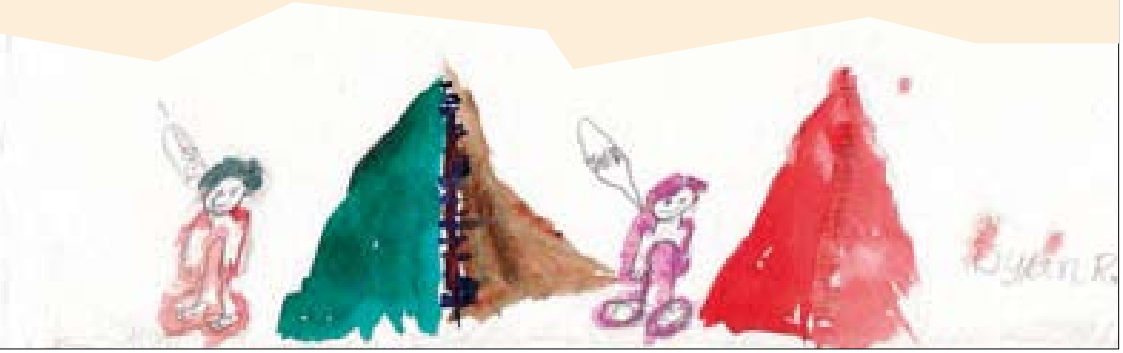
Chapter 4: Bad Luck

The next morning, they all awoke early. The team was anxious to get to work. Mike and Max put the parts of the ice core drill onto their shoulders and lugged it over to the snow mobile. They walked slowly and surely so as not to drop the expensive equipment. Although Mike would be driving the equipment there, the rest of the team would walk across because it was only 150 meters away. When they got there, everybody helped put the drill together. As soon as they had the drill set up, they started working.

"It is getting cold," said Dr. Alibi "and my lips are getting dry. Does anybody have some lip gloss?"

Fact stop: Antarctica Weather

- *Antarctica's coldest temperature is -129°F (-89°C).*
- *Wind chill's can drop the temperature to -148°F.*
- *Antarctica's warmed temperature is 59°F (15°C).*
- *Antarctica is surrounded by an ocean.*
- *98% of Antarctica is covered with snow and ice which means that it reflects most of the sun's light.*
- *Antarctica doubles in size during the winter when the surrounding sea water freezes.*
- *Precipitation averages less than 1 inch yearly.*
- *The continent receives as much as water as the Sahara Desert, but it falls in the form of snow.*
- *Blizzards in Antarctica are common. The snow is picked up and blown. These blizzards are called katabatic winds.*



"I do," said Zoe.

"Mango, my favorite," said Dr. Alibi.

"Is it? It is mine too," responded Zoe.

It was 10 degrees below zero Celsius as the scientists were drilling. The team were chilled to the bone and so they had to stop. Max helped Mike shut the drill down then they joined the others inside.

For three days the teams kept drilling without any problems. On the fourth day the drill started making horrible noises that made John, Cally, and Dr. Alibi flinch. They replaced the drill part and resumed drilling in a nearby area. After two minutes of drilling, the terrible noise started again. This time the team pulled up the drill before it broke. They kept on drilling and pulled up another sample. In the ice core, they found some bugs and plants. They found something else too!

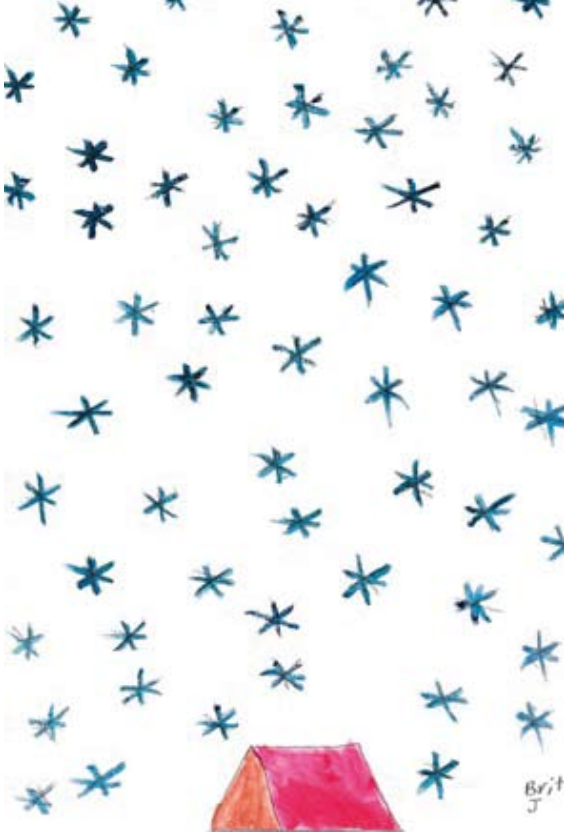
"Wow, that's unusual!" exclaimed Cally.

