

“*One Minute Mysteries: 65 Short Mysteries You Solve With Science!* turns kids into scientists. Each of these clever stories sets up a mystery that can be solved using a bit of creative analytical reasoning. Stimulating and great fun for the whole family!”

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“Parents and kids alike will be challenged by these stimulating, real-world science mysteries. *One Minute Mysteries: 65 Short Mysteries You Solve With Science!* is a great way to grow a young scientist—or improve an old one! This book belongs in every school and every home.”

—Julie Edmonds, Co-Director, Carnegie Academy for Science Education

One Minute Mysteries: 65 Short Mysteries You Solve With Science! goes beyond the ordinary mystery book to make science fun! These short mysteries bring parents and kids together as they are challenged to solve the puzzles with their scientific skills. One minute is enough to teach basic concepts of chemical, earth, life, physical, space and general sciences. Kids learn to apply the problem-solving skills of science to everyday life with these intriguing mysteries. Also included are five bonus mysteries from our exciting upcoming title, *One Minute Mysteries: 65 Short Mysteries You Solve With Math!*

Take a step back from the whirl of modern life with your kids to understand just how it all works! This engaging and educational book is perfect for kids, parents, schools, educators, clubs and anyone who loves good science or great mysteries!



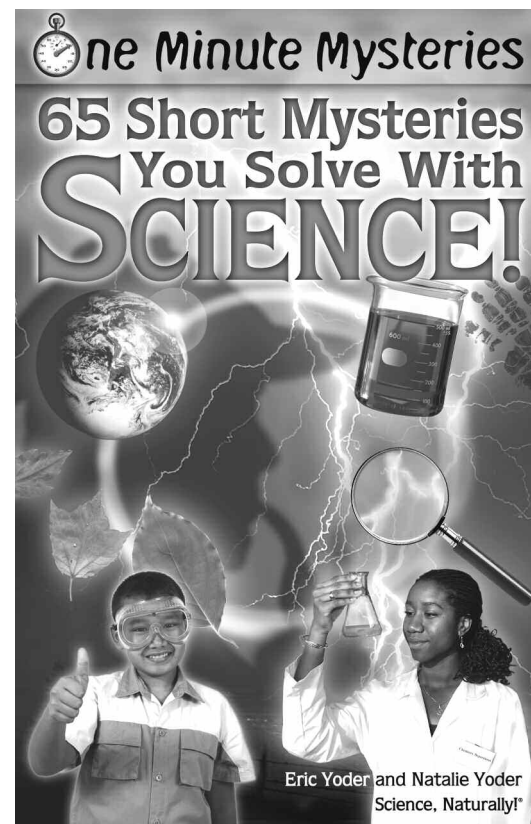
Teaching the science of everyday life

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EXCERPTS FROM One Minute Mysteries: 65 Short Mysteries You Solve With Science!

Eric and Natalie Yoder
Science, Naturally!®



“Like potato chips, one isn’t enough—with *One Minute Mysteries: 65 Short Mysteries You Solve With Science!* you’ll just want to read more: These one-minute science mysteries are fun treats for readers that will sharpen their powers of observation and improve their reasoning abilities.”

—Brenda Seabrooke, author of award-winning *The Haunting of Swain’s Fancy*

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Science, Naturally! is committed to increasing science literacy by exploring and demystifying key scientific concepts. Our mission is to produce products—for both children and adults—that are filled with interesting facts, important insights and key connections in science. Our materials are designed to make potentially intimidating topics accessible and intriguing. They are perfect for kids, parents, educators and anyone interested in gaining a better understanding of how science **affects** everyday life.

We are thrilled to introduce you to our latest book: *One Minute Mysteries: 65 Short Mysteries You Solve With Science!* This is not an ordinary mystery book, and each puzzle comes with a twist—you have to tap into your science wisdom to solve them! This book is the perfect addition to our line of products that make learning science fun. Watch for other exciting titles in the *One Minute Mystery* series, including Math and Health. Additional titles published by Science, Naturally! include: *If My Mom Were a Platypus: Mammal Babies and their Mothers* and *101 Things Everyone Should Know About Science*.

