

The Grand Experiment

Once there was a city known as Verdencia with beautiful green parks blooming with fruit trees and colorful flowers. The people of Verdencia generated all their power with solar energy, and they were proud of how carefully they took care of their natural world.

One day, though, things started to change, and the people of Verdencia did not know how to react. The first two people to notice the change were Freddie and Fran, twin brother and sister who lived near the center of the city. On the day when the mysterious change occurred, Freddie and Fran had gotten up early because they were planning to go for a long hike in the hills. They had packed their lunch the night before so they didn't have to waste precious early morning hours getting ready, and they were already on their way to the bus stop fifteen minutes before the sun was expected to rise.

The sky was still dark when they arrived at the bus stop ten minutes later, but at first the twins didn't think much about it. They were both yawning a little and feeling more asleep than awake. As the twins sat on the bench, waiting for their bus to arrive, they were surprised how difficult it was for them to stay awake. Each passing moment made their beds back home seem more appealing, and Freddie almost fell right off the bench once. He sat up quickly as he felt himself begin to sway forward, and Fran giggled a little at her brother's antics.

Pretty soon, though, her giggles turned to worry as she glanced at her watch. "Hey, Freddie," she said, "shouldn't it be getting light? What's going on?"

Freddy stretched and turned to his sister. "What do you mean? What time is it?" he yawned.

Fran turned her wrist so he could see her watch, which glowed faintly from its battery. When Freddie finally realized that they'd been sitting there at the bus stop for forty-five minutes already, he felt the first tremor of nervousness pass through him.

"Hey, you're right!" he said, standing up to peer at the horizon where the sun should have appeared quite some time before. "The sky is really, really dark. What do you think is going on?"

"I don't know," Fran replied, "But I'm beginning to think our bus isn't going to get here. Just like at night, all the energy stored in the city's large back-up batteries will be used only for the most important things. Busses won't be able to move, will they?"

Freddie stood up and grabbed his sister's hand to re-trace the familiar path from the bus stop to their home. "It's a good thing we know our way back even in the dark!" he said, "Let's go home and see if anyone there knows anything."

By the time the twins arrived home, their parents were sitting in darkness at the kitchen table discussing the lack of sunshine. With the sky completely dark even during the day, they had to depend on the back-up batteries, and these were used only to keep the refrigerator running so their food wouldn't spoil. There was no extra solar power to run their lights. They seemed a bit shocked to see their children suddenly appear. "Hey! What are you two doing here?" they said. "Shouldn't you already be hiking up in the hills?"

Fran and Freddie rolled their eyes at their parents' lack of insight. "And just how would we get out to the hills today?" asked Fran, waving a hand at the darkness outside the window.

Their mom and dad were silent for a moment and then muttered, "Oh, never mind." Suddenly, the problem seemed much larger than a lack of light in their kitchen. The buses, the cars: Everything in Verdencia ran on solar energy. What would happen when the energy stored in the back-up batteries was gone?

Fran and Freddie were eager to be the ones to solve the mystery. While their parents remained in the kitchen talking quietly about what the authorities should do, the twins hurried off to try to find the answer themselves. The first thing they did was grab their flashlights and head out to try to learn everything they could about the dark sky. They went from house to house, stumbling a little when their feet hit a bump in the sidewalk that their flashlights hadn't picked up, and called all their friends together.

When they were all there, they sat on the lawn in front of Bennie's house and started talking. "I've heard that the sky is dark only over the city," Bennie said. "My cousin lives in the country, and he said there was nothing wrong out there."

The group of children felt a tremendous surge of relief when they heard Bennie's words. Celina, who lived right downtown, remembered the exact time she noticed something was wrong. "It started last night," she said, "about an hour before sunset. The sky turned a funny color, and I think it got dark earlier than normal."

Martha added that she had heard people talking about a strong smell of cinnamon and pepper all evening long. At this bit of news, all the children paused and took a deep breath. Sure enough, Fran and Bennie started to sneeze, and Celina, Freddie, and Martha all felt their eyes begin to water.

