

Constructing a mini beetle robot

Thanks to the miniaturization of electronics, today it is relatively simple to build mini robots that can move on their own. Here is a fine example called beetlebot.

What you need

- A toothbrush
- Scissors
- Double-sided sticky tape
- 3-volt pager/mobile phone motor
- Sturdy¹ copper wire
- Soldering iron and solder
- 3-volt coin cell battery

Instructions

- Cut the bristled head off the toothbrush and trim² the remaining neck down to about 1.25 cm long. This extruding portion will be your robot's guiding 'head'.
- Lay a strip of double-sided sticky tape across the top, un-bristled surface of the toothbrush head. The bristles will be the 'feet' of your robot.
- Solder³ a short copper lead to each of the terminals on the rear end of a cell phone or pager motor. Each lead should be about 2 cm long.

- Put the motor against the sticky tape with the turning shaft facing away from the 'head' of the robot. Make sure it is centred on the sticky tape and that the shaft will not strike the edge⁴ of the toothbrush when turning.
- Lay one of the copper leads flat against the sticky tape behind the motor. Firmly press the coin cell battery against the sticky tape on top of this lead.
- Activate your beetlebot by pressing the remaining copper lead down onto the top of the battery.

What's happening?

When the motor turns, it will propel your robot forward at a quick speed.

Adapted from *e.how.com*

GLOSSARY

- 1 resistant
- 2 cut off
- 3 put together
- 4 end, extremity



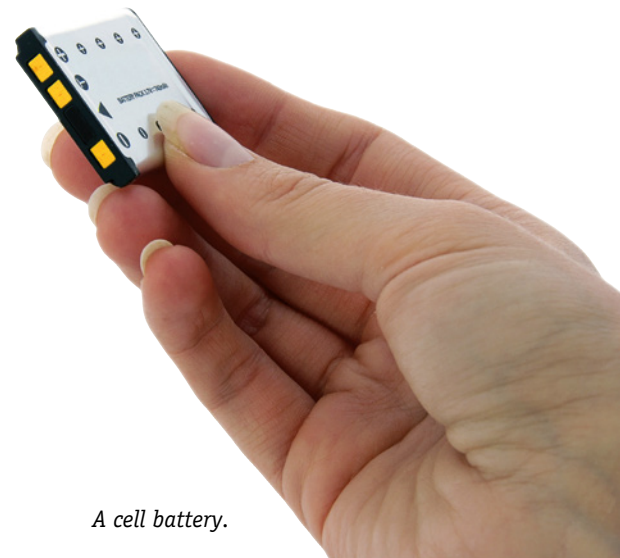
A soldering iron.



Sticky tape.



Scissors.



A cell battery.