"Could it possibly be a bone or something?" asked John.

"It is a bone," stated John. "Hey guys, a bone, a bone!" The team gathered around to examine the find.

"Oh, wow," said Cally as John snapped some photos.

Suddenly, Cally heard a noise. She lifted her head and saw Zoe on a snow mobile coming their way. Zoe was returning from studying some marine wildlife. "People, people! A storm is on the way! There's wind and snow!" yelled Zoe. "It is a huge blizzard." Cally looked around at the wide expanse of white ice. "Oh, come on. It can't be that bad," Cally said as she calmly put her hand on Zoe's shoulder.



"No, seriously. It is huge," Zoe insisted sternly.

"Zoe, calm down," said Cally in an exasperated voice. A strong wind buffeted the walls of the tent.

"Cally, why won't you believe me?" Zoe sobbed dramatically.

Mike burst out of his tent. "Wind speeds of up to 250 kilometers per hour are coming our way fast," he gasped.

"Ha, I told you so!" Zoe exclaimed in a triumphant voice.

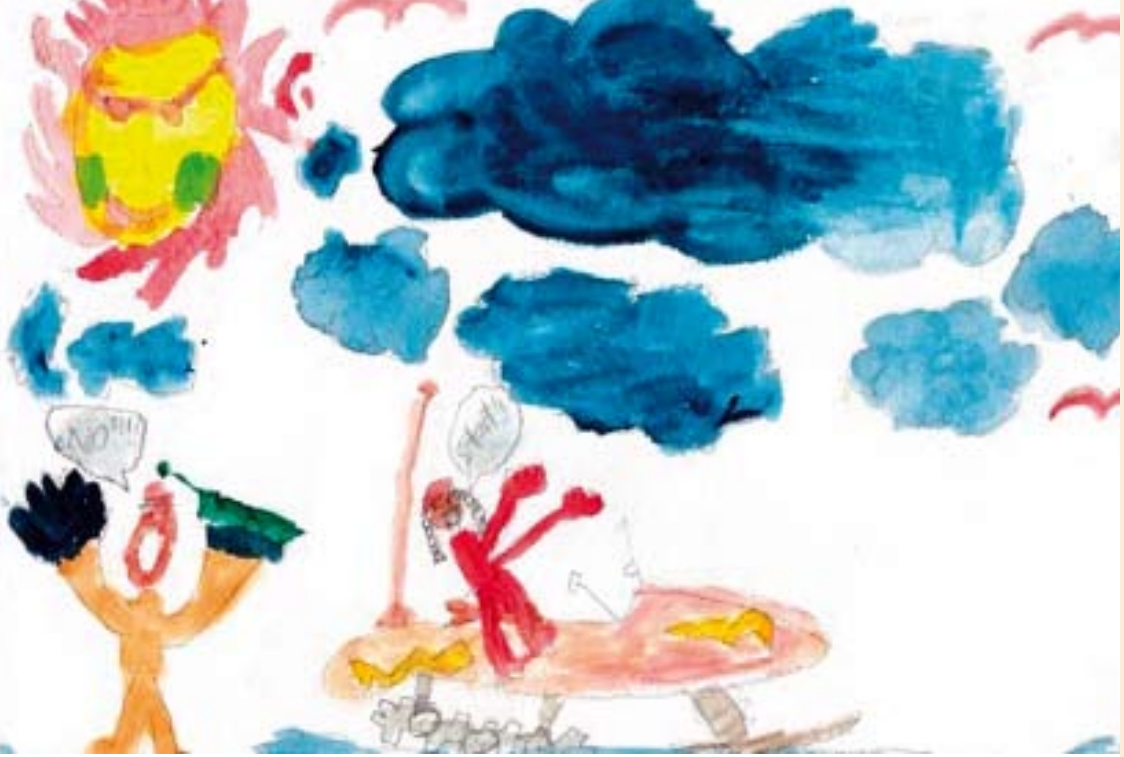
"Shhshhpitshh, storm on shhhhh way. Shhhshhpitshh, huge wind shhhshhpitshh," came the rough message over the radio.

