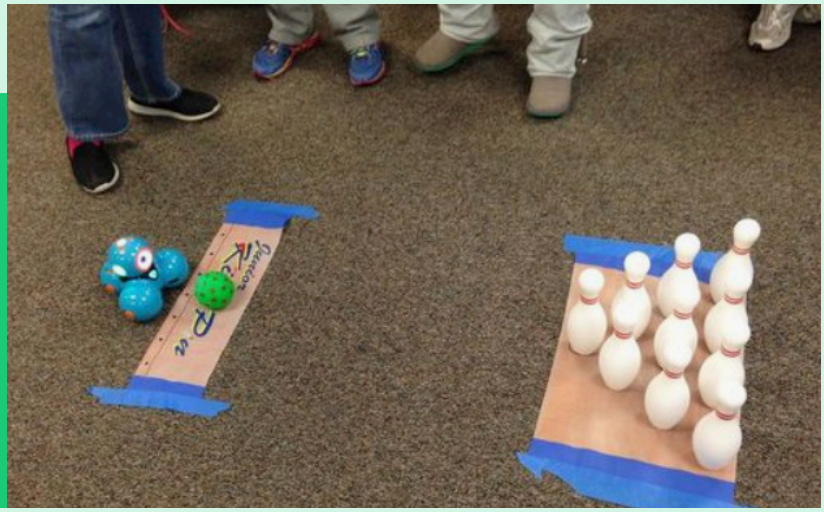
Robot Bowling



Who knew? Robots love bowling just as much as we do! Design your robot bowling challenge by creating a grid and plotting out where you are going to set up your pins! Next, plot your course. How many pins can you take down in one Blockly program? Program, play, and challenge a friend!

What you'll Need:

- Dash
- Dot (optional)
- Bowling pins or targets to knock down
- Painter's tape

Set up

1. **Design your pin setup.** Think about the way you want to design your targets for bowling. It may be helpful to draw out where you would like to place your targets and how far apart you'd like them to be from one another. Once you sketch out your plan, you can get to building!

2. **Measure and place your grid and pins.** Make a grid with painter's tape and place your targets. It may help to use centimeters (cm) to measure out a grid to equally space out your pins. In the photo above, each grid square is 50 cm x 50 cm. This way, you can build a precise Blockly program for Dash to bowl with!

3. **Use Blockly to program your route.** How many blocks will it take to knock down the first pin?

(Continued)

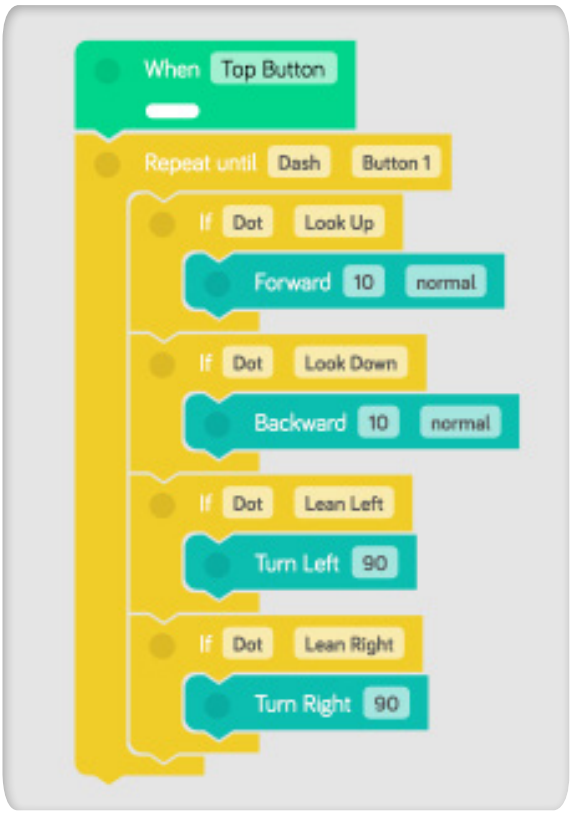
4 **Edit and run different programs until all your pins are knocked down.** How many programs and blocks will it take? Can you add lights and sounds to add some flair to your bowling challenge?

5 **Challenge yourself!** What is the fewest number of blocks you need to bowl a strike? Try adding Dot into the mix to control Dash around the grid.

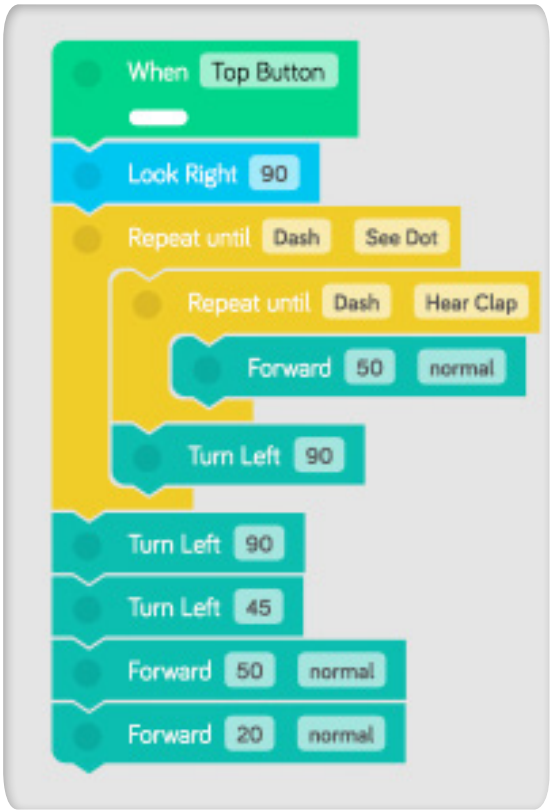
6 **Want more bowling fun?** Set up a new course, or challenge someone in a friendly competition!

Play Options

Blockly: Use Dot to create a "remote control" to help Dash bowl a strike! This program makes Dash go forward, backward, left, or right based on how you move Dot.



Blockly: Use Dot as a marker and clap your hands to tell Dash when to make a turn. Check out this code. If you configure your bowling pins in 3 rows, where would you need to put Dot to give Dash the right signal?



How will you program Dash to get a lucky strike?
Take a video of your robot in action, and show off your code! Post it to YouTube and tag it with #makewonder to share it with the community!

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