

# WINTER WONDERLAND

## Up for a Challenge?

### Dashing Through the Snow!

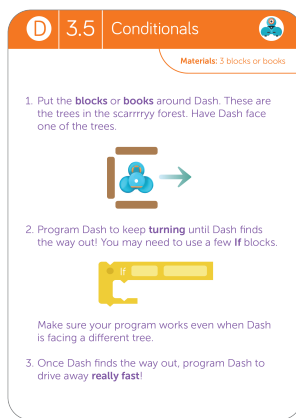
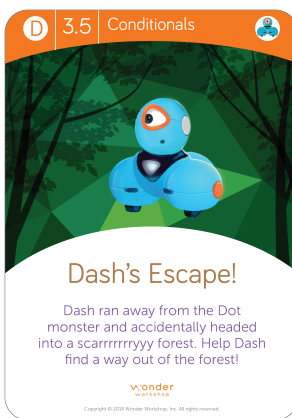
#### MATERIALS



Dash robot



Blockly app



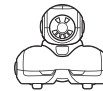
Dash Challenge Card D 3.5

#### STEPS

- 1 Use the "Follow the Leader" Dash Challenge Card to create a sequence of commands for Dash.
- 2 Open the Blockly app on your compatible device\* and create a new program.
- 3 Follow the instructions on the Challenge Card by dragging the block commands onto your screen. Connect them in order below the START block.
- 4 Press the green PLAY button to test your program.

### What Can You Do with Cue?

#### MATERIALS

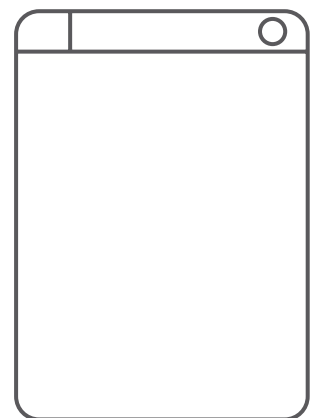
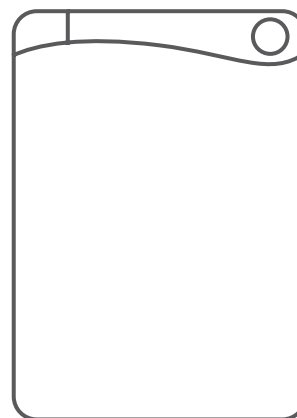


Cue robot



Cue app

Painter's tape



Blank Challenge Card

#### STEPS


- 1 Take a look at the "Follow the Leader" Dash Challenge Card.
- 2 Create your own Challenge Card outlining a similar robot activity using conditionals for Cue.
- 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 the Cue app on your compatible device\*.
- 5 Share away!

Record a video of Dash or Cue running your program successfully.

Share your video on Twitter @WonderWorkshop with the hashtag #FunWithWonder.

Cut out the Dash Challenge Card and fold in half or glue back to back.

D
3.5
Conditionals



## Dash's Escape!

Dash ran away from the Dot monster and accidentally headed into a scarrrrrryyy forest. Help Dash find a way out of the forest!

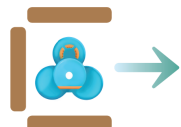
v:onder  
workshop

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D
3.5
Conditionals

**Materials:** 3 blocks or books

1. Put the **blocks** or **books** around Dash. These are the trees in the scarrrryy forest. Have Dash face one of the trees.



2. Program Dash to keep **turning** until Dash finds the way out! You may need to use a few **If** blocks.



Make sure your program works even when Dash is facing a different tree.

3. Once Dash finds the way out, program Dash to drive away **really fast**!

Design your own Challenge Card. Cut and fold/glue when you are done.

# Now Let's Get Creative!

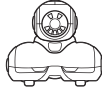
Put your creative design skills to the test by creating an ice maze, then challenge a friend or family member to solve it by navigating through it with Dash or Cue. Make sure you have a start and finish spot identified, and don't forget to test it out first to make sure that it is actually solvable.

## MATERIALS



Dash

OR



Cue



Blockly app

OR



Wonder app

Painter's tape, blocks,  
markers with butcher paper

## STEPS

- 1 To create a maze, begin with the finish. Create a 30-centimeter square.
- 2 Now center a larger 90-centimeter square around the finish square.
- 3 Continue centering larger squares around the last: add a 150-centimeter square, a 210-centimeter square... make your maze as large as you want.
- 4 Lastly, go back and remove part of each square's lines as "openings" within the maze and add perpendicular lines to block off the paths in various spots. You may want to test out the routes to make it as easy or complicated as you want.
- 5 Don't forget to add a starting point!

## LEVEL UP!

Consider designing your maze to be in a circular shape or make it more freeform.

