

# Pass A Basketball

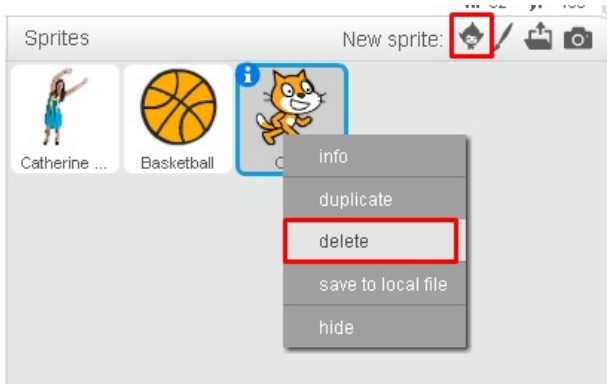
(intermediate Scratch project)

## What's Our Goal?

Make the ball fly from Catherine and stop when it gets to the edge of the screen.

## Getting Setup

1. Click on the “new sprite” icon and choose the basketball and get Catherine to bounce the ball.
2. Delete Scratch Cat (he’s no good at b-ball)



## Let's Code!

First things first, let's make sure Catherine and the ball are in the right spot and tell the ball when to go!

3. Click on Catherine in the Sprites box and add a **when flag clicked** from **Events**
4. Drag Catherine to the bottom left corner of the canvas and add a **go to x, y** block from **Motion**. The coordinates should match where you placed her.
5. Finally add a **broadcast** block from **Events** and select “new message”. Type in the message to broadcast.



6. Try it out! Drag Catherine around the canvas and when you click the green flag she should go back to the coordinates we set.

## Okay Basketball, You Too Now!

We not only told Catherine to move but to broadcast a message. Let's tell the basketball to listen for that message.

7. Click on the Basketball in the Sprites area. Your code will clear out. Don't worry! This code will only apply to the basketball.



8. From **Events** drag out a **when I receive** block and make sure your message is selected from the dropdown.
9. Just like you did for Catherine, drag the basketball around the canvas until it is at the starting position at her hands. Then select the **go to x, y** block from **Motion**. The coordinates should match where the basketball currently is.
10. Test it! Drag Catherine and the basketball to different parts of the screen. Now when you click the green flag they should both go to their starting positions!

## Throw, Catherine, Throw!

So far we've done a lot of getting ready. Let's make Catherine throw the ball!

11. Give your eyes a chance to look at where the action is. Add a **wait 1 sec** block from **Control** beneath the basketball's move block.
12. Add a **move 10 steps** block from **Motion** beneath the wait and click the green flag!

## Throw Farther, Catherine, Throw Farther!

That wasn't very exciting. The basketball did what we told it to but what we **want** is for it to go all the way across the screen. We need to repeat that action until the ball hits!

13. From **Control** drag a **repeat until** block out and wrap the “mouth” around your **move 10 steps** block.
14. From **Sensing** drag out a **touching** block and snap it into the **repeat until**. Select “edge” from the drop down list.
15. You did it! Click the green flag and Catherine will not throw the ball all the way across the screen!

## Make It Yours!

(ideas for extending your program)

- ? Without adding or removing any blocks how much can you change the program?
- ? Can you make a sound play when the ball is thrown?

## Keep Coding!

- </> Visit [scratch.mit.edu](https://scratch.mit.edu) for lots more examples.
- </> Check out [www.bizstreamacademy.com/resources](https://www.bizstreamacademy.com/resources) for other ways to learn to code!