

# Let's try a maze

To use EdBlocks to program Edison, you need to use the EdBlocks app. Go to the app online at [www.edblocksapp.com](http://www.edblocksapp.com)

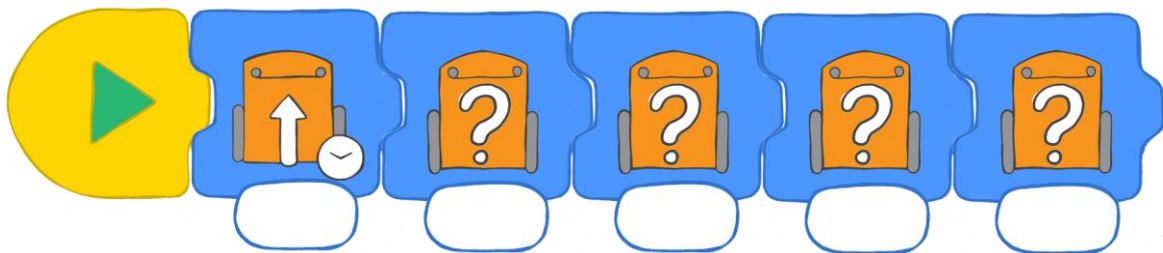
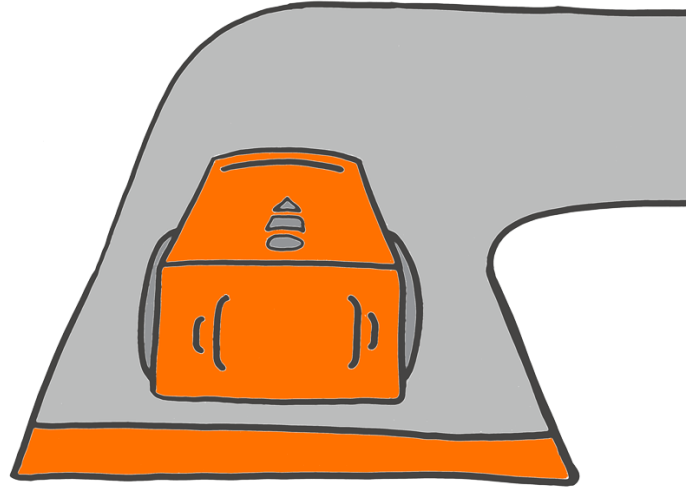
## What to do with EdBlocks

Using the EdBlocks app, design a program that will get Edison through the maze on the next page.

You can beat the maze using five blocks. Drive straight is the first block you will need.

What are the next four blocks?

How long should Edison do each action?

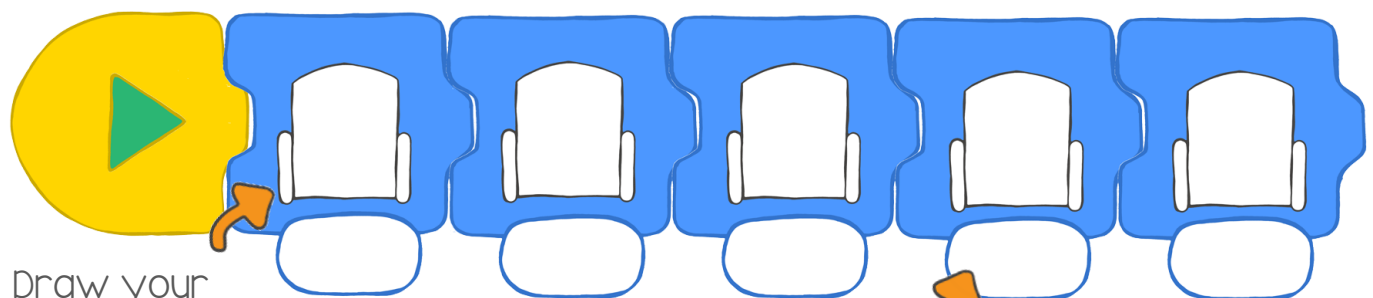


## What to do with Edison

Download your program to Edison, then place Edison at the start of the maze. Test to see if your program works. Edison needs to reach the finish line to complete the maze.

