

DINO POWER

A TROO STORY

Story by Kevin C. Thornton

Illustrations by Jared Lee

"I have soooo much homework ...

That's what 8-year-old Benny Stark was thinking on an orange afternoon in autumn as he pushed open the front door to his house.

"A paper on electricity ... how'm I gonna do that? All I know is you put the plug in the wall and stuff works. Man, I'll never get to Dino Power."

And that was the point.

Benny Stark wasn't thinking about homework. He was thinking about Dino Power.

Dino Power, or "DP" as Benny's friends called it, was the coolest-ever video game. Just yesterday Benny had made it to the fourth level of DP. It had taken him three days to get there. Now he couldn't wait to go back.

NO ENERGY FOR HOMEWORK

"Mom, I'm home," Benny called down the hallway. "Mom."

Benny walked into the kitchen to get a snack when he noticed the yellow note stuck on the refrigerator. "Benny, had to run to the grocery store. Be home soon. Do your homework! I love you. Mom."

Benny's mom had an after-school rule. "No TV, no playing, no friends until your homework is done." Benny knew it by heart. So he opened his thick science book and began to read.

"To understand electricity," the book began, "you have to first understand energy."

Benny yawned.

"There are two kinds of energy: potential energy and kinetic energy. Potential energy is energy that's stored. Kinetic energy is the energy of motion. In other words, when energy isn't being used, it's potential. When it is being used, it's kinetic."

Benny yawned again and rubbed his eyes. Boredom was setting in fast.

"Take a rubber band and stretch it," the book droned. "Don't let go. That's potential energy. Now let the rubber band go. (Don't shoot anyone.) That's kinetic energy."

Benny closed the book with a slap. He had no energy for homework. He stared into the living room at the TV. Connected to it was the video game system.

NOTHING ON TV

Benny hurried to the living room. He had picked up his backpack to use as a pillow, and now he threw it on the carpet. It landed with a metallic thud.

There were six little key chains hooked to the front of Benny's



backpack. Several of them were connected to little stuffed animals, including a panda bear, a Metallic Man character, and his newest, a DP dinosaur.

Benny settled in front of the TV, leaned against his backpack, and pushed in the DP game. He picked up the game controller and stared at the screen. In a minute, he was controlling a funny-looking dinosaur who was jumping over enemies and throwing flaming rocks. Benny gripped the controller as tightly as he once held his mom's hand in the mall parking lot. His fingers leapt across the colored buttons as he jumped and fired, jumped and fired, jumped and ...

Suddenly, the TV went black.

"That's just great," Benny muttered. "No power. Now I'll have to do my homework."

With a heavy sigh, Benny stood and moved toward the kitchen. Then his foot caught his backpack, and all at once he was on the floor.

"Ow," called a high-pitched voice. "You kicked me."

Benny was still. "Who said that?" he called.

"I did," said the voice, "Here, under your backpack. Can you help me?"

Benny sat up. He stood the backpack up so the key chains hung in a neat row.

"Thanks," said the voice, "I couldn't breathe."

Benny looked carefully at his pack. He eyed the key chains one at a time. The panda was still. Metallic Man was quiet. But the dinosaur ... the dinosaur.

TROO FRIEND

He was an odd-looking dinosaur that had come with Benny's copy of DP.

He wasn't like the purple dinosaurs on the backpacks of kindergarten kids. This one was green and looked like a lizard. It had a pointy head and big eyes.

The dinosaur was bouncing on its chain. "Could you get me down, please?" it asked. "I don't think Metallic Man likes me."

Benny unclasped the chain and the little dinosaur tumbled to the carpet. "Thank you," it said. "I was getting dizzy up there."

Benny stared with his mouth open.

"My name is Troo," the dinosaur began. "I'm a Troodon. You humans call Troodons the 'smart dinosaur' because we had big brains for our body size."

"But what are you doing in my living room?" interrupted Benny.

"I think it was kinetic energy."

"Can of what?" Benny said.

