

Wonder League

Mini Mission #1

Up for a Challenge?

Ready to Dash into It?

MATERIALS:

- Dash robot
- Blockly app
- Dash Challenge Card (p. 2)



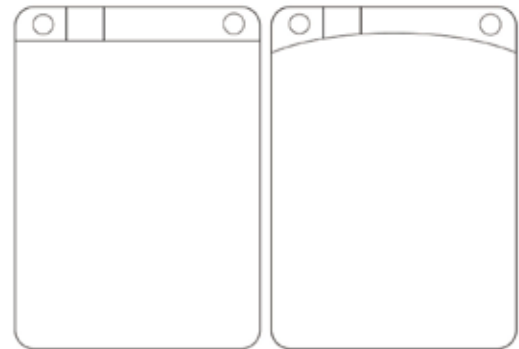
STEPS:

1. Use "Ready, Set, Go!" Dash Challenge Card to create a sequence of commands for Dash.
2. Open the Blockly app on your compatible device (www.makewonder.com/compatibility) 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
- Blank Challenge Card (p. 2)



STEPS:

1. Take a look at the "Ready, Set, Go!" Dash Challenge Card.
2. Create your own Challenge Card outlining a similar race challenge 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 (www.makewonder.com/compatibility), and create and test your challenge.
5. Share away.

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

1.1 Sequences 



Ready, Set, Go!


Dash is ready to go!
Let's wait for the green stoplight.
Then Dash can start the race!

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1.1 Sequences 

1. First, the stoplight is **yellow**. Use this block to make Dash turn yellow:




2. Now make Dash turn **red**.



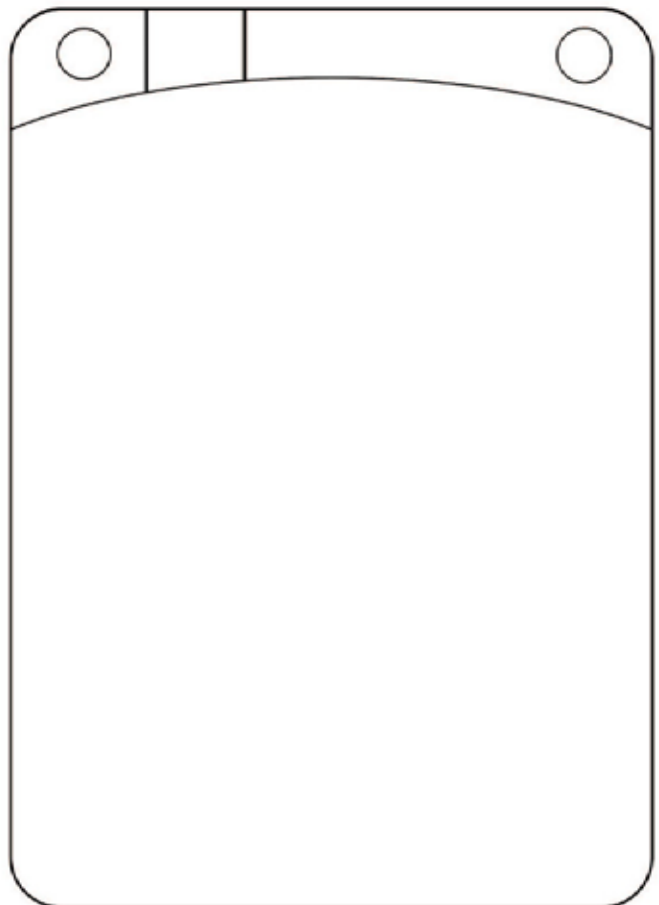
3. Now make Dash turn **green**.



4. Yes! Now Dash can go! Let's add a **Race** animation.



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



Now Let's Get Creative!

In Wonder League it's important to showcase your own spin on things. What better way to do that with your own song. Next, attach the Xylophone attachment to Dash (see directions: www.makewonder.com/play/setup/xylophone). Pair your device with your robot and then calibrate the head mallet per the app's instructions. Use the following sheet music to program the song "Here Comes the Sun" in honor of the upcoming summer days.

What might some dance moves be?

Want to harmonize with Cue? Cue has 30-second recording capabilities. Record yourself singing the song lyrics below. Sequence your sound clips in the Cue app with the WAIT command as needed. Then, as your program runs, play an instrument along with Cue's singing. Or, you could record a beatbox drum track, and sing along as Cue runs your rhythmic program. Try programming Cue's LEDs for some visual effects -- can you make them count the beats in a measure?

The image shows three staves of sheet music for the song "Here Comes the Sun". Each staff begins with a treble clef and a wavy line representing a xylophone. The notes are represented by colored dots on the staff lines. The first staff contains the lyrics "Here comes the sun, doo da doo doo". The second staff contains "Here comes the sun, and I say,". The third staff contains "It's all right." The dots are colored purple, blue, teal, yellow, and orange.

Here comes the sun, doo da doo doo

Here comes the sun, and I say,

"It's all right."

*Tip: Search online for free sheet music and lyrics!

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

Time to Go Offline!

Want to unplug for a while? Help Dash and Cue find their surfboards! Have some fun offline with these printable coding challenges. Follow the sequence of commands to move Dash across the beach (p. 5). If you are using Cue, work backwards to create your own sequence of commands on the blank mat, "Cueing Up Some Summer Fun!" (p. 6).

Dashing into Summer Training!

Help Dash cross the beach to get to the surfboard!

- Move Dash two blocks to the right. Draw a palm tree. What are the coordinates? _____
- Move Dash one block down and one block to the right. Color the block blue.
- Move Dash one block to down and three blocks to the left. Draw a sand castle.
- Move Dash two blocks to the right, one block down, and one block to the right.
- Did you reach the surfboard? Draw Dash on the surfboard. Hang ten!

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Cueing up for Summer Training!

Design a summer-themed challenge for Cue! Work backwards from the surfboard and write instructions on the beach below that a robot can follow.

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

Dashing into Summer Training!

Help Dash cross the beach to get to the surfboard:



- Move Dash two blocks to the right. Draw a palm tree. What are the coordinates? _____
- Move Dash one block down and one block to the right. Color the block blue. _____
- Move Dash one block down and three blocks to the left. Draw a sand castle. _____
- Move Dash two blocks to the right, one block down, and one block to the right. _____
- Did you reach the surfboard? Draw Dash on the surfboard. Hang ten!

	A	B	C	D
1				
2				
3				
4				

Fun fact: Did you know that Leonardo da Vinci first sketched robots as "mechanized knights" back in 1495?

Dashing into Summer Training!

Design a summertime challenge for Cue. Work backwards from the surfboard and write directions on the lines below for a friend to follow.

	A	B	C	D
1				
2				
3				
4				

Fun fact: Did you know that the word "robots" was first used by a Czech playwright in his 1920 play, R.U.R., or Rossum's Universal Robots?

Up for a Challenge?

Recycling Robot!

MATERIALS:

- Dash robot
- Blockly app
- 3 18 oz. plastic cups
- Painter's tape
- Dash Challenge Card (p. 2)



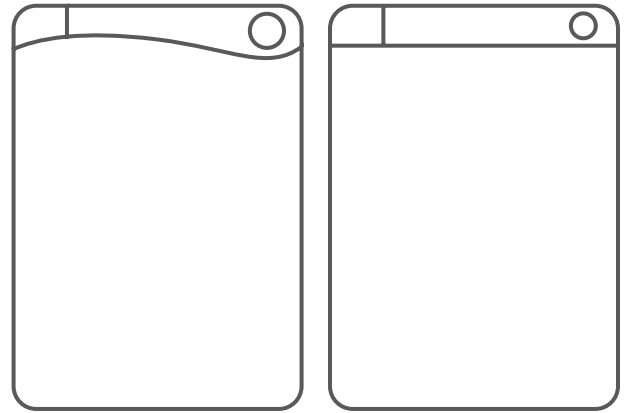
STEPS:

1. Use the "Recycling Rush" Dash Challenge Card to create a sequence of commands for Dash.
2. Open Blockly on your [compatible device](http://www.makewonder.com/compatibility) (www.makewonder.com/compatibility) 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
- 3 (or more) 18 oz. plastic cups
- Painter's tape
- Blank Challenge Card (p. 2)



STEPS:

1. Take a look at the "Recycling Rush" Dash Challenge Card.
2. Create your own Challenge Card outlining a similar recycling challenge using loops 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 Cue on your compatible device.

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

Challenge Cards

2.2 | Loops



Recycling Rush

Someone left some empty cups on the lake shore. Dash needs to take them to the recycling center.

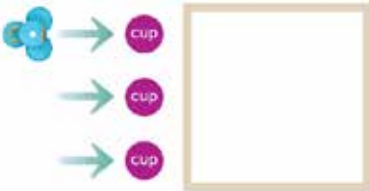
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2.2 | Loops

