

LEVEL

4

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GEOGRAPHIC
KIDS

Robots



Melissa Stewart

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Melissa Stewart



Washington, D.C.



Published by Collins
An imprint of HarperCollinsPublishers
The News Building
1 London Bridge Street
London
SE1 9GF

Browse the complete Collins catalogue at
www.collins.co.uk

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Second edition 2018

First published 2014

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ISBN 978-0-00-831739-3

10 9 8 7 6 5 4 3 2 1

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Printed by GPS, Slovenia

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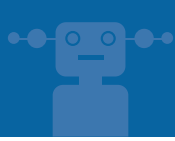


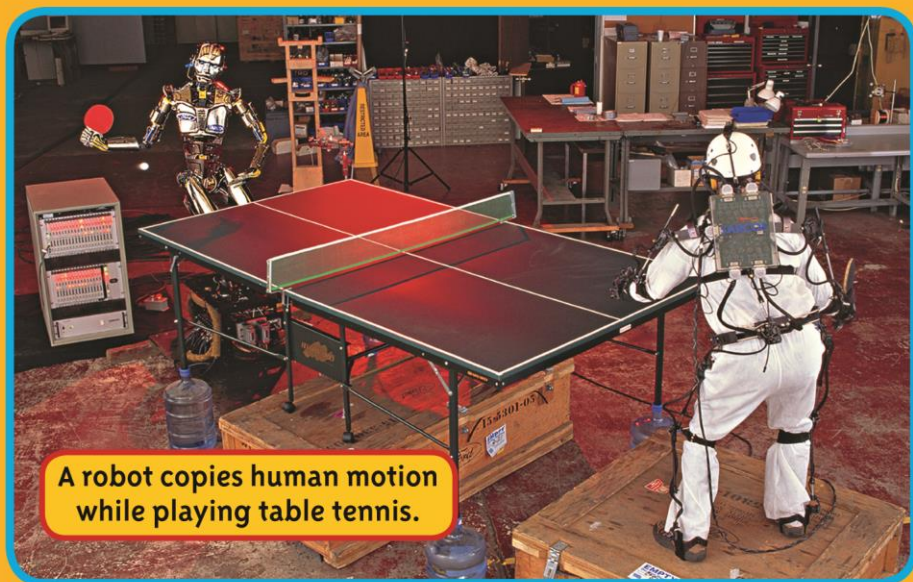
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What's a Robot?

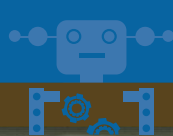
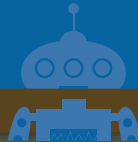
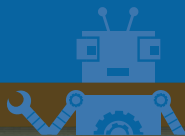
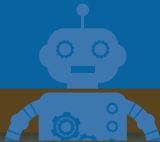
What do you think of when you hear the word ROBOT? A blinking, walking, robo-talking metal person? Some robots really do look like people, but most don't.