"Kinetic energy. You know, what you were reading about in your science book. I think when the power went out, it moved from the TV to me. It was energy in motion."

"How do you know what I was reading?" asked Benny.

"Like I said, Troodons are smart dinosaurs," laughed Troo. "I know a lot of things, and I'd like to tell you some of them. But we have to hurry. Who knows when kinetic energy might turn me back into a key chain?"

A POWERFUL TAIL

Troo was pacing in front of Benny. "I know you have a homework assignment on electricity. I can help. I'll even show you how I'm a part of



electricity. Here, grab my tail. Oh, and grab that video game controller, it'll come in handy."

Benny touched Troo's little tail with two fingers. "Hang on," Troo said, "here we go."

Troo jumped into the television, passing into the screen like he was jumping into a dark lake, with Benny right behind him.

In a blink, Benny was in a gigantic building like a warehouse. In the middle was a metal thing that looked like an igloo. The igloo was humming, and Benny could barely hear.

"What do you think, Benny?" Troo

was saying. The dinosaur's voice seemed larger than it had been in the living room.

Benny turned his head. Troo's voice wasn't the only thing that was larger. So was Troo.

"You're huge," Benny said.

"This is my true size," the dinosaur said, smiling. "Before I was in a video game, I really existed.

Troodons were about eight feet tall and six feet long."

"At least this place is big enough to hold you,"

Benny said, looking up at his friend. "But where are we, Troo?"

"This is a power plant, where electricity is made," Troo said. "All the power it takes to run your TV and the DP game and the lights in your house, it all comes from places like this."

"I just thought it came from the wall," Benny said

"Well, it does come from the wall," answered Troo, "but first someone has to make it."

TURBANS AND GENERATORS

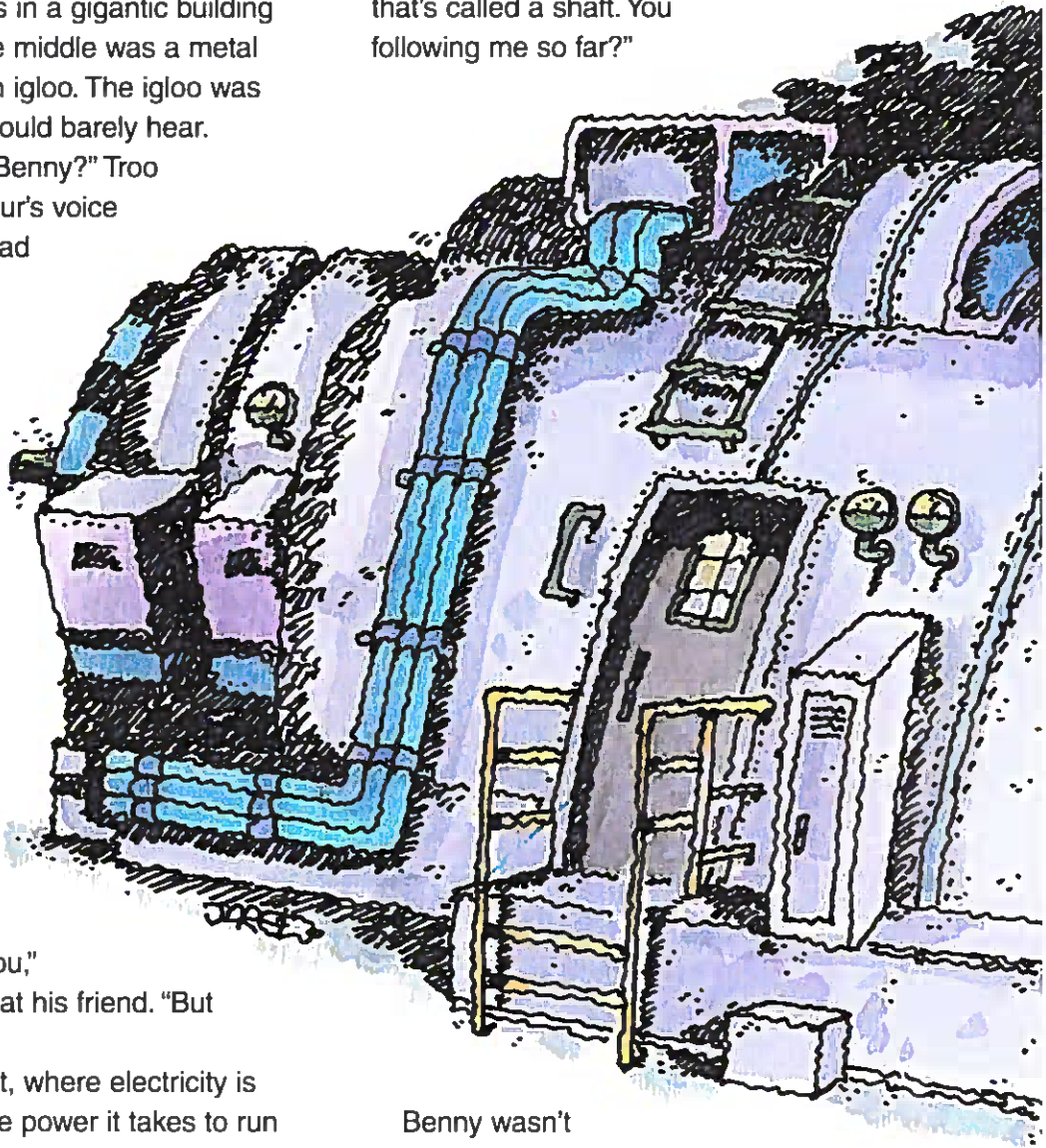
"What's that thing that looks like an igloo?" Benny asked. "And why is it so loud?"

