

THE SASSAFRAS SCIENCE ADVENTURES

VOLUME 4: EARTH SCIENCE



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THE SASSAFRAS SCIENCE ADVENTURES

VOLUME 4: EARTH SCIENCE {SAMPLE}

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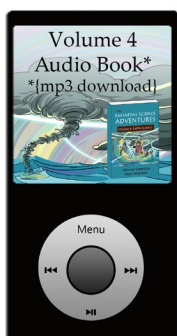
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- Floods
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THE SASSAFRAS SCIENCE ADVENTURES

CHAPTER 1: EMBARKING ON EARTH SCIENCE

Entering the Territory of the Guardian Beast

Somehow, they had made it without being detected.

They had taken quiet steps. They had uttered no words.

They had executed the journey with utmost caution. Their mission had been a success.

They had made it to their destination without being seen, heard, or smelled by the guardian beast, despite the scent of their bacon-laden breakfast still lingering on their clothing.

The three were all now standing in front of the target location: The Left Handed Turtle Neighborhood Market.



Cecil, Blaine, and Tracey Sassafras stood victoriously in front of the automated glass doors. Cecil was quite a bit more elated than the twins were, probably because he had been terrified about making the journey. Blaine and Tracey, on the other hand, had not been scared at all. They didn't see what the big deal was

about walking the few blocks from their uncle's house to the neighborhood supermarket. Yes, on the way you had to walk past Old Man Grusher's house. And on the porch of that house there was usually a dog, but the dog was just a miniature poodle for goodness sake. It wasn't the "guardian beast" that Uncle Cecil liked to call it.

Blaine and Tracey were visiting their uncle for the summer due to their failing grades in science. They had gotten fantastic grades in every other subject, but not in science, which they despised in school. When their parents had found out about Blaine and Tracey's 'F's', they formulated a plan to send their twelve-year-olds away for the summer to work on "their science problem," as they had said. Uncle Cecil, who was their dad's brother, happened to be a pseudo-famous research scientist. So Blaine and Tracey's parents figured if anybody could help their children turn their science grades around, it would be Cecil. And, so far, their parents' plan was working splendidly.

Over the course of the last few weeks or so that they had spent with their uncle, Blaine and Tracey had gone from despising science to actually loving it! As the weeks went by, the twins were beginning to consider themselves as defenders of science. Uncle Cecil was absent-minded and more than a little wacky, but Blaine and Tracey had truly grown to love and appreciate him along the way.

Their uncle's way of enabling them to learn about science was absolutely out of this world! Cecil, along with a prairie dog lab assistant named President Lincoln, had invented invisible zip-lines. And not only were the lines invisible, but they were global and fast—real fast. These unbelievably amazing lines could zip the twins to any location on the planet at the speed of light!

All they needed to ride the zip-lines was a harness and a specially designed three-ringed carabiner. One ring on the carabiner was for longitude coordinates, one ring was for latitude coordinates, and the last ring was to secure the harness to the invisible lines.

When they first heard about the mode of travel it sounded too good to be true, but it wasn't—Blaine and Tracey had been experiencing this phenomenon for weeks now.

At each location they zipped to, the twins met a local expert who would help them study several scientific topics. It was this hands-on, face-to-face, experiential way of learning that had won over the Sassafras twins' hearts.

So far, they had zipped through the subjects of zoology, anatomy, and botany. Now, this very morning, they were anticipating the start of another zip-riffic science subject. But first, Uncle Cecil said that they needed to pick up some groceries. So here they were now, standing in front of the Left-Handed Turtle.

The three Sassafras stepped through the market's automatic front doors and were immediately greeted by a squeaky, cracking, teen-age voice, "Welcome to Left-Handed Turtle! Welcome to the Left-Handed Turtle! Welcome to the Left-Handed Turtle!"

"Good morning, Preston!" Cecil joyfully shot back to the young store clerk who had squeaked out salutations to the three on behalf of the store. The eldest Sassafras grabbed a shopping cart and skipped down the first aisle to commence shopping. The twins followed close behind.

"Why did he say, 'Welcome to the Left-Handed Turtle three times?'" Blaine wondered out loud.

"Who, Preston?" Cecil asked. "The front clerk is supposed to greet every individual that comes in with a warm Left-Handed salutation."

Both twins nodded and smiled at the same time. All the while they were thinking how this trip to the supermarket just highlighted the fact that so many of the quirks about Uncle Cecil's neighborhood were as delightfully strange as he was.

Cecil began whistling as skipped and zigzagged down the market's aisles, haphazardly grabbing items and throwing them

into his cart. The twins had a hard time keeping up with him as he speedily wound around the supermarket. Eventually, all three Sassafras ended up back at the check-out stand with a huge, overflowing mound of mismatched groceries.

