

ozobot[®]

Bowling with Ozobot



This bowling game is an example of how to use Ozobot in connection with a game piece to create fun learning activities. The objective of the game is to use Ozobot as a bowling ball and program the “ball” to knock down all pins standing on the lane.

There are two versions of the game included. In the first one, Ozobot can be programmed with markers only. For the second one, students need to use OzoBlockly to get Ozobot Bit to “roll” correctly.

Both of the included activities are examples of different bowling games. There are many more variations that can be created. You can find some example variations and extensions below, but the options are limitless.

While playing, students will learn how to use and program Ozobot. When using some of the variations to this game, they will also train their strategic and logical thinking. Moreover, the second version of the game tests their knowledge in geometry.

You can download a digital version of this activity along with the rest of the classroom kit materials from the classroom kit web page <http://ozobot.com/stem-education/stem-classroom-kit>.

1. Ozobot Bowling with Markers

Needed:

- Ozobot, one per group
- Printout of *Ozobot Bowling with Markers*, one per group
- Bowling pins, one or more per group
- Printout of the OzoCodes Reference Chart
<http://files.ozobot.com/stem-education/ozobot-calibration-tips.pdf> one per group

Instructions:

1. Place one or more bowling pins on corners or intersections of the grid. Ozobot has to travel to those locations to knock down the pins.
2. Figure out which way Ozobot has to go and use directional codes to program

1. Ozobot's path. Black out any of the code slots that are not needed. The code on the bottom can be used to set Ozobot's speed. A higher speed may work better to knock down the pins.
2. Don't forget to calibrate Ozobot on paper before starting to play! This prepares Ozobot for play on paper.
3. Place Ozobot onto the starting point and try out if it knocks down all pins!

2. Ozobot Bowling with OzoBlockly

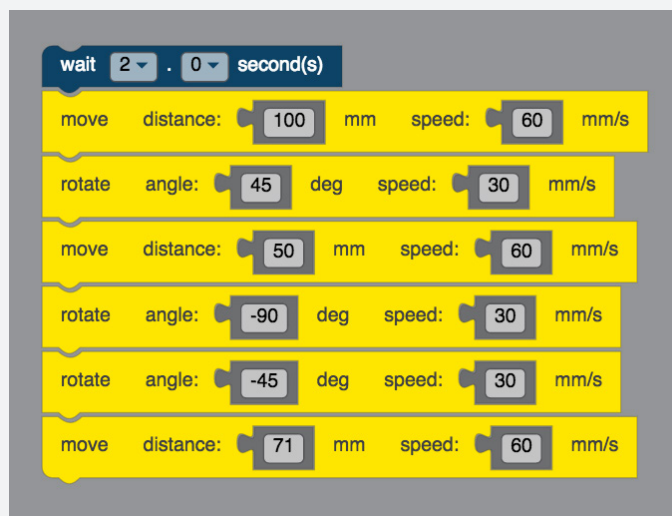
Needed:

- Ozobot Bit, one per group
- Printout of *Ozobot Bowling with OzoBlockly*, one per group
- Bowling pins, one or more per group

Instructions:

1. Place one or more bowling pins on any of the round markers on the lane. Ozobot has to travel to those locations to knock down the pins.
2. Use OzoBlockly to program and load Ozobot with the correct moves to knock down the pins. You can use any mode for this, but you will have to use blocks from the Movement category. (Note: Ozobot's turns are approximate – i.e. Ozobot may turn 87 or 94 degrees instead of the desired 90 degrees. If this becomes a problem for the game, you can use the movement blocks from mode 4. These give you greater flexibility in programming angles and distances)
3. After loading your program onto Ozobot, place Ozobot on the starting point and double-click the On/Off button to start the program. Did all pins fall down? If not, try again – you may have to refine your program or just try to place Ozobot slightly differently on the starting position!

The following is an example of an OzoBlockly program. Three bowling pins were used and they were set on the lower three spots of the lane. You may notice the two second delay at the start of the program. This is really



helpful to give the person some time to position Ozobot properly on the paper after double-clicking to start the program.

Tips

To make sure pins are falling down easily when they should, you may want to follow these guidelines:

- Try to use paper that is a bit more coarse. Smooth paper tends to make the pins slide instead of fall down.
- Make sure Ozobot has the protective skin on.
- Ozobot's speed is a factor as well. Faster speeds work better to knock down the pins.
- If you are still having problems, try to attach thin rubber stickers or coarse paper tape to the bottom of the pins.