"It's noisy because they're making electricity," Troo pointed out. "You can't see them making it because of that igloo-looking

thing. They put it over the machinery for safety. But inside that igloo are a turbine and a generator that make electricity."

"You mean a turban like people wear in the desert?" Benny said, giggling.

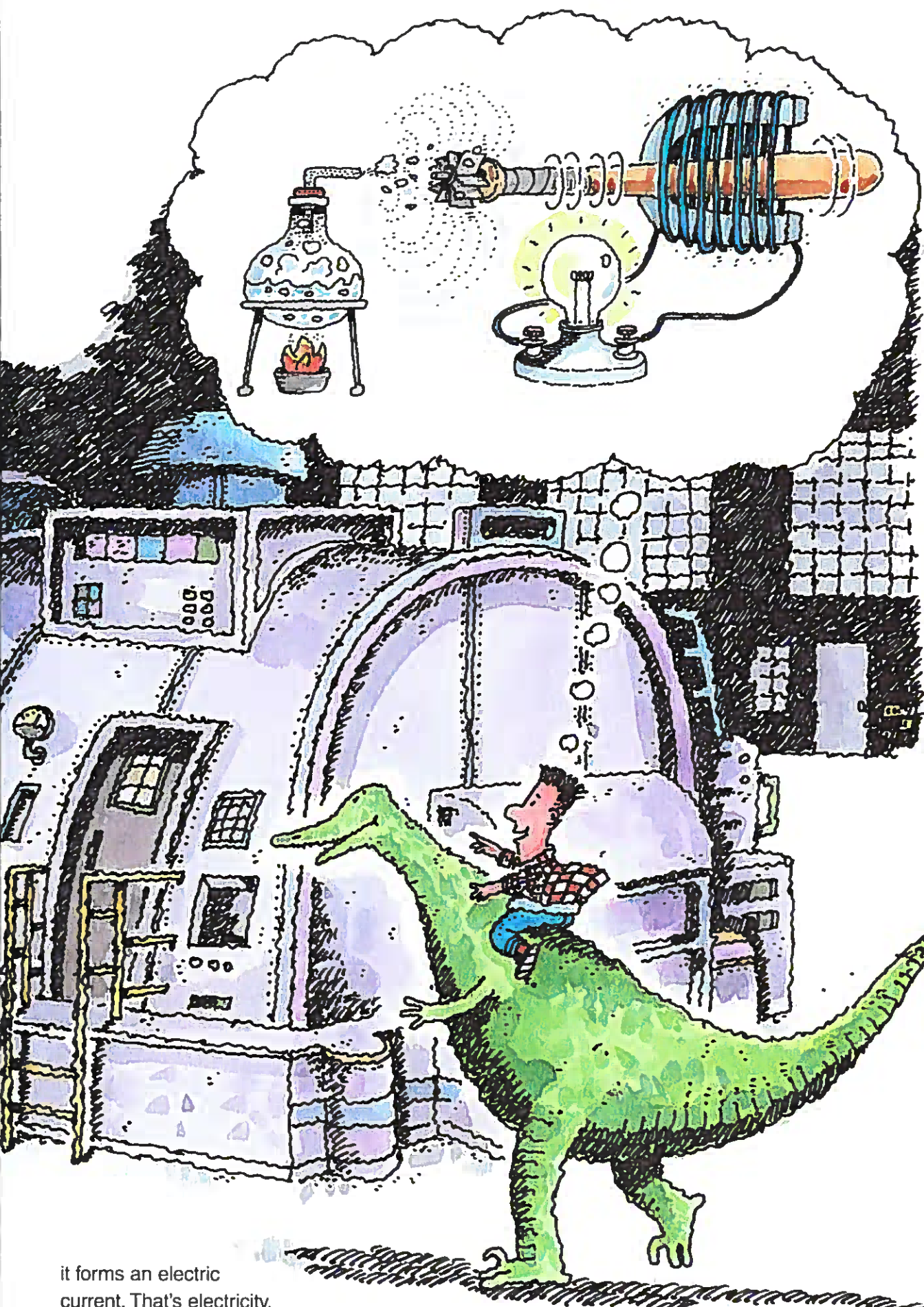
"No, a turbine ... t-u-r-b-i-n-e. It acts like an engine. The turbine has a big propeller on the end with steel blades. They use steam to make the blades turn like a fan. The blades are connected to a long metal bar that's called a shaft. You following me so far?"



Benny wasn't yawning this time, he was listening and nodding.

"That shaft," Troo went on, "connects to another metal shaft on the other side of the igloo. That other side is called a generator. On the other end of the shaft is a gigantic magnet, about a zillion times bigger than the ones you stick on your refrigerator.

"The magnet has a metal ring around it and there's wire wrapped around the ring. The shaft spins the magnet around faster than you can ride a bike down a hill. And when a magnet passes through a closed loop of wire,



it forms an electric current. That's electricity.

Benny stared. "And then the electricity goes out on those wires I see along the road, right?"

"That's right. Plus, in a lot of places, the wires are underground. And the wires go to houses and stores so people can have lights and run computers and play video games."

"Okay," Benny said, "Let me go over this. There's a metal shaft like a long baseball bat,

right? On one end is a fan, on the other end is a huge magnet. Steam turns the fan, the fan turns the baseball bat, and the baseball bat turns the magnet. And the magnet makes electricity in a coil of wire. Is that right?"

"You're pretty smart, Ben," Troo said, nodding. "Maybe you were a Troodon once."

"I've got one more question," said Benny. "How do they make the steam?"

"They heat up water in great big boilers, like your grandmother's tea pot," answered Troo. "But do you know what they use to make the water hot?"

"A magnifying glass," joked Benny.

"C'mon," said Troo, "Push the red button on your video controller and I'll show you."

HOME AGAIN

Benny thought he and Troo had made a wrong turn.

They were suddenly standing in a long field full of gray rocks, palm trees and spiky plants. Benny looked at Troo, who was staring into the distance.

"Are you all right?" Benny asked.

"Sorry, Benny," Troo said, "I was just remembering. This is the place where I grew up."

"In your time, we're in a place called Montana. But this isn't your time. We're in the Cretaceous Period, when I lived. It ended about 99 million years before you were born."

