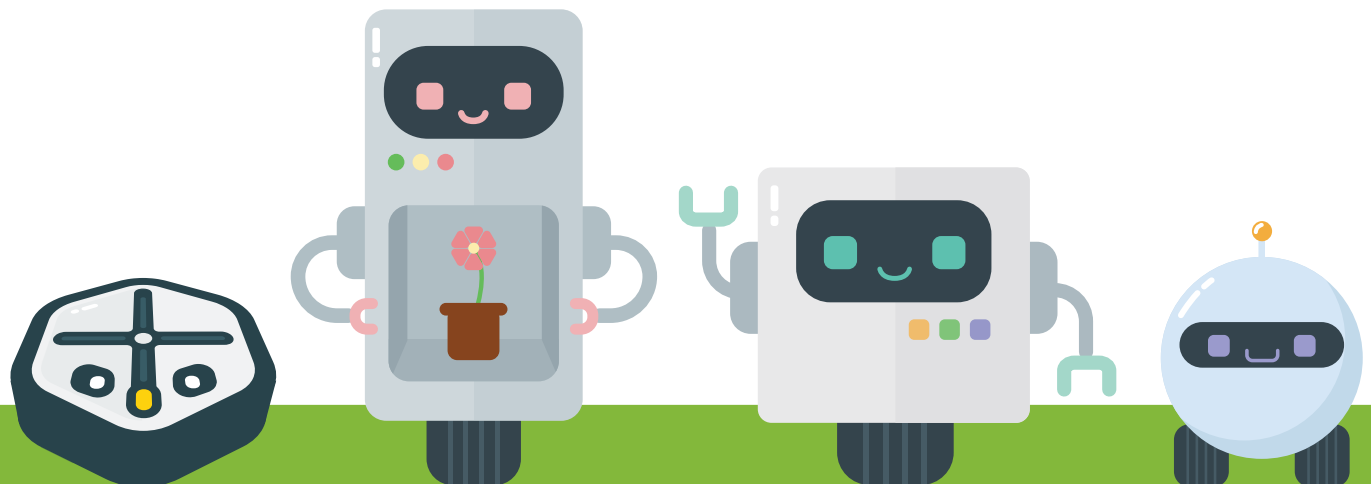


**Robot**

# stem

## Activity Book

[irobot.com/STEM](http://irobot.com/STEM)



[Reduced Ink Usage Version]

# Inspiring the Next Engineers and Scientists

## What is STEM?

STEM is Science, Technology, Engineering, and Math:  
All very important subjects that help you build robots!

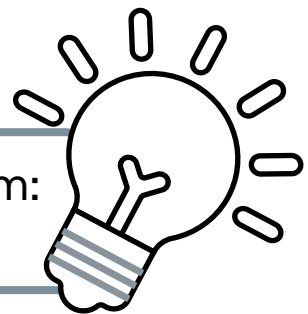
This booklet is packed with all kinds of cool robot games and puzzles:

- Go on a scavenger hunt to find robots around you
- Color and design a robot puzzle
- Try a crossword puzzle, word search or maze
- Help Roomba® find its way home
- Write a silly story with a friend

## iRobot STEM Program

iRobot is committed to building a future for STEM education in the United States. Our multi-faceted outreach program is a resource for students, parents and educators to share in our excitement for the robotics industry and get an inside look at what we do here.

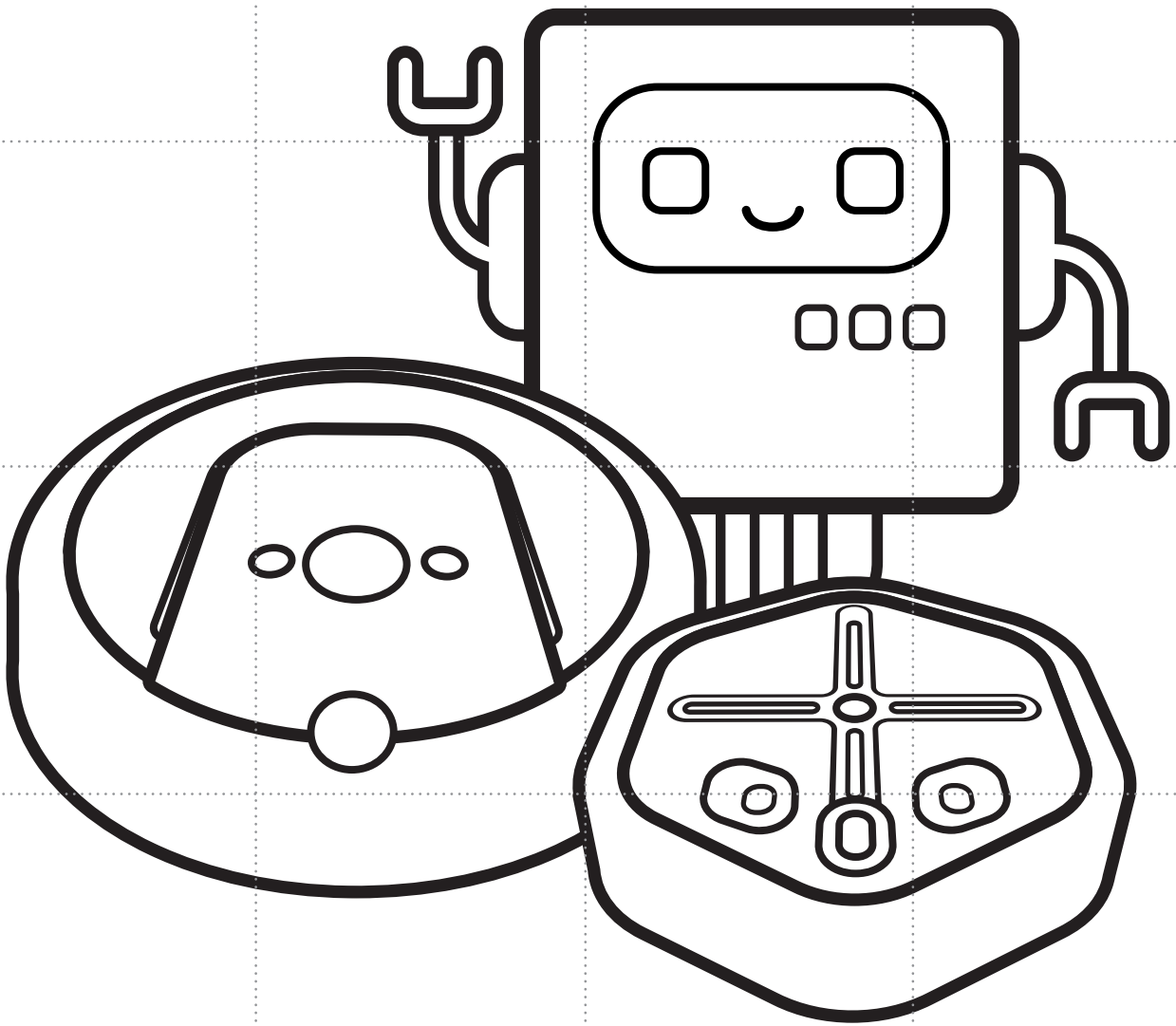
Learn more about the iRobot STEM Program:  
**Visit [irobot.com/STEM](http://irobot.com/STEM)**