Preston, the squeaky and skinny teenaged clerk, painstakingly rang up all of Cecil's items and then sacked them in a big pile of blue plastic bags. "That will be three hundred seventy-six dollars and forty-two cents, Mr. Sassafras," the young man informed, his voice cracking twice during the sentence.

Cecil, who was wearing his usual white science lab coat, reached into the coat's side pocket for some cash with which to pay, but his hand came out empty. A look of slight panic formed on the scientist's face as he now began searching all the other pockets on his person. The pockets on his coat, his pants, and his shirt all came up empty.

"Did you forget your money again, Mr. Sassafras?" Preston asked, evidently not surprised at Cecil's current lack of funds.

"Oh, slippety slappety geeze little weeze. I sure did, Preston," Cecil sighed. "I left my bills and cents in my left shoe."

"Your left shoe?" Preston questioned. "Why don't you just take your shoe off now and pay for your groceries, then, sir?"

"Because I'm not wearing my left shoe."

"You're not wearing your left shoe?"

"No."

"Are you wearing your right shoe?"

"No, Preston, I'm wearing neither my right shoe nor my left shoe. I am wearing my house slippers that look like fuzzy bunnies because they are as soft and comfortable as cotton candy."

"Then where is your left shoe, sir?"

"My left shoe is in a fishbowl."

“In a fishbowl, sir?”

“Yes, a fishbowl. My left shoe is in the fishbowl, which is in the banana box in the parachute bag inside the zebra-striped dresser, which is in the mop closet under the stairs next to the living room.”

Preston’s acne spotted face now held a blank stare.

“I figure that’s the safest place to keep cash,” Cecil said plainly. He then switched to an apologetic tone. “Preston, I am so sorry, but can I leave my groceries here, go home, get my left shoe, and then return to settle the debt?”

“Sure, Mr. Sassafras, no problem.” Preston chuckled kindly.

“Thank you, thank you, thankity thank you!” Cecil responded, as he rushed out of the Left-Handed Turtle, accompanied by his niece and nephew. He began making a beeline down the neighborhood sidewalk back toward his house, which was three blocks away at 1104 N Pecan Street. But after only a couple of dozen strides, he stopped abruptly and became as frozen as an ice sculpture.

“What’s wrong, Uncle Cecil?” Tracey asked, concerned.

Cecil remained silent for a few more minutes and then finally managed to speak. “If we have to go home and get my left shoe, we will have to come all the way back here to the Left-Handed Turtle, which means we will have to pass . . . the guardian beast . . . two . . . more . . . times.”

“Uncle Cecil, why are you so afraid—” Blaine started to say but was interrupted by a sharp elbow in the ribs from his sister.

“Don’t worry, Uncle Cecil,” Tracey comforted. “We will get by Old Man Grusher’s dog—I mean, the guardian beast—with no problems. Blaine and I will be walking by your side the whole time.”

Cecil nodded. He summoned up the courage, and then started again toward home. The first two blocks were easy enough, and the pace was rather quick, but the third block required a left turn

onto Pecan Street. Cecil's heartbeat quickened as his pace slowed to a tiptoe. They passed 1112 on the left and 1111 on the right—no sight of Old Man Grusher's miniature poodle yet.

Silently, cautiously, and slowly, they now passed 1110. Still, no sound of barking reached their ears. They moved forward slowly as they entered into what Uncle Cecil called "the guardian beast's territory." Old Man Grusher's house stood directly to their right. They could see the plastic golden house numbers—one, one, zero, and seven—glimmering in the morning sunlight. They had a clear view of the old man's porch—the throne room of the beast—but the dog was not there! The miniature poodle must have been in the backyard digging holes or maybe inside watching TV with Old Man Grusher.

The three kept their eyes trained to the right and continued on safely to Cecil's house.



He snickered to himself as they passed. Blaine, Tracey, and Cecil had been so fixated on Old Man Grusher's porch that they hadn't seen him standing silently in his front yard at 1108. He had stared at the three as they passed. And if they had looked his way, they would have seen a man wearing a wide-brimmed sun hat, holding a pair of shears that he was planning to use vigorously to cut small branches off one of the three sassafras trees in his front yard.

The wide-brimmed hat was there to conceal the fact that he had no eyebrows. And had they looked, they would not have known that he wanted to do much more than cut off the small branches off the sassafras tree. His real desire was to vigorously cut away the hopes and dreams of the three people walking past the front of his house.

He had first met Blaine and Tracy in Kenya on a safari tour with Nicholas Mzuri. He had watched them learn about lions and cheetahs. He had acted like he was a part of their tour group, but then he stole the group's jeep and left them marooned overnight out among the wild African animals! Unfortunately, with the help of Mzuri, the twins had survived Kenya. Then, they continued to move forward through many more science learning locations.

But he had also kept moving forward. He had found a way to access the same invisible zip-lines the twins did. He had been spotted by them multiple times since that first location.