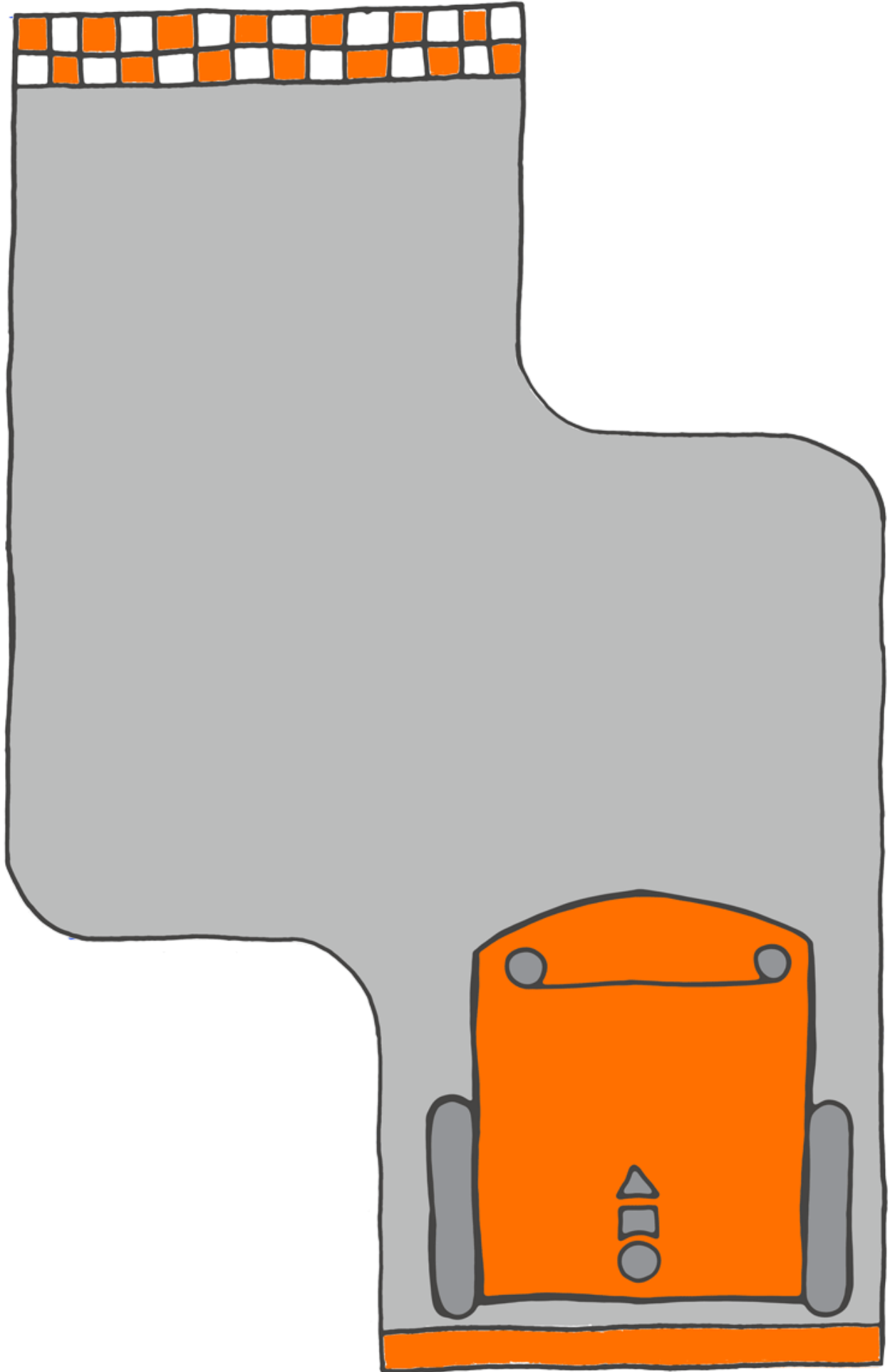
## Find the Answer

Once, you complete the maze, write down your program here.

