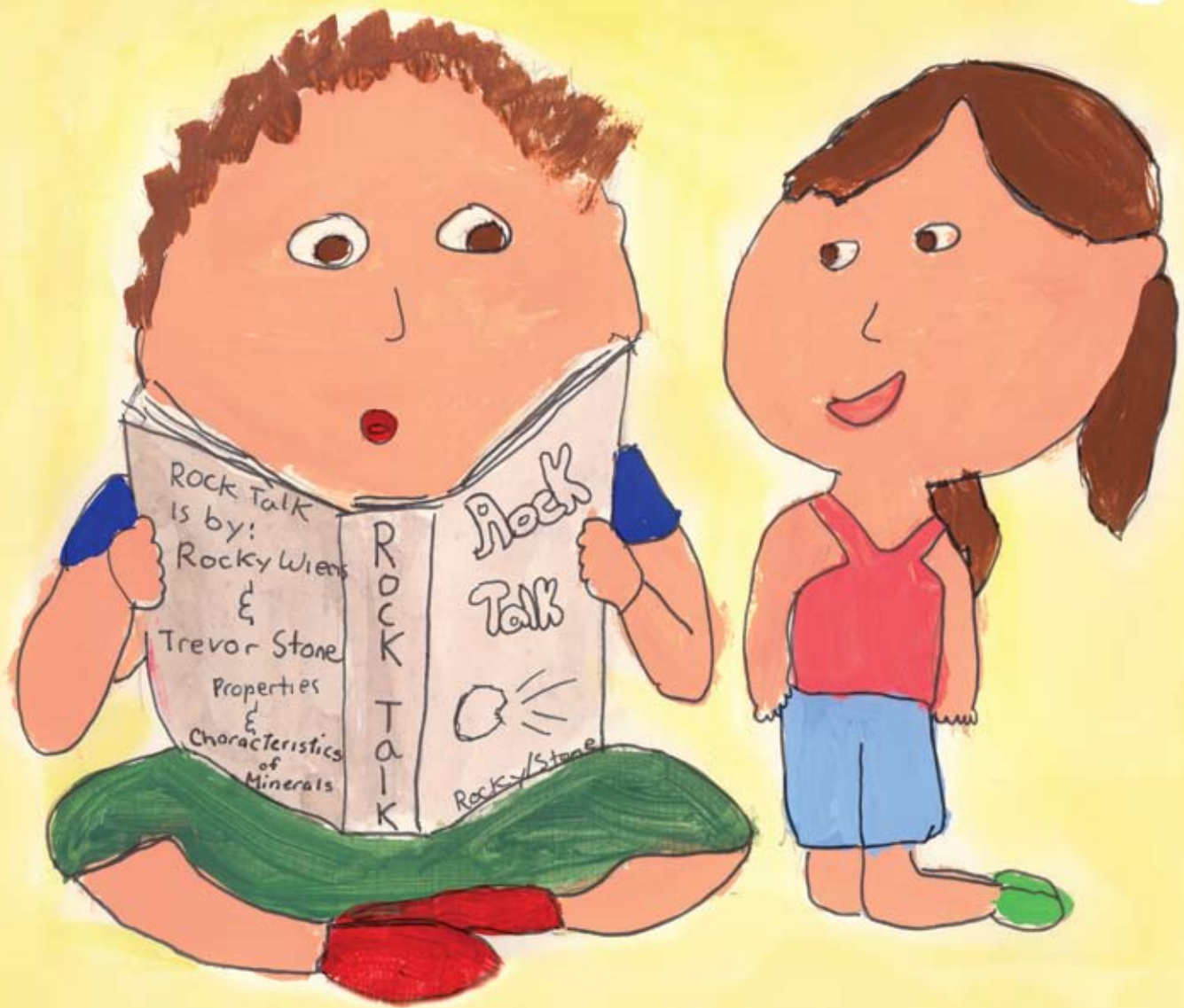


Mineral Mania!