Variations

There are many different variations to both of these bowling games. Try some of these:

- Use different numbers of pins and different configurations
- See who can get Ozobot to knock down all pins the fastest
- For the OzoBlockly version, try to use the fewest number of blocks
- Have students come up with their own lane designs

Other games

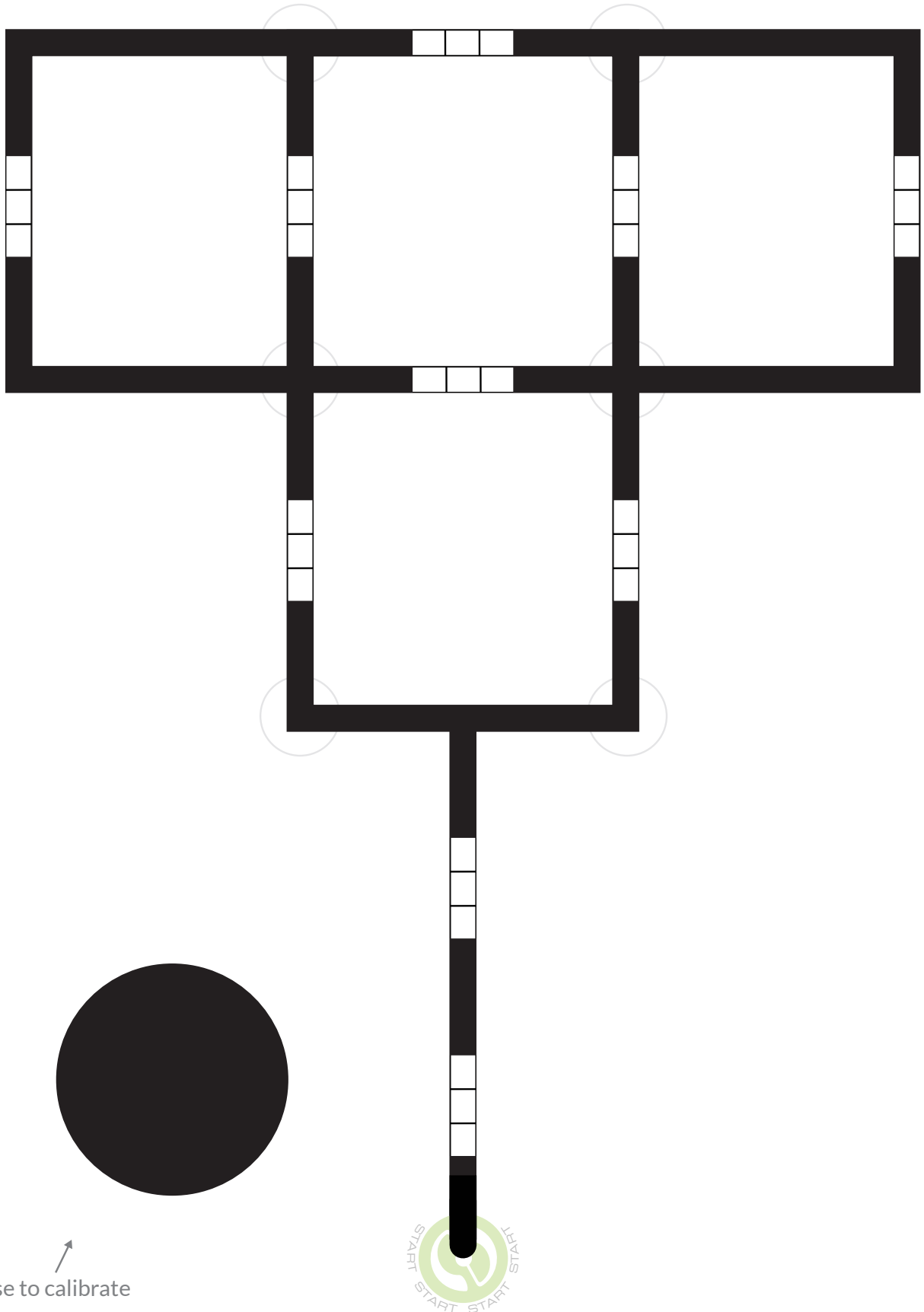
There are so many possibilities for other games. You can use the pins as obstacles to move around and use completely different themes, maps or backgrounds for that. Or try using other game pieces as tunnels, obstacles, etc.

We are excited to see what you come up with! Please share your creations – contact us at ozoedu@ozobot.com.



OZOBOT BOWLING

With Markers



OZOBOT BOWLING

With OzoBlockly