Bang, smash, crash. The storm bombarded the tent with its full power of cruelty.

Cally yelled, Dr. Alibi gasped, and Mike screamed like a girl.

"You were right, Zoe," Cally said in a soft and embarrassed squeaky little voice.

Zoe was right. It WAS huge. "What a terrible thing to happen now! I never saw it coming," said Cally to Mike.



"Without Zoe, I would have been on my way to the lab and I'd never have gotten back!" said Cally. "I'm sorry for not believing you Zoe."

When the bizzard abated they packed up the Hagglunds and snow mobiles and headed back to Casey Station. They needed the equipment at the station to help with identification of their find.

Chapter 5: A New Discovery

Back at Casey Station, the group of scientists from the drilling team gathered in the science lab. While examining the bone in the ice core, the scientists discovered a layer of ash enclosing the bone.

"The ash must have come from an eruption about 1,000,000 years ago from Mt. Erebus," Cally stated.

Fact stop: Mt. Erebus

- *Mt. Erebus was discovered by Sir James Clark Ross on January 27, 1841.*
- *Sir James Clark Ross named the volcano after one of his two ships, Erebus.*
- *It is the second largest volcano in Antarctica and the largest active volcano.*
- *Mt. Erebus has a constant plume of steam.*
- *Mt. Erebus is a little over one million years old. The upper part is less than 100,000 years old.*
- *The outer crater is about 650 meters (2,132 feet) wide. The inner crater is about 250 meters (820 feet) wide and 100 meters (328 feet) deep.*
- *Mt. Erebus has a currently active lava lake.*
- *It has been continually active since 1972.*
- *Mt. Erebus has ice layers between rock layers.*

Timeline of History

- *Mt. Erebus formed a cone on a shield volcano between 1.3 and 0.7 million years ago.*
- *The top of the volcano collapsed around 350,000 years later.*
- *Over the next 100,000 years, the eruptions shifted from one side of the volcano to the other.*
- *The eruptions over the next 160,000 years built a cone.*
- *Between 90,000 and 70,000 years ago the eruptions stopped and formed a caldera.*
- *The cone continued to build over the next 70,000 years.*
- *The cone at the top is less than 1,000 years old.*

"Possibly," said Dr. Alibi, "however, there are many volcanoes here, including one on Heard Island."

John called Zoe over to have a look at the bone. "It's certainly not a seal of any kind," she said in a confused voice.

"Whale?"

"No."

"Well, is it a human bone?" asked Dr. Alibi anxiously.

Zoe rolled her eyes in amusement.

"It could be a dinosaur bone," she wondered out loud.

"Are you sure?" John asked.

"Pretty much."

Dr. Alibi decided to call a team of paleontologists to Antarctica, including an expert called Desina. She thought it would be too much for Zoe to handle. Desina was head of an American paleontologist team who specialized in recognizing dinosaur bones. She could recognize any type of dinosaur bone just at a quick glance. Because the ice core scientists could tell that the bone was important, Desina and her team would be rushed in by plane to help the ice core scientists identify the bone.

One day the team found Zoe in the lab looking at the bone. She was gazing at it with a look of longing on her face. Zoe seemed just as excited as the others that they had found a bone, but she also seemed a little unsettled by something.

"Zoe, come over here," said John.

"What do you want John?" Zoe asked in a quivering voice.

"I was just looking at this bone, and wondered if you would be interested in having a look," John said.

"Alright," Zoe responded, "but I can only look for a short time because I have some important work that needs completing. I haven't time to be examining a silly little bone," she continued. "I have to figure out how to st… I mean, how to finish off some paper work," she said with a slight hint of guilt in her voice.

The next day when Desina arrived, she got straight to work. As Desina and her team were examining the bone in the lab, Zoe walked in and started inspecting it as well.

Desina snatched the bone away.

"This is my job. It's too much for a young marine biologist. Tell the others it's a dinosaur bone!"