**Written and Illustrated by
Ms. Maingot's Grade 5 Students
Sacred Heart School
Delta, British Columbia, Canada**

Cassidy

Nathan

Heather

Alex

Jessa

Devan

Aaron

Jessica

Celine

Jessica

John

Sophie

Braden

Mike

Jeffrey

Ben

Jacob

Jacob

* Cathy *

Connolly

~~Diamond~~

Game

Seam

Juliana

Alex

Kelly

Jacob

Mingot

Gediz

Connor

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To order additional copies of this publication, please contact the Mineral Resources Education Program of BC.

Suite 900 - 808 West Hastings Street

Vancouver, BC V6C 2X4

Email: info@mineralsed.ca

Web: www.mineralsed.ca

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The students of Ms. Dale Maingot's Grade 5 class would like to thank Mrs. Hopson for her assistance with the watercolour and acrylic techniques used to produce their illustrations.

We couldn't have done it without you!



“Hey, Megan, look what Maya found,” called Nick excitedly, as he pushed his Golden Retriever aside.

“What is it?” asked Megan, as she hurried over to see what Nick had.

Nick held up a small starfish, which had attached itself to a rock in the shallow water.

“Look at all its legs! It’s different from all the other ones we’ve found. I wonder what it is.”

“Let’s put it in our pail so we can look at it more closely,” Megan suggested.



Nick gently placed the starfish in the pail of water while Megan took out their magnifying glasses and beachcomber's guide from her backpack.

"I found it!" cried Megan. "It's called a sunfish."

"Look!" exclaimed Nick. "It's detaching itself from the rock and moving across the bottom of our pail." The children examined the sunfish with their magnifiers for a closer look.

After a while, Megan said, "We should put it back into the ocean before it starts to dry out."