# Robot Puzzle

Color this robot and have an adult help you cut on the dotted lines to make a robot puzzle!

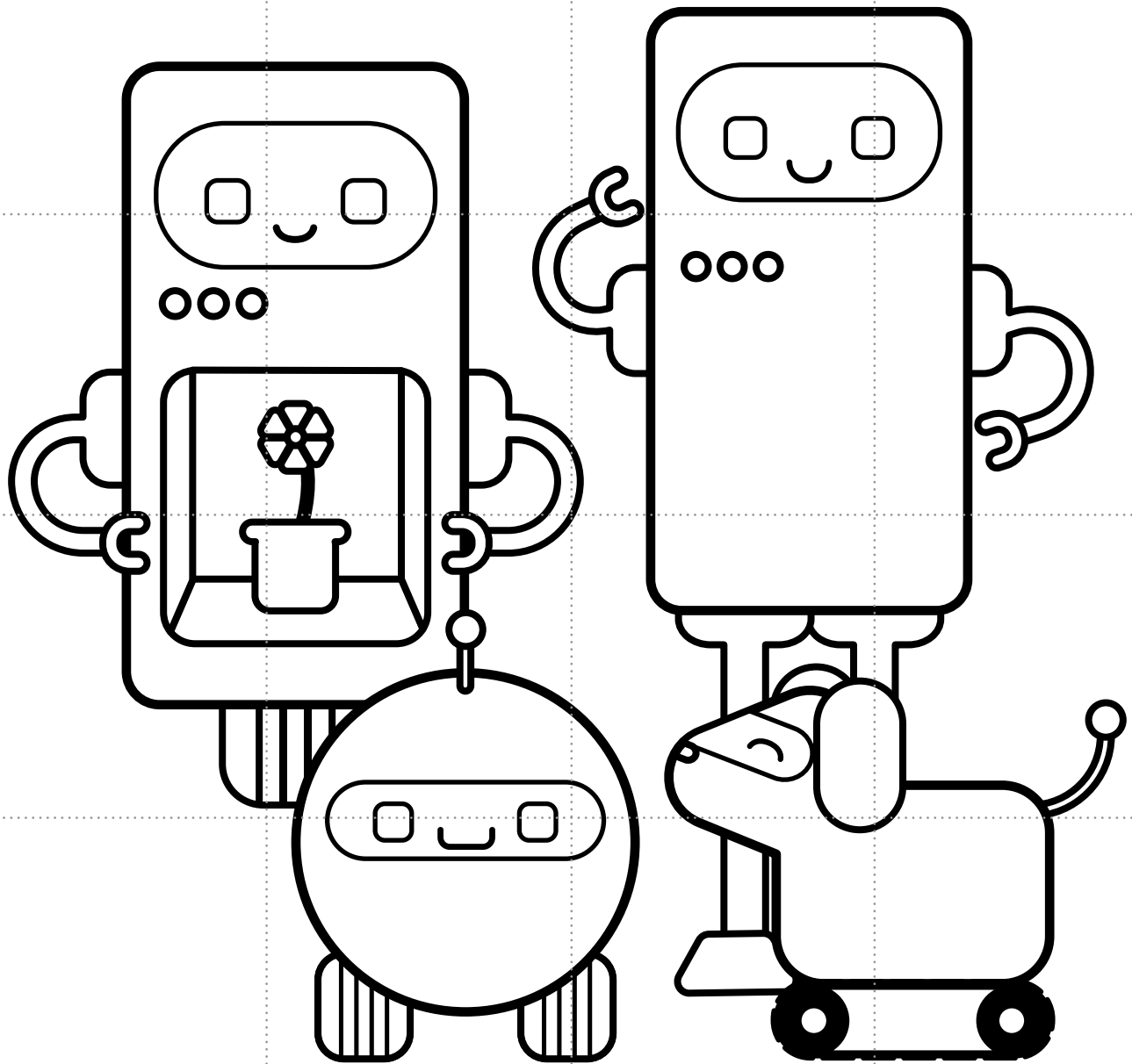
Always be careful when using scissors.



# Robot Puzzle

Color these robots and have an adult help you cut on the dotted lines to make a robot puzzle!

If you print this activity book double-sided, now you'll have a robot puzzle with two sides!



# STEM Word Search

See if you can find all the words!