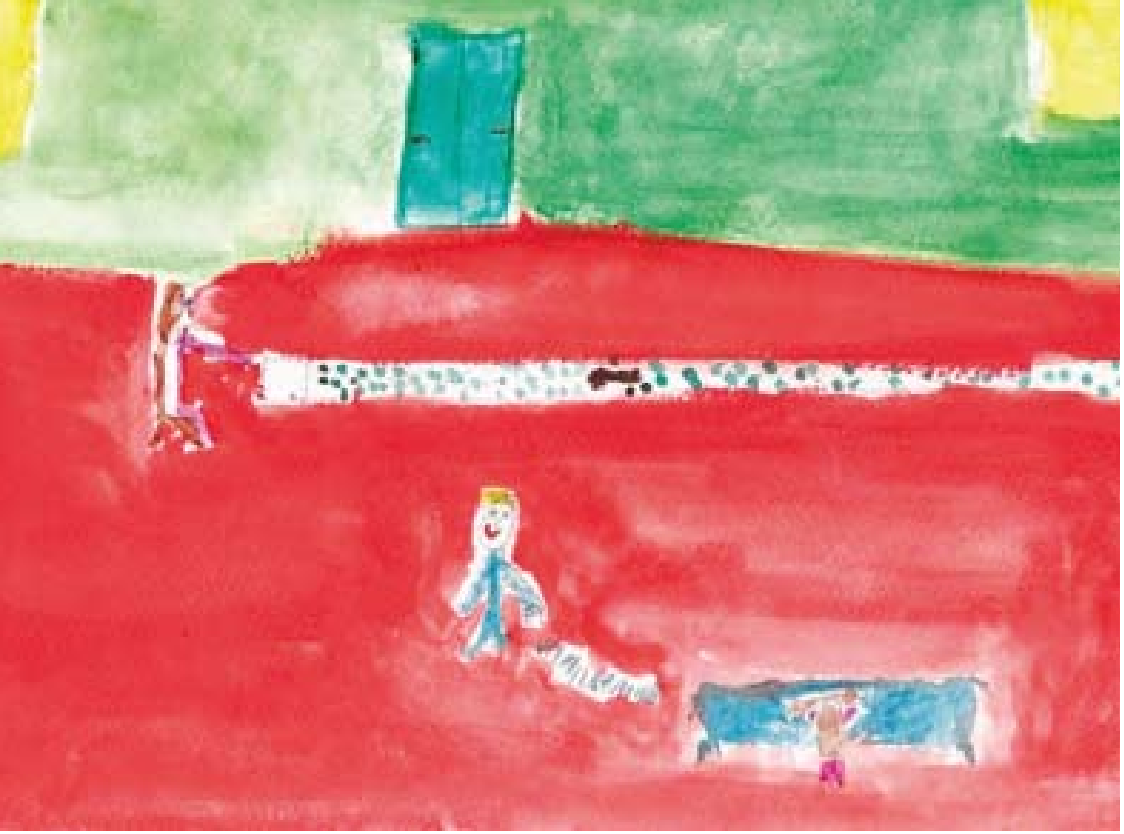
After two days, Desina still had no match for what type of dinosaur it might be. Would they have to come up with a name for a new species?

Chapter 6: Missing

Desina looked up. She had the feeling she was being watched. She heard the crunching of snow behind her. She spun around and asked in a quivering voice, "Who's there… is anyone there?"

"Don't worry, just me," said John from a building near the science lab.

"John, don't do that again. You scared the living daylights out of me," said Desina with a relieved voice. She heard something rattle inside the science lab, but knew that no-one else knew the security code apart from Dr. Alibi and herself. Alibi had gone to bed two hours ago with a throbbing headache. Who could be in the lab? Desina crept off with her awareness heightened.



She went inside to get warm. It felt good to be back indoors.

Meanwhile, outside, a dark figure crept out of the shadows and walked up to the lab's security pad and punched in the code: 7116. The door swung open.

Inside the station, Desina went to see Dr. Alibi, but she was not there. She heard music blaring in Zoe's room. She headed for Zoe's room.

Just then, Max came stumbling down the hallway, "I advise you to not go in there. Blaring music usually means that someone is in a bad mood," Desina decided to heed Max's warning.

The next day, Desina and Dr. Alibi walked into the science lab to find the place in chaos. Drawers all out, papers all over the floor, along with the test tubes shattered. Dr. Alibi screamed. Desina rushed around making sure nothing of importance had been smashed.

Max and Mike were outside on the lovely warm day when suddenly they heard a scream. It was Dr. Alibi. They rushed to the lab. It was a disaster!! The two men bolted across the room and started to help Desina clean the place up while Dr. Alibi just muttered under her breath.

After twenty minutes of searching, all of a sudden Desina looked up at Dr. Alibi and froze with what looked to her like HORROR!