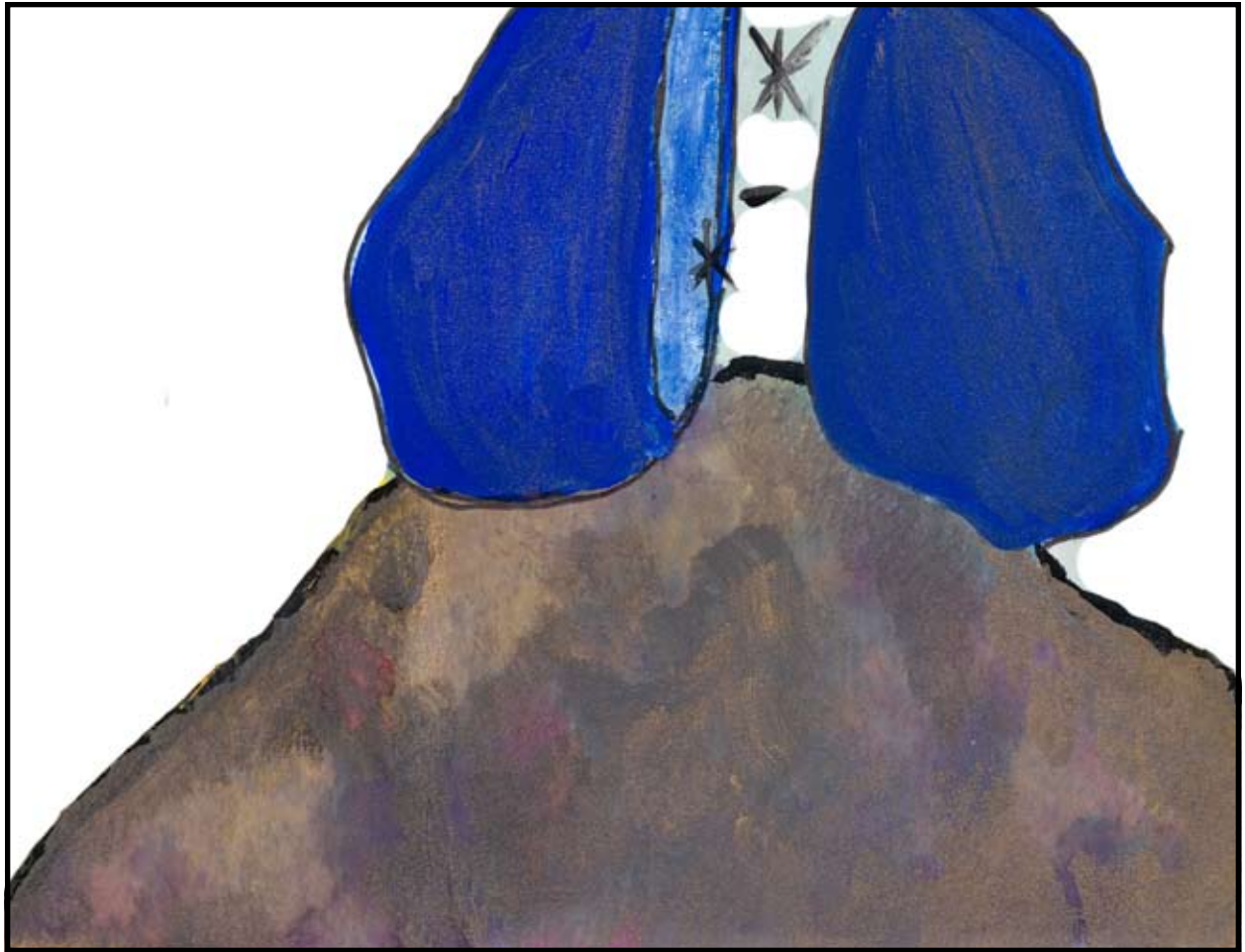


Nick agreed and took the pail to the water's edge to pour it out. As the sunfish slipped into the water, the rock it had been attached to fell onto a larger rock and broke in half. **CRACK!** A sudden twinkle caught Megan's eye.

"Oh my gosh, Nick, look at that!" Megan pointed.