What the experts are saying about

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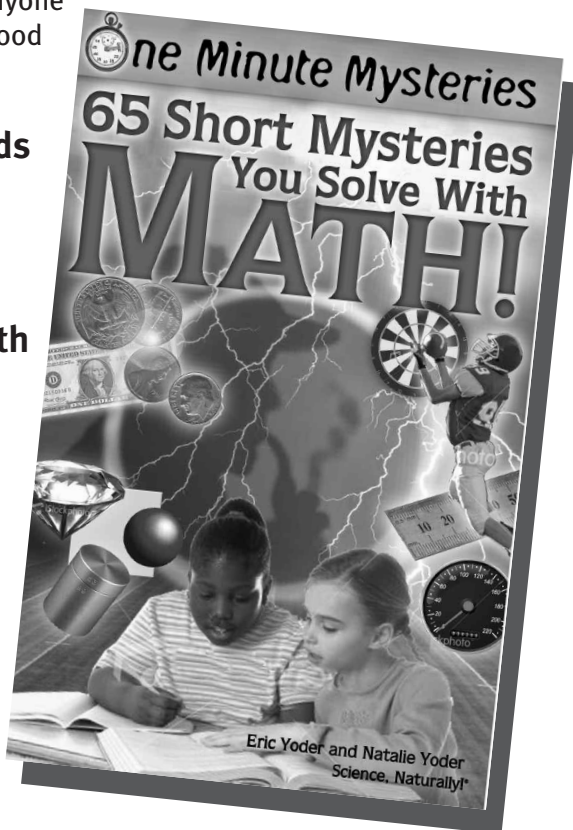
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Sample Mysteries



Life Science

① Shell Game

“Welcome to the science fair,” Principal Russell’s voice echoed through the multi-purpose room of Jackson Middle School. “This year, we will have a special surprise for all of the students. A professor from the local college will be judging our science fair.”

“But something has gone wrong,” Principal Russell added over the microphone. “Part of a science project has been stolen. This is very serious. If we do not find who stole it or if they don’t confess, the science fair will be cancelled.”

As groaning filled the room, Vanessa went up to Principal Russell and asked, “What was stolen?”

“A hermit crab was stolen from Edward’s science fair project,” Principal Russell said. “Go see for yourself.”

In Edward’s project there were six different surfaces: gravel, sand, rocks, shells, leaves, and wood chips. Hermit crabs were crawling all around.

“How many hermit crabs do you have in here?” Vanessa asked, turning over a few empty shells.

“I have seven,” Edward said. “I even painted the numbers on their shells. But number five is missing. Somebody must have taken him out of his shell. See?” He held up the shell numbered five for her to see that it was empty.

“What are the other shells for?” Vanessa asked.

“Just for decoration,” Edward said.

“Have you ever had hermit crabs as pets?” she asked.

“No,” he said.

Vanessa took the microphone and said, “The science fair is not cancelled. Everybody go on like nothing happened. I know where the missing hermit crab is.”

② A Question of Identity

“Watch out!” Samir yelled.

“What?” Maggie asked.

“Don’t step on it! Look!” Samir said

“Eww, yuck!” Maggie said as she lifted her foot. On the ground lay something slimy, long, and skinny.

They were outside walking alongside the playground during break time, and Samir had spotted something dark in the grass just where Maggie was about to step. It was several inches long, dark in color and about as big around as a pencil. It was also dead, and a little shriveled up, so it was hard to tell exactly what it was.

Their teacher heard them and came over. “What’s wrong?” Miss Geong said.

“I almost stepped on a dead snake!” Maggie said.

Miss Geong took a stick and poked at it. “It could be a small snake, or maybe just a large worm,” she said.

“Whatever it is, let’s just leave it here,” Maggie said.

“I can’t do that,” Miss Geong said. “If it’s a snake, there could be a whole lot more. I’ll have to tell the principal to cancel all recesses until an expert comes.”

“No, we can figure it out ourselves,” Samir said. “Is it okay if we take a closer look at it?”

“Yes, since it’s dead,” Miss Geong said. “But how do you expect to tell what it is?”



③ Stars in Their Eyes

Mr. Sakura was known for giving a lot of homework, and a lot of it was very tough. He also was known for having a sense of humor.

His assignment to the class was this: “Over the next week, at a time of your choosing, identify the star that looks the largest in the sky.”

