

Summer of Wonder

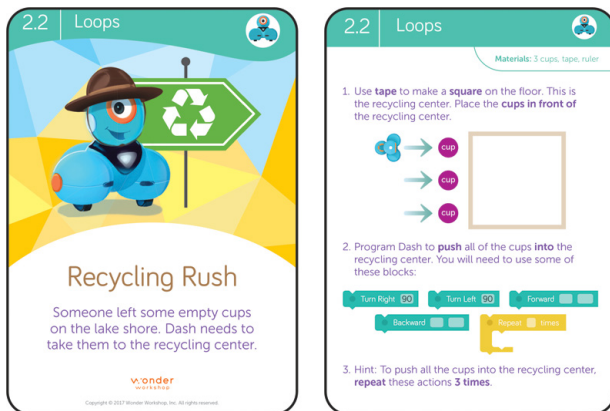
Activities Packet #2

Up for a Challenge?

Recycling Robot!

MATERIALS:

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



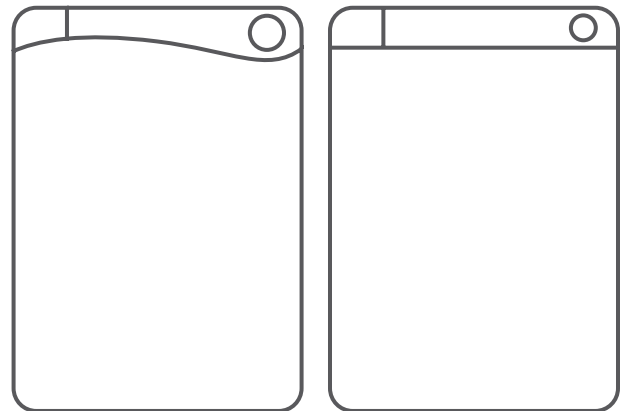
STEPS:

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

Challenge Cards

2.2 | Loops



Recycling Rush

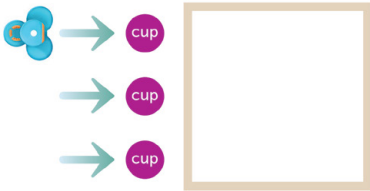
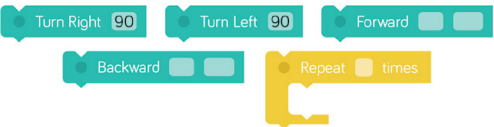
Someone left some empty cups on the lake shore. Dash needs to take them to the recycling center.

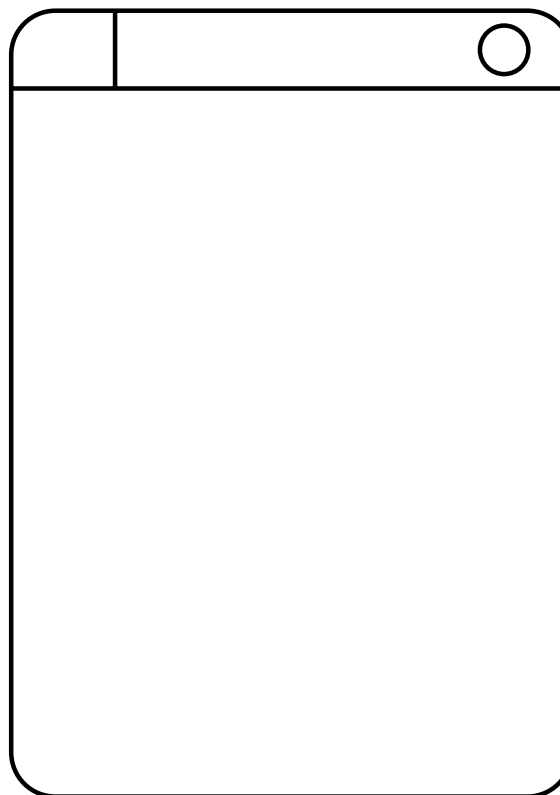
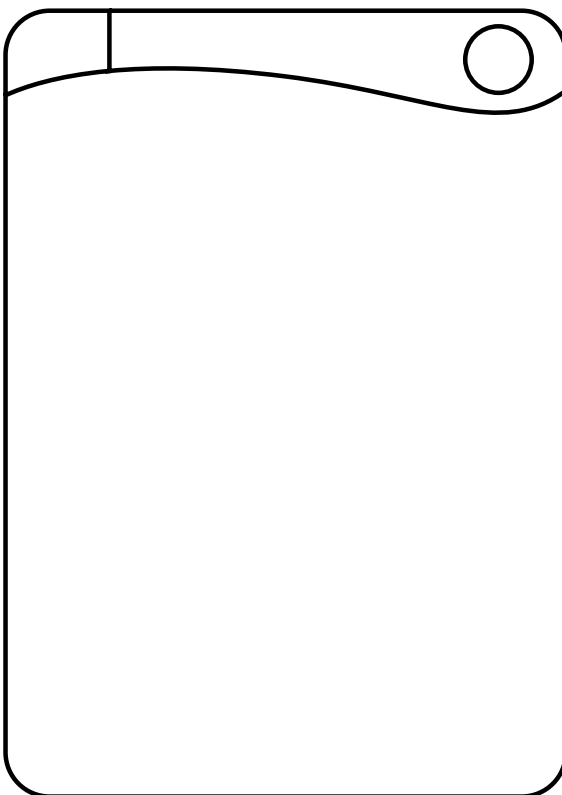


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2.2 | Loops

Materials: 3 cups, tape, ruler

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

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

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



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!

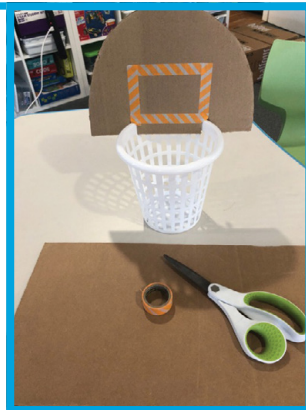
Help Dash and Cue keep the beaches and lakes clean this summer. Design your own recycle bin and create a program that encourages people to recycle while having fun on summer vacation.

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 your robot executing your recycling program and share your video with us on Twitter [@WonderWorkshop](#) with the hashtag [#FunWithWonder](#).

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:

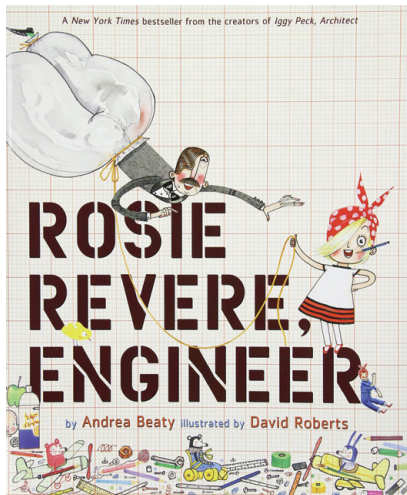
- Paper towel or toilet paper rolls
- Aluminum or tin cans (no sharp edges)
- Plastic and paper cups
- Empty cereal boxes
- Plastic food containers
- Bottles and their caps, etc.

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.



RECOMMENDED READING:



Take a look at our blog's Summer STEAM Reading List for picture books, chapter books, and parenting and educator books. 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 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!

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

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!

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