

# Up for a Challenge?

## Robot Race!

### MATERIALS:

- Dash robot
- Blockly app
- Painter's tape
- Dash Challenge Card (p. 2)



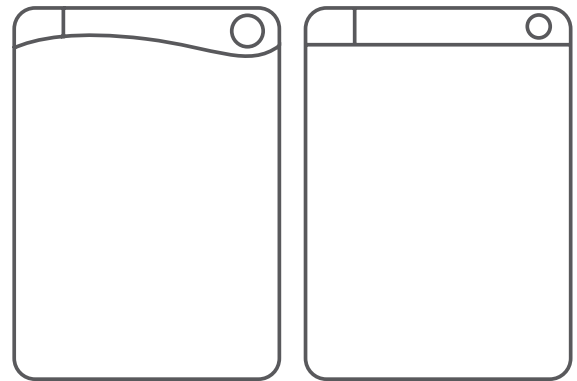
### STEPS:

1. Use the "On Your Mark" Dash Challenge Card to create a sequence of commands for Dash.
2. Use painters tape to create a starting line and a finish line for Dash.
3. Open Blockly on your [compatible device](http://www.makewonder.com/compatibility) (www.makewonder.com/compatibility) and create a new program.
4. Follow the instructions on the Challenge Card by dragging the block commands onto your screen. Connect them in order below the START block.
5. Press the green PLAY button to test your program.

## What Can You Do with Cue?

### MATERIALS:

- Cue robot
- Cue app
- Painter's tape
- Blank Challenge Card (p. 2)





### STEPS:

1. Take a look at the "On Your Mark" Dash Challenge Card.
2. Create your own Challenge Card outlining a similar robot race using events for Cue. Some ideas may include using a "hear voice" command to start the race.
3. On the front side, add an image with a title and problem statement. On the back, outline your challenge in simple steps.
4. Open CUE on your [compatible device](http://www.makewonder.com/compatibility) (www.makewonder.com/compatibility) and test your challenge.
5. Share away!

Record a video of Dash or Cue running through your program successfully.  
Share your video on Twitter @WonderWorkshop with the hashtag #FunWithWonder.


# Challenge Cards

3.1 | Events 




**On Your Mark!**

Dash wants to race with friends!  
Dash is waiting for the race to start.



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3.1 | Events 

1. Have Dash **wait** until you press the **Top Button** to begin racing.



2. Now let's get this race started! Start Dash's **car engine**.

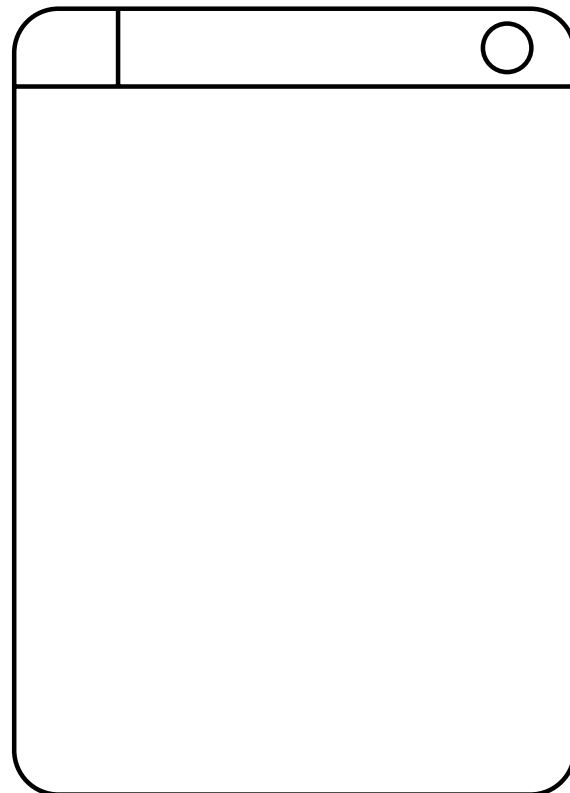
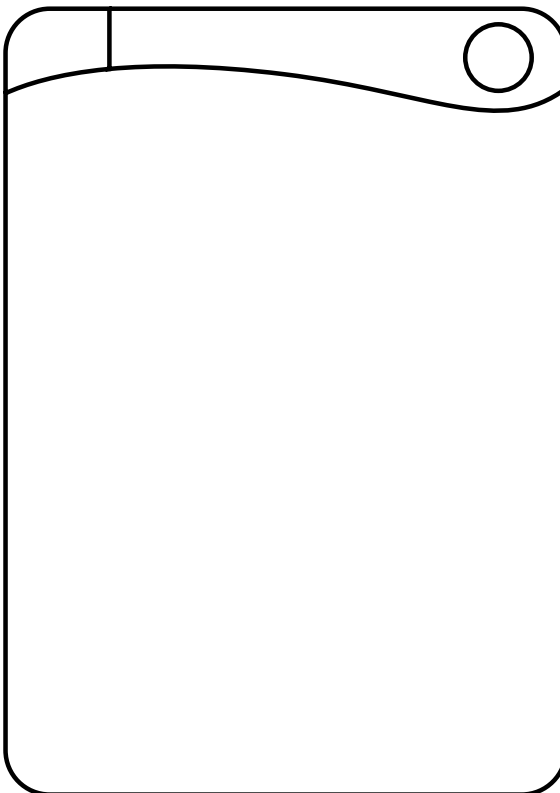