The day they turned in their answers, a group of friends gathered outside after school and talked about what they did.

“I used binoculars, but even then, no one star seemed bigger than any of the others,” Xavier said. “So I just picked the North Star. I don’t know if it’s the biggest, but at least it’s easy to find.”

“I did some research on the Internet and found that Vega is a really bright star,” Paul said. “I managed to find it one night. But I couldn’t tell if it’s the biggest star in the sky or not.”

Bradley said, “I used a telescope I got as a little kid and looked at the constellation Orion—you know, the one that is supposed to look like a hunter wearing a belt. I picked one of the belt stars, Mintaka. I tried to measure it against the other ones. It looked a little bigger, but I don’t really know.”

“That’s what you guys get for not looking closely enough,” Nicholas said. “How could you miss it?”

④ Rain or Shine

Sandrine’s parents had let her use their digital camera at the class Halloween party. She went around taking pictures of the food, the decorations and everyone in their outfits.

Sandrine knew how to download pictures from the camera onto a computer, and over the weekend, she would email them to her friends.

“Sandrine, if you send out that picture of me stuffing my face with popcorn I will so kill you,” Valencia said.

“Let’s see! Let’s see!” Lena said.

“Yeah, let’s see!” Kathleen said. The four of them were the best of friends and always together. Sandrine hit the button that showed all the pictures in the camera’s memory. The earliest ones were from a game of a soccer team they all played on. But they showed only Sandrine, Kathleen, and Valencia, not Lena. One picture of the three of them was especially good, with a clear sky and a rainbow in the background.

“Hey, where am I in these pictures?” Lena said, sounding a little jealous of being left out.

“Maybe you missed that game,” Valencia said.

“I haven’t missed a game since last spring,” Lena said. “That day it rained before the game and I slipped and twisted my ankle during warm-ups and had to go home.”

“Then this must be from that day,” Sandrine said.

“Can’t be. The sky is clear in this picture,” Lena said.

“Sandrine’s right,” Valencia said. “The picture proves it. Don’t you see how?”

⑥ Hide and Seek

“It’s because the window is fogged up that I know someone is in there. The only way the playhouse window would fog up in this weather is from someone’s breath,” Rebecca said. “Cold air is very dry, so the fog is caused by the moisture in her breath condensing on the glass. She must be hiding right below the window so she can peek out at us. Now let’s all go inside for some hot chocolate. I’m freezing!”

⑦ Language Barrier

“In Europe, temperatures are in Celsius, not Fahrenheit,” Cara said. “I did the conversion like they taught us in science class.”

“Uh, right,” Amanda said. “Can you refresh my memory on that?”

“You double the Celsius number, subtract one-tenth of the result, then add 32,” Cara said. “Twenty-five times two is 50, and one-tenth of that is five. Fifty minus five is 45, and adding 32 makes 77. So 25° C is 77° F. A nice, warm spring day in Paris. What could be better?”

⑧ Nothing to Sneeze At

“Natalie, of course,” Miss Crater said.

“You’re right, it’s from me,” Natalie said. “Sorry, I forgot to wash the gymnastic chalk off my hands before I came. I know you’re allergic to chalk dust. I hope you enjoy the present anyway.”

⑨ Thrown a Curve

“At practice, you were using a real baseball, which has stitches that are above the surface of the ball,” Wayne said. “The stitches are what grab into the air when you put topspin on the ball by snapping your wrist. Because of the topspin, air is moved out of the way under the ball, lowering the air pressure there, and more air is brought around to the top of the ball, raising the air pressure there. The result is the ball curves down. It’s the same reason golf balls have dimples—to grab the air. Except in golf, backspin is put on the ball and the dimples help it go up. This ball is smooth, so you don’t get that effect.”

⑩ Occupational Hazards

“I know what you mean,” Acquan said. “Meteorology is not the study of meteors, it’s the study of weather. And astrology isn’t the study of the universe, astronomy is. Astrology isn’t a science, it’s a belief that the stars and planets affect our personalities and our lives.”

Tucker said, “Trisha will soon find out that geology is the study of things found in the ground and that geography is the study of the Earth’s physical features. And radiology isn’t about radios, it’s about using X-rays and radioactive substances to detect and treat disease. Jahari is the only one who’s right; botany is about studying plants. Being accurate is really important in science!”