"The bone is gone," Desina cried out. Mike ran out of the lab and brought John, Cally, Lilly, Zoe, Annie, and Jack. When they got there, Dr. Alibi explained the entire situation to them. While listening to Dr. Alibi, Lilly spotted something no one had spotted, lip gloss. Mango flavor.

"John, look over here," said Lilly.

"It must be Zoe's," replied John.

"Zoe, you must have ta... wait a minute. It's got your name on it, Dr. Alibi," said Lilly in a shocked voice.

Jack came and took the lip gloss and said calmly, "She's right, you know," and showed it to Dr. Alibi.

Outside, Mike, Max and Zoe were examining some surviving fresh boot prints. Zoe could tell that the foot prints were from the previous night. Desina and the others came outdoors.

"We found this," said Lilly and held up the lip gloss. "It has Dr. Alibi's name on it." The team looked on horrified.

"It's not mine!" gasped Dr. Alibi. She grabbed the lip gloss. "It can't be mine, I don't use that brand," she ranted.

"You look guilty," Mike said in a sing song voice.

"Dr. Alibi, place your boots in these boot prints." Dr. Alibi did. Her boots fit perfectly. "Where were you last night?" asked Desina. "I went to talk to you, but you were not in your room".

"I had a splitting head ache, and went to bed," said Dr. Alibi in an angry voice. "What reason would I have to steal the BONE?!"

"You are right. What reason would you have to steal the bone?" answered Mike.

Suddenly, Dr. Alibi noticed that Zoe was gone. "Where is Zoe?" she asked.

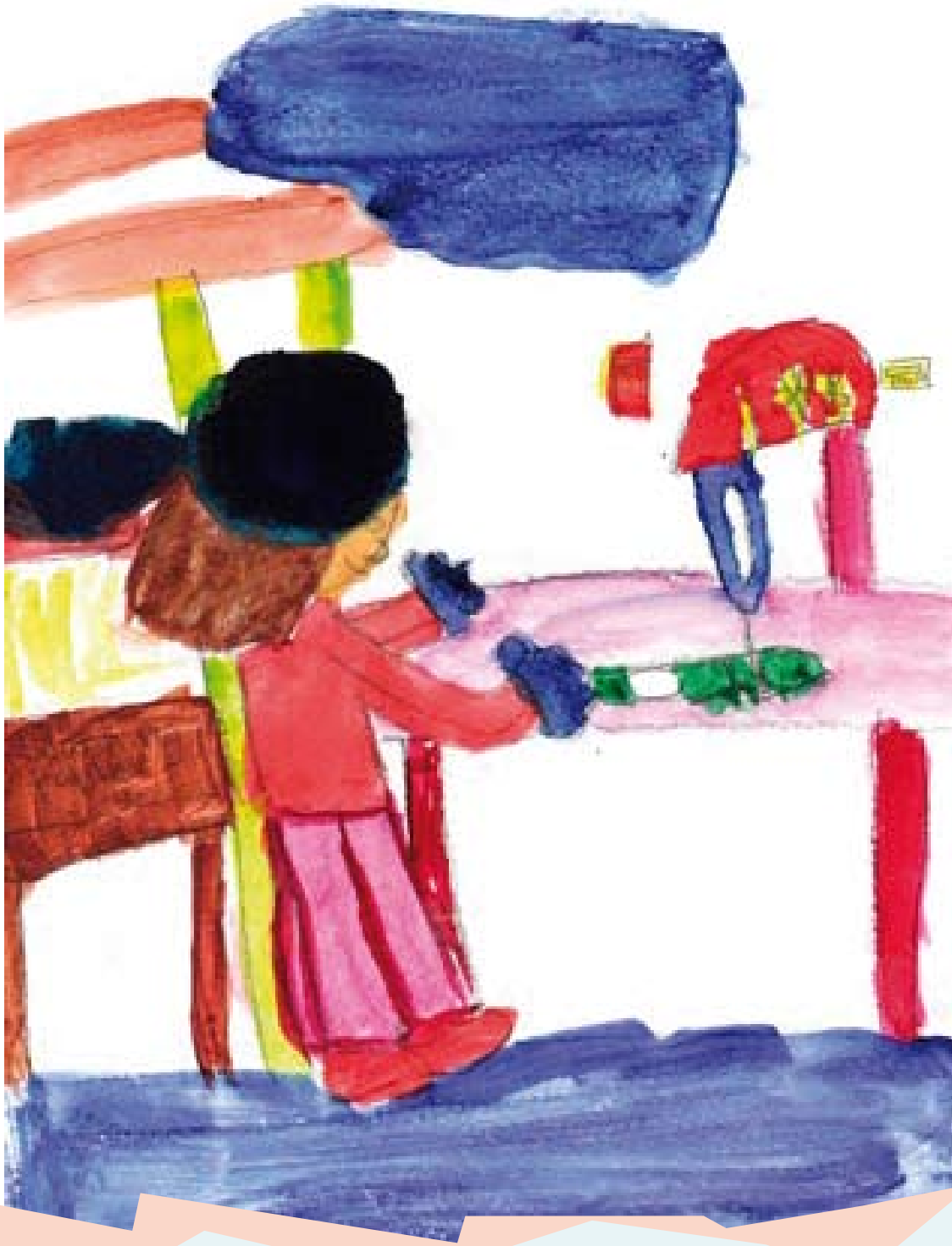
"Maybe she didn't want to help us clean up," said Mike in an annoyed voice.