The twins had no idea why he was so bent on their failure. They didn't really even have any idea who he was. Despite that, he had not stopped them from learning science. In fact, it seemed he had only enhanced their summer of learning by providing a battle for them to fight.

He guessed that knowing there was a malicious eyebrow-less man trying to thwart their efforts only made Blaine and Tracey want to learn all the more. Again and again, he had failed to stop them. Now they felt victorious over him. Any fear they had felt was replaced with confidence in their role as defenders of science. He grimaced at the thought, but straightened up as a wicked sneer curled up his lips.

That confidence would definitely take a hit if the Sassafras twins knew of everything he was up to. There was so much they were still in the dark about. They didn't know that he lived only two doors down from their uncle. They didn't know that he had hidden tiny cameras all over Cecil's house, which enabled him to watch all their moves and hear all their conversations. They didn't know that he had a machine in his basement that could wipe away an individual's memory. They didn't know that he was planning to kidnap both of them, put them in this machine, and erase all the knowledge they had gained. They didn't know that he was motivated by revenge and that he despised their uncle more than

anyone on earth.

He was bound and determined to destroy anything that Cecil Sassafras loved. And right now, at the top of that list, was this zip-lining, science-learning, summer project that Cecil had planned for his niece and nephew. Yes, the man the three had unknowingly passed at 1108 North Pecan Street was up to a lot more than the Sassafrases knew about. His heart was darker and more devious than they might dare to imagine. And in the end, he was sure that he would be victorious!



A Photosyntastic Program

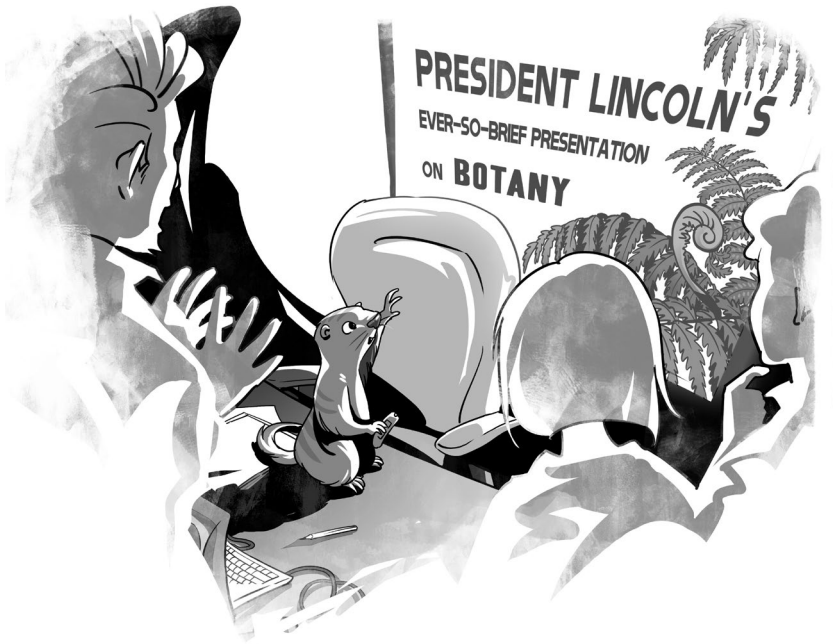
The three Sassafrases reached Cecil's front porch safely, and before they knew it, they were all careening down into darkness. For most people, careening down into darkness would not seem safe, but it was pretty normal for the Sassafrases. They knew they were on a slide that started at a trap door located on Uncle Cecil's front porch and ended in his basement, where something wacky and science-y was always happening.

The twins had entered the lab through the trap door slide before, and now it was just plain fun for them. At the end of the slide, the three landed with soft thuds on a pile of old pillows. Cecil quickly performed three somersaults and a crashing cartwheel, picked himself up, and bounded across the cluttered basement. The twins followed, thinking Cecil would take a turn for the stairs, where he would go up and get his left shoe. But instead, he ran straight for his computer desk, where a happy looking prairie dog was standing there waiting.

The prairie dog was none other than President Lincoln, Uncle

Cecil's lab assistant and inventor extraordinaire. Just like Blaine and Tracey were used to the trap door slide, they were also accustomed to the fact that Uncle Cecil's lab assistant was an animal. They still weren't sure, though, if President Lincoln was really capable of all the things Cecil gave him credit for. Nonetheless, President Lincoln was a pretty amazing animal.

Upon the humans' arrival, the animal tapped at the computer keyboard and, immediately, a picture of the prairie dog could be seen on a big screen on the wall behind the computer. Above the prairie dog, the screen said, "President Lincoln's ever-so-brief presentation about botany."