F K M P O K U L L J J L Q Y B  
A T A A G U B C J K P T U M M  
U D I S C O V E R X U V X A E  
G G A V R T I B V O E X N P S  
S V I U I P P U D M C G D O M  
T L E Z A S C I E N C E Y J L  
E W H E E L S L N O B B P B S  
M Z S K J D O D O A U O W C Z  
W S A S L I N V E N T S D O Z  
K Y M A T H N A F N T M W H F  
Y X S R V R A P V R O O M B A  
Z Y D H H A I M T H N Y O B L  
T N C W G E A R D O S D T I G  
K T T F D S Q S O R O B O T M  
S B E O P F P Z D N Z Y R E E

WHEELS

MOTOR

STEM

ROBOT

SCIENCE

MATH

BUTTONS

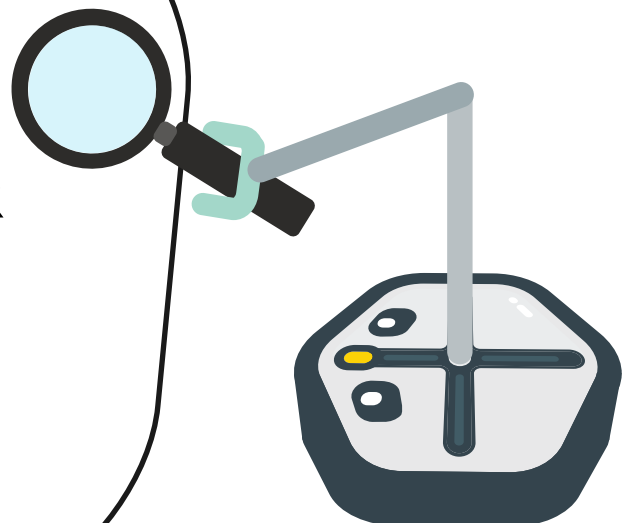
BUILD

DISCOVER

GEAR

INVENT

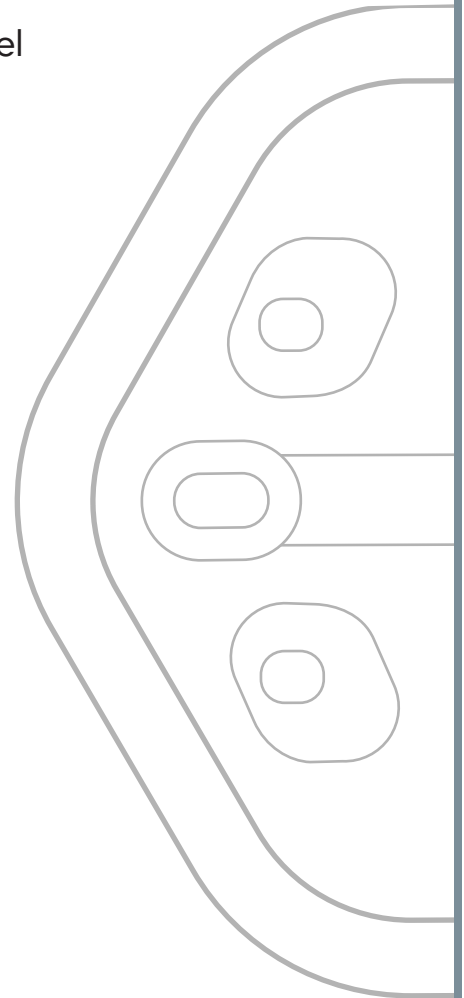
ROOMBA



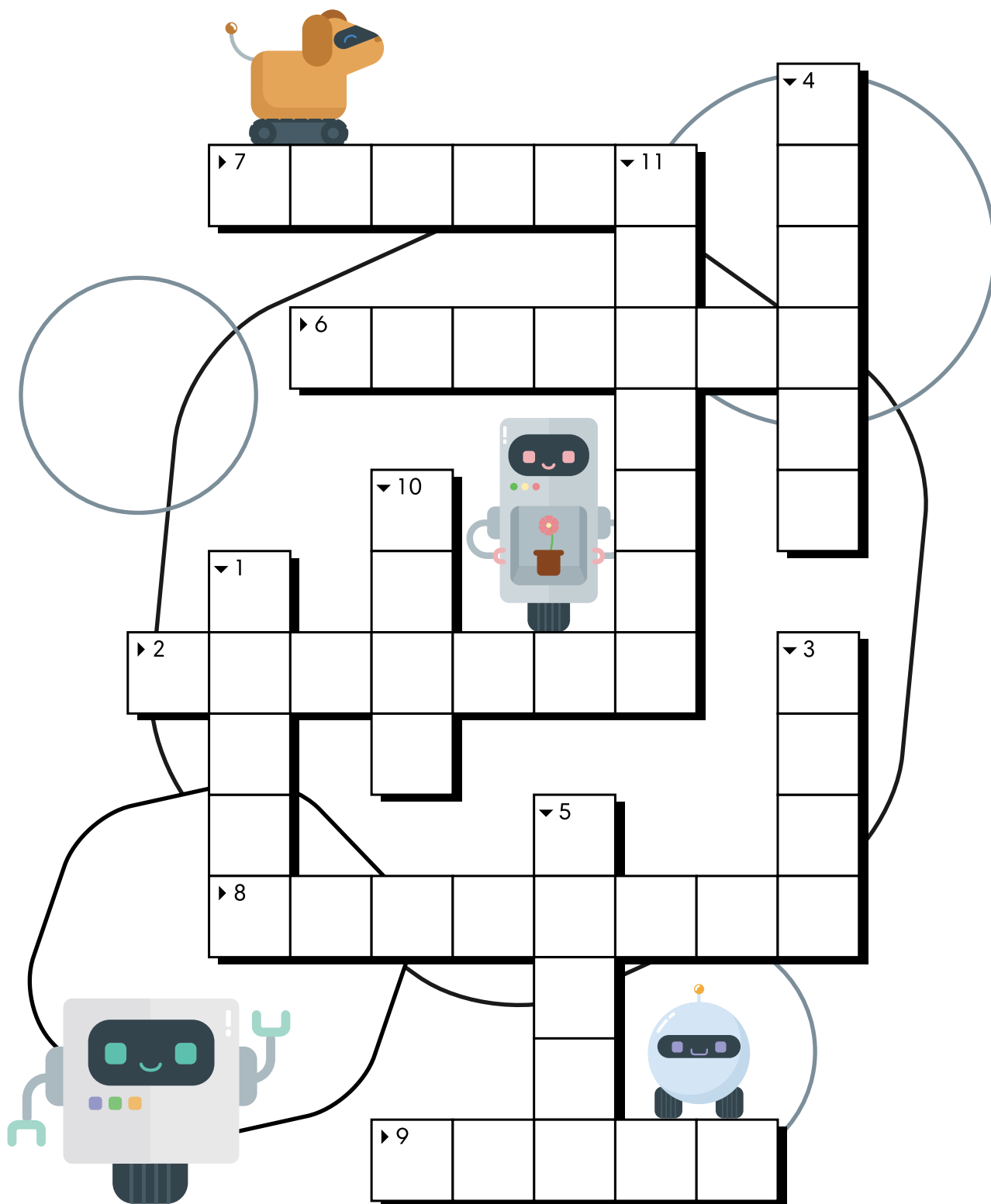
# Robot Crossword Puzzle

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1. To create new technology, you must \_\_\_\_\_ it  
(turn it from a design into a real, physical machine).
2. Some robots have \_\_\_\_\_ that you can push to  
turn them on, off or to make them do other things.
3. This toothed wheel engages another toothed wheel  
in order to transmit force to change speed.  
Rhymes with "hear."
4. When you come up with an idea and then build it,  
you \_\_\_\_\_ something new.
5. A machine that can do things on its own is  
called a \_\_\_\_\_.
6. \_\_\_\_\_ is a school subject that includes  
biology, chemistry and physics.
7. \_\_\_\_\_ are one of the ways that robots,  
like cars, can move through the world.
8. You can \_\_\_\_\_ new things when you study  