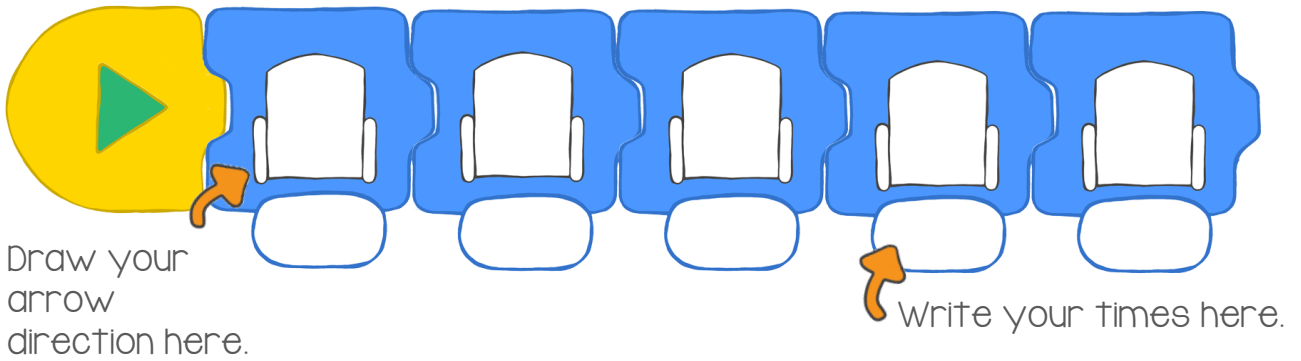


Draw your arrow direction here.

Write your times here.



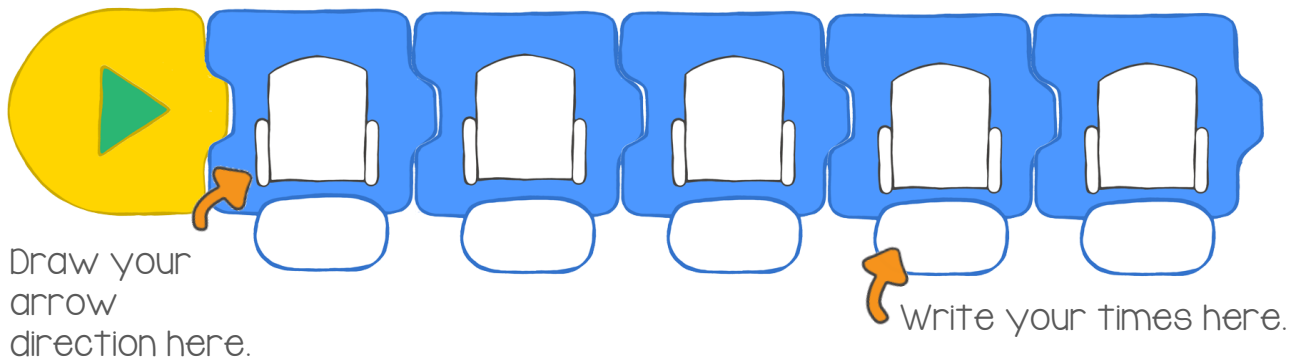
**\*Cut into strips to use for multiple students to use for the maze challenge or to create their own original maze program.**



Draw your arrow direction here.

Write your times here.

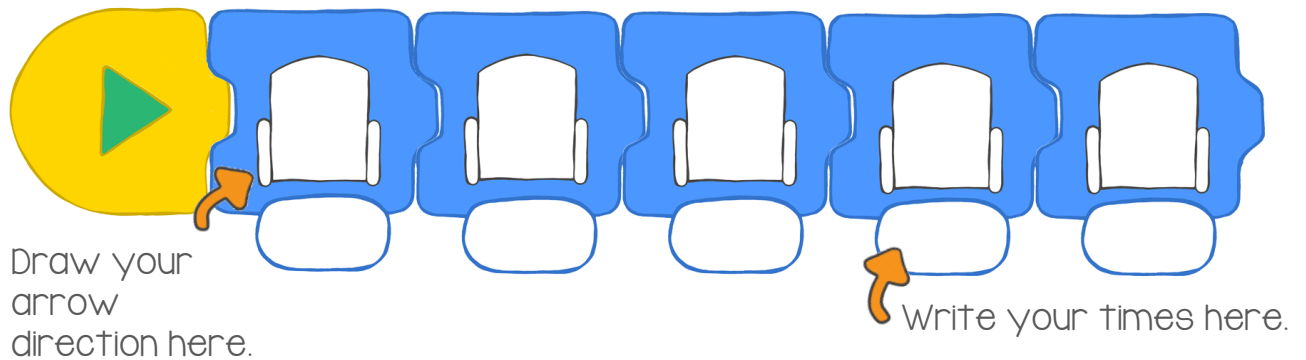
This block contains a Scratch script strip with a yellow play button icon on the left. The script consists of six blue 'say' blocks arranged in a row. Each block has a white speech bubble shape with a blank space inside. An orange arrow points to the first block, and another orange arrow points to the fourth block.