Uncle Cecil smiled a huge excited smile and clapped his hands. He loved these presentations that his lab assistant gave. Blaine and Tracey liked them as well. The presentations reviewed science they had worked so hard to learn, but the videos also usually preceded the start of a fresh scientific subject and a brand-new adventure around the world!

Cecil, as always, served as the exuberant emcee of the presentation. “I am so excited to begin this photosyntastic review with you all!” he started, before he joyfully read the presentation’s title. President Lincoln then brought up the next page.

“First up, we have non-flowering plants!” the messy, redheaded scientist exclaimed. “Non-flowering plants are plants that do not have flowers. These are simple plants, like mosses and ferns, which have spores, and conifers, which reproduce through naked seeds.”

The picture that appeared on the screen with the text was one of a Sitka spruce. The twins had taken the image of the coniferous evergreen tree with their smartphones while listening to Park Ranger Brock Hoverbreck. He had been their local expert in the foggy forest of Northern California, where the twins had joined a crew hunting for Bigfoot. Blaine and Tracey smiled. They loved how the content of President Lincoln’s presentation was data they had learned and the images were all pictures they had taken.

“Next are flowering plants,” Cecil read, overflowing with happiness. “Flowering plants reproduce with flowers. These flowers are pollinated by the wind or by insects. Once pollinated, they develop into seeds that are often encased by a protective fruit.”

A beautiful red rose in a vase was displayed on the screen with the text. This picture had been taken at the castle in Scotland where the twins, along with their expert Fiona McRay, had been framed as jewel thieves.

President Lincoln hit the keyboard, and the image changed to a giant ombú tree, which the twins recalled wasn’t really a tree at all, but actually an herb. The twins had been tied to this plant by some rascally wranglers when they had joined the gaucho with ten names on his quest to find the man who killed his gray fox.

Cecil read the text on this new image. “Grasses and herbs are also considered to be flowering plants. Grasses have an extensive root system that helps to reduce erosion. Herbs are plants that are

used for flavor, medicine, food, and perfume.”

The lab assistant clicked once more, leading the scientist to read on. “Next, we have carnivorous plants,” Cecil said. “These plants get the nutrients they need from insects or other small invertebrates that get caught in their traps. They are considered flowering plants as well.”

There was another click by the prairie dog. “Then, we have parasitic plants. These are plants that grow on other plants. They get the nutrients they need to survive from their host.”

There had been back-to-back images of pictures the twins had taken in Borneo. An image of a pitcher plant to represent carnivorous plants and an image of a giant rafflesia flower, representing parasitic plants. Borneo had been one of the most beautiful locations so far, and being chased by pirates while there had also made it one of the craziest adventures of the summer.

“Last, but not least, we have fungi and molds!” Cecil joyfully bellowed. “Fungi and molds are not really plants. Instead, they make up their own Kingdom of living things.”

The last picture of the presentation was one Tracey had taken in Peru of some shelf fungus growing on a tree stump. She had snapped the photo right after she had helped stop a battle from breaking out between a native Amazonian tribe and some archaeologists and loggers.

Upon completion of the presentation, President Lincoln took a bow while Uncle Cecil clapped his hands in a wide circular motion in front of his body.

“What are you doing, Uncle Cecil?” Blaine asked.

“I’m giving Linc-dog a round of applause! Get it? Round... of applause?”

Blaine and Tracey just shook their heads. They got their uncle’s joke. They just didn’t think it was all that funny.

Cecil clapped in this manner for a little while longer. Then, all at once, he stopped and quickly pulled out a smartphone from each of the side pockets on his white lab coat and pointed them at the twins, almost like he was drawing two pistols for an old western standoff.

“Are you two ready for a new subject of science?” he asked, with a cowboy-ish voice and a stern face that lasted about one second before it cracked a smile.

The twins nodded, grinning from ear to ear.

Cecil tossed the two phones to the children as he said, “Train, Blaisey, here are your new and improved smartphones! They are a bit bulkier because President Lincoln and I added a new waterproof casing. After Blaine dropped his phone in the ocean while wrestling with the Man With No Eyebrows, and then experienced the subsequent zip-a-roo around the world with random caribiner coordinates, we decided to make it absolutely certain that your phones could handle being fully submerged!”

Blaine shivered a bit as he remembered the harrowing incident his uncle mentioned.

“We also put the finishing touches on the new application we were talking about yesterday,” Cecil continued. “But before I brief you on that, let’s review how all the phone’s other applications work.”

The twelve-year-olds nodded again.

“First, we have the LINLOC application, which as you know stands for Line Locations. This application gives you the precise longitude and latitude coordinates to the place in the world you will be zipping. It also lists the topics you are tasked with studying and the name of a local expert who will help facilitate your learning. As always, President Lincoln and I will be able to observe your progress down here in the basement on the tracking screen.”