science, technology, engineering and math.
9. The robot's \_\_\_\_\_ move the wheels,  
arms and grippers.
10. When you study \_\_\_\_\_, you will learn addition,  
subtraction, multiplication and division, the basis  
of engineering and most technology.
11. A robot uses \_\_\_\_\_ to feel its surroundings.



# Robot Crossword Puzzle



# Robot Scavenger Hunt

There are a lot of parts used in robots that you can also find around your home or school. Ask an adult to help and see how many objects you can find that have buttons or switches, motors, LEDs, something you can program and something you think is robotic. For a challenge, see if you can complete the Scavenger Hunt without using “computer” in any category! Can you find objects that fit into more than one category?

**Something that has  
buttons or switches**

---

---

---

---

---

---

---

**Something that has  
a motor in it**

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---

---

---

---

**Something robotic**

---

---

---

---

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---

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**Something that you  
can program**

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**Something with an  
LED or indicator light**

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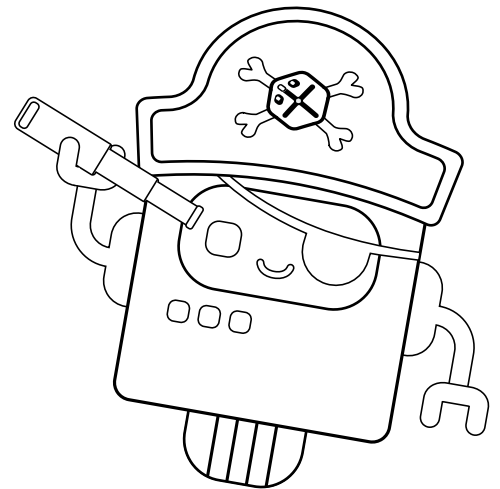
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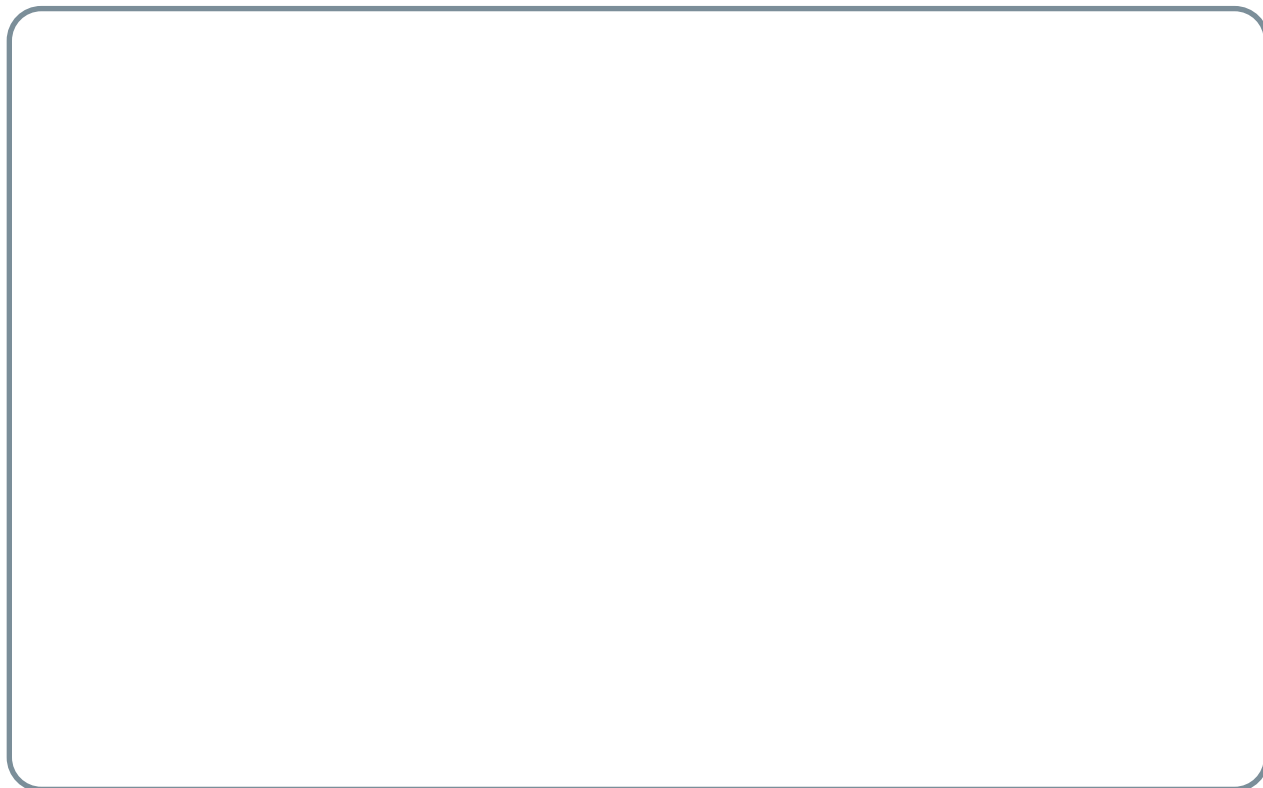
# Roomba® Maze