Could you add various finishes worth different points?

## VOCABULARY

**Conditional** A statement that only runs under certain conditions.

Record a video of Dash or Cue running your program successfully.

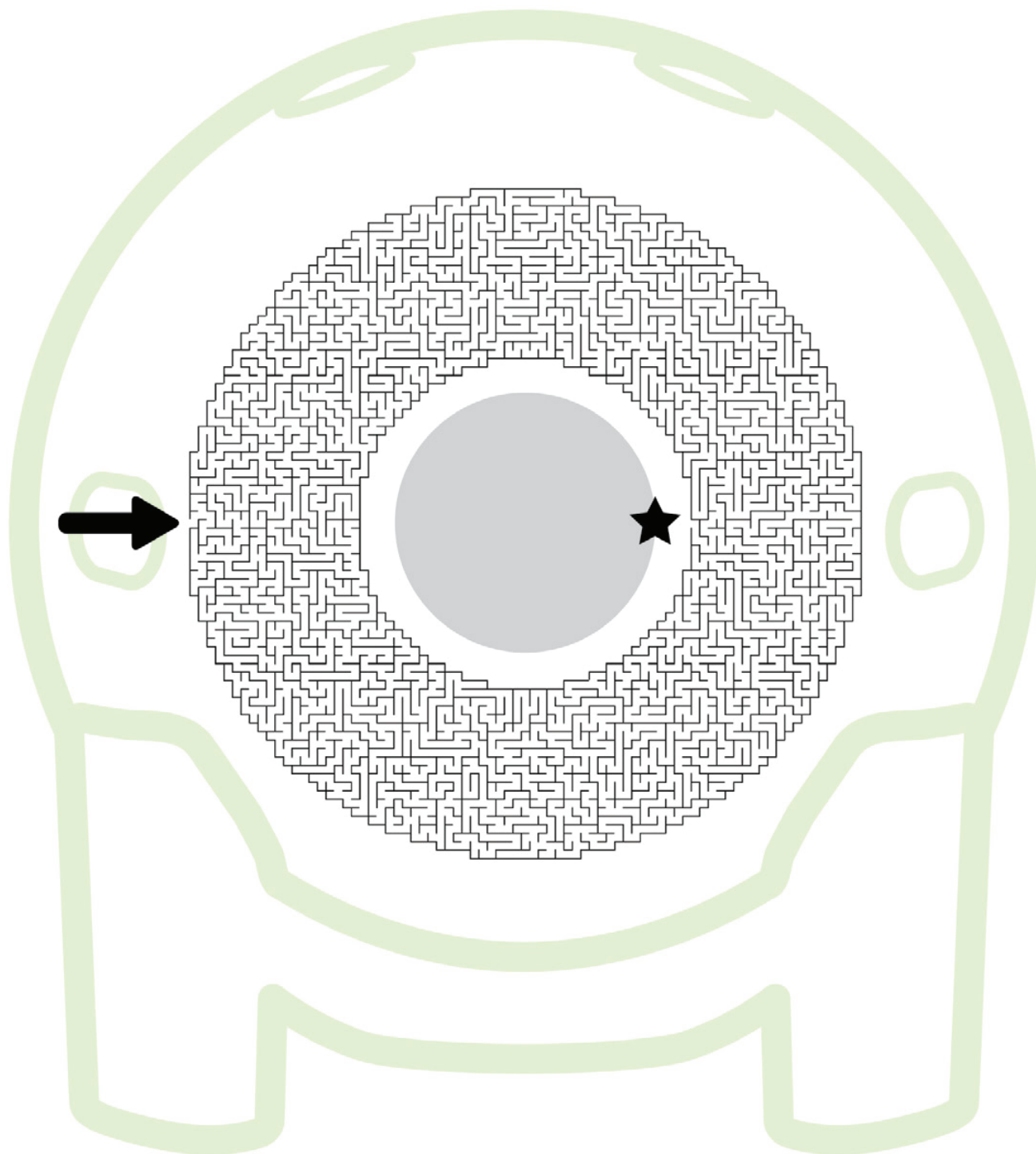
Share your video on Twitter @WonderWorkshop with the hashtag #FunWithWonder.

# Dot is a-maze-ing!

Want to unplug for a while? Dot wants in on the fun! Put your problem-solving skills to the test with this (eye)ball of a maze. Can you "see" a way to the finish? Remember to fail forward and don't give up!