The Sassafras twins’ heads swiveled to look at the tracking

screen, which was the same screen on which they had just viewed President Lincoln's brief presentation. When the screen was on tracking mode, two little green lights representing the twins could be seen wherever they were in the world at the time. This way, Cecil always knew his niece's and nephew's locations. This screen could also function as a "data screen," where Uncle Cecil could view all the data the children had texted in while on their journey.

"The next application, as you know, is the SCIDAT app," Cecil said, swirling his hands around as he talked. He was the kind of person who was unable to remain still for even a second. "SCIDAT stands for scientific data. This application is used to log all the required data for each topic you will be studying. Once logged, just push send, and then all the data will be visible to me down here on the screen."

All the information Cecil was giving them was review for the twins, but they didn't mind at all. They loved talking about anything having to do with their summer science adventure!

"Then, there is the Archive app and the Microscope app," the eldest Sassafras continued. "Along with your phone's high resolution cameras, these two applications help you two little Sassa-ma-frasses get all the pictures you need to text in with your SCIDAT data."

Cecil paused, as he took a long smiling deep breath. Then, he slowly stretched his long arms out as high and wide as they would go—as if he was about to reveal something hugely exciting.

"And now for your new application!" he finally announced. "Behold, the Taser application!"

All four of the twins' eyes widened at this. "The Taser application?" Blaine and Tracey questioned, in excited unison.

"Yes, the Taser application!" their uncle confirmed. "The two of you have lived through some amazing adventures this summer and, in the process, have overcome some scarifying

obstacles. The biggest of which very well may be this mysterious Man with No Eyebrows you have mentioned. For unknown reasons, he seems determined to derail you two from the track toward scientific knowledge. But now, with this brand-spanking-new Taser application, you two can give him a good zap! Simply open up the Taser application, place the top end of your phone against the desired target, and press the ‘TASER NOW’ button. At that moment, fifty thousand volts of electricity will shoot any joker or jerk with a not-so-jolly jolt. This Taser will not harm or injure anyone, but it will definitely incapacitate them for a couple of minutes.”

Cecil paused and gave a chuckle/frown combo. The chuckling was normal, but the frown was not.

“Over the past few weeks, I have come to the realization that the Man with No Eyebrows is a serious threat,” he said. “And President Lincoln and I thought a serious threat deserved a serious application. So that is the reason for the new app, Train and Blaisey.”

The twins held their smartphones in their hands and looked at them with a new respect and awe. These little puppies were capable of so much, and now they packed a serious punch. Tracey hoped she never had to use this newly unveiled Taser application. Blaine, on the other hand, was ready to try it out right now. He wondered what it would feel like if he zapped himself.

“Now, to wrap up our little zip-tastic science-mazing review here,” Cecil effectively cut off his adolescent nephew’s thought process. “This glitch-free, invisible zip-line, smartphone-connected mode of globetrotting is designed to drop you as close as possible to your local experts without being detected. The goal is for you to learn science. As always, you can call me if you need me, but remember: it is very important to keep the existence of these wonderiffic zip-lines a secret.”

A pause by Uncle Cecil and a hiccup from President Lincoln passed before the scientist continued. “And now, are the two of you

ready to zip away for the start of your Earth science leg of learning? You'll go to several fantastic locations around the world and study fabulous topics such as climates, weather, atmosphere, natural cycles, oceans, rivers, and more!"

"YES!" the Sassafras twins shouted in unison.

"Great," Cecil shouted. "Then let's hop to it . . . right after we go back and pay for our groceries at the Left-Handed Turtle."

Blaine and Tracey stood there with arms raised and fading smiles on their faces. They felt somewhat gypped; Uncle Cecil had made it sound like they were going to zip away at this moment, but now it looked like they had to wait a little longer.

Oh, well, they thought. They were still the two luckiest kids on the planet to be able to get to have this kind of adventure at all.

Uncle Cecil went to retrieve his left shoe, and soon the trio found themselves on the sidewalk headed back to the market. The going was slow, as they again cautiously moved remaining on the lookout for the 'guardian beast.'

"Well hello there, Cecil," Mrs. Pascapali, Cecil's next door neighbor said kindly from her front porch, waving her hand. "I see you still have your niece and nephew visiting with you."

"I sure do," Cecil stated with a smile. "Train and Blaisey will be here all summer!"

"That's wonderful!" Mrs. Pascapali said, smiling and nodding her head.

"Ruff, ruff!"

"What's that, Mrs. Pascapali?" Cecil asked, confused at the last thing his neighbor had said.

"Ruff, ruff!" the scientist heard again.

"Mrs. Pascapali, are you barking?" he asked.

"It's not Mrs. Pascapali," Tracey said, pulling on her uncle's

white lab coat. “It’s Old Man Grusher’s dog, and he’s coming this way!”

“RUN! RUN LIKE THE WIND!” Cecil screamed at the top of his lungs.

The three Sassafras scattered in three different directions.