Draw your arrow direction here.

Write your times here.

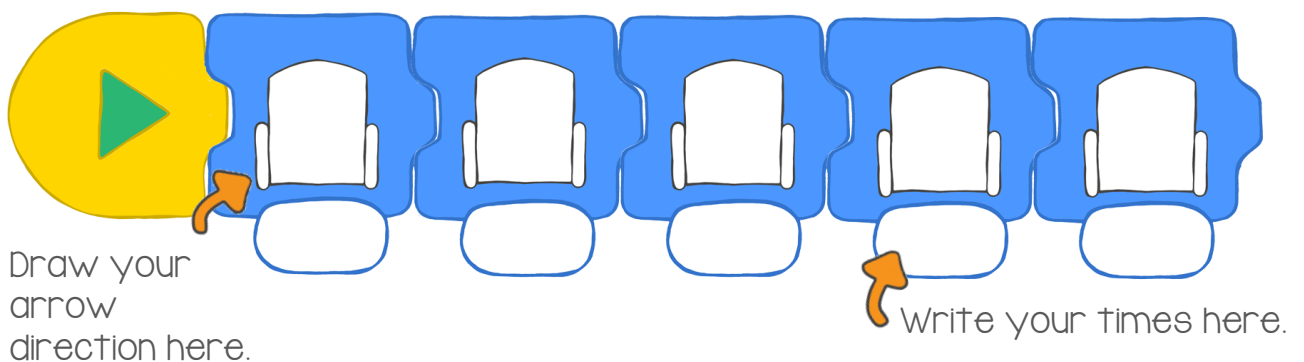
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# A-Maze-ing Robotics

**STEM**  
(40 min)

## Materials:

- Robots
- 6-8 Robotics Maze Mats
- Chrome Book or lap top
- TV Remote Control
- Candy (optional)



## A FUN FILLED JOURNEY TO THE MAGICAL CASTLE!

### Set up:

1. Lay out 6-8 Robotics Maze mats. We suggest using an open room for this activity like the multipurpose room or outdoors in a shady area. There can be up to 4 students per mat.
2. Hand out a Robot, laptop or remote control to each student.

## KINDER-2ND GRADE

### Instructions:

1. First, get the students excited for today's challenge! You could say, "We have some A-Maze-Ing challenges today for some great prizes!"
2. Instruct the students take their robots and remote control down to one of the Robotics Maze Mats. Three to four students can be at one mat.
3. Demonstrate how to Barcode scan the remote to the robot or they can scan the bounce in borders code. The instructions to do this are on the mat. If the students want to try themselves that's okay as well. Have students that know how go around and help others.
4. If you have laptops or ipads students can code their robot to accomplish the challenges using EdBlocks go to <https://www.edblocksapp.com/>
5. Now it's time for the challenges!! Once they finish all 4 challenges or earn a certain amount of points they can get their prize!

## CHALLENGES:

1. From the star start position get to the Wizard's Hat and the Dark Crystals for a total of 150 points!
2. Now from the star start position go visit the pet rock worth 300 points! Here the students get to name their pet rock!
3. The next challenge is to get through the maze from star start position to the magical castle worth 1,000 points without going through any barriers.
4. Now the teachers or students can make up one more challenges!



## 3RD - 4TH GRADE

### Instructions:

1. First, get the students excited for today's challenge! You could say, "We have some A-Maze-Ing challenges today for some great prizes!"
2. Instruct the students take their robots and their laptops down to one of the Robotics Maze Mats. Three to four students can be at one mat.
3. The students will open their laptops and go to EdBlocks at: <https://www.edblocksapp.com/>
4. In the Drive tab in the upper left part of the screen they will use the first four blocks Forwards, Backwards, turn left and turn right. They can change the numbers in the bubbles underneath the blocks. These numbers are for how many seconds the robot will move. In the turn left and right bubble they can change the clock to how far they want to turn.
5. They will click and drag these blocks to the yellow block with a green triangle in it. They can stack however many blocks they want for the different challenges.

