

WINTER WONDERLAND

Up for a Challenge?

Dashing Through the Snow!

MATERIALS

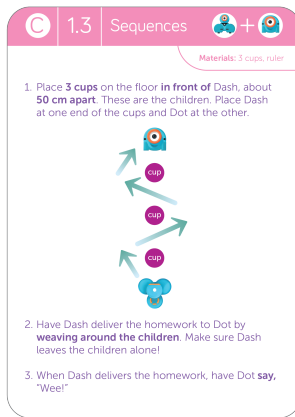
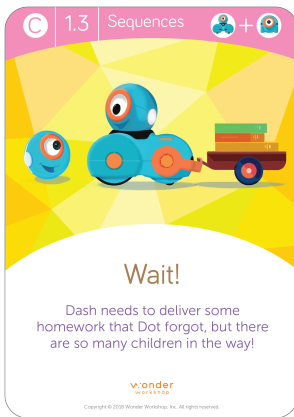


Dash robot



Blockly app

Painter's tape



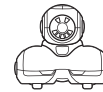
Dash Challenge Card C 1.3

STEPS

- 1 Use the "On Your Mark" Dash Challenge Card to create a sequence of commands for Dash.
- 2 User painter's tape to create a starting line and a finish line for Dash.
- 3 Open the Blockly app on your compatible device* 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

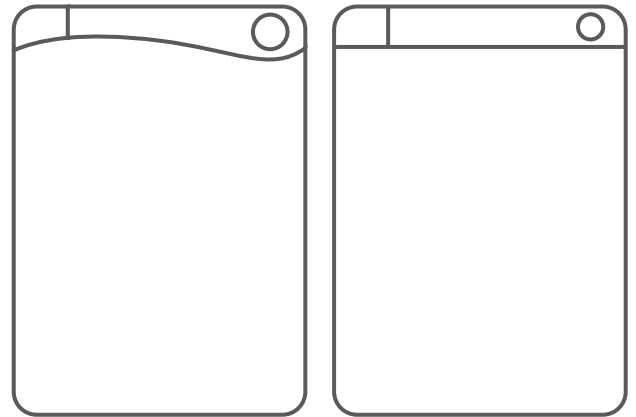


Cue robot



Cue app

Painter's tape



Blank Challenge Card



STEPS

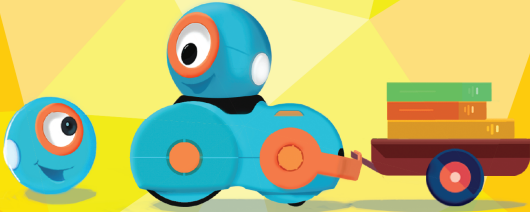
- 1 Take a look at the "On Your Mark" Dash Challenge Card.
- 2 Create your own Challenge Card outlining a similar robot race using events for Cue. Some ideas may include using a "hear voice" command to start the race.
- 3 On the front side, add an image with a title and problem statement. On the back, outline your challenge in simple steps!
- 4 Open the Cue app on your compatible device*.
- 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.

| | | | |
|---|-----|-----------|---|
| C | 1.3 | Sequences |  +  |
|---|-----|-----------|---|





Wait!

Dash needs to deliver some homework that Dot forgot, but there are so many children in the way!

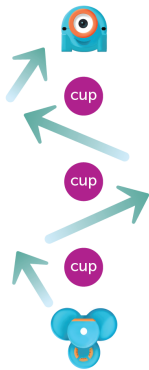
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| | | | |
|---|-----|-----------|---|
| C | 1.3 | Sequences |  +  |
|---|-----|-----------|---|

Materials: 3 cups, ruler

- Place **3 cups** on the floor **in front of** Dash, about **50 cm apart**. These are the children. Place Dash at one end of the cups and Dot at the other.



- Have Dash deliver the homework to Dot by **weaving around the children**. Make sure Dash leaves the children alone!
- When Dash delivers the homework, have Dot **say**, "Wee!"

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

| | | | |
|---|--|--|---|
| ○ | | | ○ |
| | | | |

| | | | |
|---|--|--|---|
| ○ | | | ○ |
| | | | |

Now Let's Get Creative!

That blizzard sure left snow everywhere, but Dash and Cue are ready to help plow the areas clear. Use your coding skills to program the robots to plow the "snow" out of the way in one fell swoop.