Materials: 3 cups, tape, ruler

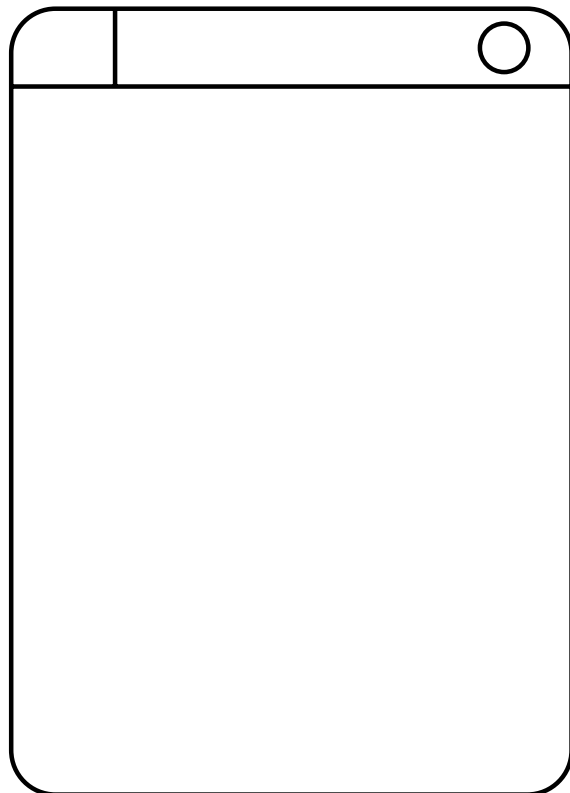
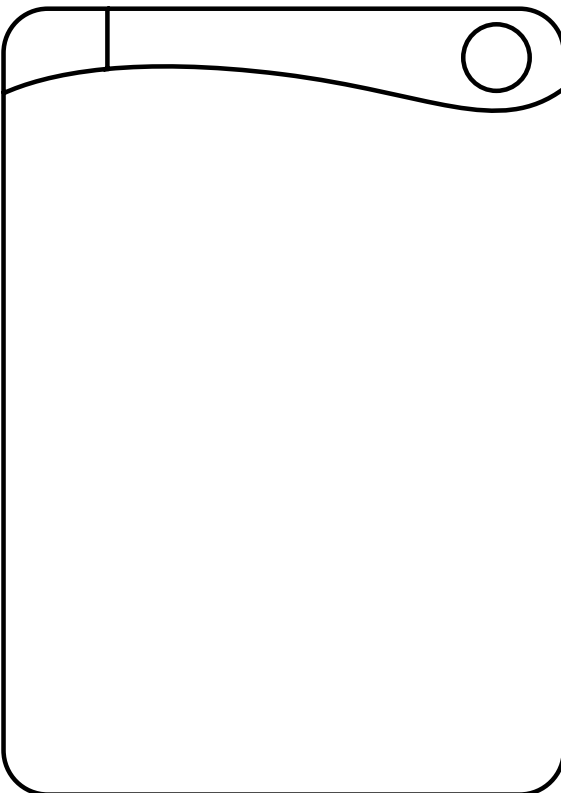
- Use **tape** to make a **square** on the floor. This is the recycling center. Place the **cups** in front of the recycling center.



- Program Dash to **push** all of the cups **into** the recycling center. You will need to use some of these blocks:



- Hint: To push all the cups into the recycling center, **repeat** these actions **3 times**.



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

Now Let's Get Creative!

Set and attachment design are essential in Wonder League. Get designing by helping Dash and Cue keep the beaches and lakes clean this summer. Design your own recycle bin and create a program that encourages people to recycle while having fun on summer vacation.

MATERIALS:

- Dash robot
- Blockly or Wonder app
- [Launcher accessory](#)
- DIY materials such as tape, cups, cardboard, scissors, baskets, etc.

Dash Launcher attachment help:

<https://www.makewonder.com/play/setup/launcher>



STEPS:

1. Create a recycle bin or basket out of DIY materials and place it on the ground. See our video on our Summer of Wonder Inspiration page (www.makewonder.com/summer-inspiration).
2. Use the painter's tape to mark three different spots near the basket, from which Dash can "throw" the recyclables into the bin.
3. Program Dash to move to each spot and try to "throw" the recyclables (the Launcher balls or other items such as aluminum foil balls, bottle caps, etc.) into the bin.
4. Remember to try to use loops in your program if you are repeating the same command multiple times.
5. Create a scoring system. How many points will you award for cleaning up quickly, for recycling several pieces, or for throwing successfully into the bins from afar?

MATERIALS:

- Cue robot
- Cue app
- Painter's tape
- "Trash" and "recyclables" (small cups, balls, bottle caps, small toys, etc.)
- Cue's Building Bricks (optional)
- DIY materials for attachment (LEGOs, popsicle sticks, rubber bands, cardboard tubes, etc.)

STEPS:

1. Use the painter's tape to create a 3x3 grid of 30-cm squares on the ground.
2. Designate one square as the Recycling Center and pick another as the Dump.
3. Gather items (upside-down cups, balls, small toys, bottle caps, etc). Decide which are recyclable and which are trash. Scatter the items throughout the other four squares.
4. Build an original attachment for Cue to collect the "recyclables" and move them to the Recycling Center, and then gather the "trash" and bring it to the Dump. Will your attachment push, grab, or pick up the items?
5. Write a program using loops to have Cue move around the grid to pick up and sort the recyclables and the trash.

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

Vocabulary

Loop: a command used to repeat a portion of code until a desired process is complete.

Time to Go Offline!

Want to unplug for a while? Build your own robot!
Let's build a robot out of recyclable materials you can find around the house.

KEEP AN EYE OUT FOR:

- Paper towel or toilet paper rolls
- Aluminum or tin cans (no sharp edges)
- Plastic and paper cups
- Empty cereal boxes
- Plastic food containers
- Bottles and their caps, etc.

Use the activity sheets on pages 5 and 6 to design and plan your robot. Then, use glue or tape to engineer your materials into a robot masterpiece!

When you are finished building, write a story about your robot and its summer adventures.



FUN FACT:

The first known robot in recorded history was created in the 5th century B.C. by Archytas of Tarentum. He created mechanical doves.

Design Your Own Robot!

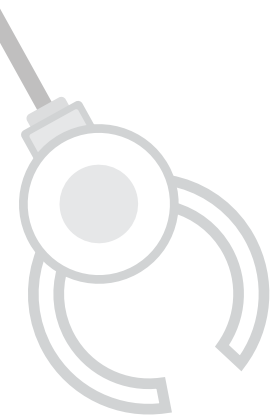
MATERIALS

List the recyclable materials you found around your house here:



DESIGN PLAN

Sketch a design for your robot using the materials you have found:



DON'T FORGET TO SHARE!

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

Write About It

Write a story about your robot in the space below.

What is your robot's name?

Does your robot have a job?

What kind of adventures does it go on?



DON'T FORGET TO SHARE!

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

Up for a Challenge?

Robot Race!

MATERIALS:

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



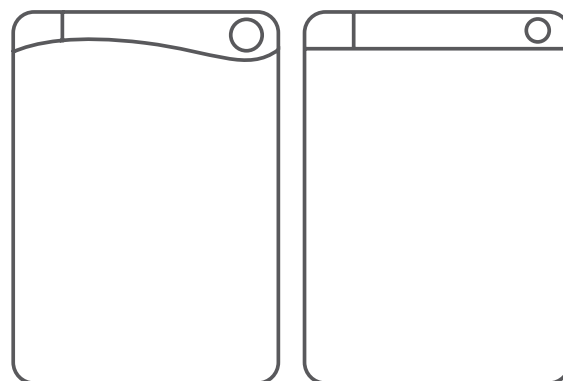
STEPS:

1. Use the "On Your Mark" Dash Challenge Card to create a sequence of commands for Dash.
2. Use painter's 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 the Cue app 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 #WonderLeague.


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.

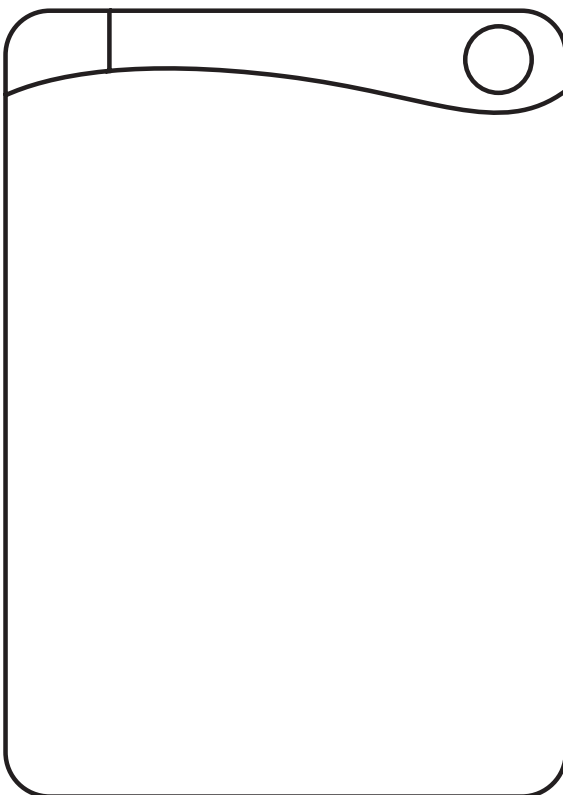

2. Now let's get this race started! Start Dash's **car engine**.


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 [#WonderLeague](#).

Now Let's Get Creative!

Wonder League requires you to think outside the box and rethink how things could work. 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, Wonder, or the Cue app 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!

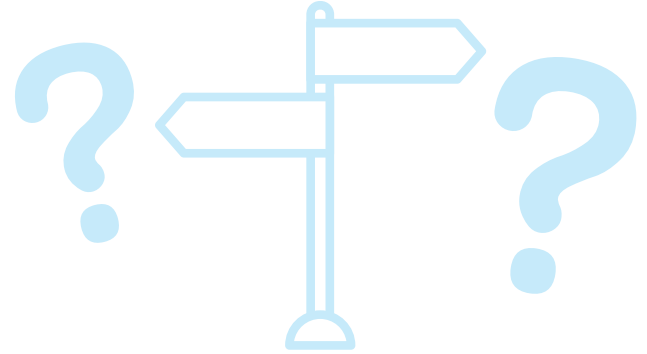
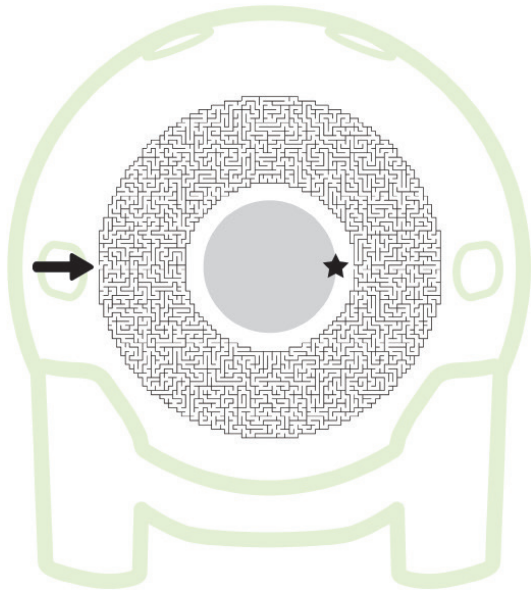
Record your robot bowling a strike and share your video with us on Twitter [@WonderWorkshop](https://twitter.com/WonderWorkshop) with the hashtag [#WonderLeague](https://twitter.com/WonderLeague).

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?

