

## **Claire's Three-Second Edge**

by

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Crash! The Sunzoomer banged into the retaining wall. The car's two back wheels flew in opposite directions and the black clips holding the flat solar cell in place snapped away from the frame.

Claire shook her head as she gathered up pieces of the model solar car. She turned over the largest piece in her hand. The solar panel still glittered, but the jagged edge of the bright yellow frame dangled like a broken finger.

Claire's younger brother gasped as he stared at the splintered car. "Can you fix the Sunzoomer?" asked Rupert.

"I think so," said Claire. "I just need to replace the chassis and reattach the wheels. It'll be ready for the race tomorrow."

Everyone in Claire's seventh grade class had entered the Tenth Annual Solar Car Derby. Squeals and shouts rose from her classmates testing their cars a few yards away. All the competitors wanted their cars to zoom down the track and cross the finish line in first place.

"My Sunzoomer will win tomorrow," said Claire.

"I know it," said Rupert as he scrambled to pick up the orange wheels from the

pavement.

Claire nodded. “The car’s design gives it the advantage and my starting line strategy gives me the edge over those other kids.”

“You mean you and your *partner* have the edge, right?”

Claire sighed. Rupert’s contribution to the “edge” came from his role as the family weather expert. When he wasn’t monitoring the weather gadgets in the backyard, he was on his computer tracking tornadoes or thunderstorms. His forecasts had saved them from rained-out baseball games and a few disastrous bike trips, but the continuous weather reports were like a gnat buzzing in Claire’s ear.

“Sure,” said Claire, nodding.

A half hour later, Claire sat on the kitchen floor and adjusted the car axle as her mother filled a tray with plates and silverware. At the table, Rupert tinkered with a thermometer.

"Let's eat outside this evening," said Mom.

"But it's going to rain in a few minutes," said Rupert. "We'd better stay in the kitchen," he said, eyeing the basket of hotdog buns.

Mom peered out the window.

"There's not a cloud in the sky!" she said. "The weather man said we'd have

sunny skies for the next few days.” She smiled. “Of course your grandfather could always tell when a storm was brewing, too. But we’ll take a chance tonight.”

Rupert shrugged and picked up the tray of food.

Claire, Rupert, and Mom sat at the picnic table. Claire poured the lemonade and Rupert dished beans onto their plates.

Mom spoke as she tucked the hot dogs into the buns. "So, will you win that race tomorrow?"

"We have a great chance," said Claire. "I just need to sand down the chassis a little more and adjust the solar cell."

"And," Rupert added, "we'll have a three-second edge at the start of the race when Claire pulls the sun shield from over the car."

Claire nodded. "I'll take lane twenty on the end so that I can just jerk the shield to the side instead of jumping up then moving the shield like everyone else."

Mom nodded.

"And maybe switch the tires around," said Rupert as he squirted mustard on his hot dog. "The bigger tires should be in the back when the track is wet."

Claire shook her head. "According to the weather report, it'll be dry tomorrow." Claire sipped her lemonade.

Just then, a fat raindrop plopped in the pitcher, spattering the lemonade. Mom snatched up the tray of hot dogs and the bowl of salad. Rupert grabbed the pitcher and Claire picked up the beans just as a bolt of lightning flashed across the sky.

Inside the kitchen, Mom smiled at Rupert. "Should've trusted our weather expert!"

Rupert shrugged. "Told you so."

After dinner, Claire blew some wood dust from the solar cell.

"If I knew it was going to rain, I'd flatten the cell. But that could backfire if you're wrong. And I could lose."

Rupert's shoulders drooped. "Guess you don't trust me, after all." Claire didn't look up as Rupert left the room.

Claire stared at the solar panel and sighed. Then she rubbed the left side of the chassis with an emery board.

The next morning, the stands at the track were filled with people. Black and white checkered flags flapped on poles. Mom waved from her seat near the grandstand. Though she wore sunglasses like most of the crowd, an umbrella was tucked under her arm.

Claire and Rupert edged toward the registration table a few feet from the twenty

lanes marked with yellow paint.

"Claire Weldon," Claire said to the woman at the table. She pointed to her name on a sheet of paper as Rupert grinned.

"I'd like lane number twenty, please."

The woman peered at the list. "Sorry, lane twenty is already assigned."

"What about lane one?" Claire asked, barely breathing.

"No. Lane number one is taken, too." She pointed her pencil toward a group wearing orange tee shirts. "The Crosstown Middle School students arrived at the crack of dawn. The only lanes left for the first heat are three, four, five, ten and twelve."

Claire frowned. Without an end lane, she couldn't snatch the shield to the side for her three-second edge. Her shoulders drooped.

"I'll take number four."

The woman nodded and spoke briskly.

"The repair table for use between heats is to your right. Bathrooms to the left. Get to the starting line five minutes before race time. No car may be touched once the starter pistol is fired. And if this is your partner, he needs to make sure he stands behind the finish line throughout the race. Good luck."

She passed Claire two nametags.