MATERIALS



Dash



Blockly app

OR



Wonder app

Bulldozer accessory

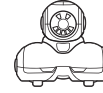
Cotton balls as snow

Painter's tape

STEPS

- 1 Create a 4x4 grid on the ground of 30-centimeter squares with painter's tape.
- 2 Label the y-axis: A, B, C, D; label the x-axis: 1, 2, 3, 4.
- 3 Place cotton balls in the center of 2B, 2c, 3B, and 3C.
- 4 Starting in 1A, program a sequence for Dash to follow in order to plow the "snow" out of each of the inner squares and into D4.
- 5 For an added challenge, try to plow all of the "snow" in one trip!

MATERIALS



Cue



Cue app

Cotton balls as snow

Cue's Building Bricks (optional)

DIY materials for attachemen such as Lego, craft sticks, rubber bands, cardboard tubes, etc.

STEPS

- 1 Create a 4x4 grid on the ground of 30-centimeter squares with painter's tape.
- 2 Label the y-axis: A, B, C, D; label the x-axis: 1, 2, 3, 4.
- 3 Place cotton balls in the center of 2B, 2c, 3B, and 3C.
- 4 Create an attachment to gather or plow all of the "snow."
- 5 Starting in 1A, program Cue to move to each of the four squares to move all of the "snow" into D4.
- 6 For an added challenge, try to plow all of the "snow" in one trip.

VOCABULARY

Sequence An arrangement of steps in a specific order to describe a procedure.

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

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

Time to Go Offline!

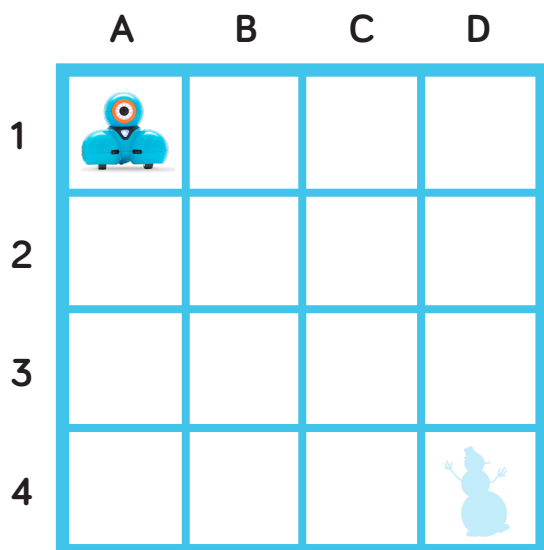
Want to unplug for a while? Help Dash and Cue find the snowmen!

Have some fun offline with these printable coding challenges.

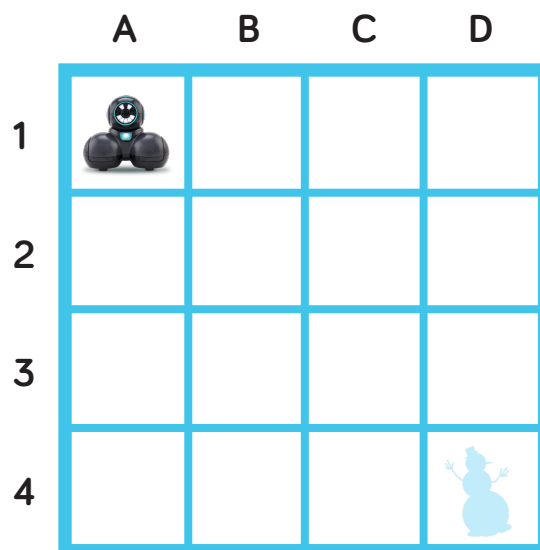
Follow the sequence of commands to move Dash across the snowfield.

If you are using Cue, work backwards to create your own sequence of commands on the blank mat, "Cueing Up Some Winter Fun."

Dashing into Winter Break!



Cueing Up Some Winter Fun!





Want more free resources?

Go to www.makewonder.com to discover more activities and lesson plans, plus special savings!

Dashing Into Winter Break!

Help Dash cross the snow field to get to the snowman.

- Move Dash two blocks to the right. Draw a snow ball. 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 an ice skate. _____
- Move Dash two blocks to the right, one block down, and one block to the right. _____
- Did you reach the snowman? Draw Dash on the snowman!

| | A | B | C | D |
|---|--|---|---|---|
| 1 |  | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | |  |

Want more free resources?

Cueing Up Some Winter Fun!

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

A**B****C****D****1****2****3****4**

Recommended Reading



Code It! Create It!: Ideas & Inspiration for Coding (Girls Who Code)

by Sarah Hutt

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

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 ❄️

In 1956, George Devol and Joseph Engelberger founded the first robot company, which was named Unimation.

Want more free resources?

Go to www.makewonder.com to discover more activities and lesson plans, plus special savings!