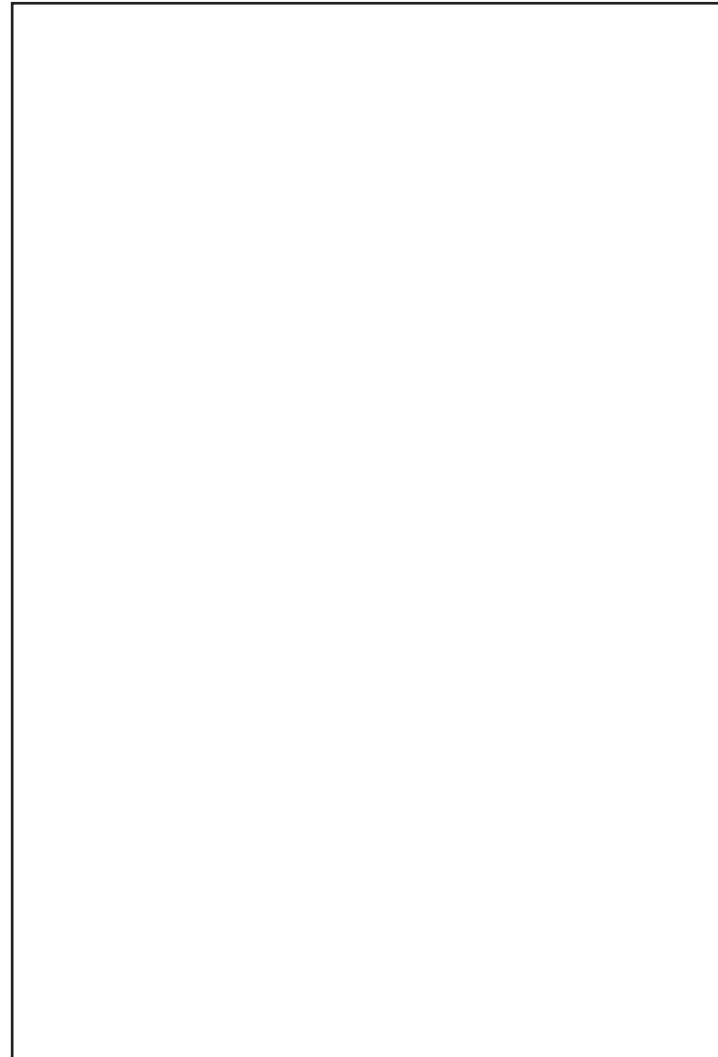
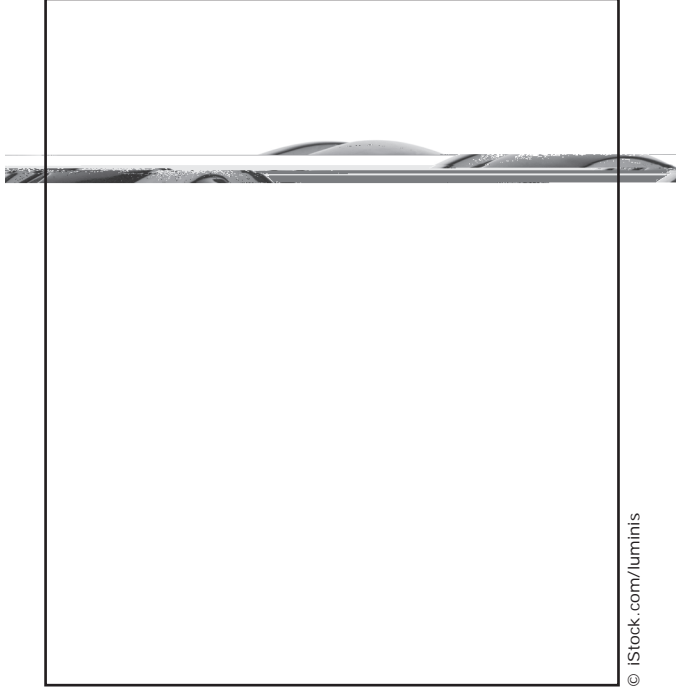