1 Shell Game

“Where?” Edward asked.

“You might not know this because you don’t keep them as pets, but hermit crabs find new shells when they outgrow the ones they already have,” Vanessa told him. “So number five must have moved from the shell it was in to one of the decoration shells.”

Sure enough, they looked in the decoration shells and found the missing hermit crab just like Vanessa had thought.

2 A Question of Identity

They picked up the dead, unknown thing with the stick, put it into a bag and carried it into the science room. There Samir got a sharp knife and cut it open. “The playground doesn’t have to be closed,” he said. “This cannot be a snake because a snake has a backbone—it’s a vertebrate. Worms do not have backbones—they’re invertebrates. This does not have a backbone, so it must be just a large worm.”

3 Stars in Their Eyes

“But we looked at the stars as closely as we could, without going to an observatory,” Bradley said.

“You didn’t look closely enough at the instructions,” Nicholas said. “Remember, the instruction sheet said you could pick a star you see at any time you chose. It didn’t say you had to pick a star at night. The star that looks the largest in the sky is right there,” he said, pointing to the Sun. “The Sun is the only star in our solar system. It is the closest star to Earth and that’s why it looks the biggest, but it turns out it is about average in size among all stars.”

4 Rain or Shine

“Rainbows only appear when sunlight hits water in the air at just the right angle,” Valencia said. “So even though the sky had cleared out by the time this picture was taken, the rainbow proves that it had rained not long before.”

5 Faded Memory

“That painting must be one of the copies,” Javier told Theo. “Paint only fades from years of being exposed to light, which wouldn’t happen inside a metal box. Someone must have unsealed the box, switched the paintings and then resealed it.”

5 Faded Memory

Javier and the others from his class gathered in the school auditorium along with many adults. It had turned into a town holiday.

Long ago, students at the school had made a time capsule out of a large metal box and sealed it, to be opened exactly 100 years from that date. The day had arrived.

According to a newspaper story from the time that they had read in class, the most valuable thing in the box was a painting. It was a battle scene done by a famous artist who lived in the town as a child and who donated the painting to the school. Painted copies of it were in museums everywhere, but this was the original, which was sealed up not long after it was first painted, and was now worth a lot of money.

Several people were needed to carry the large box, which had a fancy inscription on the outside. “To the School Children of the 21st Century,” it said.

The band played as the box was opened. Everyone stretched to see. Out came a pair of shoes with laces like those on ice skates. There were also a couple of home-made dolls and some tops, checkers and cards.

Then several men pulled out something very carefully. It was the painting.

Everyone took turns looking at it closely. “Too bad the colors faded so much in all that time it was sealed away,” said Theo, who was in front of Javier.

“Too bad somebody opened the time capsule before now, stole the original painting and substituted a copy,” Javier said.

“What makes you say that?” Theo asked.

6 Hide and Seek

It had snowed the previous evening, and the schools were closed. Rebecca’s father had gone to work anyway. Her mother was staying home, although she needed to work on the computer all day. Rebecca would be babysitting her younger sister Maia – and also Maia’s friends from up the street, Erica, Elena and Ashley, who would be coming to play.

The younger girls went outside to play in the snow. Rebecca had to go with them to keep an eye on them. She stood shivering in the cold air. Rebecca didn’t like the cold, and she especially didn’t like getting wet from the snow.

Soon the younger girls decided to play hide and seek. Erica, Elena and Ashley would hide and Maia would try to find them. Rebecca played along, turning her back and closing her eyes along with Maia and counting slowly to 20.

“Let’s see, where could they be?” Rebecca said, although she knew exactly where they had to be.

She whispered to Maia, “If I tell you where they are, will you promise to convince them to come inside?”

“Well, it looks like some snow has been knocked off the azalea bushes and there are footprints leading to the porch. But how do you know where the last one is?” Maia asked.

“She’s in the playhouse,” said Rebecca.

“Are you sure? How can you tell with the window all fogged up?” wondered Maia.



7 Language Barrier

It was spring break and it was time for the trip they had been waiting for all year.

At the start of the school year, their French teacher, Madame Duval—everyone just called her “Madame”—had said the best way to learn about a country and its language was to go there. So the students saved all year to get enough money for a trip to France.