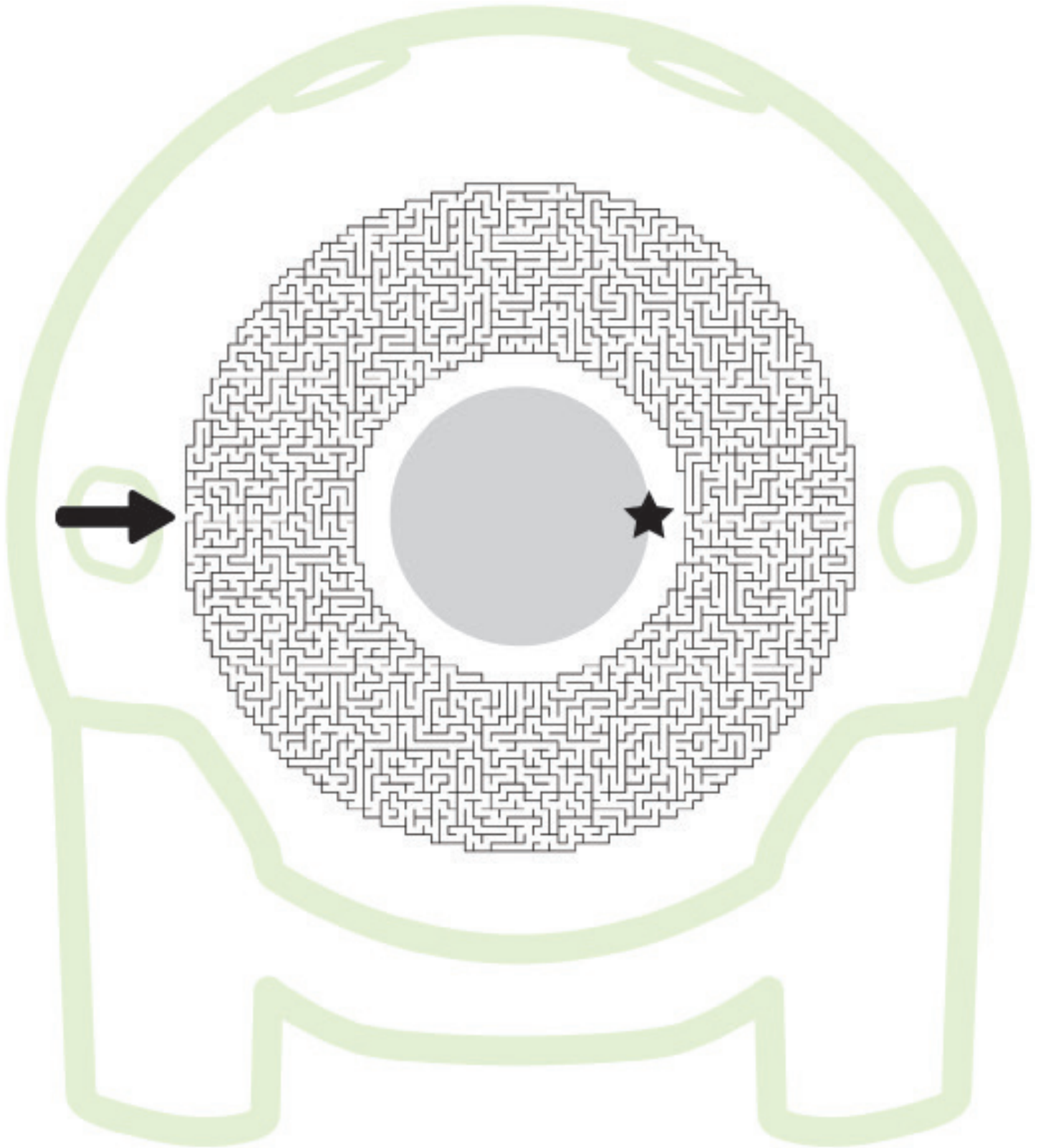
Use the activity sheets on pages 5 and 6.
Remember to fail forward and don't give up!

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?

FUN FACT:

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

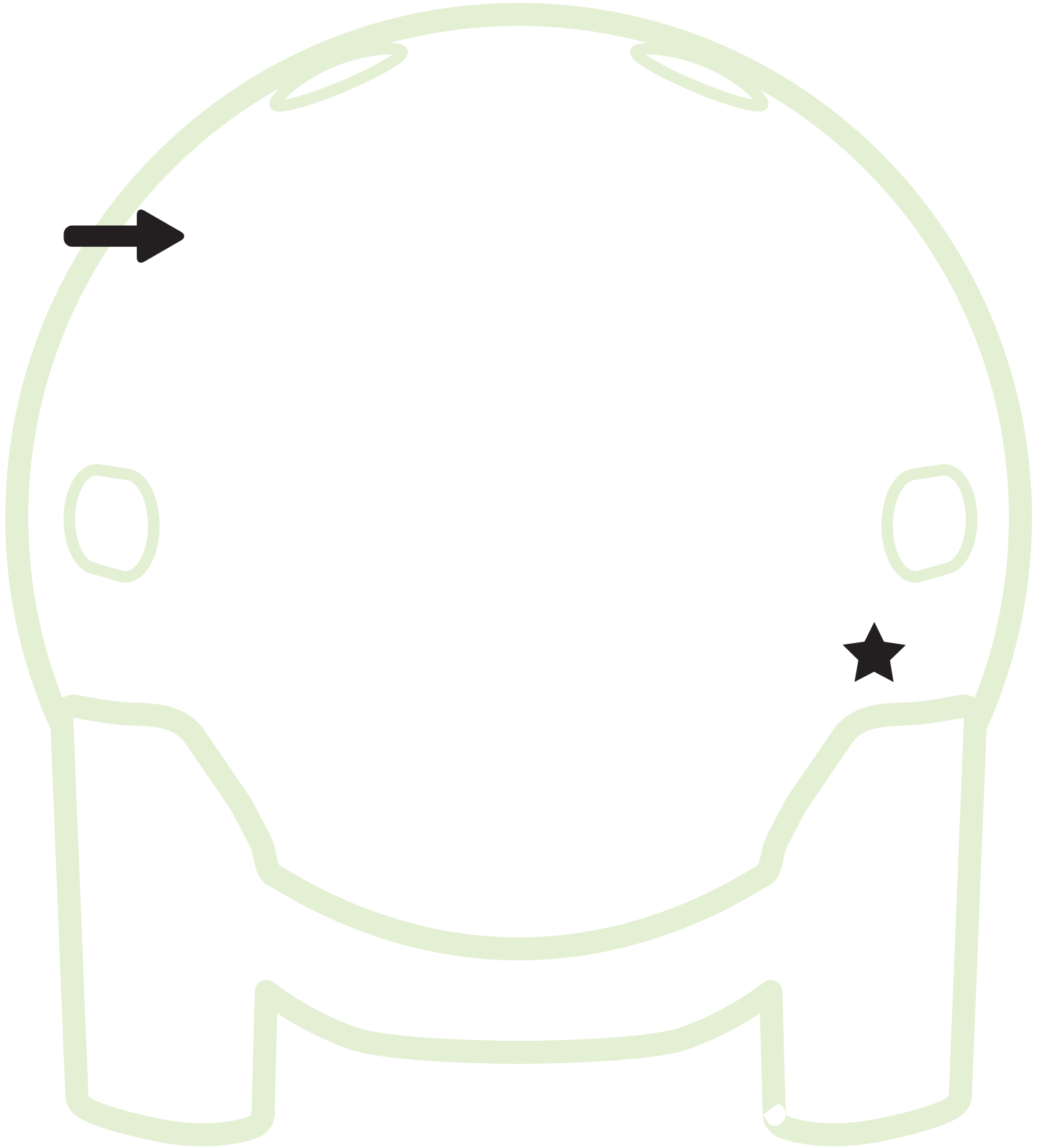
Dot is a-maze-ing!



DON'T FORGET TO SHARE!

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

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 [#WonderLeague](https://twitter.com/WonderLeague).

Up for a Challenge?

Follow the Leader!



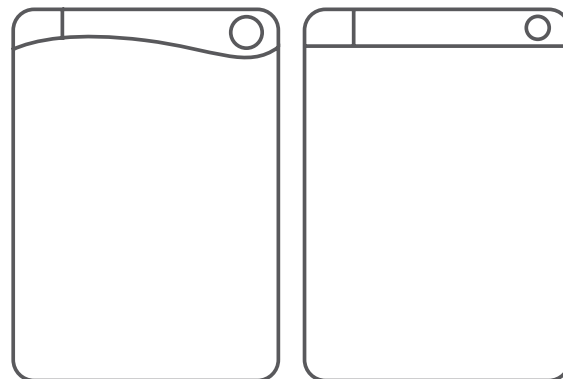
MATERIALS:

- Dash robot
- Blockly app
- Dash Challenge Card (p. 2)

STEPS:

1. Use the “Follow the Leader” Dash Challenge Card to create a sequence of commands for Dash.
2. Open Blockly on your [compatible device](http://www.makewonder.com/compatibility) (www.makewonder.com/compatibility) 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 (p. 2)

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](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](https://twitter.com/WonderWorkshop) with the hashtag [#WonderLeague](https://twitter.com/WonderLeague).

Challenge Cards

4.4 | Conditionals 




Follow the Leader

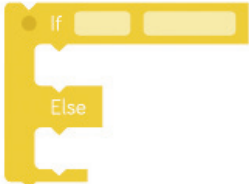
Dash wants to play Follow the Leader.
Lead the way, Dash!





