

One hot summer day, a boy asked his Mom about energy...

"Isn't there some better way for us to make power and store energy?" he asked.

With a bright smile, his mother asked, "What do you mean?"

"Well, when I'm riding down Land Street, it would be great to save up some of how fast I go, and use it the next time I have to climb up."

"That would be a big help," agreed the mother.

"I know some people make their own power from the sun or wind. Can't we all do something like that?"

"I love your questions," said the mother. "Part of the reason is just money. It takes a lot of money to make power from just sun or wind. But if we could store some of it, it would be much better. Actually, much of the reason is that **we don't yet know how best to build the things to make power and store energy** very well."

"I don't understand."

"Well," explained the mother, "**we need** something to keep energy in, like a bottle, but **a completely different kind of bottle**, made especially to hold energy."

"Oh, cool. I would love to have one of those bottles!"

Laughing now, his mother answered, "I wish everyone was so excited about energy. But we can't just go get these bottles, they haven't been made yet. First, we have to learn how to make them, and what to make them from."

"Wait, we don't know how to make these bottles?"

"Not yet. They are such different kinds of bottles, and we have just started learning about them. Actually, this is what I help to do each day. **I work on a team that is helping build better bottles** by learning about how they work, how they hold the energy."

"How do you do that?"

"We have a very cool way of doing this that almost no one else can. It helps us see how the bottle changes as the energy moves. **We very carefully watch the bottles as they fill up with energy and empty out.**"

"Wow! You can see the energy go in and out?"

"Almost. We can't see the energy, but we can see the bottle. We watch the smallest parts of the bottle – parts so small they can not be made any smaller. We learn about cracks or tears that appear in the bottle, and how to fix them."

"So that you can make better bottles tomorrow."

With a wide smile, "That's exactly right!"

