



# Beat the goalie

Code a football game to play with your friends.



## What you will need:

- A computer
- Scratch

## How does it work?

This project uses a free online coding language called Scratch. By creating programmes using Scratch, you can improve your problem-solving skills. This activity teaches you how to build a two-player game and move your sprite from left to right.

## Kick the football

- 1 On your computer, go to: [rpf.io/beat-the-goalie-on](http://rpf.io/beat-the-goalie-on) to open the project in Scratch.
- 2 Select the football sprite and build the script pictured to the right. A script is a stack of coding blocks that makes a set of instructions. Drag the colour-coded blocks from the list on the left-hand side of your screen. Snap them together in the coding area in the middle.
- 3 To find the "set score" block, you will need to create a variable. Find Variables in the list and click "make a variable". Label it "score", and select "for all sprites".
- 4 You will need to use the "key" and "touching" blocks. Select "space", "a", "d" and "Goalie" on the appropriate blocks.
- 5 When selecting the "broadcast" blocks, you will need to write your own message by selecting "New message". Enter "save" for the first block and "goal" for the other.
- 6 Now, test your game by clicking the green flag. The ball should move from left to right when you hit "a" and "d" keys on a keyboard. Pressing the spacebar allows you to kick the ball towards the goal.

```

when green flag clicked
  set score to 0
  forever loop
    go to x: -200 y: -140
    repeat until key space pressed?
      if key a pressed? then
        change x by -5
      if key d pressed? then
        change x by 5
    repeat 15
      change y by 10
    if touching Goalie? then
      start sound rattle
      broadcast save
    else
      start sound cheer
      broadcast goal
      change score by 1
  
```



## Move the goalie

- 1 Now it's time to add some code so you can move your goalie to stop the ball.
- 2 First, select the goalie sprite.
- 3 Use the drop-down menus to select the correct variables for each block, and type in the words and numbers in the other boxes.
- 4 Make sure you check each line carefully.
- 5 Test your game by clicking the green flag. Your goalie should move when you press the arrow keys.



```

when I receive save
  say Save! for 1 seconds

when I receive goal
  say Goal! for 1 seconds

when left arrow key pressed
  change x by -10

when right arrow key pressed
  change x by 10
  
```

## Set a timer

- 1 Finally, you can add a timer to the game by clicking on the stage sprite. This is the "Backdrops 1" icon on the far right of the screen.
- 2 Build the code below and fill in the correct numbers. You will also need to create a new variable. Name it "timer" and make sure to select "for all sprites".
- 3 Check each line carefully before testing your game.
- 4 Get a friend to play striker, moving the ball with the "a" and "d" letters. You can control the goalie with the arrow keys. Pressing the spacebar shoots the ball. Will you save the shot, or will your opponent score a goal? Keep playing until the timer runs out, then swap over – the most goals wins!



```

when green flag clicked
  set timer to 30
  repeat until timer = 0
    wait 1 seconds
    change timer by -1
  play sound whistle until done
  stop all
  
```

The Raspberry Pi Foundation is a UK-based educational charity working to put the power of computing and digital making into the hands of people all over the world. Discover more step-by-step coding projects at [rpf.io/scienceandnature](http://rpf.io/scienceandnature)