### CHALLENGES:

1. From the star start position get to the Wizard's Hat for 50 points! The first 5 to do this get 2 prizes (candy).
2. Now from the star start position go visit 2 objects. For example it could be the Wizard's Hat and the Glowing Gem or the Wizard's Hat and the Dark Crystals. They will get one prize when achieved.
3. The next challenge is to get through the maze from star start position to the magical castle worth 1,000 points without going through any barriers. This will also be for 1 prize.
4. This challenge they will need to pick up 1,000 points then end at the pixie dust fairy. This challenge receives 3 prizes!

### HOLLIE'S HELPFUL HINTS!

1. Feel free to come up with your own challenges!
2. If you see a student not engaging go help them or ask a student to help them through a challenge. Its okay to hint to them on ways to do this.





## 5TH-8TH GRADE

### Instructions:

1. First, get the students excited for today's challenge! You could say, "We have some A-Maze-Ing challenges today for some great prizes!"
2. Instruct the students take their robots and their laptops down to one of the Robotics Maze Mats. Three to four students can be at one mat.
3. The students will open their laptops and go to EdScratch at: <https://www.edscratchapp.com/>.
4. In the Drive Tab they can click and drag these blocks to the yellow start block. They can stack however many blocks they want for the different challenges. In the forwards and backwards blocks they can change it to cm, inches or seconds. For the spin left and right they can change it to seconds or degrees. They can also change the speed of the robot.

### CHALLENGES:

1. From the start go to the Wizard's Hat for 50 points. The first 5 get a prize!
2. Now from the start position go visit 2 objects of the student's choice. Students get one prize when achieved.
3. The next challenge is from the start to go through the maze to the magical castle worth 1,000 points without going through any barriers for 1 prize.
4. From the start pick up 1,000 points then end at the pixie dust fairy. This challenge receives 3 prizes!
5. If you want to rule the kingdom then you will need to program your robot to collect everything on the mat and then finish at the castle. This challenge receives 3 prizes and the Title to the Kingdom Certificate!

### HOLLIE'S HELPFUL HINTS!

1. Feel free to come up with your own challenges!
2. If you see a student not engaging go help them or ask a student to help them through a challenge. It's okay to hint to them on ways to do this.

# A-Maze-ing Robotics Extension Ideas



## Materials:

- Robot- 1/student
- Why Bricks
- Magnets
- Paper clips
- String
- Marloo's Maze Mat



## NO LAPTOP ENGINEERING CHALLENGE

### Set up:

1. First, get the students excited for today's challenge! You could say, "We have some A-Maze-Ing challenges today for some great prizes!"
2. Get out the Why Bricks - and have each student get a tray full of random parts to create with. Let them know they can get more up front if they need to.
3. Each student get's one robot, paperclips or a magnet and some string to attach the magnet if needed.
4. Set out the Maze mats. Remind students to not step on the mats and to try and keep them nice. Assign some students to write on small pieces of paper at the items to collect on the mat (Magic Crystal, glowing gem, gold coin etc) and attach it with either a paper clip or sticky magnet and put it over the matching item on the mat so that a robot can collect it during the challenge.
5. Help your students work through coding the remotes as they will need to see someone work through scanning a code with the robot and then pointing the remote at the robot and pushing the button that you want to pair with that code. (such as forward) then code each direction into the remote.

### CHALLENGE:

1. Your challenge is to build a robot that can collect as many tokens as it goes throughout the maze. The tokens are either magnetic or on a paperclip whatever your class decides so you need to build a device that can pick them up as you drive through the maze.
2. When your robot is built you will scan the barcode on the mat. Follow the instructions on the mat to program it so you can guide your robot through the maze with a remote. You can also try other barcodes as well such as bounce in borders or follow a light (on the sumo mat).
3. Each engineer will have one minute to try and get through the maze and collect as many tokens as they can while still reaching the castle at the end.
4. If you want to rule the kingdom you will need to guide your robot to collect everything on the mat and then finish at the castle.

\*Feel free to come up with your own challenges!