"Maybe Zoe stole the bone and she's hiding," said Desina suspiciously.

"Wait. Where were you Dr. Alibi?" inquired John. "It seems strange that we found a lip gloss the same flavor that you use."

"I said I had a splitting headache!" yelled Dr. Alibi. "And, I have no reason to take the bone."

"Does anyone have a reason to steal the bone?" commented Mike.



"We need to have a meeting. With everybody," said Max. "Let's meet in the mess hall."

Everybody was called to the mess hall. Zoe, Dr. Alibi, Desina, Cally, John, Max, Mike, and others gathered in the large hall.

"Okay, let's go over the break in. Last night someone stole the very rare fossil that was discovered in the ice core," Alibi stated as she led the investigation. "Here are the facts: the lab was entered using the code, the lab was wrecked, and the bone is missing. I want to know where everybody was last night. You first, Max," said Dr. Alibi.

"Mike and I were fixing two of the snow mobiles until we went to bed at 10:00," said Max.

"Okay, that covers both of you," said Dr. Alibi. "You're next, Desina. Where were you?"

"I was working in the lab until 8:00. Then I went to bed. John saw me leaving the lab," answered Desina confidently.

"John, where were you last night?" asked Dr. Alibi.

"I was cleaning the Hagglund because it looked as though it hadn't been cleaned for years," John responded. "Go check it out and you'll see how clean it is now."

"What about you Cally, or you three?" she demanded pointing at a small group standing in the corner of the lab.

"We were playing Risk in the mess hall til midnight," answered Cally. "Then we went straight to our rooms to sleep. Why would we steal the bone anyway?"

"Why would anybody steal the bone?" yelled Alibi in frustration.

"Everyone has a convincing alibi except you Dr. Alibi," John pointed out quickly.

"Yes," Jack joined in. "He's right, you know. Nobody saw Dr. Alibi when she supposedly had a headache."

Max interjected, "Dr. Alibi doesn't need one. It's on her identity badge."

"It sure is," said Mike. "Her name says it all, and it's spelled with a capital A."

"Yes, hmm," said Dr. Alibi. "Just wait. We haven't heard anything from you, Zoe. What were you doing last night?"

"I went to the mess hall to get some apples to snack on and then I went to my room to read. I read until I fell asleep around 10:00," answered Zoe in a kind of shaky voice.

"We didn't see you in the mess hall," said Lilly and Cally in unison.

Lilly broke in, and said in an annoyed voice, "Zoe's isn't a very good alibi. You weren't in the mess hall when you said you were."

The team was ripping each other apart with their accusations. For the next hour and a half, the team made pointless and ridiculous comments about each other.

In the middle of the questioning, Max realized that they had left the vital lip gloss evidence in the now locked science lab. "Hey Zoe, can you go get the lip gloss from the science lab? It is important to our investigation."

"Yes, sure," replied Zoe.

Zoe ran down to the science lab. When she got back, she gave the lip gloss to Max.

Max thanked her and then, slowly and surely, a thought dawned upon him. "How did you get in? I didn't think that you knew the code," Max said.

"Umm, Desina opened it for me," Zoe replied in a hopeful voice.

"No, she didn't," Dr. Alibi said in a convincing voice. "She was here all along."

The evidence was twisting towards Zoe. She started to look depressed, her end of the scale was going d...o...w...n... Zoe slowly shrunk back.