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4.4 | Conditionals 


1. Dash wants you to follow! Add an **If/Else** block.




2. If Dash senses you are following, Dash will **drive 50 cm forward** really fast.

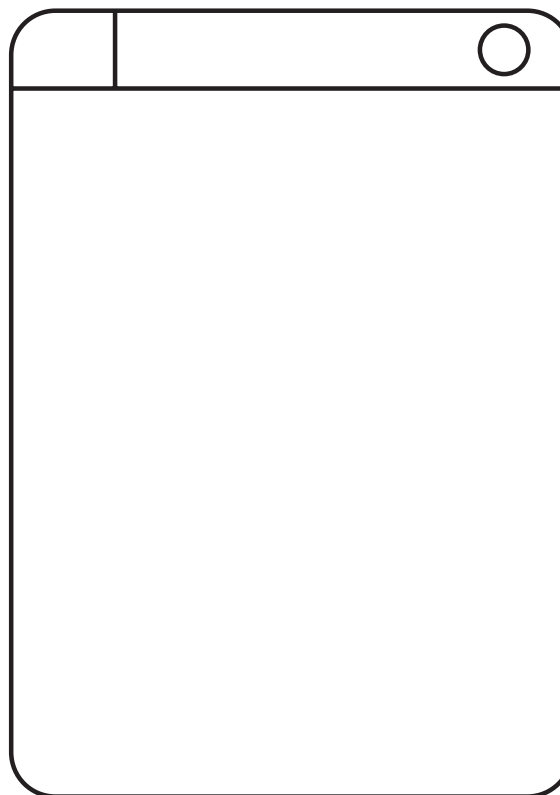
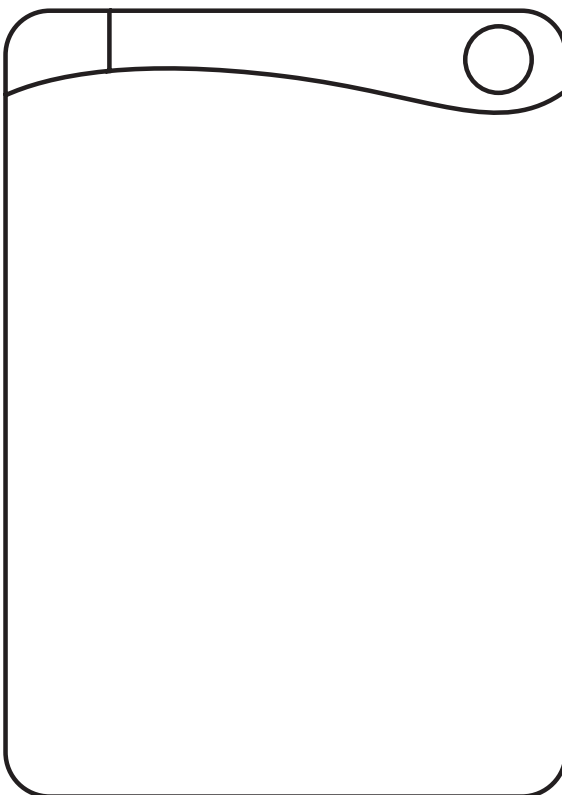
 

3. If Dash **does not** sense you following, Dash will **wait** until you get closer.



4. Put your entire program in a **Repeat Forever** block.

 Have Dash make **turns and spins** for you to follow.



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

Now Let's Get Creative!

Imagination and design goes a long way in Wonder League. Use your coding skills to create a fashion show for Dash or Cue! Dress them up in the finest robot fashions and program a runway walk. Use craft materials or LEGOs to outfit your robot. Then use the Path, Blockly, Wonder, or Cue app to program Dash or Cue to move down the runway and back. Be sure to add a little style and attitude to your walk!

STEPS:

1. Create a "runway stage" with painter's tape or blocks.
2. Create costumes for Dash or Cue using a variety of craft materials.
3. Program your Dash or Cue using Path, Blockly, Wonder, or the Cue app to show off their costume with a creative runway walk.
4. Make sure to add lots of turns, and maybe even a little dance animation or two. Want more flair? Add some lights and sound! Show off your robot's personality.
5. Use a clap, voice command, or other event to run your program.
6. Don't forget about Dot! Dot would make the perfect fashion show host! You can program Dot to do a light show, cheer, or announce the next robot model to take a roll down the runway.



MATERIALS:

- Dash or Cue robot (Dot robot optional)
- Path, Blockly, Wonder, or Cue app
- Crafting materials: fabric scraps, construction/scrapbook paper, pipe cleaners, pom poms, stickers, etc.
- Scissors, (double-sided) tape and/or stapler
- Building Brick Connectors and LEGOs
- Painter's tape or cardboard/wooden blocks to outline the runway

LEVEL UP!

Create a uniquely shaped runway, maybe in the shape of a "T," a "U," or a "+" sign. Use blocks or small cardboard boxes to "fence in" the runway. Use the "IF" programming blocks (you may need more than one) to program your robot to sense the runway's end and then keep turning until it has a clear runway path again.

Record your robot making its fashion show debut and share your video with us on Twitter [@WonderWorkshop](#) with the hashtag [#WonderLeague](#).

Vocabulary

Conditionals: Statements that only run under certain conditions.

Time to Go Offline!

Want to unplug for a while? Dash and Cue are ready to strut their stuff on the runway! Put on your creative cap to design some show-stopping outfits for Dash or Cue. Design six different outfits for your robot. Need some inspiration?



Imagine Dash is going to an event on the moon; what should Dash wear? Or a ride into the Wild West? No problem! You can design the perfect adventure ensemble. And don't forget the accessories! Robots love hats and bags! Use markers, crayons, or colored pencils to design outfits for Dash and a summer collection for Cue, found on **page 5**.

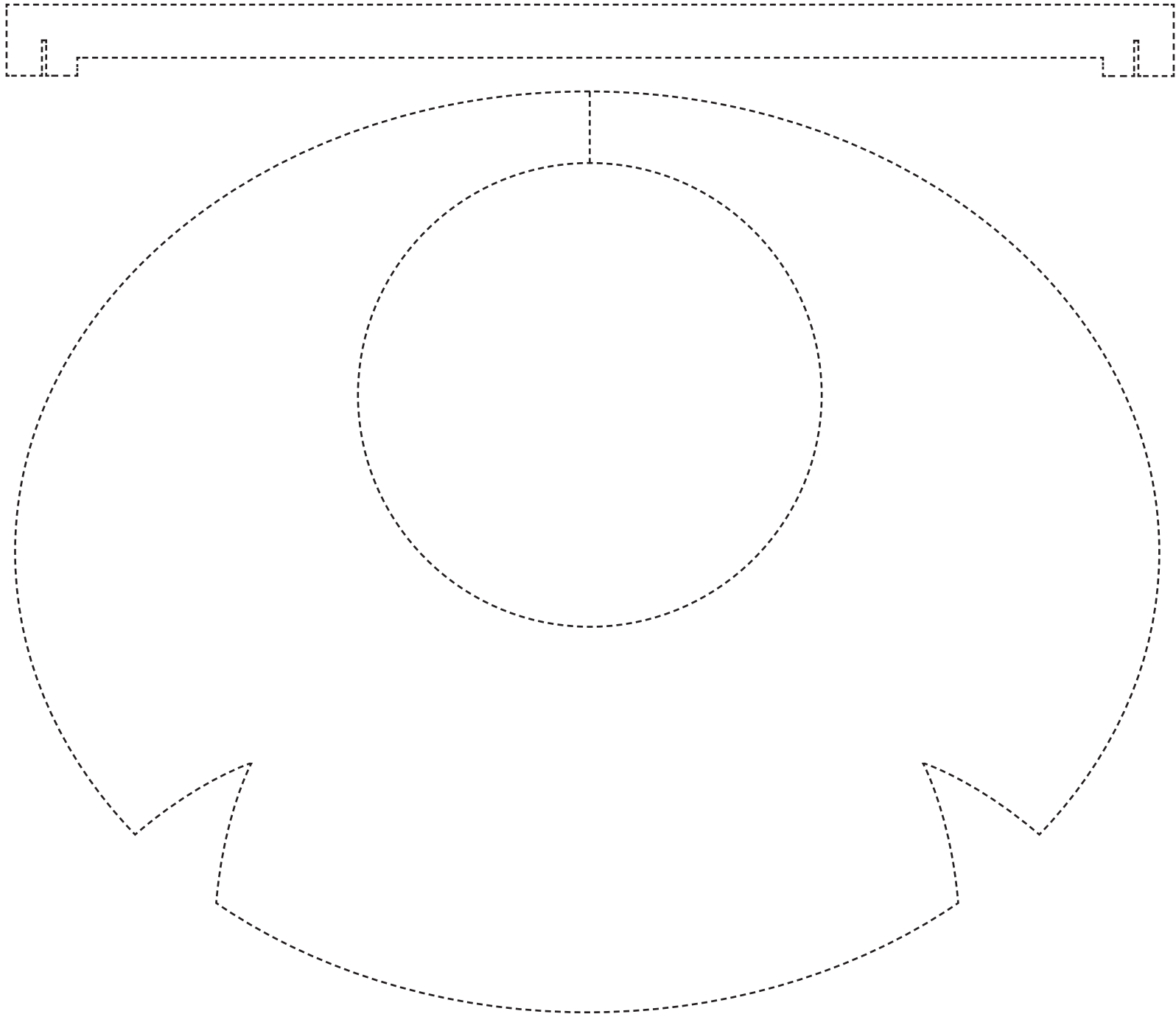
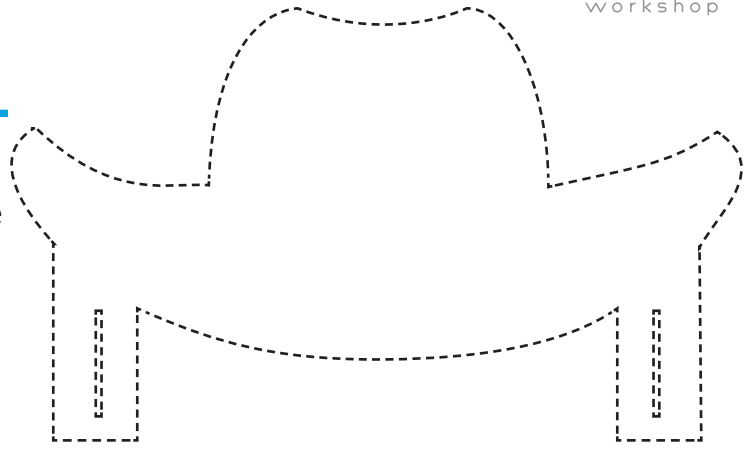


FUN FACT:

The size of the smallest robot is less than 1/1000th part of a millimeter. It is called nanobot.

Design Time!

Use the following templates to create a new look for Dash or Cue. Feel free to make multiple copies of these blank outlines to design even more. Use markers, crayons, or colored pencils to create your designs, and then cut out the outfits and use tape or a stapler to attach the outfits to your robots.