"Look at what?" Nick questioned.

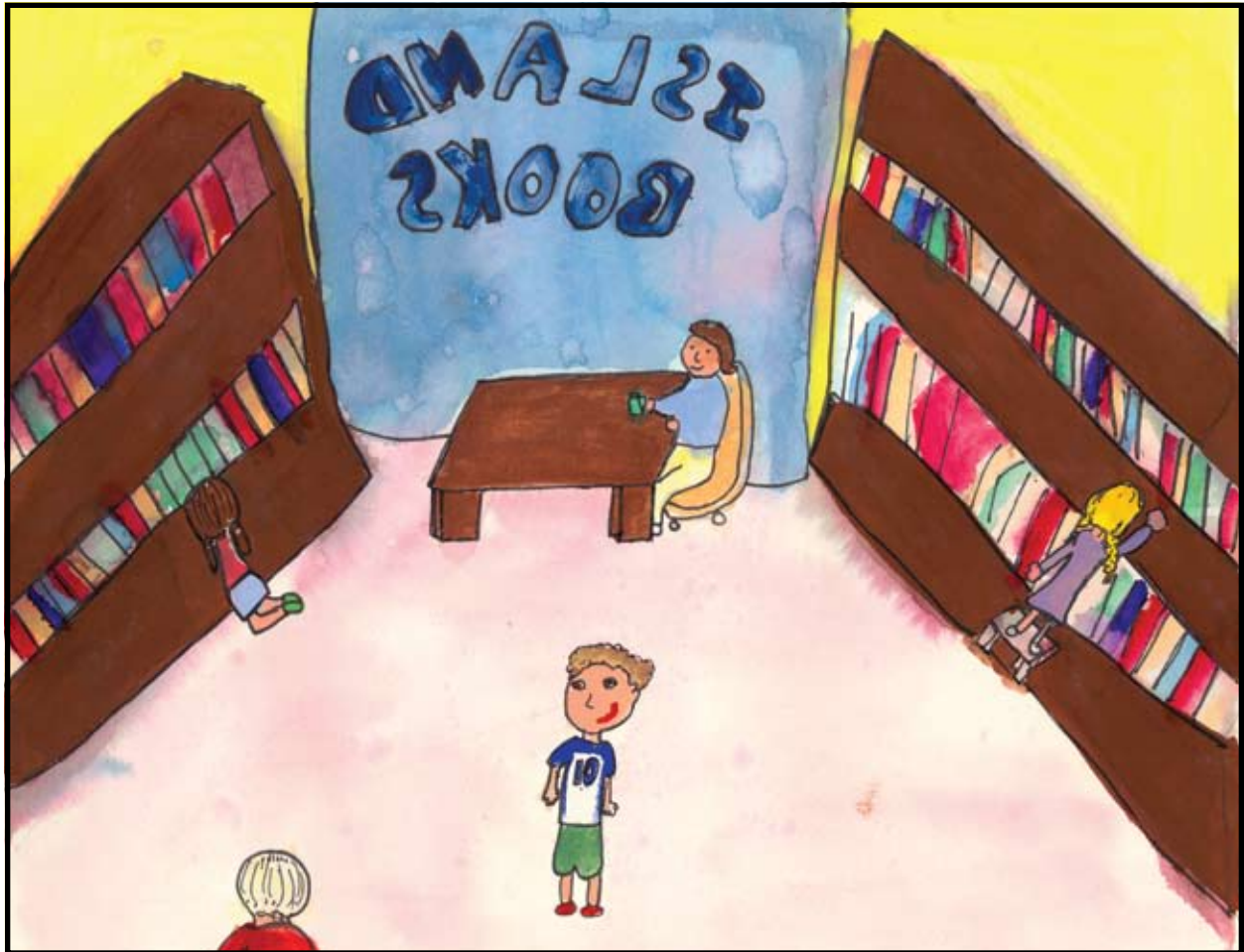
"That rock - look, it's sparkling!" Megan stooped over and picked up the rock that the sunfish had been attached to. "What a wicked rock! I love the bright blue colour," said Megan. "It reminds me of the peacocks in Stanley Park."