3. Now Dash can start racing! Have Dash **drive forward 70 cm**.



 **Challenge** Make Dash go faster! How fast can Dash go?





Record a video of Dash or Cue running through your program successfully.  
Share your video on Twitter [@WonderWorkshop](#) with the hashtag [#FunWithWonder](#).

# Now Let's Get Creative!

Use your coding skills to create a bowling game for Dash or Cue!

Pretend that Dash or Cue is a bowling ball, and program it to knock down a set of pins. Consider how you might put a summer spin on the bowling pins. How might you decorate them to be ice cream cones or palm trees?



## MATERIALS:

- Dash or Cue robot
- Path, Blockly, Wonder or Cue app
- Bulldozer Accessory (optional)
- Toy bowling pins, or you can substitute empty water bottles or cardboard paper towel rolls
- Painter's tape
- Supplies to decorate pins: scrapbook paper, craft paints, washi tape, scissors, and/or double-sided tape

## STEPS:

1. Designate a bowling lane somewhere in your house, and mark the "starting line" with the painter's tape.
2. Set up pins in a triangular pattern (or any pattern you would like) about 8-10 feet from the starting line.
3. Program Dash using Path, Blockly, or Wonder, or Cue using Cue to bowl a strike, by creating a sequence of commands that will send the robot down the lane to knock the pins down in one fell swoop.
4. Use a clap, voice command, or other event to run your program.
5. Test your program as many times as you want! There are 10 frames in bowling, but who's counting?
6. Record and share your robot victory once you have written a "striking" program.

## LEVEL UP!

Start Dash or Cue off to the side, not directly in front of the pins, or backwards, not facing to the pins, to practice turns and angles. Or try adding more pins! You also can spread out the pins to increase the difficulty. Definitely choreograph a robot victory dance after you have made a strike!

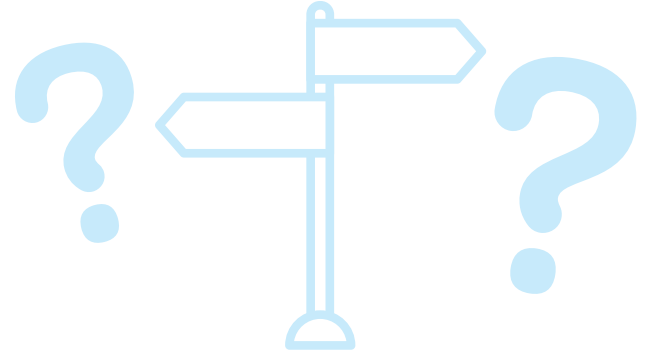
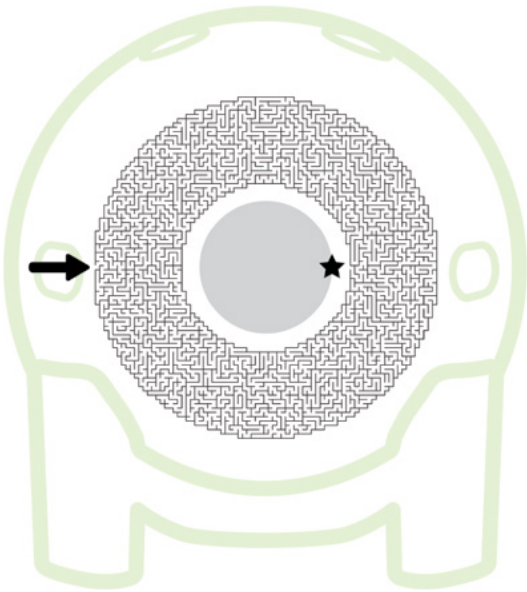
Record your robot bowling a strike and share your video with us on Twitter [@WonderWorkshop](https://twitter.com/WonderWorkshop) with the hashtag [#FunWithWonder](https://twitter.com/FunWithWonder).

