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The Laser Car

My science fair project incorporates an automatic method of positioning - laser guidance. The main goal was to create a stable framework with solar panels, then create circuitry and mirrors to reflect the laser beam onto an angled track. I managed to make everything except for the solar panels and track. I used many different materials for my project including a breadboard, phototransistors, motors, as well as various electronic equipment such as wire, resistors, integrated circuits, etc. I used K'nex pieces to create the framework for the car. However, I had to experiment for awhile in order to build a stable body. The phototransistors the most important part of the whole project, because they are the light sensors that allow the car to follow light. If you look inside the cans on the front of the car, you'll see the phototransistors in the back. My theory was that the cans would focus the laser to a point and block out other light. The latter worked well, but the cans don't do much to focus the laser. Each phototransistor controls a different direction; the left one turns the car to the left, the right one turns the car right, and the middle one activates both wheels. I found that a flashlight worked much better than a laser, although the laser does work if aimed perfectly. I believe that this laser guidance system can be very useful, and hopefully I will be able to expand on my idea in the future.