“Whoa, look at all those crystals! They sure sparkle when the sun hits them,” said Nick. “I’ve never seen a rock like this before. I wonder what it is? Hey, I’ve got an idea. Why don’t we go to the bookstore, find a book about rocks and see if we can figure out what it is,” suggested Nick.

“Sounds like a great idea.” Megan agreed. “This is so exciting! I’ll ask my dad to drive us.”

“Great. Come on Maya,” called Nick, as the children raced back to the cabin their families were sharing. “This isn’t exciting, Megan, it’s *exhilarating!*”

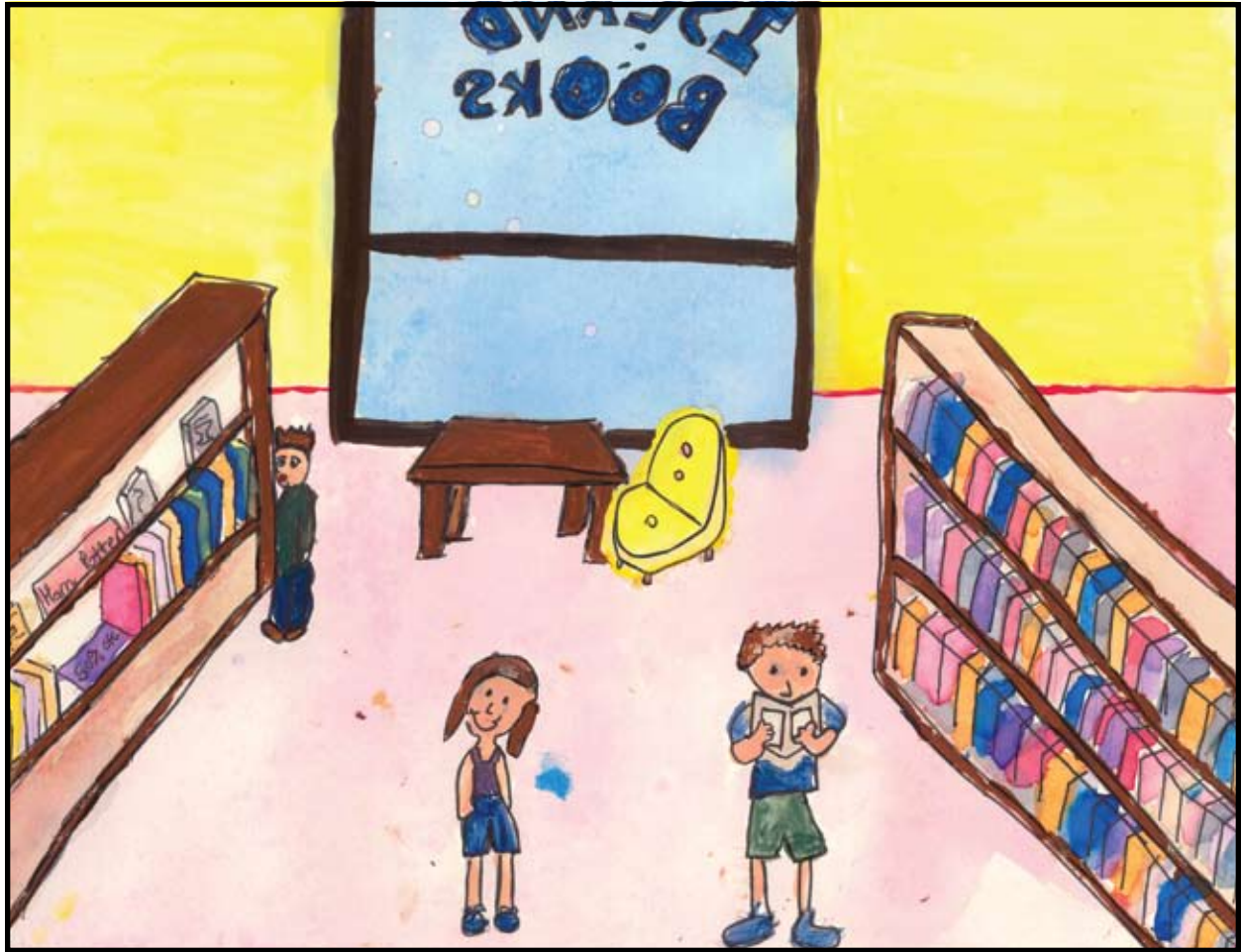


“Here’s a good one, Nick,” Megan called as the children rummaged through the section on rocks and minerals. “It even has a chapter that talks about how kids can test minerals to see what their properties and characteristics are.”

“Properties and characteristics? What are those?” Nick questioned.

“I’m not sure,” Megan replied, “but this book looks really intriguing, so why don’t we just buy it and try the tests it suggests.”

“Let me see,” said Nick. Nick glanced over the page. “Here, look,” he pointed, “it says that rocks are made up of minerals and that all minerals have things in common, called characteristics.”