Finally, the tension of the situation got to Zoe, and she started sobbing, "Okay, I did it."

"Why, did you do it? Why Zoe, why?" Cally asked softly.

"Because I felt left out, and you guys were ignoring me," she sobbed. "Your ice core team not only got some great results about climate change, but you also found what may be a new dinosaur. I'm sorry. Will you please forgive me," Zoe begged.

"Sorry! Sorry doesn't cut it," shouted Dr. Alibi. "You took our research, said nothing to us, and you almost broke the bone."

"Zoe, tell us how you did it," said John.

"Well, I wore Dr. Alibi's boots to make it look like it was her," said Zoe.

"Now wait just a second. I just remembered! Dr. Alibi and I are the only ones who know the security code. How would anyone else know the code if Dr. Alibi or I did not tell them?" interrupted Desina.

"You know how telephone buttons have different noises," said Zoe. "I listened to the sounds of the different numbers on the code," she explained. "Each number has its own sound and my hearing is very good, that is how I got in. I memorized them," confessed Zoe.

"And the broken down snow mobile? The lip gloss?" asked Mike.

"I said I'm sorry. Yes, I pulled off the spark plug wires. I wanted to conduct marine biology. I was jealous of all of the progress your expedition was making and I had the opportunity to see an albatross, up close. I feel terrible. Please forgive me," sobbed Zoe.

Chapter 7: Velocielmidon

After extensive work, the paleontology team had managed to rebuild the dinosaur skeleton. Through excavating the entire ice core area, the scientists had found many of the bones they needed to rebuild the dinosaur. Dr. Alibi's team had continued to work and had obtained some great ice cores. Strangely enough, the bones that they found in the excavation area were completely covered by a layer of ash. The scientists concluded that the dinosaur had been buried deep in the earth when Mt. Erebus had erupted thousands of years ago. It was interesting to think that based on the bone that they found in the ice core, the paleontologists had begun to draw a picture of what the dinosaur 1,000,000 years ago might have looked like.

Seven years later, at the University of California Museum of Paleontology, the entire ice core team was assembled in front of the now complete skeletal structure of the Velocielmidon. Unfortunately, Annie couldn't be there. She was on another research mission in Antarctica. This time she was with an American ice core team.

The team gazed up at the dinosaur that they had discovered.

They gave a big cheer and a passer by commented, "I am happy about your find because I was getting sick of the

Muttabarasuarus that you had on display here. I'm finding this discovery fascinating."

"It's different than any other skeleton that I've seen," said John proudly.

Explore Antarctica

- *Antarctica is like no other place on Earth.*
- *It is a place of extremes. It is the driest, coldest, windiest, and tallest of all the continents.*
- *Many animals live in the water, but barely any live on land in Antarctica.*
- *Many sea birds call Antarctica their home.*
- *Penguins, krill, and whales live in Antarctica.*
- *That is why Antarctica is a cool place!!!*

Antarctica Facts

- *The Antarctic is a snow desert.*
- *Antarctica is colder than the Arctic.*
- *The winter in Antarctica gets down to –76˚F (-60˚C). The Arctic's low average temperature is –30˚F (-34˚C).*
- *Antarctica and the Arctic only have two seasons: winter and summer.*
- *Two million people live within the Arctic Circle, but only a few thousand people live at research stations in Antarctica - and only a few hundred stay over during the harsh winter. No one lives permanently in Antarctica.*

Its rear limbs appeared large and powerful and it had spikes and plates down its spine. On the dinosaur there were about 20 plates, all the way down its back, with spikes at regular intervals. The dinosaur had small dog teeth which were rounded like pearls, except the top of the teeth, which were flat like a pancake. The dinosaur stood on two feet, although it could run on its hind legs or all four legs. The front arms were much smaller than the back legs. The front paws had sharp, flat claws. But on the hind feet there were blunt claws with a spur at the back, like the foot of a chicken. The paleontologists determined that the dinosaur was a nocturnal omnivore eating both meat and plants. Because of the structure of the dinosaur's legs, Desina and her team were able to guess that the dinosaur was a fast runner.

"It's amazing," murmured Lilly.

"I wish Zoe were here to see this," said Dr. Alibi.

"You shouldn't," replied Desina. "If you remember, she stole the bone."

The paleontologists named the dinosaur Velocielmidon, meaning speedy, foot, tooth.

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 and 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.

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