Tracey ran across the street, Blaine ran up into Mrs. Pascapali’s yard, and Cecil skittered straight up the sidewalk, screaming like a young child getting a splinter pulled. The guardian beast yapped at all three of the running Sassafras, but in the end, of course, chose Cecil to chase. This caused the redheaded scientist to run and scream all the more fervently.

Tracey, realizing it was no big deal, slowed her pace a bit, staying safely on the opposite side of the street while heading in the same direction as her uncle and the dog.

Blaine, however, hopped the short fence separating Mrs. Pascapali’s side yard from the house at 1108. He stopped and hid behind a bush at the side of the house, panting ever so slightly.

“Wait, what in the world am I scared of?” Blaine abruptly thought to himself. “I’m not afraid of Old Man Grusher’s poodle. Why am I hiding?” Uncle Cecil’s screams had served to transfer enough fear for Blaine to seek out the cover of the bush, but reality quickly set in. The boy had to laugh at himself as he stood up from his hiding place. He started to step out from behind the bush, when suddenly he felt something hard crash against the back of his head. Everything went black.

CHAPTER 2: O-O-O-O-KLAHOMA

Where the wind comes sweeping down the plains

“Welcome to the Left-Handed Turtle! Welcome to the Left-Handed Turtle!”

“Preston! Hurry, hurry, and close the front door of the store! A beast is chasing us!”

“Mr. Sassafras, the doors are already closed. They’re automatic.”

“Oh, good. Blaisey, I see you made it here without getting eaten. That is great. Where is Train? Is he not here? Oh, fiddle-sox! The guardian beast must have gotten him! Oh, no, this is terri-bad-full!”

“Uncle Cecil, it’s okay. Let’s just calm down. Take a nice long deep breath,” Tracey reassured.

The frantic scientist did as his niece suggested, and after a few moments of normal breathing and realizing he was no longer being chased, Cecil settled back into his normal self. He placed his left shoe up on the counter and proceeded to pull money out of it to pay for his groceries.



“What was the total again, Preston?” Cecil asked the Left-Handed store clerk.

“It was three hundred seventy-six dollars and forty-two cents, sir,” Preston answered respectfully, but with a crackly voice.

The scientist paid the correct sum, and then he and Tracey, with the help of the clerk, carried the bags outside. “Thanks, Preston. You’ve done the Left-Handed Turtle proud. Now will you go inside and call me a cab?”

“A cab, sir?”

“Yes, Preston. My niece, our groceries, and I are going to take a taxi cab back home. That way we won’t have to cross paths with the guardian beast again.”

“Yes sir,” Preston responded, and then he quickly turned, went back into the store, and immediately did as the patron had asked.

“Upon calculated deduction,” Cecil said, as he and Tracey sat on a yellow parking block, waiting for their cab, “the likely reason for Blaine’s absence is not that he got eaten by Old Man Grusher’s dog, but rather that he got separated from us and figured that he would go ahead and start a new scientific subject. I bet he put on his harness, found the coordinates on the LINLOC application, and went ahead and zipped to the first earth science location to meet you!”

“Do you really think so?” Tracey asked.

“I certainly do,” Cecil responded. “So, right this moment, the thing I think you should do is zip off to meet him. Do you have your harness, three-ringed carabiner, and smartphone with you?”

“Yes I do, Uncle Cecil. They’re right here in my backpack.”

“Then, by all means, let’s move forward with this plan. Go ahead and get your phone out and open up LINLOC to see what your first location is!”

“But what about all these groceries? Don’t you need help getting them home?”

“Nonsense. I will manage fine. The taxi will get me safely past the guardian beast, and then President Lincoln can help me get the groceries inside. You go on, Blaisey. It’s time to zip!”

It was exciting, but Tracey wasn’t sure that Blaine had really zipped off without her. Yes, he did tend to be a little more spontaneous than she was, but he wasn’t completely irresponsible. Blaine did joke around with her often, probably because he viewed himself as her older brother, even though he was only older by five minutes and fourteen seconds. But taking off on the zip-lines and leaving her behind wasn’t something he had ever done on purpose, and she couldn’t picture him doing it now. As Tracey opened the LINLOC app, she had a nagging suspicion that something was wrong.

“Well, what does it say?” Cecil asked, with a sincerely excited smile on his face.



“Oklahoma City, Oklahoma,” the girl read. “Longitude $35^{\circ} 32' 08''$, latitude $-97^{\circ} 28' 59''$. The local expert’s name is Sylvia Thunderstone, and the topics for study are wind, global wind patterns, downbursts, and tornadoes.”

“Oh, hooray! Hooray hippity hippity hoola-hoop hooray!” Cecil exclaimed in total exhilaration. He was beyond excited that his niece and nephew were starting a new scientific zip-line adventure.