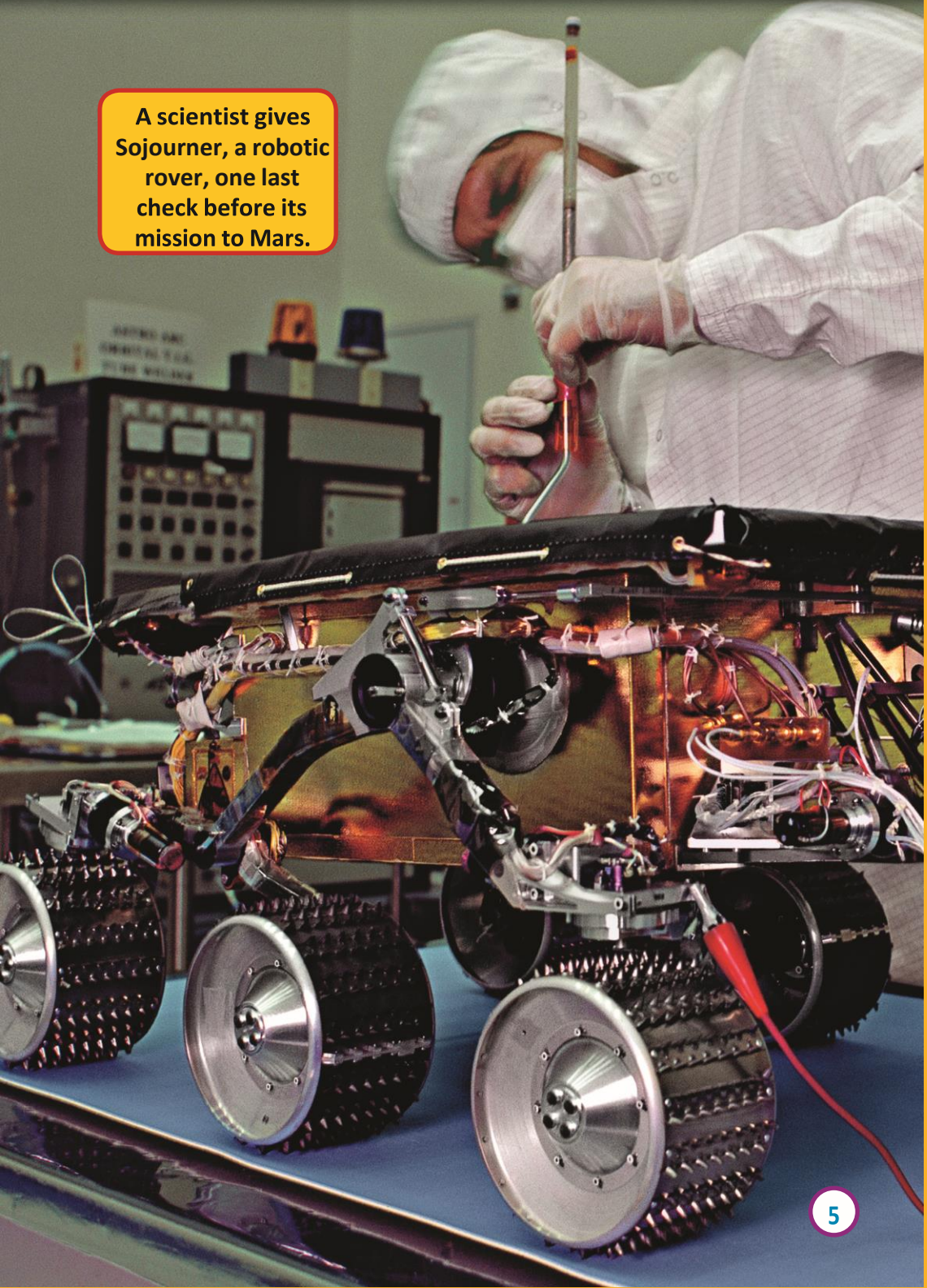
A robot copies human motion while playing table tennis.

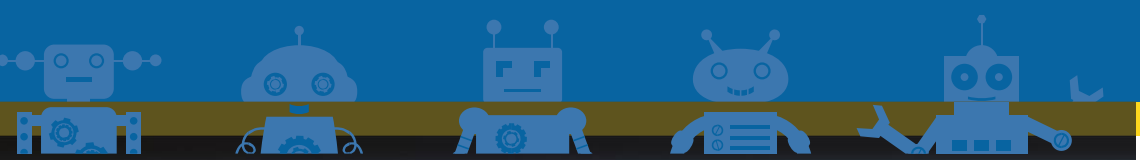
Robots come in almost every shape, size and colour you can think of. They can look like fish or flies, lobsters or spiders. Some look like nothing else you've ever seen.





