

# Snap the Dot



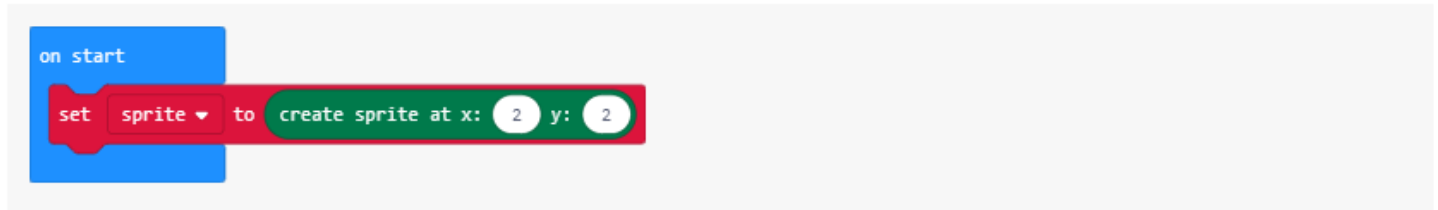
## Introduction

Snap the dot is a game of skill where the player has to press **A** exactly when the dot reaches the center of the screen.

This tutorial shows how to use the game engine.

## Create a sprite

Drag a **create sprite** block onto the workspace. A sprite is a single pixel that can move on the screen. It has an **x** and **y** position along with a direction of motion.

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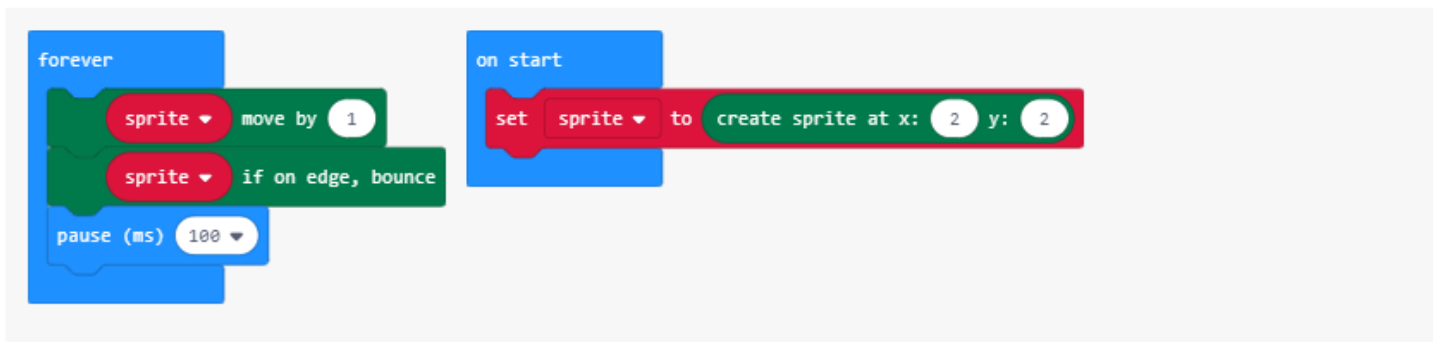
## Move the dot

The sprite starts in the center facing right. Put a **move** block into the **forever** to make it move. Notice how it moves to the right but does not bounce back.

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## Bounce

Grab a **if on edge, bounce** block to make the sprite bounce on the side of the screen. Also, add a **pause** block to slow down the sprite.

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## Test and download

Use the simulator to find the best speed. If you have a micro:bit, press [Download](#) to try it out on the device.

## Button handling

When **A** is pressed, we test if the sprite is in the center or not.

Use a [on button pressed](#) block to handle the **A** button. Put in a [if](#) block and test if **x** is equal to **2**.

The code consists of three main blocks:

- on button A pressed** (pink block):
  - if** (teal block) with condition `sprite x = 2`:
    - then** branch: **sprite move by 1** (green block).
    - else** branch: **sprite if on edge, bounce** (green block).
- on start** (blue block):
  - set sprite to create sprite at x: 2 y: 2** (red block).
- forever** (blue loop block):
  - sprite move by 1** (green block).
  - pause (ms) 100** (blue block).
  - sprite if on edge, bounce** (green block).

## Score and game over

Finally, pull out an [add score](#) and a [game over](#) block to handle both success (sprite in the center) and failure (sprite not in the center).

The code is updated with the following changes:

- on button A pressed** (pink block):
  - if** (teal block) with condition `sprite x = 2`:
    - then** branch: **change score by 1** (green block).
    - else** branch: **game over** (green block).
- on start** (blue block):
  - set sprite to create sprite at x: 2 y: 2** (red block).
- forever** (blue loop block):
  - sprite move by 1** (green block).
  - pause (ms) 100** (blue block).
  - sprite if on edge, bounce** (green block).

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## Test and download

Your game is ready! If you have a micro:bit, press [Download](#) to try it out on the device.