“Blaisey, go join your

brother. Have a fantastic time studying earth science face-to-face! I'll see the two of you when you get back!"

Tracey nodded, smiling. She was excited, but the girl was still a little wary of riding the zip-lines without her twin brother. Nevertheless, she put on her helmet and harness, turned the rings on her carabiner to the correct longitude and latitude coordinates, and let the carabiner snap shut. As was always the case, when the carabiner snapped shut, it would automatically find and connect to the correct invisible zip-line. When this happened, it pulled Tracey up into the air a few feet, which Tracey was accustomed to, but she could only imagine what someone would think if they saw her hovering a few feet off the ground now, here in the parking lot of the Left-Handed Turtle Neighborhood Market.

Tracey knew she now had approximately seven seconds before she zipped off at the speed of light to Oklahoma City. Uncle Cecil gave one last smile, accompanied with a wave and then, Whoosh! Tracey was zipping through swirls of light.

Even though she was upset that her brother wasn't with her, the Sassafras girl couldn't help but crack a huge, ecstatic, fully sincere smile. There was absolutely nothing that could compare to what she was experiencing right now. Invisible zip-line travel was the best!

The girl's travel ended with a jerk. Her carabiner automatically unclipped from the line, and then her body slumped down, sapped of strength and sight. All of this was customary, and it didn't alarm Tracey because she knew this was how the lines were supposed to work. She knew that, rather quickly, her sight and strength would return, which they did.

The first thing Tracey did with her restored sight was look around her landing spot for Blaine, but he was nowhere to be seen. "Where have I landed?" Tracey thought to herself. "In a tent? No, there is a wooden floor, but the arched ceiling is low and made of cloth. What is this place? Look at all those cowboy hats and bullwhips and bandanas. Hey wait! This place looks familiar. I'm

pretty sure—”

Tracey’s train of thought was interrupted by the sound of a harmonica, accompanied by a masculine cowboy-ish singing voice.

“O-o-o-o-klahoma, where the wind comes sweeping down the plain. And the wavin’ wheat can sure smell sweet when the wind comes right behind the rain...”

The song continued on, and as it did, Tracey began to think that just like her landing spot, that voice was familiar too. The Sassafras girl crawled toward the opening she noticed and peeked her head out—what Tracey saw made her smile! There, sitting in front of a small crowd singing and playing a harmonica was none other than Sylvester “Doc” Hibbel. He had been the twins’ local expert in the United Arab Emirates, where they had studied the integumentary system of the human body. Now, Tracey knew where she’d landed! In Doc Hibbel’s covered wagon—the same wagon that Blaine and Tracey had ridden in during the Wind Tower 100 across the Arabian Desert. Strangely, the covered wagon was parked inside what looked like the wide halls of a museum.

The Doc was dressed like a cowboy, and the small crowd he was singing to seemed to really enjoy his performance. He finished his song with a little harmonica solo, and then he addressed his audience.

“I’m so glad that y’all have visited us here today at the Cowboy Hall of Fame in Oklahoma City, Oklahoma. Some folks call me Doc. My mother named my Sylvester Robert Hibbel. My wife calls me lazy or boring. But you can call me friend. I have the privilege of serving as a trustee here at the Hall.”

“Oh, yeah,” Tracey said to herself, as she remembered that in the UAE, the Doc had told them he was from Oklahoma City and that he was affiliated with the Cowboy Hall of Fame.

“We have something extra special we want to show y’all today,” Hibbel continued. “It goes right along with the words to

the first line of the song I just attempted to sing. Does anybody remember how the song started?”

A little boy raised his hand and then shouted out the answer, “Oklahoma, where the wind comes sweeping down the plain!”

“That’s right, son,” Doc Hibbel confirmed and repeated. “‘Oklahoma, where the wind comes sweeping down the plain.’ Now, I would love to stand here and keep yapping my trap, but instead, I will pass the bean can to someone more interesting than me. Cowboys and Cowgirls, I present to you Dr. Sylvia Thunderstone and her stellar steed, Lucille!”

Hibbel gestured toward the end of the hallway, where a set of large doors opened up and in drove the strangest looking vehicle Tracey had ever seen. She couldn’t tell if it was a car, an R.V., a tank, or a combination of all three. It rolled slowly and carefully up to where Doc Hibbel and the small anticipatory crowd were. The vehicle parked and then nothing happened for a few seconds, giving the excited onlookers a chance to gawk over the detail and design of this peculiarly awesome car.

It had six wheels. It looked to be armored, and it had a window built into its roof. All at once, a V-wing door on the side opened up and out stepped a strikingly beautiful lady with brunette hair, big colorful eyes, and a kind smile on her face.

“Oklahoma, where the wind comes sweeping down the plains is right, y’all,” she said to those gathered. “It’s so nice to meet ya today. My name is Sylvia Thunderstone. I am a meteorologist fresh out of my doctoral courses, and I am here today to talk to y’all a little bit about that Oklahoma wind, as well as introduce you to Lucille here.”