Then Benny heard a sound, a rumbling noise like a herd of elephants coming. He turned to look in the direction of the noise and screamed "TROOO ... TROOOOOOO!"

Benny was staring at something that looked like an army tank on four legs. The tank was 30 feet long and had sharp spikes running down its back. The tank had stopped beside Benny to munch leaves.

"Don't be afraid," Troo said, "it's just an Ankylosaurus. He only eats plants."

"This place is beautiful," said Benny, "but it's a little scary. What does this all have to do with electricity, anyway?"

THE RESTING PLACE

Troo began walking. Benny followed him past trees and rocks as big as Benny's house. They saw flowers and plants, and dinosaurs in all shapes and sizes.

Finally, they stopped in a small field that was filled with bones as far as they could see. Little bones and big ones. "Are these your friends?" Benny asked.

"Some of them," said Troo. "This is a dinosaur resting place."

Troo stopped by a large tree. "This is a



special place," he told Benny. "This is where my mom is."

"I'm sorry, Troo," Benny said sadly. "You must miss her."

"I do," said Troo, "but I can always come here when I do."

"But there's a good part, too," added Troo. "It's the last thing I want to tell you about. You remember when we talked about steam turning the turbine blades at the power plant?"

"Well, a lot of power plants burn what's called fossil fuels to heat water to make steam," said Troo. "Let me explain."

And he did.

"Fossil fuels come from plants and animals that lived a long, long time ago."

"When plants and dinosaurs came to rest, their bones and bodies eventually were buried. Layers and layers were buried underground. It took millions of years to happen, but those layers were smashed together and something happened. They turned into black stuff hard as a rock, and thick gooey stuff, and another thing that's like air only it smells funny."

"Black and hard like a rock, black gooey stuff, and something that's like air only it smells bad? Sounds like food that's left in the refrigerator too long," joked Benny.

"It's coal and oil and natural gas," said Troo. "All of them come from the ground, and all of them started from dinosaurs and plants."

"And they burn them to heat up the water to make steam in power plants? Wow, Troo, no wonder you know so much about electricity."

Troo yawned, and brought his three clawed fingers up to cover his mouth. "I'm used to hanging on a backpack all day, Benny, I'm tired. It's time for you to go home now. If you don't mind, I'll just stay here and rest."

Benny was scared. "But Troo, I wanted you to play DP with me, I was going to teach you."

"That's nice of you, Benny, but I can play with plenty of dinosaurs right here."

"I guess you're right," Benny said sadly. "Will I see you again?"

"Oh," a smiling Troo said, "I think you will."

TROO STORY

Benny wrapped his arms around as much of Troo as he could and hugged him. He let go, picked up the video controller, and pressed the red button.

In a second, he was in his living room. He could hear his mom pushing open the front door. "Benny, I'm home," his mom called.

Benny ran down the hall, and hugged his mom as he had hugged Troo. "Hi ya, Benny Boy," she said. "I know the power is out, but did you start your homework?"

"I did all the research, Mom, I just have to write it down," Benny said excitedly. "It's pretty cool stuff. Did you know dinosaurs help make electricity?"

His mom said she didn't. So Benny told her about turbines and generators and fossil fuels.

"How do you know all that?" his Mom asked.

As she said it, the lights suddenly popped on. So did the TV. And when it did, DP was on the screen.

"Benny," his mom said. "were you playing video games instead of doing homework?"