Help the Roomba® robot vacuum get around all the furniture and find its way to the HomeBase® to charge.



# Design a Robot

Imagine what sort of robot you would build! Draw your robot and then describe it.



This robot was designed by:

---

My robot would be used to:

---

---

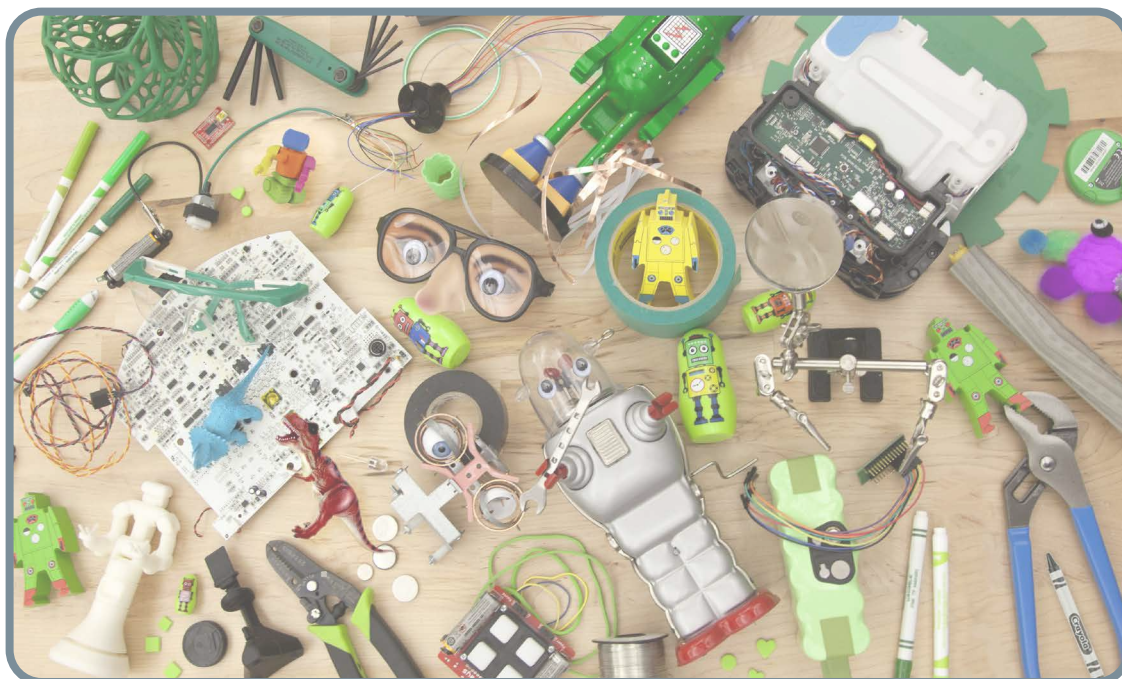
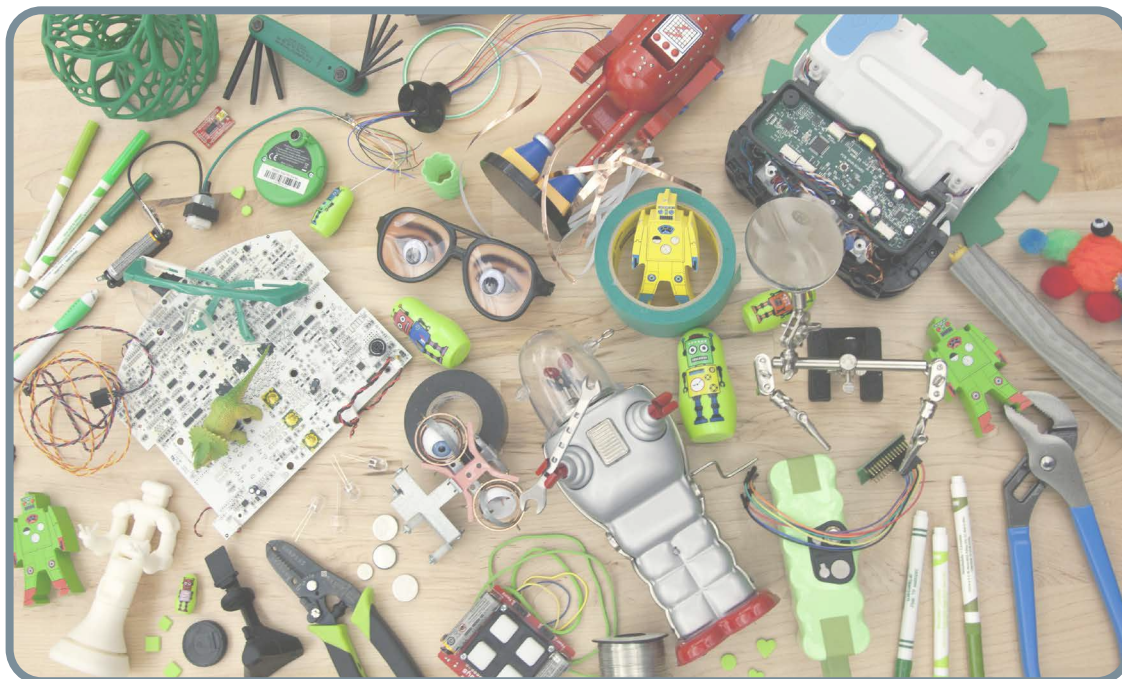
---