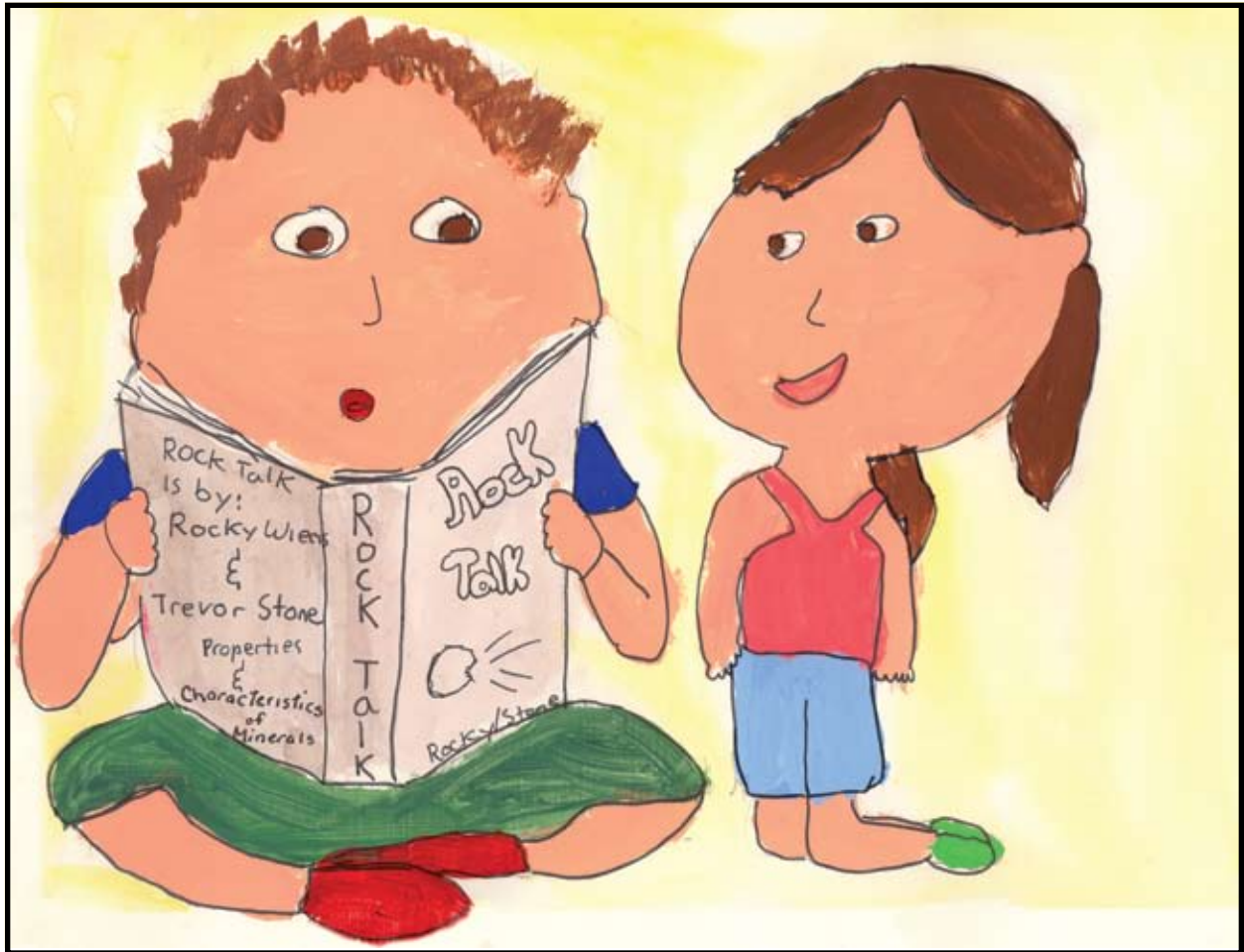


“What does that mean?” asked Megan.

“Well, it says that all minerals have special features that make them different from others. Here are some examples. *Inorganic* means that they’re not living. It also says that all minerals are found naturally in the environment - they’re not man-made.”

“My turn,” Megan interrupted. “It says that minerals are *solid* - that means hard and strong,” she read. “And it says here that they have something called a *constant chemical composition*.”

“A constant *what*?” Nick asked.



“It means that every mineral is made up of specific elements that are joined together in a special way that doesn’t change,” Megan explained as she continued reading.

“Cool!” Nick exclaimed. “That must mean that no two minerals are the same. That should help us figure out what our rock is. The last characteristic is called a *crystalline structure*. That means that each mineral has a special crystal shape,” Nick explained.

Megan pulled the rock from her pocket and said, “Well, my rock must be a mineral then, because look at all these shiny crystals in it.”

“What do you mean *your* rock,” Nick replied, “we both found it.”



“Whatever,” Megan said. “Let’s just figure out what it is, okay?”

Nick continued reading and said, “The book also says that one way to figure this out is to test its properties.”

“What are those?” questioned Megan.

“They’re things that are special to each mineral that help you identify it. The book says that there are six properties with a test for each one. Want me to keep reading?”

“No, I’m getting hungry,” Megan complained, “so let’s just buy this book and try the tests at home.”



After lunch the children gathered the supplies the book said they would need to test their rock.

“Let’s start with colour,” said Nick. “The rock is blue with blue and white crystals in it. It’s pretty hard, too. I can’t scratch it with this steel nail, and it won’t scratch glass, so it must be six or more on the Mohs hardness scale.”

“Yeah, and except for the sparkly crystals the rock isn’t shiny like metal, so its lustre is non-metallic,” Megan added.



The children placed the rock into a toy balance scale they'd purchased at the dollar store and began filling the other side with dimes until the scale balanced.

"It only took four dimes to balance, so that means our rock must not have any metals in it because metals are heavier and it would have taken more dimes to balance the scale," said Nick.



Megan picked up an old bathroom tile the children had found in the storage shed and scratched the rock across the unglazed side.

“Let’s see what colour *streak* it makes,” she suggested. “Look, it doesn’t seem to make any coloured line on the tile. This must be unusual because the book says that minerals are supposed to leave a coloured streak when you scratch them on a tile. Oh wait! There is powder on the tile. It’s *white*! Nick, this could be an important clue to help us figure out what mineral it is,” stated Megan excitedly.