"Guess we'll have to make up time some other way," said Claire.

A moment later, she squatted at lane number four. Rupert pulled out a checklist.

"Wheels?" he asked.

Claire spun each wheel. "Smooth. No sticking."

"Chassis?"

Claire peered under the chassis. The axle was straight. "Chassis is level."

"Cell?"

"Tilted to a perfect forty-five degree angle."

Rupert nodded. Claire glanced at the other cars. Vehicles of different shapes and sizes lined the track. One car, the Floating Balloon, was painted with bright circles.

Another car, shaped like a flying saucer, glistened with silver paint. The sharp teeth of a shark had been drawn on another car.

Mitchell carried a car shaped like a hot dog in his shoebox and Brittany carried her turquoise car on a silky pillow. A car cradled by another classmate was shaped like a banana and sported wheels recycled from old CDs.

Rupert pointed to a sleek sports car held up by a Crosstown contestant.

"Look at those decals! They sure look fancy, but they add to the wind

resistance and that will slow it down."

A man spoke into a bullhorn. "For this first heat, all cars line up with no part past the starting line. Remember the rules: Once the pistol goes off, you may un-shield your vehicles. You may not touch your car until it passes the finish line. Your partner stationed at the end of the track may *not* touch the car until it passes the finish line. First heat is one hundred yards, four sections. Second heat is the same distance. The first ten cars to finish in the first heat will compete in the final heat." He cleared his throat. "Racers take your positions."

Rupert grinned at Claire and trotted down to the finish line. Claire placed her car just behind the starting line. She held the opaque shield over the car.

The starter pistol was raised. *Bang!* While the competitors on either side of her stood and snatched up their shields, Claire, still squatting, shoved her shield straight between her legs, releasing the car just a bit more quickly. The Sunzoomer shot forward, its wheels a blur. Cars on either side sped down the lane; a few moved just as fast, but the cars farther down the row moved slowly. The Sunzoomer passed the halfway yard mark ahead of the other cars.

"Go! Go! Go!" yelled Claire. Her voice was lost in the shouts and screams of the other contestants.

"No, No!" shouted Brittany as her turquoise vehicle flipped over. A boy shook

his head as his car spun in circles after cruising one foot. Just as the Sunzoomer passed the third 25-yard marker, it slowed. The shark car zipped past. Even the clunky-looking banana car zoomed past.

Claire shielded her eyes with her hands and counted the cars ahead of Sunzoomer. Four, five, six, seven. Then the shark car, next the balloon car. The banana car was ahead of hers, and the sun was so bright she couldn't see which one passed over the finish line first.

A moment later Rupert scooped up the car and held it over his head. He nodded and grinned. Claire let out a breath like a balloon with a slow leak as the last of the cars crossed the finish line.

She sprinted over to Rupert.

"That was close," said Claire. "Sunzoomer was ninth out of ten! Why did it go so slow?"

"Look," said Rupert. Stuck on the wheel was a tiny bit of decal from another car. Rupert flicked the sticky piece off his finger. They found a spot at the car repair table. Claire cleared the space of scissors, tape and glue sticks with her arm.

"We need to adjust the panel," said Rupert. "The clouds are coming."

Claire shook her head. "Just look at the sky!" she said. "It is not going to rain



in the next half hour."

"It is," said Rupert.

"You sure?"

Rupert nodded. Claire sighed. If she adjusted the solar cell outward and it *didn't* get cloudy, the panel would be less efficient and slower and some other car would glide across that finish line first.

Rupert looked off toward the stands, but his eyes glistened.

Claire said, "Okay, let's do it."

Claire pried loose the panel, while Rupert began adjusting the clips.

A half hour later, Claire placed the Sunzoomer just behind the starting line. The sun still shined brightly, and sweat trickled down her back as she squatted with the sun shield.

*Bang!* Cars on either side of the Sunzoomer leapt forward and rolled down the lane. The Sunzoomer started smoothly and moved more slowly, but steadily.

The sun beat hot as Claire jumped up and down. Suddenly, a raindrop plopped on her arm. Her shadow faded as clouds moved overhead.

The other cars slowed down, but the Sunzoomer moved steadily. The car made up time and crossed the second-section ahead of every car except the shark. Then the shark

slowed a bit. Both cars moved steadily past the third-section marker. Claire held her breath.

Rupert backed away from the finish line as if he could draw the car to his chest with a cord.

The cars sped along side by side.

The Sunzoomer inched ahead, and crossed the finish line first.

Rupert pumped his fist in the air. Claire raced around the track and almost bumped into people standing in her way just as the sun came from behind the clouds.

"Sure wasn't supposed to rain," said a man scratching his head.

Claire stopped, smiling, in front of Rupert.

"Couldn't beat the car with the three-second edge," said Rupert. He cradled the Sunzoomer in his arms.

"No," said, Claire. "Couldn't beat the team with the weather expert."

They grinned and shouldered their way through the crowd toward the only person with an umbrella tucked beneath her arm.