I would call it:

---

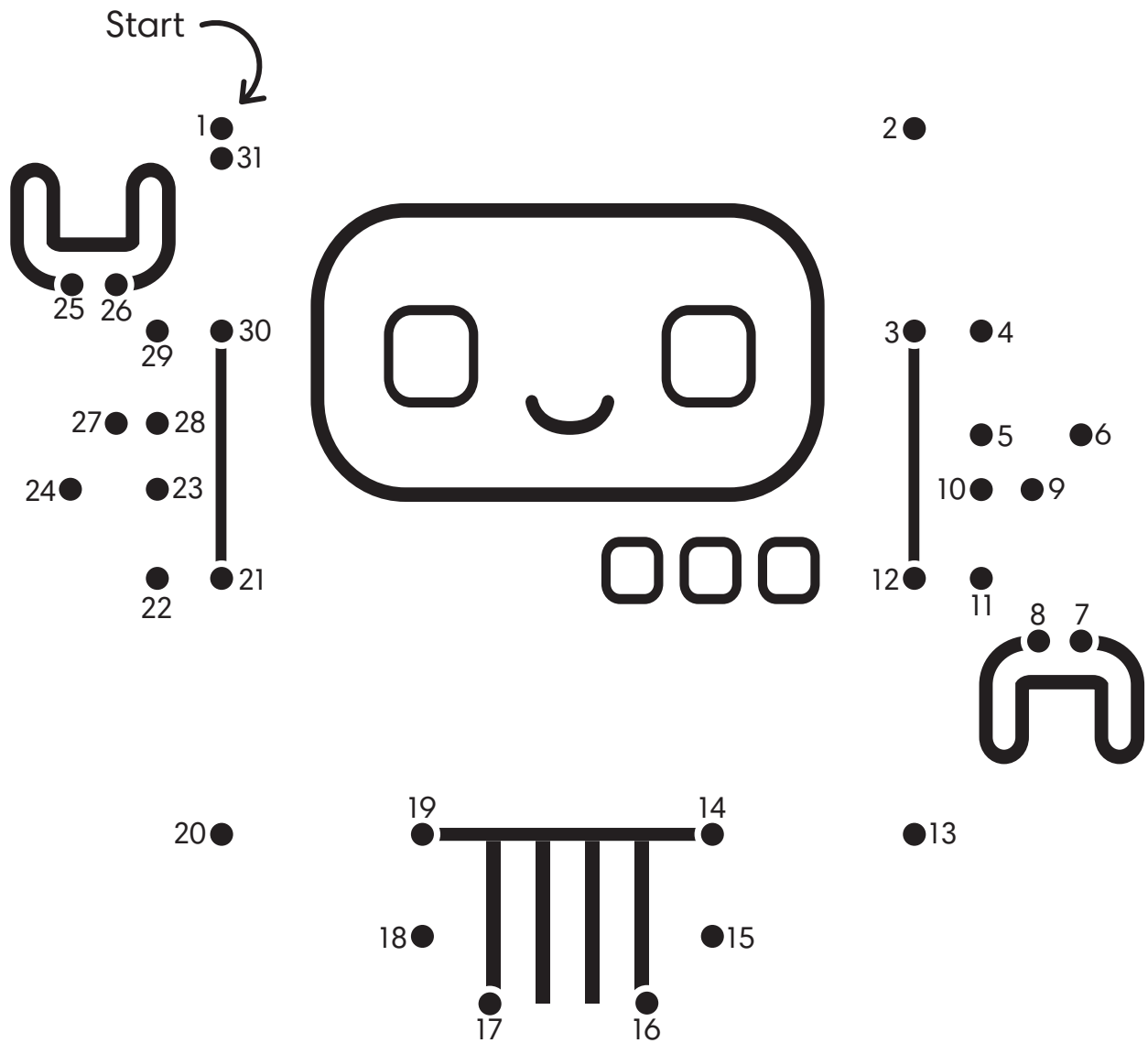
# Spot the Differences

Can you find and circle the 10 differences between these two pictures of STEM supplies?



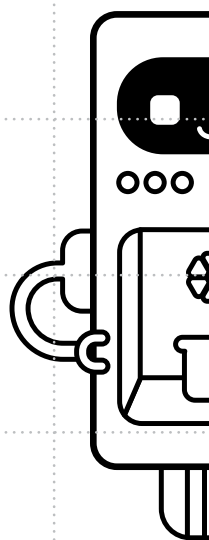
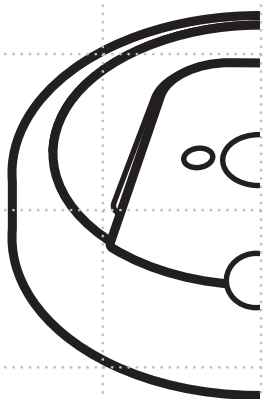
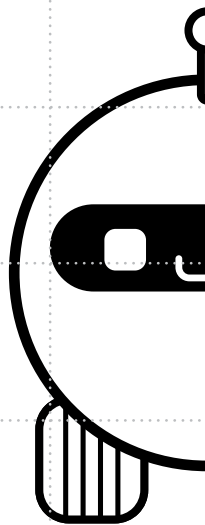
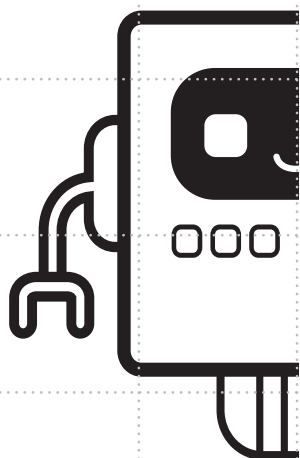
# Connect the Dots

Complete the picture and color it in!