## Vocabulary

**Event:** An action that causes something to happen.

# Time to Go Offline!

Want to unplug for a while? Dot wants in on the summer fun! Put your problem-solving skills to the test with this (eye)ball of a maze on **page 5**:

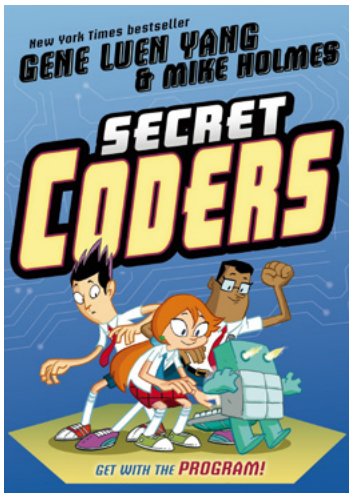


Can you “see” a way to the finish?

**Use the activity sheets on pages 5 and 6.**  
Remember to fail forward and don't give up!

When you are done, try creating your own maze on **page 6**. How difficult will you make it? Will you begin from the start or work backwards from the finish?

## SUMMER READING:



Take a look at our blog's Summer STEAM Reading List. We've just added chapter books to the current list of picture books for older readers. How many books have you read this summer that have to do with coding or robotics? <http://bit.ly/STEAMreading>

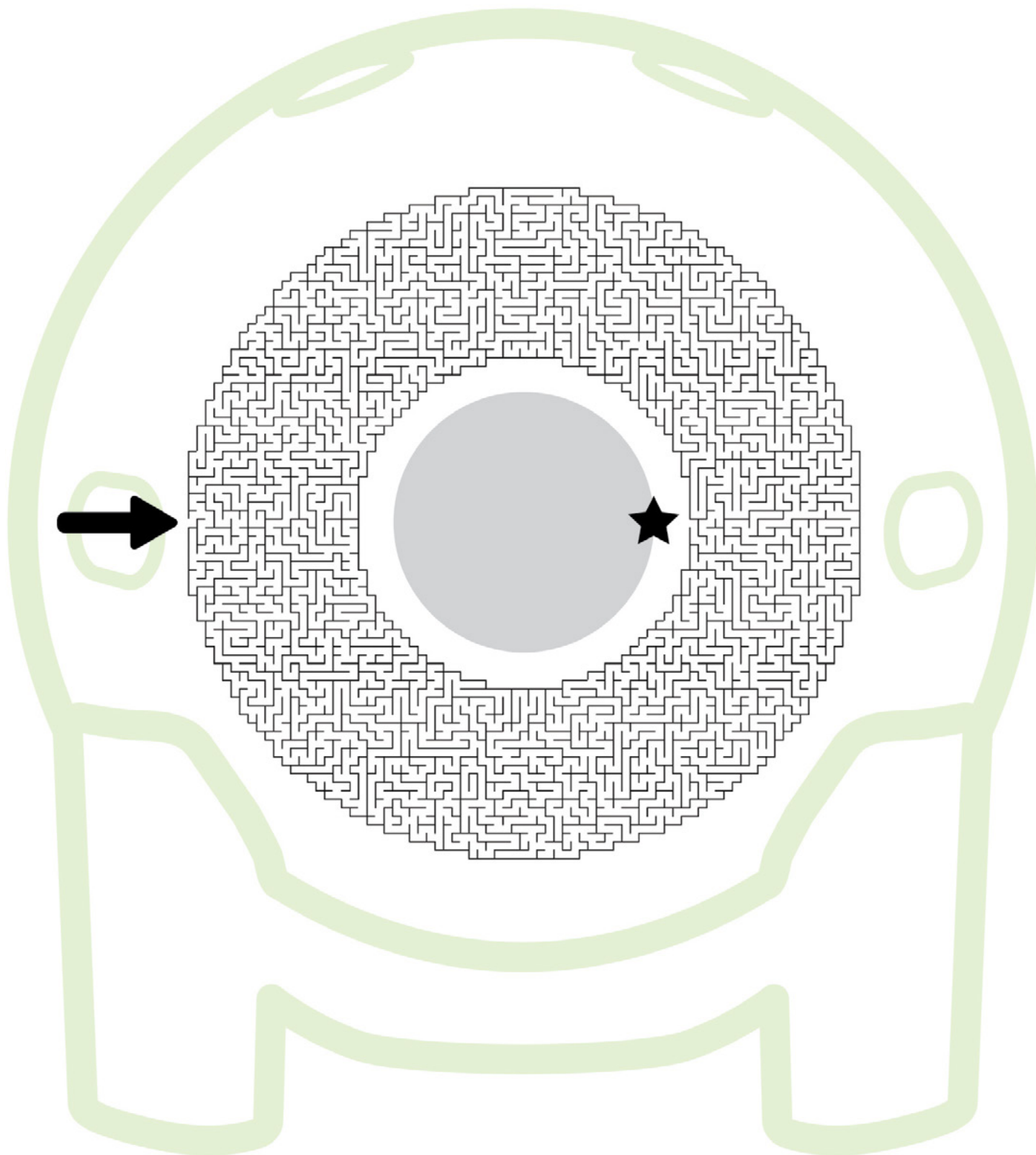
## COLOR IN OUR ROBOT'S EYE TO SHOW HOW MANY BOOKS YOU'VE READ SO FAR:



## FUN FACT:

The first humanoid robot debuted in 1939. Elektro, built by Westinghouse, was 7 feet tall and could 'speak' 700 words.