Up for a Challenge?

Dance Rehearsal



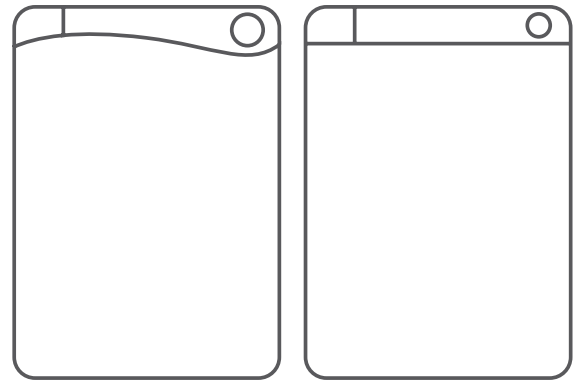
MATERIALS:

- Dash robot
- Blockly app
- Background Music
- Dash Challenge Card (p. 2)

STEPS:

1. Use the "Dance Rehearsal" Dash Challenge Card to create a sequence of commands for Dash.
2. Open Blockly on your [compatible device](http://www.makewonder.com/compatibility) (www.makewonder.com/compatibility) 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. Be creative when choreographing Dash's dance moves. Don't be afraid to use trial and error until it looks just right.
5. Press the green PLAY button to test your program. until it looks just right.

What Can You Do with Cue?



MATERIALS:

- Cue robot
- Cue app
- Background music
- Blank Challenge Card (p. 2)

STEPS:

1. Take a look at the "Dance Rehearsal" Dash Challenge Card.
2. Create your own Challenge Card outlining a similar robot dance using functions 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](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 #WonderLeague.

Challenge Cards

5.1
Functions

Dance Rehearsal

Dash is getting ready for the
Interstellar Dance Contest!
Let's create a dance move for
Dash to use in the contest.

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5.1
Functions

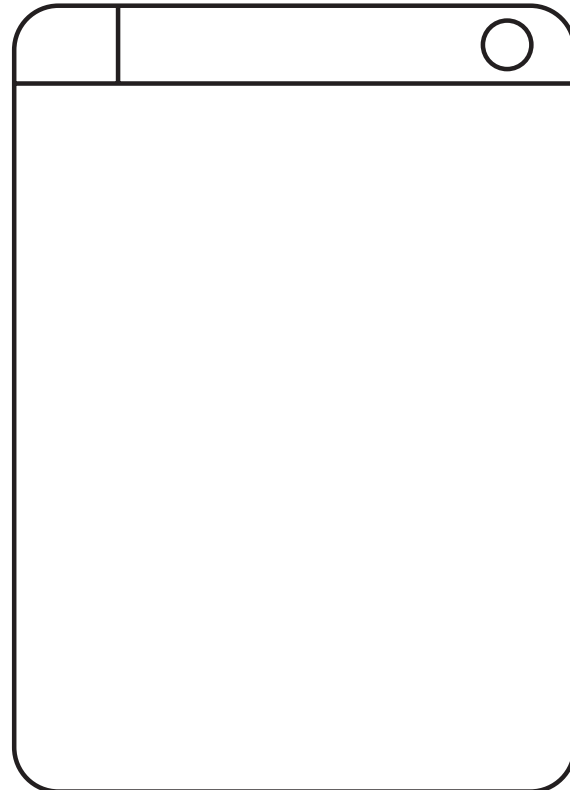
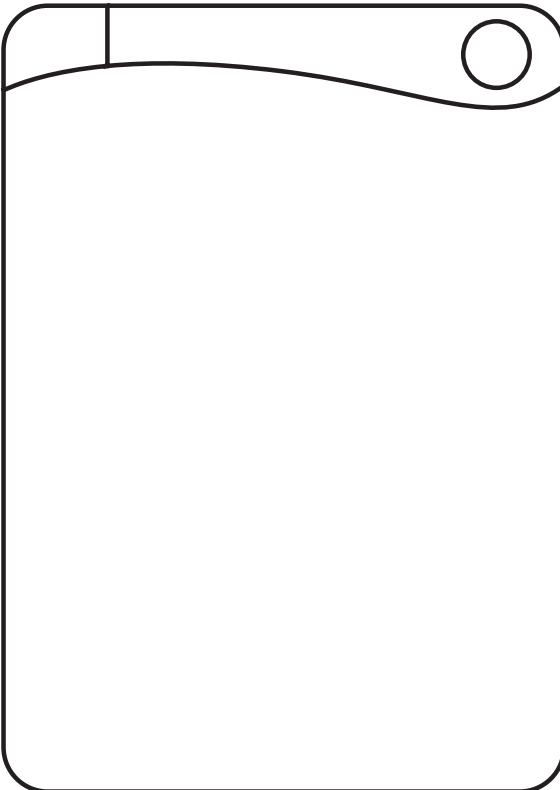
1. Use a **Function** block to make Dash's new dance.
2. What do you want Dash's dance to look like?
You can add blocks like these **inside the Function** block.

Forward

Set Wheel Speed
3. Under the **When Start** block, program Dash to do the dance **at least 2 times**.

Add **lights and sounds** to Dash's dance as well.

★ Use more **functions** to create new dance moves for Dash!



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

Now Let's Get Creative!

Costumes are a big part of Wonder League, as is creating videos to show off what your team has completed. Use your coding skills to create a music video for Dash or Cue! Pretend that Dash or Cue is starring in its first music video. Choose a song, or make your own, and choreograph a dance routine to go along with the song of your choice.



MATERIALS:

- Dash or Cue robot (Dot robot optional)
- Path, Blockly, Wonder, or Cue app
- Building Brick Connectors and LEGOs
- Fun summer song of your choice
- Sketch Kit (optional)
- Painter's tape
- Craft materials for costumes: fabric scraps, construction/scrapbook paper, tape, scissors, etc.

STEPS:

1. Designate a dance floor somewhere in your house, and mark out a square with painter's tape as the dance space.
2. Program Dash's dance moves using Path, Blockly, or Wonder. Use the Cue app to have Cue complete a dance routine to a song of your choice.
3. Be sure to get creative with lots of spins, head nods, and flashing lights!
4. Use a clap, voice command, or other event to run your program.
5. Record and share your dance routine when you think it is worthy of an MTV Music Video Award!

LEVEL UP!

Dash and Cue need a partner! Include Dot in the music video. Is Dot a background dancer flashing its lights to the music? Or can you build an attachment so that Dash or Cue can carry Dot throughout the routine? If you don't have Dot, try to find another dance partner (perhaps a doll, stuffed animal, action figure, or even you!).

LEVEL UP AGAIN!

Attach the Sketch Kit to Dash or Cue to create an illustration or design while your robot dances along to the music. What shapes can Dash or Cue create as they move across the a whiteboard mat dance floor?

Record your robot making its fashion show debut and share your video with us on Twitter [@WonderWorkshop](#) with the hashtag [#WonderLeague](#).

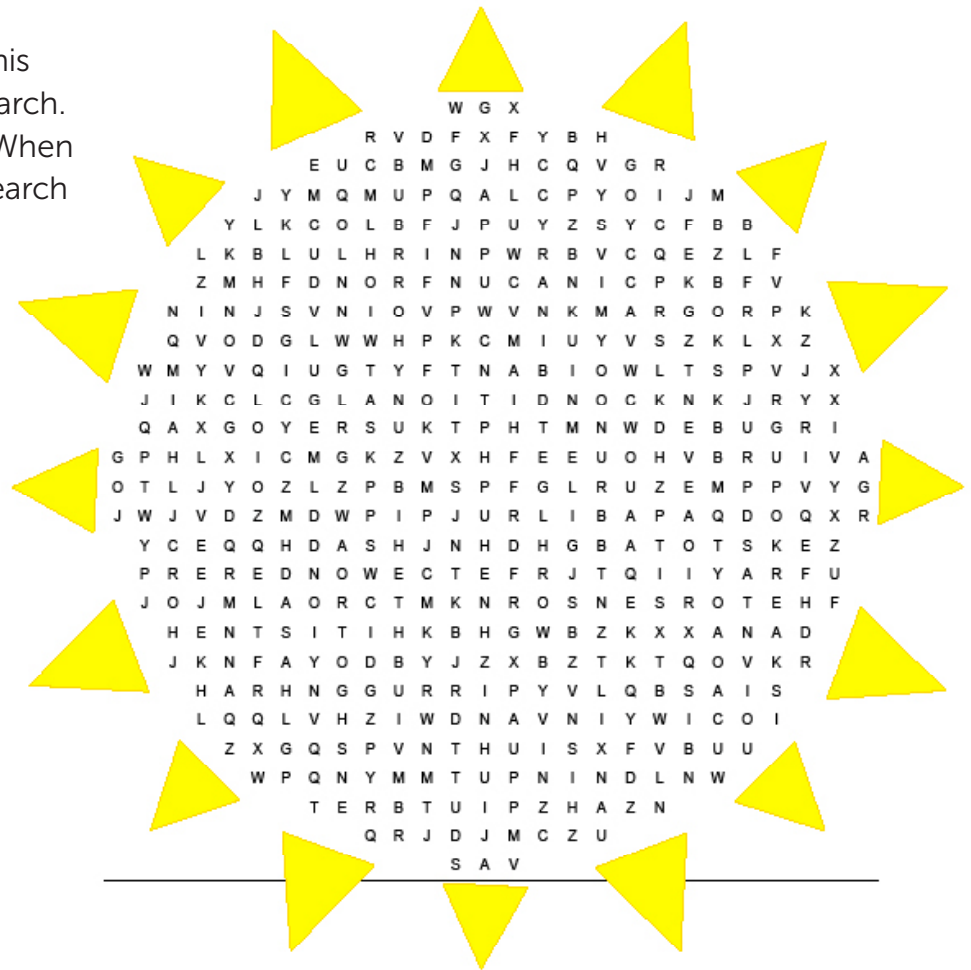
Vocabulary

Function: A function is a command that we get to invent and name. It allows us to break our program into smaller parts, making the program easier to understand.

Time to Go Offline!

Want to unplug for a while? Try this summer themed coding word search. How many words can you find? When you are finished, create a word search of your own on pg 5.