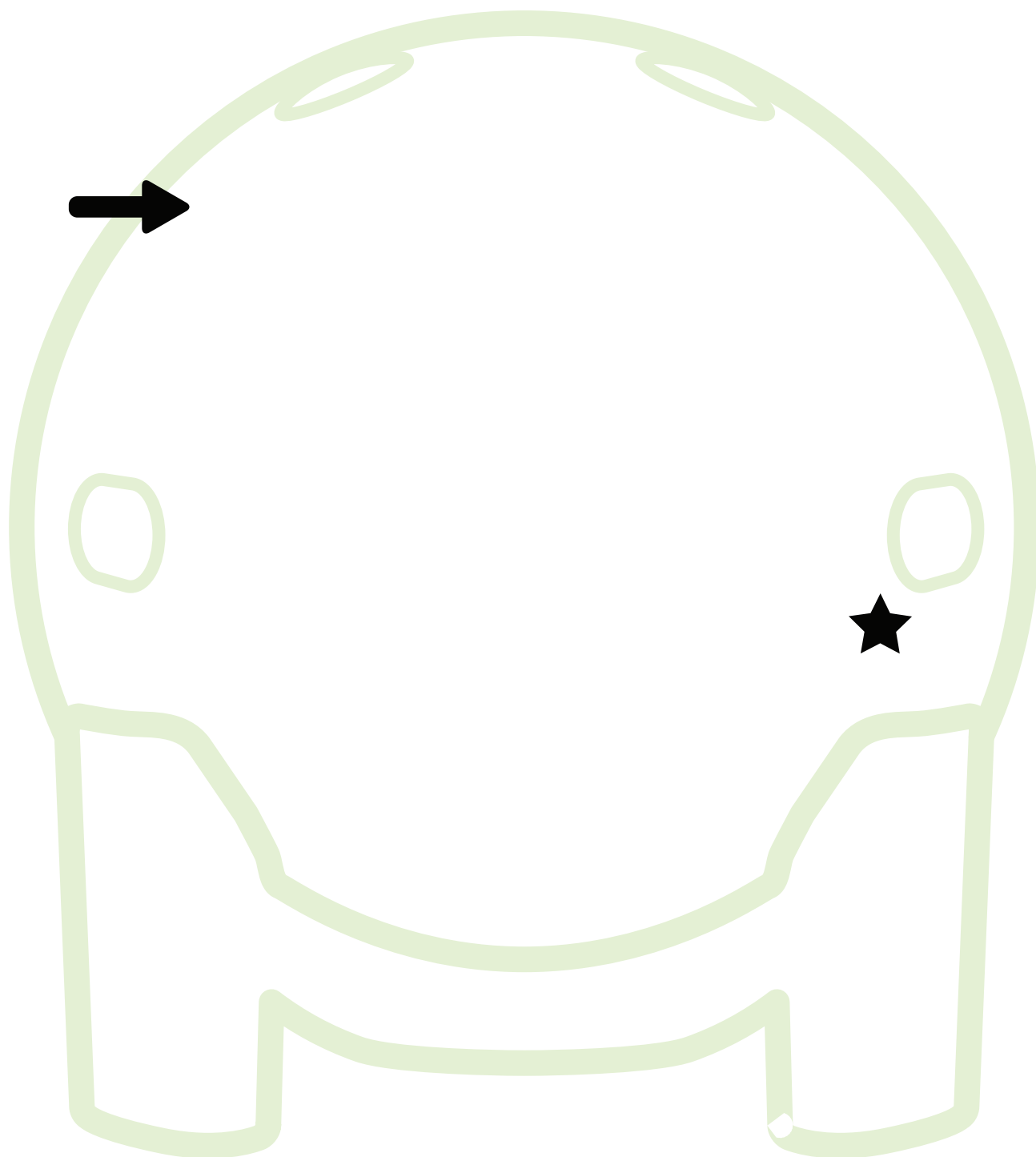
When you are done, try creating your own maze on page 5. How difficult will you make it?

Will you begin from the start or work backwards from the finish?



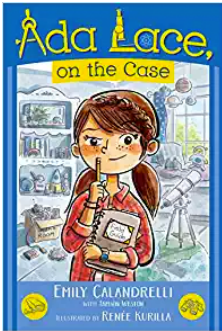
**Want more free resources?**

# Design Your Own Maze!



Want more free resources?

# Recommended Reading



## Ada Lace, on the Case (An Ada Lace Adventure)

by Emily Calandrelli

Take a look at our recommended book.

Have it heard about it before?

Do check out our other recommended picture and chapters books that have to do with coding and robotics at:

[www.makewonder.com/blog/stem-recommended-reading-list](http://www.makewonder.com/blog/stem-recommended-reading-list)

How many books on the list have you read?

Color in our robot's eye to show how many books you've read:



## ❄️ FUN FACT ❄️

The Ford Motor Company was the first to use robots in their production line, back in 1961.

Want more free resources?

Go to [www.makewonder.com](http://www.makewonder.com) to discover more activities and lesson plans, plus special savings!