# Catch the falling object

## Choose your theme

<table>
<thead>
<tr>
<th>Provided Example</th>
<th>Your Game</th>
</tr>
</thead>
</table>
| **Story**  
Your friend collects butterflies so you go to the forest and try to catch as many as possible for him. |           |
| **Falling object**  
Butterfly: |           |
| **Catcher**  
Net: |           |

**Ideas:**
- Catch the baseball in the mitt
- Catch the bacon in the pan
- Catch the apples in the basket
- Catch yourself in a bed
Falling Object Motion

1. Create a falling object sprite: click on  to select an existing image or click on  to use an image saved on the computer (you could download one from the Internet).

2. Make the object start in random location and fall down:

3. You now have one object that falls until it gets stuck at the bottom! To make the object fall over and over again, add the following code inside the forever block in your existing script:

Catcher Motion

4. Create a catcher sprite: click on  to select an existing image or click on  to use an image saved on the computer.

5. Add the following scripts:

6. Try using the arrow keys to move your catcher back and forth. Notice that the motion is not very smooth! Here is how to improve movement to the left:

Make movement smooth in both directions.
Keeping Score

Variables are used to store changing values. In this case, we will use a variable to represent the number of points the user has gained.

1. To use a variable, go to the “Data” scripts palette and click on “Make a Variable”:

![Make a Variable](image)

Give the variable a descriptive name such as “points” or “score.”

2. Add this point-counting script to the falling object sprite (next to the script that makes it fall):

![Script Block](image)

Winning

Right now, the game goes on forever! Instead, we’d like to make it stop once the user reaches a certain number of points.

1. Add the following script to the falling object:

![Script Block](image)

*The broadcast block sends a message to all the sprites. Click on its black arrow to change the message name.*
2. Notice that the game stops but that the user doesn’t get any feedback on what happened! We can use the broadcasted message to make all of the game elements change. First, make the stage display a winning message. Create a new background by selecting the paintbrush in the lower left of the screen:

![New backdrop:](image)

![Paint new backdrop](image)

3. Use the text tool to write a message such as “you win!” on your new backdrop.

4. Switch to the scripts view for your stage:

![Scripts](image)

5. Change the background when the falling object broadcasts a victory:

![when I receive win
switch backdrop to win](image)

6. Oops, your winning message is now always visible! Make sure you switch back to another backdrop when the green flag is clicked. If you haven’t already done so, you may now want to create a backdrop for your game.

![when clicked
switch backdrop to forest](image)

7. Click on the catcher. The script area should include scripts to make it move back and forth using the keyboard. Make the catcher hide itself when the game ends and show itself at the beginning:

![when I receive win
hide](image)

![when clicked
show](image)

8. Share your finalized game with your neighbors!
Extension Ideas

• Add a second falling object to increase the challenge! Right click on the falling object in the sprites area and select “duplicate.”

• Add another kind of falling object that either is worth more points or decreases the score. You can start by copying your original object.

• Add a start screen to introduce the game and give instructions. Hint: you'll want to use broadcast to make sure all the game elements know when the game is starting.

• Remove one point each time the user misses the falling object. The player loses when his or her score is negative.

• Increase the speed of the game at every 10 points. You can use a variable to keep track of the level the user is currently on.