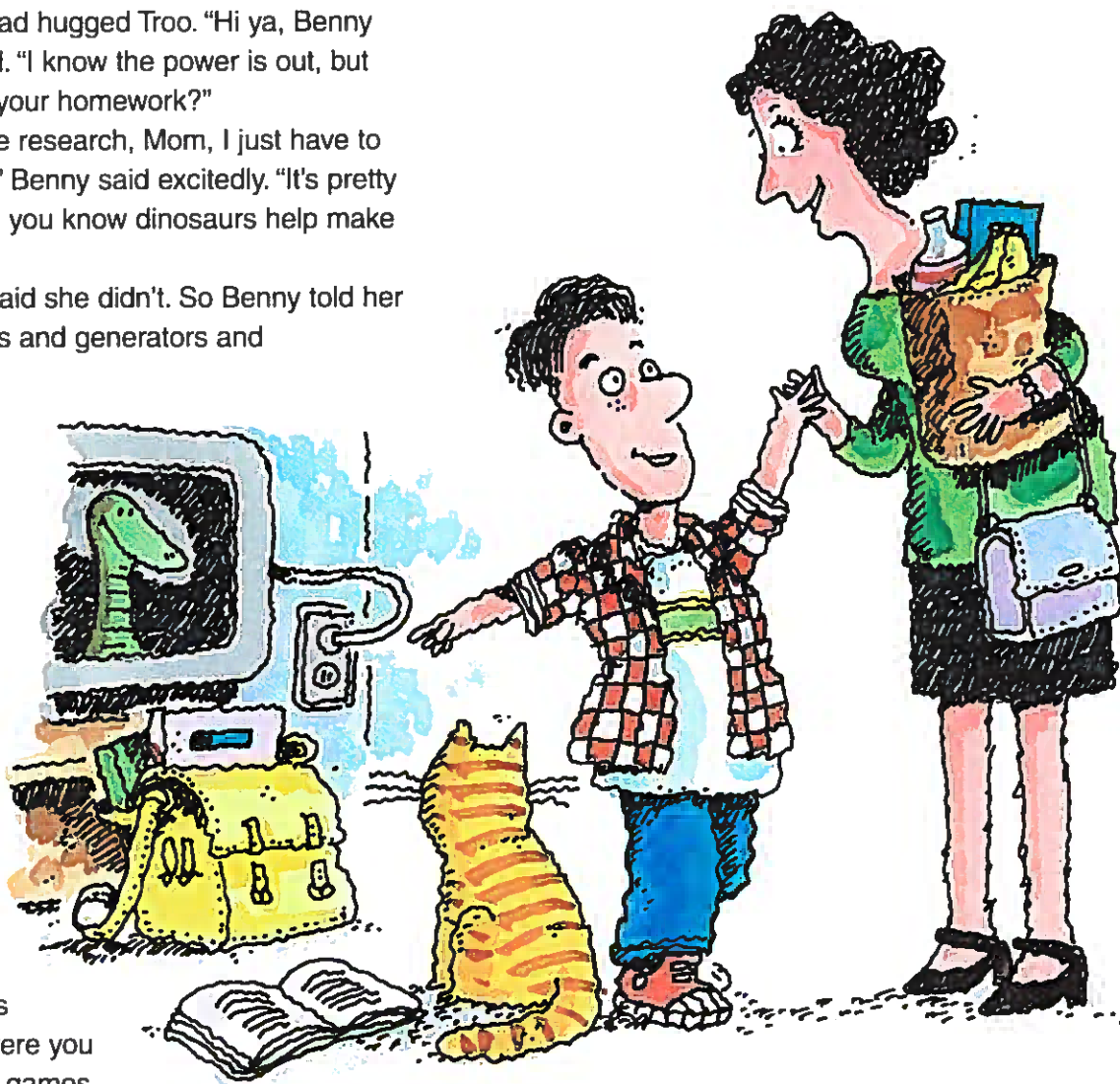
Benny was honest. "I started to, Mom, but the power went out and that's when I did research."

"Are you telling the truth?" his mom said sternly.

Benny looked toward the TV. There on the screen in bright colors was a funny-looking little green dinosaur. He had a head like a bird and three claws for fingers. The dinosaur was standing next to another one that looked just like him, only it was taller and had a soft look in its eyes. The little dinosaur was leaning its head against the bigger one, like Benny did sometimes with his mom. And then, as Benny

watched, the little dinosaur on the TV winked and smiled.

"Yes, Mom," Benny said, smiling too. "I really did do my homework. Cross my heart, it's a Troo, Troo story."



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