- | | |
|-------------|-----------|
| DASH | BLOCKLY |
| DOT | WONDER |
| CUE | FUNCTION |
| PROGRAM | EVENT |
| CODE | SENSOR |
| DEBUG | INPUT |
| CONDITIONAL | ITERATION |
| LOOP | RUN |
| BINARY | VARIABLE |



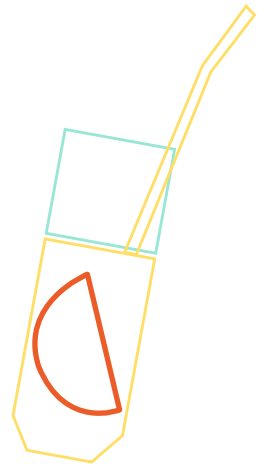
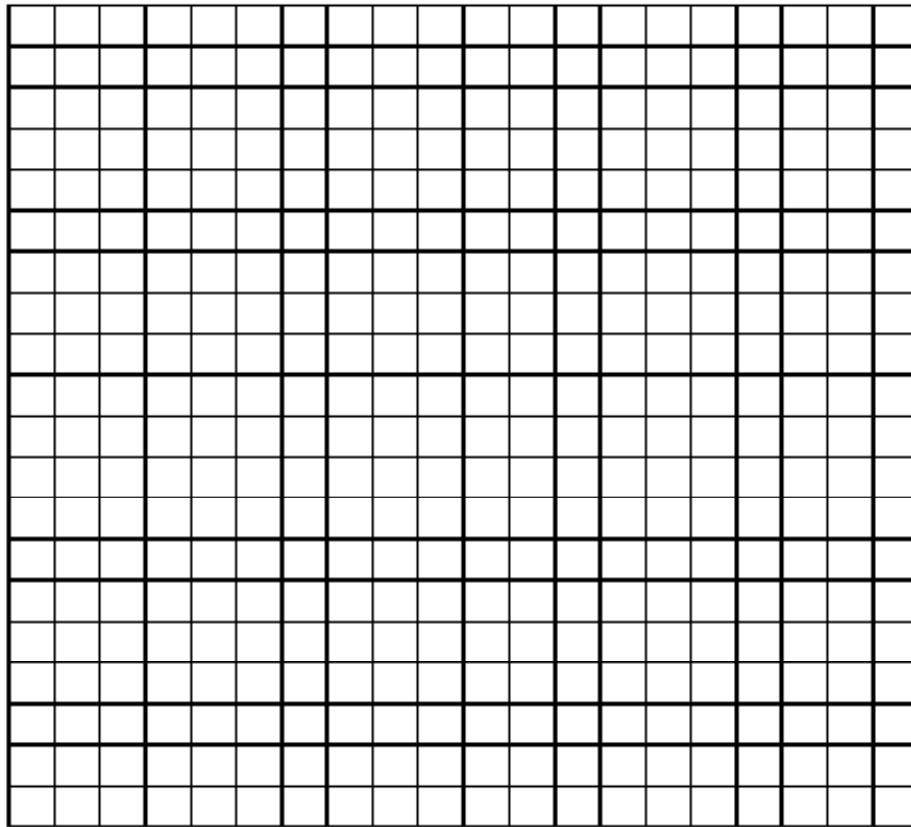
FUN FACT:


The first working robot made cars as part of the production line at car giant Ford, back in 1961.


Create Your Own Word Search


Use this Code.org [glossary](https://code.org/glossary)
<https://code.org/curriculum/docs/k-5/glossary>
to help you add words to your puzzle.


Place your favorite coding words in the blank
template provided. Remember, you can make
the words go across, down, backwards, and
diagonally. Fill in the remaining boxes with
random letters of your choice.





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Up for a Challenge?

Road Trip



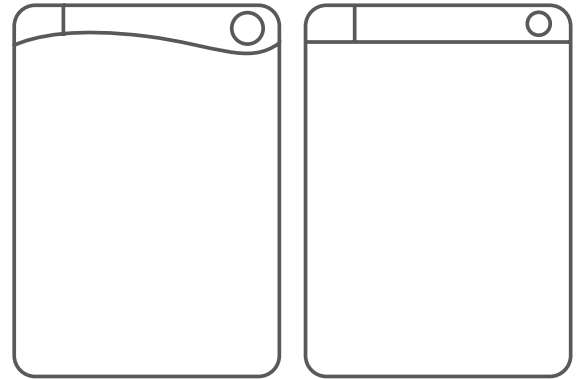
MATERIALS:

- Dash robot
- Blockly app
- Dash Challenge Card (p. 2)

STEPS:

1. Use the "Road Trip" Dash Challenge Card to create a sequence of commands for Dash.
2. Open Blockly on your [compatible device](http://www.makewonder.com/compatibility) (www.makewonder.com/compatibility) 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. Be creative and add your own animations or sounds/voice recordings along the way.
5. Press the green PLAY button to test your program.

What Can You Do with Cue?



MATERIALS:


- Cue robot
- Cue app
- Blank Challenge Card (p. 2)


STEPS:

1. Take a look at the "Road Trip" Dash Challenge Card.
2. Create your own Challenge Card outlining a similar robot road trip using variables 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](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 #WonderLeague.


Challenge Cards

6.1 | Variables 









Road Trip!

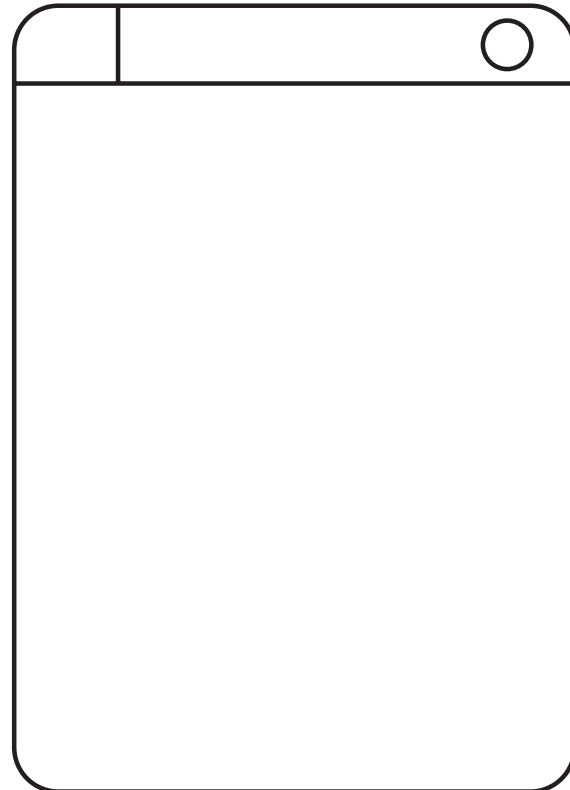
Dash needs to get to the gas station to fill up before a big road trip!



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6.1 | Variables 

- To get to the gas station, Dash first needs to **drive 65 cm**. To drive a specific distance, **set a variable to 65**.
 
- Then have Dash **drive** that distance.
 
- Almost there! Now program Dash to make a **45-degree left turn**.
 
- Finally, Dash needs to **drive 35 cm**. What blocks should you use?
 

- Add some **animations** for when Dash arrives at the gas station!



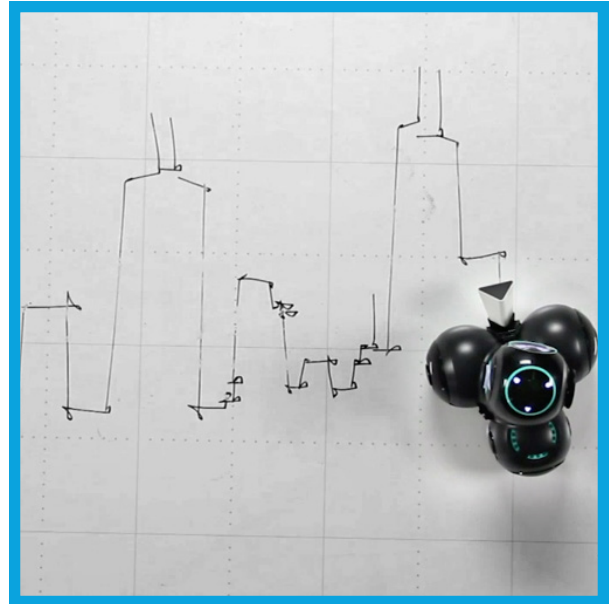
Record a video of Dash or Cue running through your program successfully. Share your video on Twitter [@WonderWorkshop](#) with the hashtag [#WonderLeague](#).

Now Let's Get Creative!

Art has always had a big impact in Wonder League. Use your coding skills and Sketch Kit to create a gallery of images showing places that Dash or Cue has visited on its summer road trip! Pretend that Dash or Cue has spent the summer traveling to different cities around the USA. Use Sketch Kit to program your robot to draw images from different cities or landmarks that the robot has visited. Has it visited the Golden Gate Bridge? Spent time admiring the New York skyline? How many places has your robot visited on its summer vacation?

STEPS:

1. Brainstorm different places for Dash or Cue to travel to on its summer vacation.
2. Use the planning form on p. 4 to designate vacation destinations for your robot, and sketch out landmarks that your robot may visit at each destination.
3. Once you have planned your robot's vacation adventure, choose your favorite 2 or 3 destinations to sketch using the Sketch Kit attachment for Dash or Cue.
4. Using Blockly or Wonder for Dash, and the Cue app for Cue, program your robot to draw something it may have seen at 2 or 3 different stops on its vacation.



MATERIALS:

- Dash or Cue robot
- Blockly, Wonder, or Cue app
- Sketch Kit
- Sketch Kit whiteboard mat or large butcher paper
- Device to take photos

LEVEL UP!

Record your robot sketching out its favorite landmarks, and put together a video scrapbook of his travels. You can use a simple video editing or slideshow app such as iMovie or Animoto to put your videos (or photos) together.

Make sure you share your vacation videos and sketches with us on Twitter [@WonderWorkshop](#) with the hashtag [#WonderLeague](#).