“It sure could, Megan,” Nick agreed. “Let’s keep going though. We’ve only got one test left to try,” he said as he reached for a pair of safety goggles.



“Our last test is for *cleavage*,” Nick added. “Let’s break the rock with this hammer.”

“No!” shrieked Megan. “It’s my rock too, and I don’t want to smash it. It’s already broken from when it fell, so let’s just look at the way it broke then. We should still be able to tell what kind of break it is if we compare it to the pictures.”

“Alright,” agreed Nick reluctantly.

The children examined the rock closely with their magnifiers.

“It’s hard to tell, but it looks like our rock might be broken into little steps, so it might have cleavage,” Megan explained.



“Well, let’s check over our results,” said Nick. “Our rock is about six on the hardness scale, has a white streak, a non-metallic lustre, is as heavy as four dimes and seems to break so it might have cleavage. Let’s check the chapter that shows all the pictures of minerals and tells about their properties to see if we can find it.”

Megan and Nick flipped through page after page of mineral photographs, trying to find their mineral. Finally, they came to the end of the book.

“I can’t believe it’s not in here,” Megan sighed in amazement, her voice heavy with disappointment.

“Maybe tomorrow we can go back to the bookstore and see if they have any other books on minerals,” suggested Nick.



So the next day, the children rode their bikes to the bookstore. Megan noticed a sign in the shop window that read Stump the Geologist in big, bold letters.

“Hey Nick,” Megan called. “Look at this sign. It says: On Sunday, August 13th, Island Books will host geologists Rocky Wiems and Trevor Stone, co-authors of *Rock Talk*. Bring your most puzzling samples. No rock left unidentified.”



“That sounds cool,” said Nick excitedly. “Hey, instead of buying another book right now, why don’t we just go on Sunday and see if they can tell us what it is?”

“Sure!” Megan squealed in excitement. “I can’t wait!”

Megan and Nick woke up early Sunday morning, had a quick breakfast and rode their bikes as fast as they could to the bookstore.

“G’day, mates!” said Rocky Wiems with an Australian accent.

“Hi, my name is Megan and this is my best friend,” Megan said, pointing to Nick. “We are hoping you can help us with our unusual rock. We’ve done all the property tests suggested in this book, but still don’t know what it is,” Megan said, as she handed the rock and her notepad to Rocky.