# Complete the Robots

Can you draw the other half of each robot? Color them in after!



# Silly Story

Pair up with a friend and have them give you a word to fill in for each blank without reading the story first, and then read the completed silly story out loud.

If I built my own robot, it would be \_\_\_\_\_ feet tall,  
number

with a \_\_\_\_\_ and a \_\_\_\_\_

color part of the face

\_\_\_\_\_ . It would help me  
adjective computer part

with \_\_\_\_\_ and would do a  
chore

\_\_\_\_\_ job. It would have a lot of sensors so  
adjective

it can \_\_\_\_\_ . My robot  
one of the 5 senses plural noun

would also be able to \_\_\_\_\_, \_\_\_\_\_,

verb plural noun

and clean up after my pet animal. With

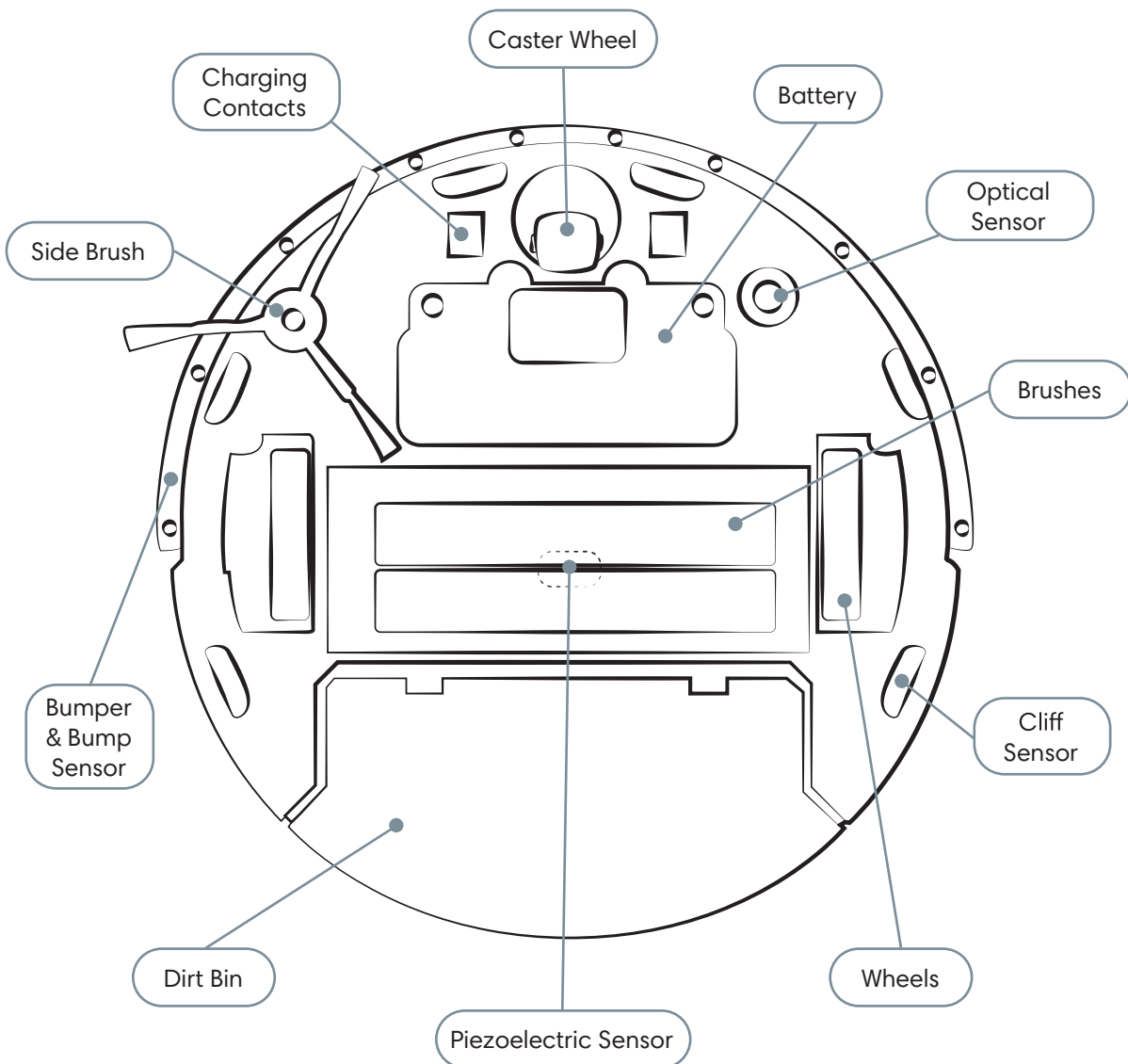
my \_\_\_\_\_ robot, I would have more free  
adjective