"Hmm. I think we may be on to something," Martha murmured.

The group decided to form an action team to get to the bottom of the mystery. They split up and went in different directions to ask every store clerk they could find for information about anyone who had been buying cinnamon or pepper. With an agreement to meet in exactly one hour, teams of two stumbled off into the darkness to search out the truth.

When the group got back together again, they could barely contain their excitement. All of them reported that every store clerk they had found said that old Professor LaLemon had been buying up as much cinnamon and pepper as he could get for well over a week. "This must be related to the sun being gone!" shouted Freddie.

The whole group knew Professor LaLemon. He was the smartest man in Verdencia and lived downtown on the top floor of a huge apartment building. Fran asked the others to report on how strong the smell of cinnamon and pepper had been when they were walking around. As each team reported out, she busied herself making a map. Finally, when everyone was done giving his or her report, she stepped back with a huge sigh. It was all starting to make perfect sense. The strongest smells were centered right downtown around Professor LaLemon's building!

The bunch knew exactly what they had to do. They went straight to Professor LaLemon's building and marched up to the top floor. The smell of cinnamon and pepper was almost too much. As they got closer, they began to hear a loud humming.

When they reached the top, Fran rapped on the door and called out, "Professor LaLemon, we've come for a visit! Are you in?"

"Why, yes," said a gentle voice from inside. "I'll be right there." The humming was loud now. When the door creaked open, a puff of cinnamon and pepper dust blew right out on the group. They all started sneezing.

"Ah-ah-choo! Professor LaLemon, what are you doing in here?" cried Freddie.

"Oh, come in, young ones. I'm just taking a break. Would you like a cup of tea?" The professor was covered in brown and black dust. The whole apartment was a flurry of brown and black dust, and there was a really loud humming noise.

The children looked at each other in total confusion, and Freddie spoke up again. "What are you working on? What is that noise? What is all this crazy dust?"

Professor LaLemon stopped for a moment in surprise, and then began to speak. "Well, I'm working on a fabulous new method to capture sunlight in tiny particles, using only common ingredients and a clever machine of my own invention."

"But, Professor, you're blocking the sun from the entire city!" cried Fran. "Did you ever stop to think how very dark both cinnamon and pepper are?"

"Oh... oh really... well, I suppose I didn't..." began the professor. Perhaps it's time to begin the SECOND phase of my work. You see, the machine--I call it the Duster--grinds common spices and blows out the dust. But then it must also collect the dust which has gathered solar energy... it's really quite clever!"

He brought them over to the huge machine, flicked a tiny switch, and the machine turned off. The children breathed a huge sigh of relief. "Finally," said Freddie, but before

he could continue, the professor hit another switch, and the machine started humming again. This time, though, the dust was being sucked INTO the machine. The dust from the room, the dust out the window, even the giant cloud of dust in the sky, all vacuumed clean within minutes! A giant energy meter on the machine shot up, showing that enough energy had been collected to supply Verdencia with power for three months! Before the children could even react, the sun appeared, as bright as ever, high in the sky.

The children looked at each other in shock. Finally, Fran spoke up, "Professor, in the future, would you mind..." but he interrupted her with a smile.

"Slowly! I'll do it much more slowly in the future! No more looming clouds, young ones!" They all smiled in relief. They had solved the mystery even before the authorities!

1. Where did the city of Verdencia get all of its electrical power?

- A. From burning coal.
- B. From water dams.
- C. From the sun.

2. How long before sunrise did Freddie and Fran leave for the bus stop?

- A. 15 minutes.
- B. 20 minutes.
- C. 25 minutes.

3. Why did Freddie and Fran start to get sleepy while they were waiting for the bus?

- A. They had gotten up very early and had been waiting in the dark for a long time.
- B. They had stayed up late the night before getting things ready for their hike.
- C. They always slept in on the weekends, but they got up early instead to go hiking.

4. Why couldn't the bus that Freddie and Fran were waiting for come to pick them up?

- A. It ran out of gas.
- B. It had engine trouble.
- C. The sun wasn't shining.