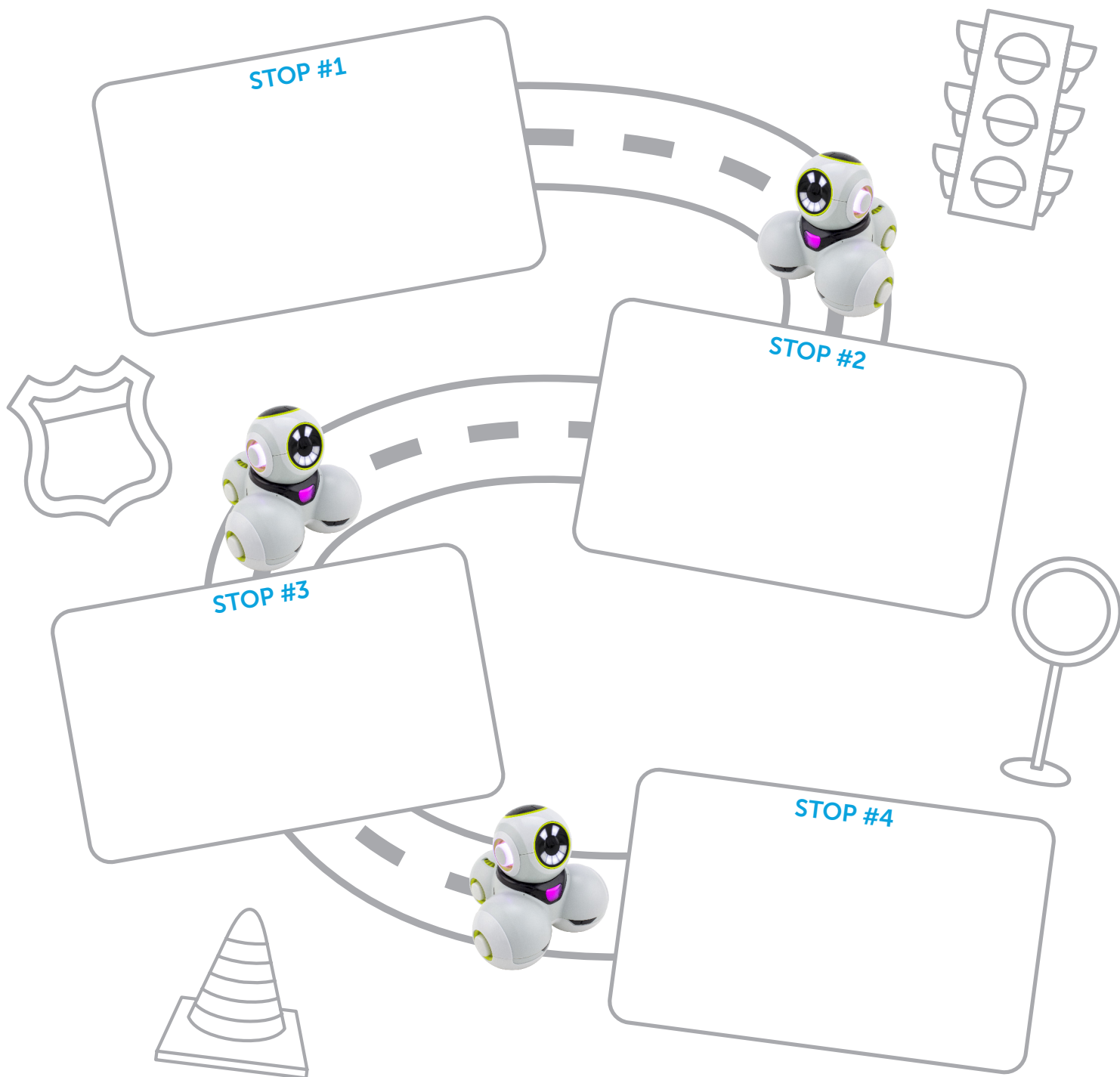
Vocabulary

Variable: A placeholder for a piece of information that can change.

Robot Vacation Planning Grid

HELP CUE PLAN A SUMMER ROAD TRIP!

Sketch some landmarks that Cue might want to see on its tour around the USA. Will Cue stop at the Golden Gate Bridge? The Statue of Liberty? Help Cue plan a summer adventure!



Time to Go Offline!

CAPTURE THE DOT BOARD GAME!

(Use pages 6-10 to play this game.)

SET UP:

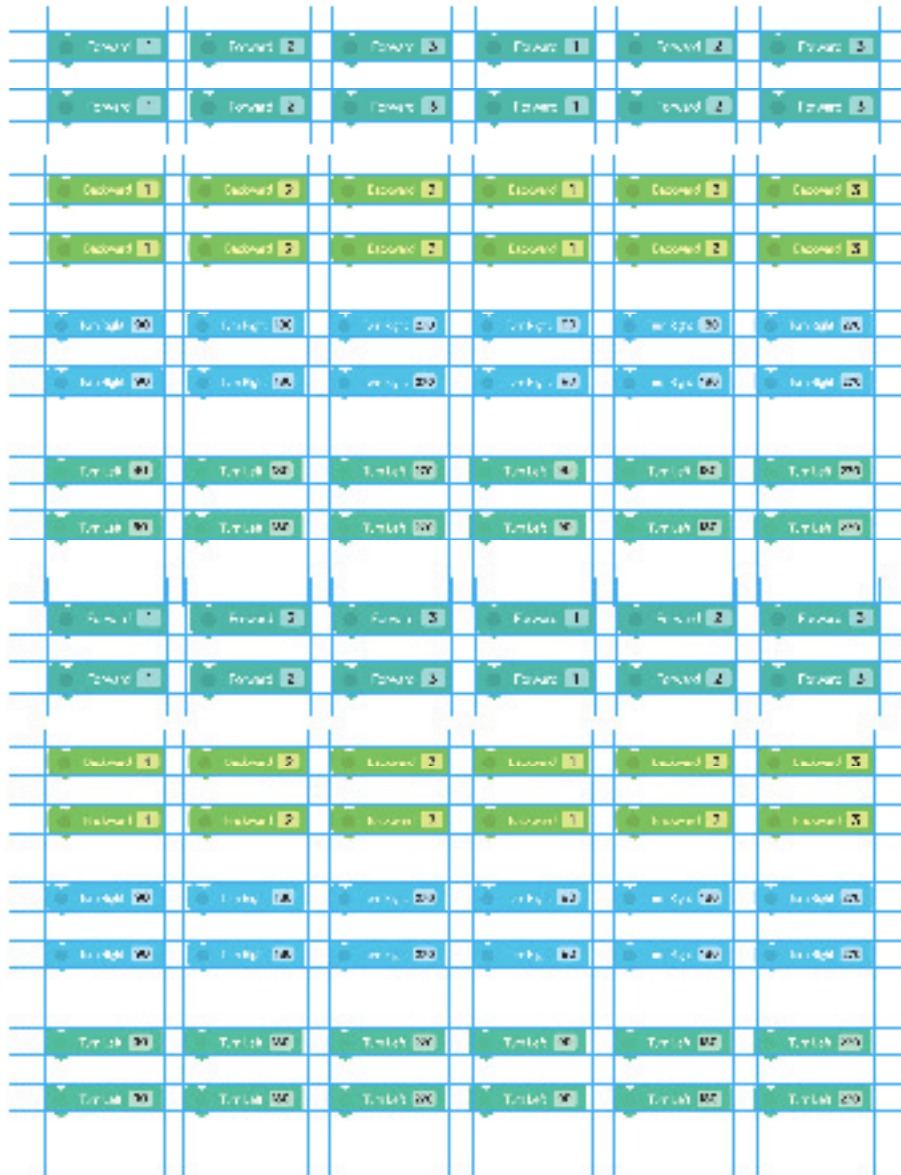
1. 2 to 4 players. Choose a color and take the matching Dash & Dot pair.
2. Place your Dash and Dot in your home base. Dot doesn't move in the game, but Dash can move in any direction based on the Blockly cards.
3. Players draw 5 Blockly cards each from the deck. When it's your turn, choose 3 cards from your hand to create a program.
4. After running the program, discard the 3 cards and draw 3 new cards for your next turn. The next player takes a turn.
5. The first player to use his or her Dash to capture an opponent's Dot is the winner.
6. Another way to play: Put the 4 Dots in the middle of the board. The first Dash to reach a Dot of the same color wins!
7. Use the Obstacle cards to make up your own version of the game. For example, each player gets 3 Obstacle cards to place on the board at just the right moment during the game.

FUN FACT:

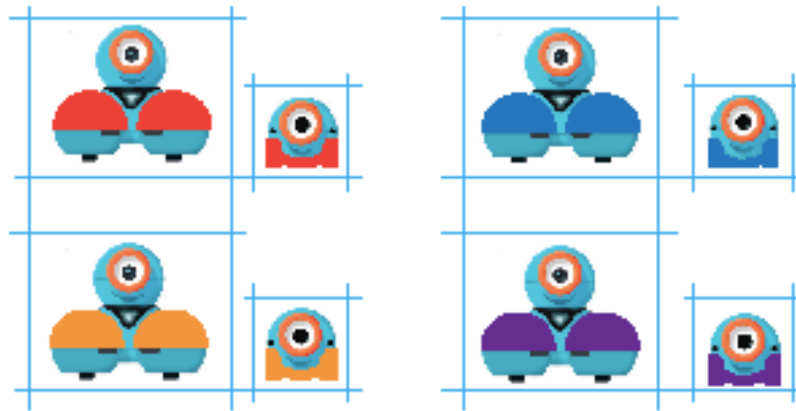
The word **robot** was first used in a 1920 play and was derived from the Slavic word for **slave labor**.





Capture the Dot Game Pieces

Cut out these game pieces along with the color coded Dash and Dot on the following page with adult supervision. In the following pages, you will find the board you can use with these pieces to play Capture the Dot.

