

Technological Modelling Stories

Achievement Objective	<p>Technological Knowledge - Technological Modelling - Level 2</p> <p><i>Understand that functional models are used to explore, test, and evaluate design concepts for potential outcomes and that prototyping is used to test a technological outcome for fitness of purpose.</i></p>
Learning Intention	<p>I am learning... that technologists use functional modelling to help them check their design ideas.</p>
Activity Instructions	<ol style="list-style-type: none">1. Read a story from <i>Gadget Nation</i> about the development of a technological outcome.2. Identify the product and describe the problem it solves.3. Identify the technological modelling and the information gathered from that modelling
Teacher Notes	<p>Try to choose stories that describe the technological modelling the technologist did.</p> <p>Stories from...</p> <ul style="list-style-type: none">• Techlink Classroom Practice Case Studies• Techlink Technological Practice Case Studies• Books about inventions e.g. <i>Gadget Nation</i>

Technological Modelling Stories

Name:.....

Room:.....

<i>PRODUCT:</i>	<i>PROBLEM:</i>
<i>MODELLING THEY DID?</i>	<i>WHAT DID THIS TELL THEM?</i>
<i>OTHER MODELLING THEY MIGHT/COULD HAVE DONE?</i>	<i>WHAT COULD THIS TELL THEM?</i>



STAT BAR

PATENT: Information not provided

PRODUCT PRICE: \$24.95

STATE: Oregon

INVENTOR'S AGE: 44

INVENTOR'S PROFESSION: energy industry consultant; rep. for lighting manufacturer

MONEY SPENT: \$220,000

MONEY MADE: \$100,000

WEB ADDRESS: candlewax.com

look at it like it's an opportunity, not like it's my baby."

CandleWand™

Burn, Baby, Burn

After going through a tough divorce and moving her two young children from Tucson, Arizona, to Portland, Oregon, Jillianne Pierce needed to de-stress. Working two jobs, she was burning the candle at both ends.

"I bought a two-foot-tall, hand-poured organic candle, wanting to meditate. The second time I tried to burn it, the wick was sunk down in the wax, so when I lit it, only a bit ignited. A teeny-tiny flame struggled in this huge candle. As the wax melted, it flooded the wick and the flame went out. Frustrated, I got out a sharp knife and attempted to cut off the top and start over. Instead, I cut my hand badly. I was mad. I'm stressed and trying to relax—and this happens."

Sound familiar? Others might have given up, but growing up poor, Jillianne was used to coming up with solutions to problems. As a kid, she and her brother entertained themselves thinking of new ways to do things. She wrapped her hand and heated a butter knife to trim the candle. It worked, but the knife cooled down too quickly. So Jillianne found a soldering iron. It cut, but its 900-1,100

degrees was too hot. "The wax was smoking and melting everywhere. It was a mess." So, less hot, and shaped more "like a butter knife—not sharp, but blunt and flat" spelled the beginning of the CandleWand—a tool that safely trims uneven candles so they burn like new. When her friends kept asking to borrow it, she knew she had something hot.

Jillianne was familiar with electrical products, having imported UL products and energy-efficient lighting from Asia and India for her jobs as a rep for a lighting manufacturer and as a consultant to the energy industry for conservation programs. Still, issuing a letter of credit for someone else's product is a far cry from designing your own product.

Jillianne found a manufacturer in China who created UL-approved curling irons and would use the same components on her product. That made getting

through UL easy, once they figured out how to categorize the CandleWand. She had to make only two revisions—to the temperature and the handle. After she got UL approval, Jillianne designed the packaging herself.

Everybody was supportive. Her family said, "Great Go, make us rich." But no one could show her the ropes. Jillianne kept looking for someone who had done it all—a mentor. She learned that inventors have to be careful about people who say they can do it all. She found that people specialize in banking, packaging, etc., but if they say they can handle every detail, they're probably only adept at handling your money—and making it disappear.

When Jillianne needed \$40,000 to buy a containerload of CandleWands, she was lucky enough to borrow the money from family and friends. So far, she's invested \$220,000 in her burning solution. But she treats it as a hobby, since she's working full-time and raising two kids, McCord and Zak, now ages 15 and 14. She says, "I look at it as an opportunity, not like it's my baby."

Still, she takes it seriously. She put the CandleWand through independent, third-party product testing at the Innovation Institute. The Institute used the Preliminary Innovation Evaluation System (PIES-X) to test CandleWand's marketability. It got a very high score—



Rehabilitating old candles

42 out of 50. "They said it's worth pursuing, but with a caveat. It's not a new kind of coffeepot—it's an entirely new product, so I'd have to educate the public." Jillianne's word in the wise: Don't light a fire under your invention unless you have money to educate consumers about it.

"By the time I got the product and approvals, I had no money for marketing. People won't know to go look for it; they won't know it exists. Even if they see it on the shelf, they won't recognize what it is." She got interest from a few major retailers who carry products from large candle companies like Yankee Candle. They loved her product, but didn't want it on the shelf next to their candles in case people

might equate its presence with a low-quality, unevenly burning product. Yet no matter how high-quality the candle is, other factors like drafts in the room influence uneven burn. Jillianne recently started selling her product in the Solutions catalog. She's had more success with Solutions than online, but not even a flicker of retail success.

It was meditation and relaxation that brought Jillianne to the CandleWand, but her experience selling it has been a slow burn. Yet this mother of two isn't giving up. She knows that when consumers see the light and understand what her product can do, her sales will be hot.