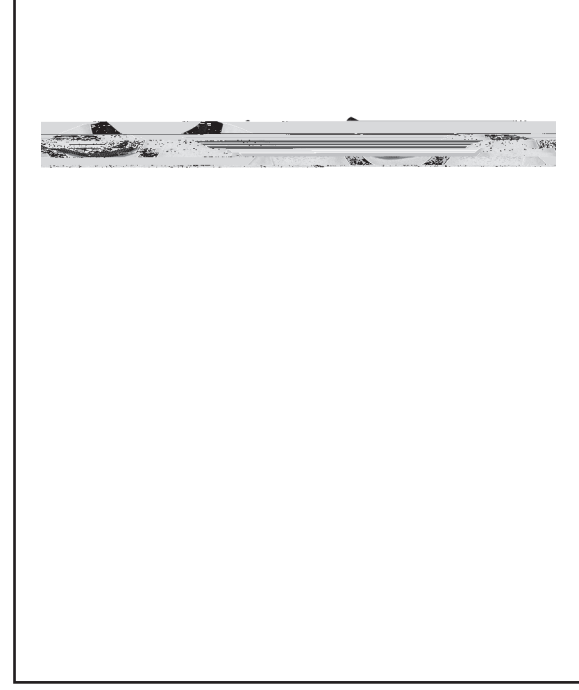
Kevlar is five times stronger than steel; therefore, it is used to make many products, including skateboards, bicycle helmets, camping gear, and fire-fighting equipment.



2b



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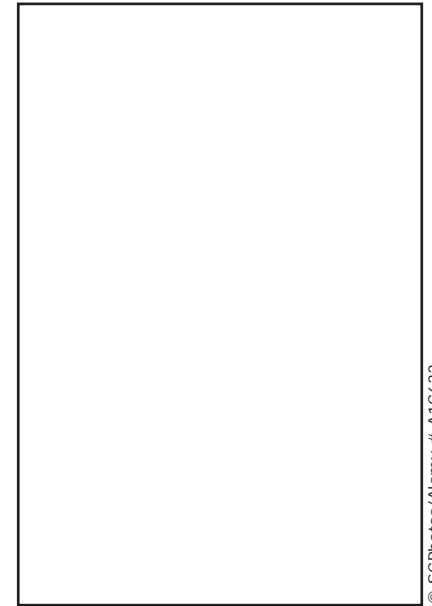
A A C

Stephanie Kwolek wanted to be a fashion designer. But she was good in science and math, so her teachers encouraged her to pursue a career in science. Kwolek became a chemist and wanted to become a doctor. She got a job as a researcher at DuPont, a chemical-manufacturing company, to earn money to pay for medical school. She liked the research so much that she decided not to become a doctor. And though she never designed clothes, she chose a career that focused on fibers.

A Surprise Discovery

In 1964, Kwolek was asked to help create a strong and lightweight fiber that could be used to strengthen tires. The fiber needed to be lighter than the steel wire used in tires at that time. Lighter tires would use less energy, which would save drivers gas.

Kwolek first invented a polymer, an odd-looking liquid that had to be spun in a machine called a spinnerette. The spinnerette would turn the polymer into a fiber that could be tested. The polymer looked strange and flowed like water. The person who operated the spinnerette did not want to put the polymer into the machine. He worried that the sticky substance would clog the machine.



A young woman wanted to study fashion design in college.

A group of teachers helped a good student decide to become a scientist.

A young woman's job at a chemical company led her to change her career plan.

A S D (D)

Some scientists might have given up. But not Kwolek. She finally persuaded the technician to spin her polymer, the sticky substance. She then took the fibers to the lab to test their strength and toughness.

Kwolek was amazed. She thought the results were too good to be true. She thought the lab might have made a mistake. She had the fibers tested and retested. Over and over the test results proved that she had invented a "superfiber." When she was finally sure of her discovery, Kwolek shared her discovery with other scientists. DuPont then had a team of scientists led by Kwolek develop the new fiber that was called "Kevlar."

S G

DuPont, the chemical company Kwolek worked for, developed the new fiber. The product made millions of dollars for the company, and Kwolek earned a place in the National Inventors Hall of Fame.

Today Kevlar, a fiber five times stronger than steel, is in over 200 products used every day. Kevlar makes bicycle tires resistant to punctures. It strengthens skateboards. It is used to make boots for firefighters and oven mitts because Kevlar doesn't melt.

Scientific investigations can lead to discoveries that should not be shared.

Scientific investigations can be used for discovering ways to improve daily life.

Scientific investigations can be completed quickly because little testing is required.