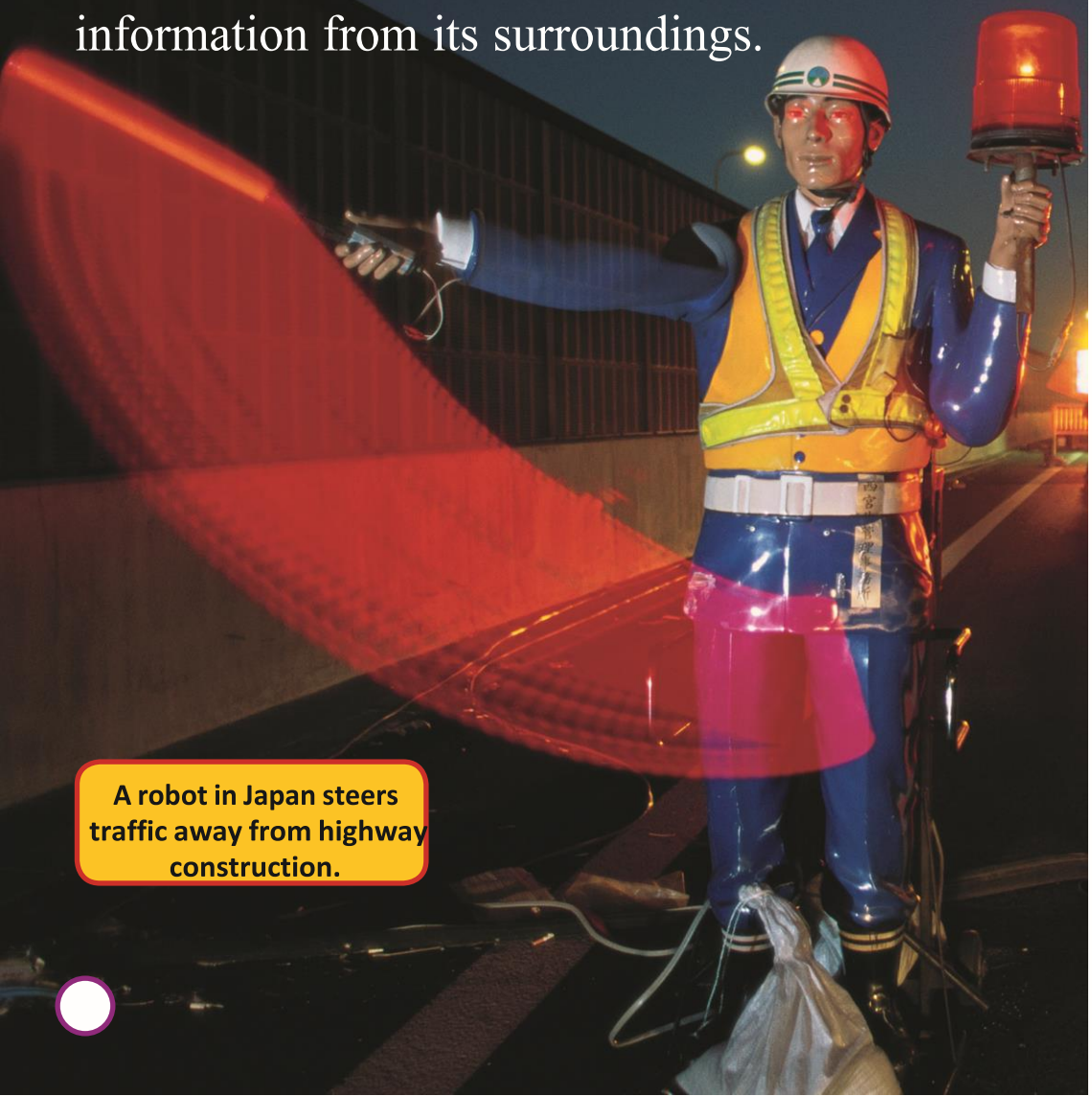
A scientist gives Sojourner, a robotic rover, one last check before its mission to Mars.





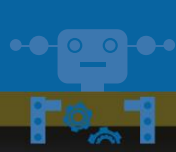
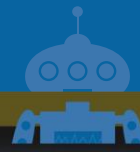
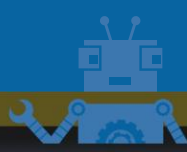
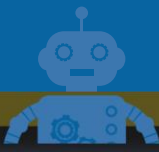
A robot, or bot, is a machine that has movable parts and can make decisions. People design it to do a job by itself.

How is a robot like a person? It collects information from its surroundings.



A robot in Japan steers traffic away from highway construction.





Then it processes the information and works out the best way to do its job.

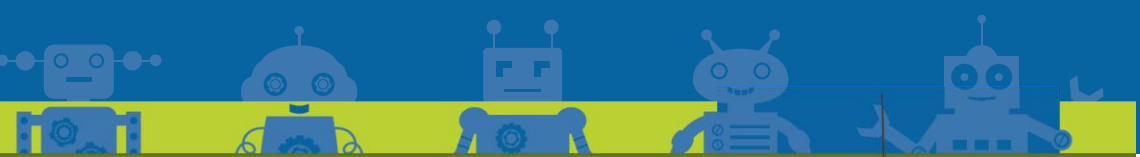
But a robot doesn't think the way a person does. It can only do things that engineers and roboticists program into its computer "brain".



Tech Talk

PROGRAM: To give a set of instructions to a machine

ROBOTICIST: A person who builds robots



Researchers built the first robots about fifty years ago. But people had been thinking about mechanical “humans” for a long, long time.