“Lucille?” questioned the same boy who had answered Doc Hibbel out loud earlier.

“Yes, Lucille,” Sylvia confirmed, as she patted the strange vehicle with her hand.

“Lucille is being presented for the first time today to y’all at the Cowboy Hall of Fame. She is the very latest, cutting-edge, state-of-the-art, technologically-advanced, meteorologically-superior, storm-chasing-vehicle to be designed and assembled!” Sylvia announced proudly, as the small crowd gasped in wonder.

“We call her Lucille, after Lucille Mulhall, who was from Oklahoma. She was the very first show cowgirl, known as the ‘Queen of the Western Prairie.’ She performed in many rodeos and Wild West shows throughout her career.” Thunderstone paused as she thought about Lucille Mulhall, one of her heroes.

She smiled and patted Lucille, before continuing. “Our hope for Lucille is that she will be a hero used to save thousands of lives!” Sylvia continued. “She’ll do this by helping us to really figure out how dangerous storms work.”

“I-yip-I-yo-ee-yay!” Doc Hibbel exclaimed, unable to conceal his excitement over this brand new storm-chasing car.

Sylvia smiled at the Cowboy Hall of Fame trustee and then got to the subject at hand. “Now, to address that wind that so often comes sweeping down the plains and across the prairies here in Oklahoma. Wind is actually the movement of atmospheric gases on a large scale. In other words, it’s the movement of air. And since wind is something that you can’t actually see, we describe it by using two factors—speed and direction.” Many people were now nodding their heads, understanding what Thunderstone was saying.

“Wind is caused by the uneven heating of the surface of the earth,” Sylvia continued. “The earth’s surface, of course, is a mixture of land and water. Land and water both absorb heat from the sun’s rays at different rates. During the day, the sun heats up the surface of the earth and the air around it. The air over land heats up faster than the air over water. Plus, we have the air over land that receives direct sunlight, which heats up faster than the air over land that receives indirect sunlight. Since the warm air weighs less, it rises, causing a change in air pressure. The cool air moves in to replace



the space where the warm air was, and this movement of warm and cool air causes wind. At night, this happens in reverse. The air over land cools more quickly than the air over water, and wind is created once more.”

The crowd leaned in a bit, interested to hear what Dr. Thunderstone had to say.

“When there’s lots of wind, we can harness its power and turn it into energy that we can use. This is known as wind power, which we use to generate electricity these days. But in the past, it was used to

pump water out on the prairies.”

Sylvia paused here and smiled. “Maybe you remember there was another few lines in the song Old Doc Hibbel was singing that said:

‘Gonna bring you barley, carrots and potatoes,
Pasture for the cattle, spinach and tomatoes,
Flowers on the prairie where the Junebugs zoom,
Plenty of air and plenty of room.”

“I remember!” The outgoing boy called out.

“Well, Oklahoma is mostly prairie, which is a type of temperate grassland. Now, there are two types of grasslands: temperate and tropical. The savannah, which is a tropical grassland, for instance, has a hot wet season that lasts for a few months and a slightly cooler dry season that lasts for about eight months. But here in the temperate prairie, we have cold winters and warm summers, just like the steppes of Europe and the pampas of South America.”

Tracey had to smile at the pampas reference. She and her brother had had quite the adventure in the Argentinian pampas.

“The temperature on the prairie can be as low as negative twenty degrees Fahrenheit in the winter and as high as a hundred degrees in the summer,” Thunderstone said. “But the averages are around twenty degrees in January and around seventy in July. The average rainfall is between ten and thirty inches, but most of that occurs in the summer months. Wind storms are pretty common here on the prairie. These storms are basically periods of high winds and strong gusts with no rain.”

Upon the conclusion of the lovely Dr. Thunderstone’s talk, the small crowd applauded. Tracey, who was still in the back of the covered wagon, opened up the archive app on her phone and started looking for a suitable image to represent wind. She had enjoyed hearing from Sylvia, and it was good to see Old Doc Hibbel again, but Tracey really did not want to be entering SCIDAT data and pictures alone. Where in the world was Blaine?



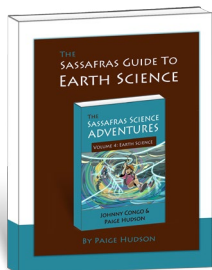
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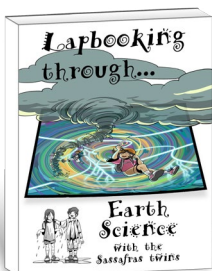
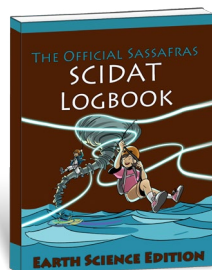
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