5. Who first noticed that the sky in Valencia was changing?

- A. The city officials.
- B. Freddie and Fran.
- C. The twin's parents.

6. What would become a big problem for Verdencia if the power problem didn't get fixed quickly?

- A. The back-up batteries would run out.
- B. Everyone would have to stay at home.
- C. The crops in the fields would be ruined.

7. What was the attitude of the twin's parents toward the lack of electrical power?

- A. They were more concerned than the twins and were planning to get together with some of the neighbors to complain.
- B. They didn't seem to understand how serious the problem was and thought it was up to the authorities to fix it.
- C. They were concerned but didn't plan to do anything about it because they didn't mind not having power for awhile.

8. When did the darkness over the city start to form?

- A. The night before.
- B. A few days before.
- C. The week before.

9. What best describes Professor LaLemon?

- A. He was a smart man who cared more about his inventions than about people.
- B. He was kind, very smart, and a little forgetful about certain important things.
- C. He was very smart but didn't know how to make his machines work once he had invented them.

10. What statement best describes the twins, Freddie and Fran?

- A. They liked to solve mysteries and knew how to get things organized.
- B. They were serious minded but were afraid to take action when it was needed.
- C. They didn't like to get involved in things that were the responsibility of the authorities.

11. What was the first piece of information that the twins and their friends found out to help solve the mystery of the darkness?

- A. It was so dark outside the children had to use flashlights to see.
- B. Celina remembered the exact time that it started to get dark.
- C. It was only dark over the city and not over the countryside.

12. When did Freddie and Fran first realize that there was something very wrong?

- A. When they left the house to go on a hike, and it was too dark outside to see where they were walking.
- B. When the bus never came to pick them up after they waited in the dark for forty-five minutes.
- C. After they started back home from the bus stop, and they couldn't see the path to their house.

13. What did it tell about the professor when he invited the children to come in and have a cup of tea with him during his break?

- A. He knew someone would be coming to his door about the problem.
- B. He felt that he was completely in control of the problem.
- C. He was completely unaware that there was a problem.

14. How did the people of Verdencia feel about their land and air quality?

- A. They were unhappy that the land and air quality was not in better condition.
- B. They didn't care if the air was bad as long as they had enough electricity.
- C. They were proud of how well they took care of the land and the air quality.

15. How did the story end?

- A. Professor LaLemon said he would fix the problem, and the children were happy that the darkness would soon be gone.
- B. The children solved the mystery of the darkness and were relieved that Professor LaLemon knew what he had done.
- C. The children told Professor LaLemon what to do about the problem, and everyone was happy that the mystery was solved.

16. What best describes what the children were thinking when the professor showed them how his machines worked?

- A. The professor was a nice person, but as a scientist he was dangerous because he cared more about his creations than about people.
- B. It was amazing that the professor had a way to gather solar energy, but he needed to be more careful the next time he used his machines.
- C. The professor invented some machines that would be helpful, but it was scary that he didn't let the authorities know before he used them.

17. What plan did the group of children have for solving the mystery of why there was no sunlight?

- A. They would stay together as a team to search for clues so that no one would get lost in the dark.
- B. They would track the smell of cinnamon and pepper to the place where it smelled the strongest.
- C. They would split up to find out who was buying cinnamon or pepper from the local stores.

18. What was the main problem in this story?

- A. The city of Verdenica didn't have any energy to run things because there wasn't any sunlight to make energy.
- B. Professor LaLemon didn't care that his new method to capture sunlight blocked the sunlight at the same time.
- C. No one in Verdencia except Fran, Freddie, and their friends wanted to do anything about the problem of no sunlight.

19. What was this story mostly about?

- A. How scientific improvements can cause big problems.
- B. How children can do their part to fix big problems.
- C. Why scientists are needed to solve world problems.

20. What was the third clue that the twins and their friends talked about what might be causing the lack of sunlight?

- A. Everyone in the city was sneezing and had runny eyes from something in the air.
- B. It was completely dark the day that Fran and Freddie waited at the bus stop.
- C. Martha heard people talking about a strong smell the night before the sky became dark.