850 BC

Ancient Greek poet Homer described bot-like creatures that did anything their masters asked.

AD 1495

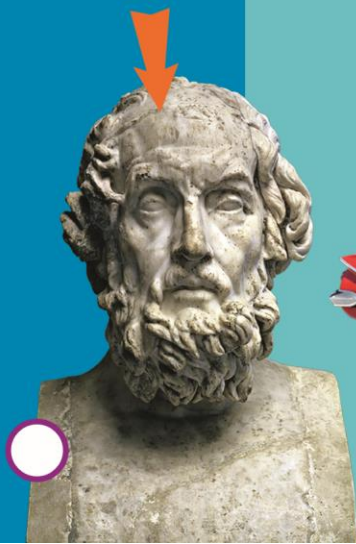
Italian artist and scientist Leonardo da Vinci drew plans for a mechanical man in his notebooks.

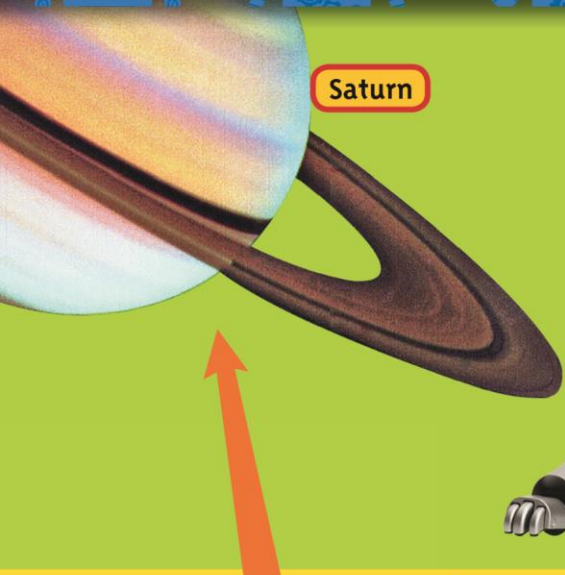
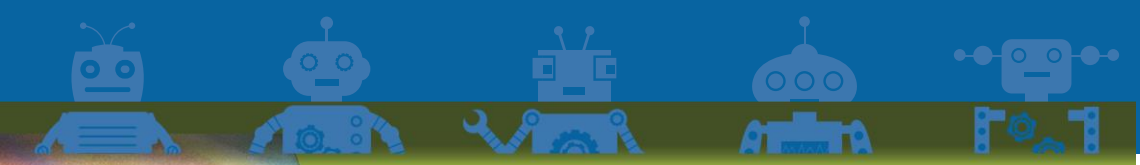
1961

The world's first robot went to work assembling cars at a General Motors plant in Ewing, New Jersey, USA.

1970

Roboticians in Stanford, California, USA, built the first robot that could move and sense its surroundings.





Saturn



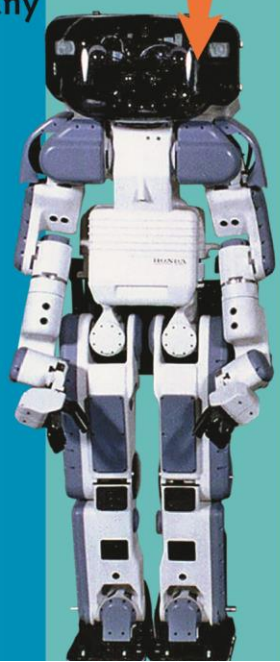
1977 1996 1999 2011

The Voyager 1 and 2 space probes were launched to study Saturn, Jupiter and their many moons.

Researchers at Honda introduced P2, the first human-like robot.

Sony developed AIBO, a robotic dog that could interact with people.

R2 was launched to the International Space Station, making it the first human-like robot in space.





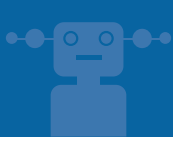
Every robot is designed for a specific job. What the robot looks like will depend on the job it does. But no matter what a robot does, it has three kinds of parts – a computer, sensors and actuators.

A robot's computer is like a person's brain. It uses the instructions programmed by a roboticist to make decisions. The sensors are like a person's eyes, ears, nose and skin. They collect information about the robot's surroundings and send messages to the computer. A robot's actuators receive messages from the computer. They control the robot's movements, lights, speaking, and more.



Tech Talk





SENSOR: A robot part that detects light, temperature, pressure, sound or motion

ACTUATOR: A robot part that performs an action