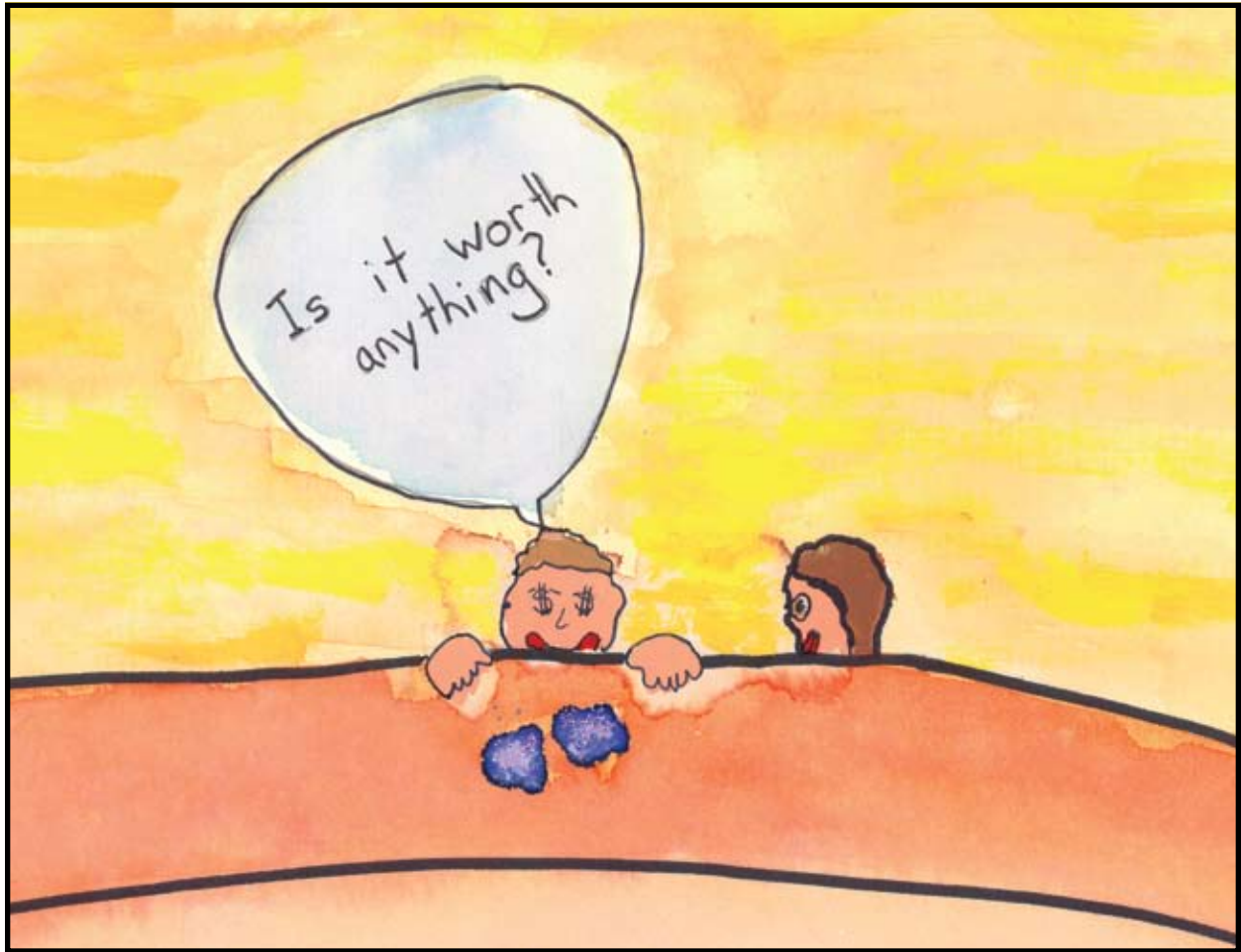


“Crikey! I’ve never seen such a ripper!” exclaimed Rocky. “Let me take a closer look.”

He put the rock under the microscope set up at the back of the store. “This bright blue colour reminds me of the ocean down under,” he offered.

“Do you know what it is?” asked Nick.

“Just let me consult with my associate,” Rocky answered as he approached Trevor to discuss the sample in his hand. Two heads peered in close discussion over the sample. After some time, both men approached the eager children.



"You have a very unusual sample here," Rocky stated. "After careful consideration, we have decided that because of its colour, hardness, white streak and weak cleavage, it is probably *sodalite*, a mineral found in igneous rocks, but not commonly found in this area. You sure had us puzzled for awhile. What a great sample!"

"Thanks for helping us figure out what it is," the children chorused. "Is it valuable?"

"No mates, I'm sorry, it's not," replied Rocky. "While it is a beautiful and unusual find for this area, it is not a valuable mineral. But keep on looking," he encouraged, "you never know when you'll hit paydirt!"



“Thanks again!” the children called as they waved and climbed onto their bikes for the ride back to their cabin.

“I don’t know about you, Nick,” said Megan, “but this has been the best part of our vacation so far, don’t you agree?”

Pow! Suddenly Nick’s bike tire popped.

Both children stopped to see what had caused the problem.

Megan looked at Nick as he bent over the jagged rock beneath his tire. “Wow! What an odd-looking rock,” he exclaimed, as he picked it up for a closer look.

We love minerals! Do you?
Do you find rocks and minerals fascinating?
Then journey with Nick and Megan
as they search to identify the amazing rock they discovered.
You'll catch Mineral Mania along the way!



For the students of Division 12 at Sacred Heart School, the 2005-2006 school year has been a year packed with mining excitement and adventure. It began with a trip to the Highland Valley Copper Mine in Logan Lake, BC, in October and continued with students' participation in the Association for Mineral Exploration BC's *Mineral Exploration Roundup* conference in Vancouver in January. This story and its illustrations demonstrate the students' keen interest in, and excitement for, minerals and mining, and is a product of their enthusiasm, collaboration and creativity. To sum it all up using their favourite word, minerals are *exhilarating!*