time to go \_\_\_\_\_ with \_\_\_\_\_  
fun activity name of a friend

instead of \_\_\_\_\_ . Robots and  
chore

technology are really \_\_\_\_\_!  
adjective

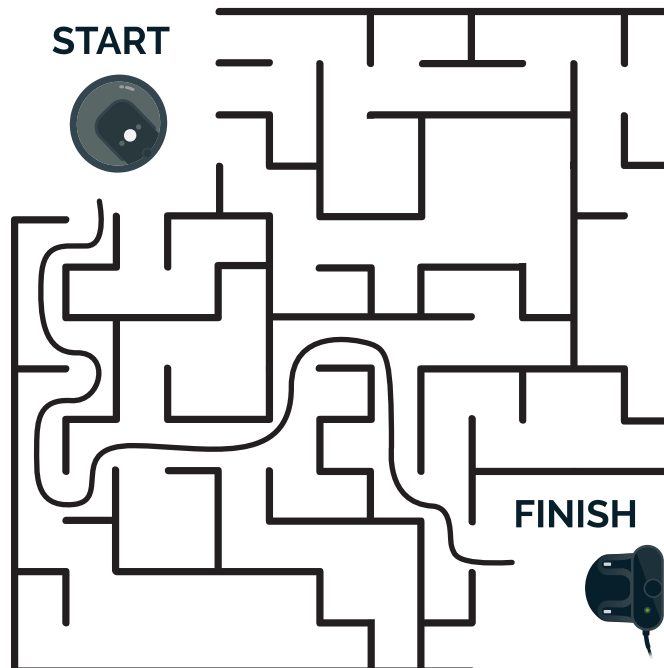
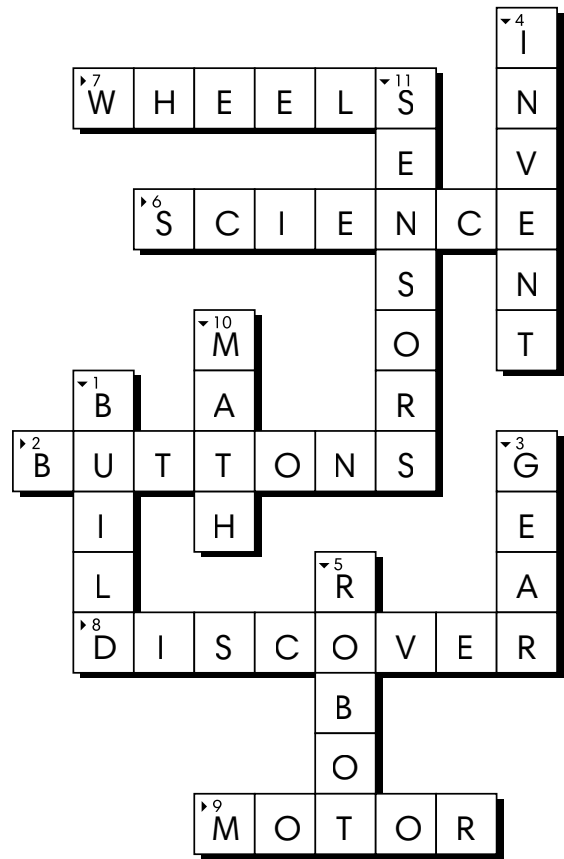
# Anatomy of a Roomba®



## What does each part do?

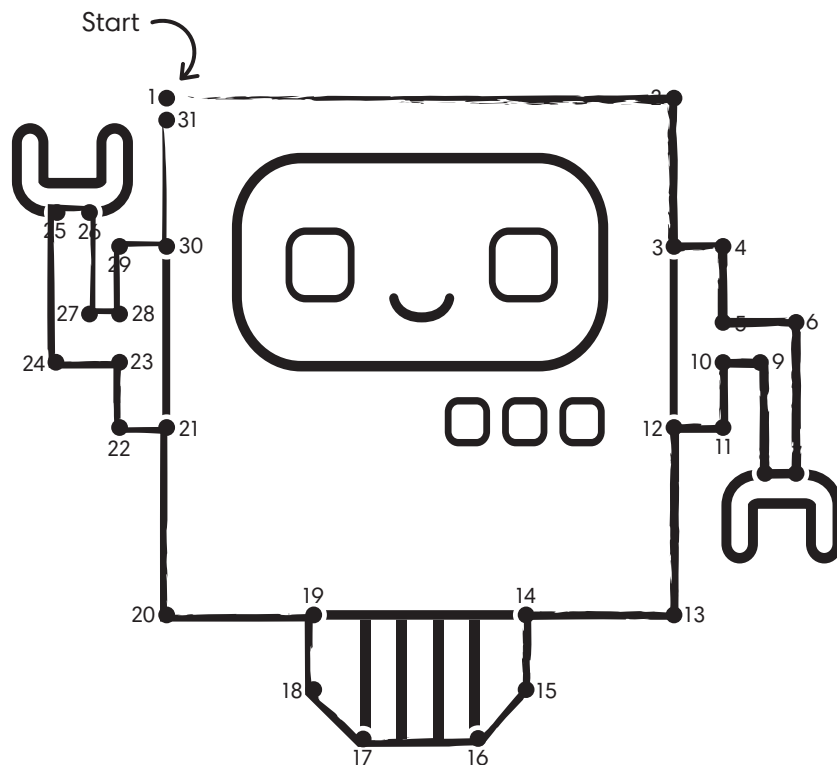
<b>Side Brush</b>	Cleans dirt out of corners
<b>Charging Contacts</b>	Connects the battery to the charger
<b>Caster Wheel</b>	Balances the robot and senses motion
<b>Battery</b>	Powers Roomba®
<b>Optical Sensor</b>	Senses motion
<b>Brushes</b>	Pick up dirt off the floor
<b>Cliff Sensor</b>	Uses infrared to prevent falling off edges
<b>Wheels</b>	Move Roomba®
<b>Piezoelectric Sensor</b>	Senses dirt
<b>Dirt Bin</b>	Collects the dirt
<b>Bumper &amp; Bump Sensor</b>	Senses objects in its path

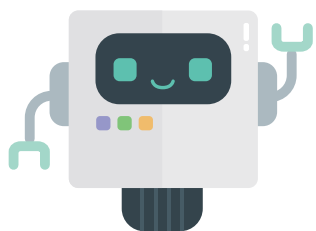
# Puzzle Solutions





# Puzzle Solutions





Looking for more cool  
stuff about robots?

**Visit [edu.irobot.com](https://edu.irobot.com)**

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***iRobot***<sup>TM</sup>  
Education