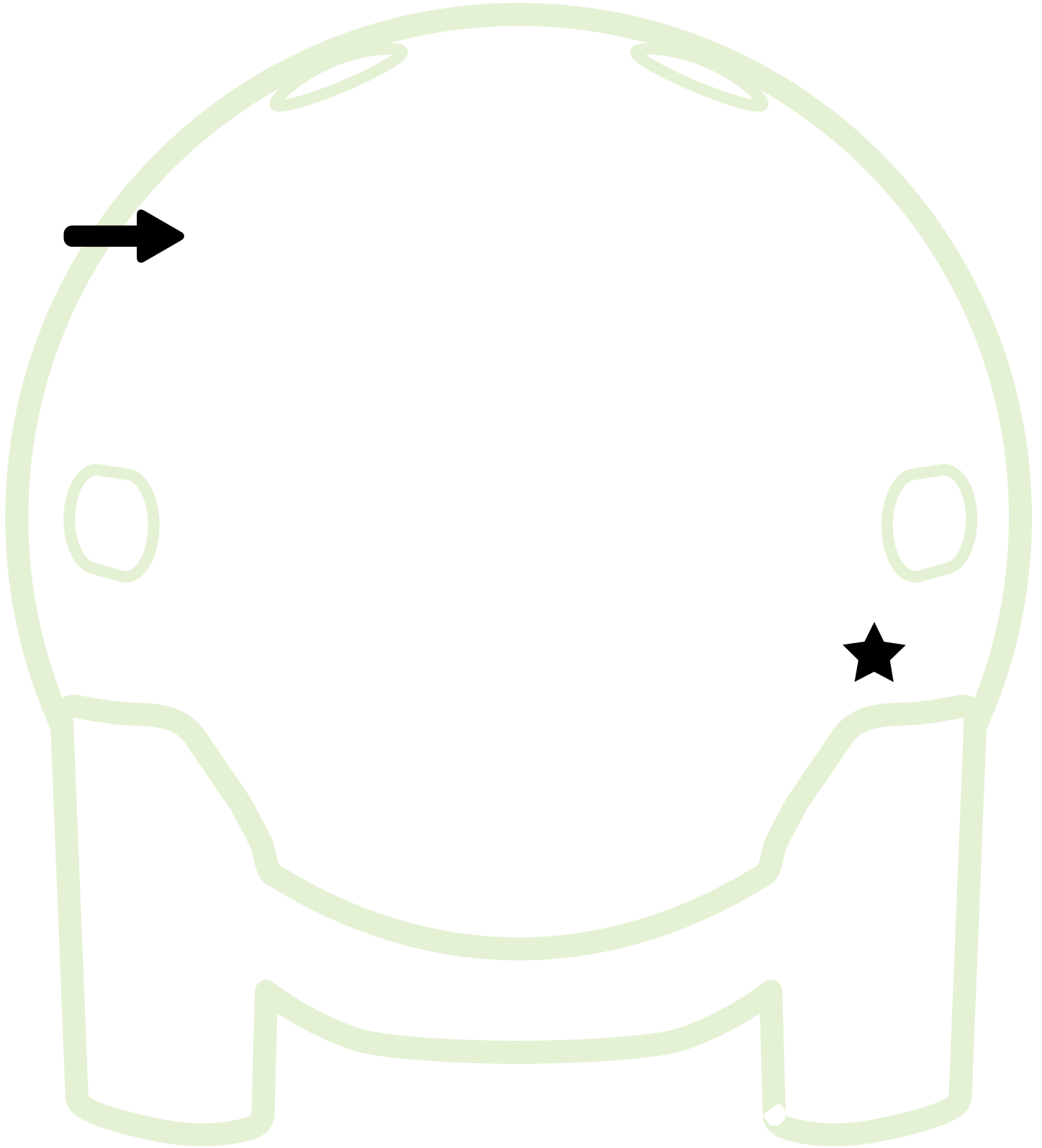
# Dot is a "maze"ing!



**DON'T FORGET TO SHARE!**

Share a photo of your maze with us on Twitter [@WonderWorkshop](#)  
with the hashtag [#FunWithWonder](#).

# Design Your Own Maze!



**DON'T FORGET TO SHARE!**

Share a photo of your custom designed maze with us on Twitter [@WonderWorkshop](https://twitter.com/WonderWorkshop) with the hashtag [#FunWithWonder](https://twitter.com/hashtag/FunWithWonder).