The plane, part of a French airline company, had left New York the previous evening and had flown all night on its way to Paris. Now the sunlight was starting to come in through the airplane windows. Most of the students and the parents who came along—along with Madame herself—were still asleep. But Amanda and Cara were awake, along with some of the other passengers.

The flight attendant started making announcements. They could tell right away that they were over France now, because she was speaking in French, not the English she had used when they took off.

Amanda and Cara couldn’t understand everything she was saying, but they knew enough French to know she was saying they would be landing soon.

“She’s talking about the weather today in Paris,” said Amanda. “I heard her say ‘il fait vingt-cinq degrés.’ That means ‘it is 25 degrees.’ I didn’t think it would be that cold in Paris this time of year. I hope I brought warm enough clothes.”

Cara thought for a moment. “I don’t think I’ll wear a coat at all today,” she said.

“But won’t you freeze?” Amanda asked.

8 Nothing to Sneeze At

Miss Crater had been a teacher for so long at the school that she had taught the parents of some of her current pupils. They had many stories about her, including that she was the first teacher in the school to replace her blackboard with a whiteboard, because after many years of sneezing all day, she finally realized she had an allergy problem.

When she retired, the parents organized a big party for her. They decorated her classroom and held the party on a Saturday afternoon so that more people could come.

Of course, that meant that some of her students had to go there directly from their Saturday activities. Trent and Gabby were still in their soccer uniforms, Michelle was in a judo outfit, Shannon in horse-riding boots, T.J. in baseball cleats and Natalie in her gymnastics warm-ups. Nina had come from piano lessons, Isabelle from dance class, Jason from the skateboarding park.

Miss Crater said again and again how happy and thankful she was as she opened the presents the students had brought in with them. She picked up a heavy large box, shook it, sneezed and then laughed.

“I don’t have to look at the card to know who this one is from because it reminds me of someone’s activity,” she said.

“Who is it from?” several people asked.



9 Thrown a Curve

“No kidding, your coach taught you how to throw a curve ball?” Wayne asked.

“Yep,” Randy said.

Randy was a good athlete. He was quarterback for his football team in the fall, point guard for his basketball team in the winter and pitcher for his baseball team in the spring.

“I thought you weren’t allowed to throw curve balls until you got older,” said Wayne.

“The rule actually is that you can only throw so many curve balls in a practice or a game,” Randy said. “Because throwing too many can hurt your arm.”

“Can you show me how?” Wayne asked.

They were standing in the school courtyard at break time after lunch. The problem was they didn’t have a baseball, just a smooth ball about the size and weight of a baseball.

“Okay, you grip it like this,” Randy said, showing Wayne how to position his fingers. “When you throw it, you snap your hand down to put topspin on it. Like this.” Randy threw the ball with a downward snap of his wrist, but the ball just went straight.

Wayne retrieved the ball after it bounced off the brick wall and handed it back to Randy. “Try again,” Wayne said.

Randy did, snapping his wrist harder this time. But still the ball went straight.

After three more tries with the same result, Randy said, “The ball was really curving for me at practice last night. What’s happening?”

10 Occupational Hazards

It was the start of Career Week in science class. The students had to pick an area of science they found interesting and then research what it would be like to work in that job.

“J.L., let’s start with you,” said their teacher, Mr. Chisek. “What career are you going to study?”

“I’ve always liked space,” J.L. said. “I think meteors are really neat. So I’m going to look into being a meteorologist.”

“I like space, too,” George said. “I just love looking at the stars. So I’ll research being an astrologer.”

Mr. Chisek said, “How about something a little more down to Earth?”

“I’m interested in plants,” Jahari said. “I’m going to do my report on how to be a botanist.”

“Is there anyone interested in rocks and minerals?” the teacher asked.

“Me,” Trisha said. “I’ll do mine on what it’s like to be a geographer.”

“Anyone interested in electronics?” Mr. Chisek asked.

Brandon raised his hand. “I love messing around with radios. I’m going to research radiology,” he said.

Tucker leaned over and whispered to Acquan, “I’m surprised Mr. Chisek isn’t saying anything. But I guess he’s going to let them find out the hard way. All of them except for one are in for a surprise.”