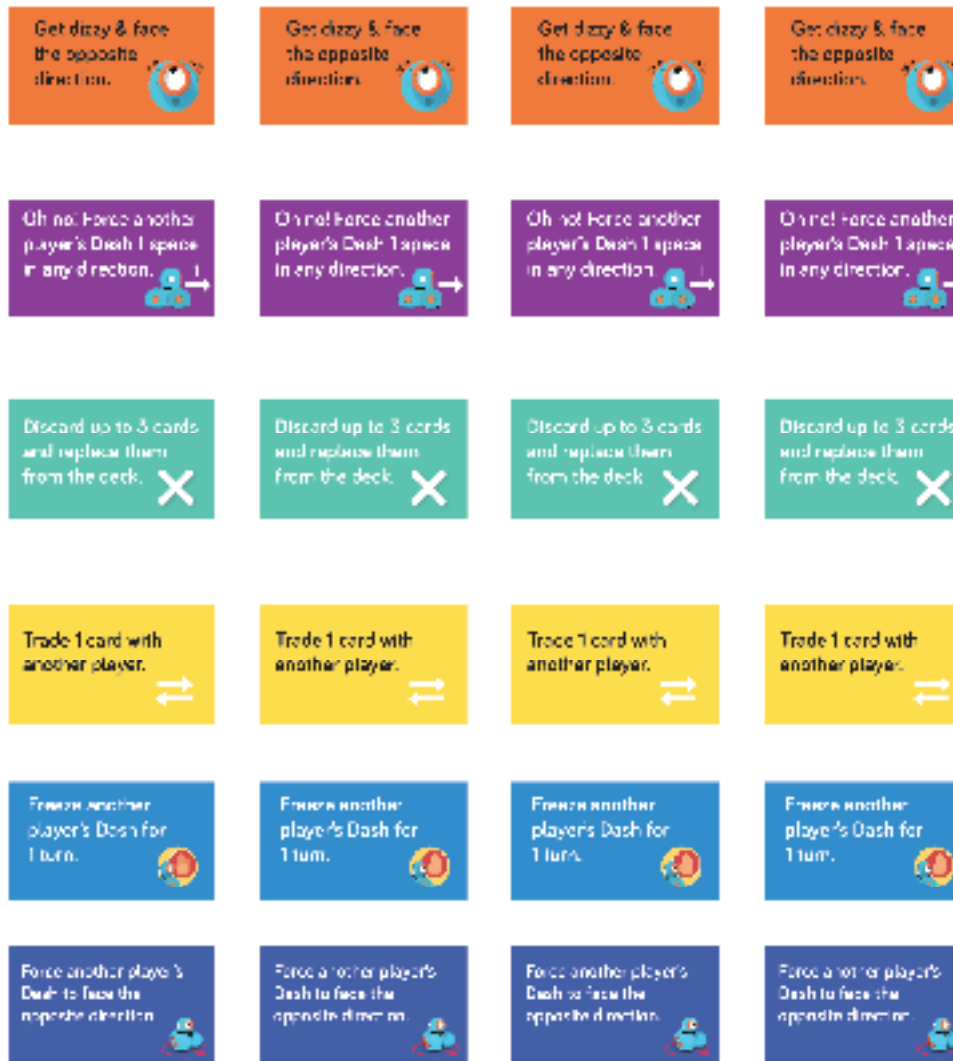


Capture the Dot Game Pieces

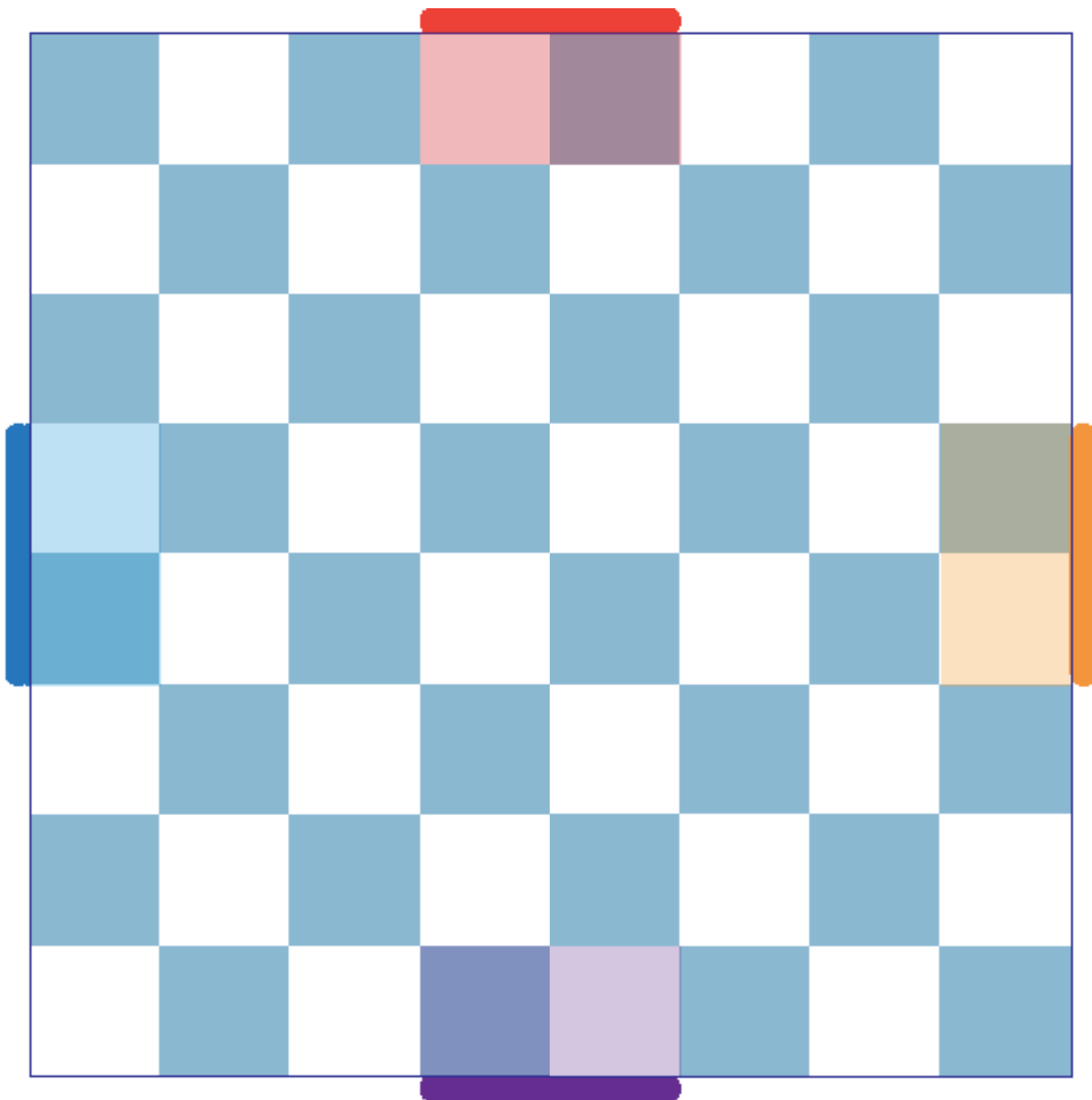


Get dizzy & face the opposite direction. 	Get dizzy & face the opposite direction. 	Get dizzy & face the opposite direction. 	Get dizzy & face the opposite direction. 
Oh no! Force another player's Dash 1 space in any direction. 	Oh no! Force another player's Dash 1 space in any direction. 	Oh no! Force another player's Dash 1 space in any direction. 	Oh no! Force another player's Dash 1 space in any direction. 
Discard up to 3 cards and replace them from the deck. 	Discard up to 3 cards and replace them from the deck. 	Discard up to 3 cards and replace them from the deck. 	Discard up to 3 cards and replace them from the deck. 
Trade 1 card with another player. 	Trade 1 card with another player. 	Trade 1 card with another player. 	Trade 1 card with another player. 
Freeze another player's Dash for 1 turn. 	Freeze another player's Dash for 1 turn. 	Freeze another player's Dash for 1 turn. 	Freeze another player's Dash for 1 turn. 
Force another player's Dash to face the opposite direction. 	Force another player's Dash to face the opposite direction. 	Force another player's Dash to face the opposite direction. 	Force another player's Dash to face the opposite direction. 

Capture the Dot Game Pieces



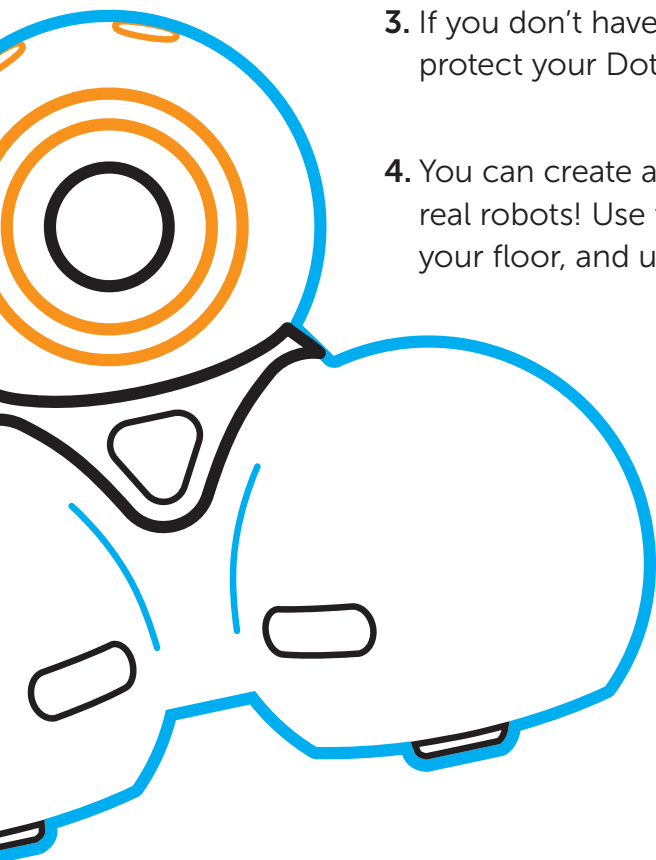
Capture the Dot Board Game



Capture the Dot Game Strategy



1. Think about your strategy: Are you going to focus on protecting your Dot or going after an opponent's Dot? The strategy is different depending on the number of players.
2. Remember that turning left 270 degrees is the same as turning right 90 degrees.
3. If you don't have good movement cards, use the turn to protect your Dot.
4. You can create a large-scale version of the game using real robots! Use tape to create a large checkerboard on your floor, and use Blockly to program the moves.



Share your own strategy tips on Twitter [@WonderWorkshop](#) with the hashtag [#WonderLeague](#).