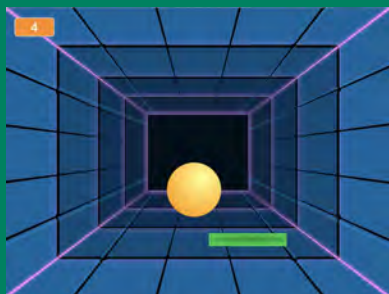# Pong Game Cards

Make a bouncing ball game and score points to win!
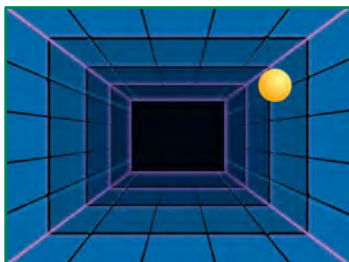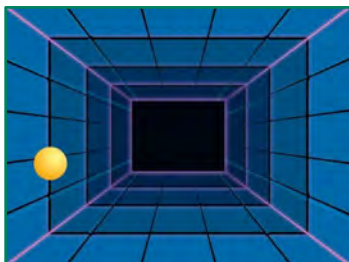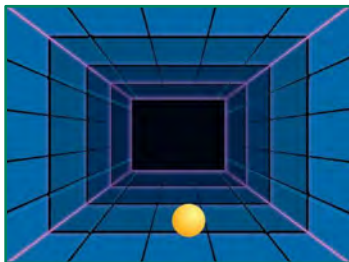
Pong Game Cards

Use these cards in this order:

1. **Bounce Around**
2. **Move the Paddle**
3. **Bounce off the Paddle**
4. **Game Over**
5. **Score Points**
6. **Win the Game**

Bounce Around

Make a ball move around the Stage.

SCRATCH

Bounce Around

GET READY

Choose a backdrop.

Neon Tunnel

Choose a ball.

ADD THIS CODE

Ball

```
when [flag] clicked
turn ↻ (15) degrees
forever
    move (15) steps
    if on edge, bounce
```
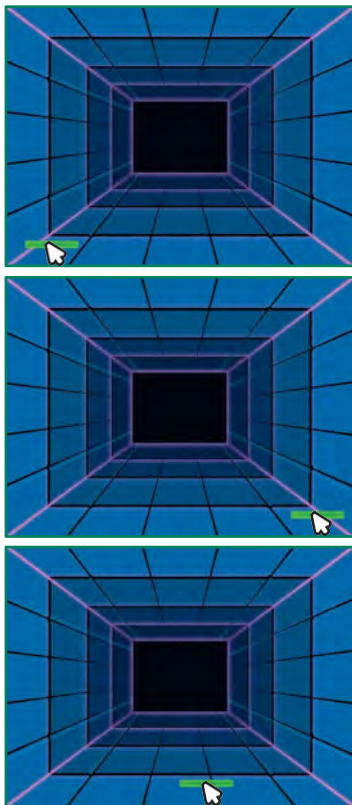
Type a larger number to move faster.

TRY IT

Click the green flag to start.

Move the Paddle
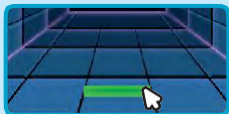
Control a paddle by moving your mouse pointer.
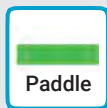
scratch

Move the Paddle

GET READY

Paddle

Choose a sprite for hitting the ball, like Paddle.

Then, drag your paddle to the bottom of the Stage.

ADD THIS CODE

Paddle

```
when 🏳 clicked
forever
    set x to (mouse x)
```

Insert the **mouse x** block into the **set x to** block.
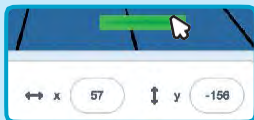
```
set x to (mouse x)
```

TRY IT

Click the green flag to start.

Move your mouse pointer to move the paddle.
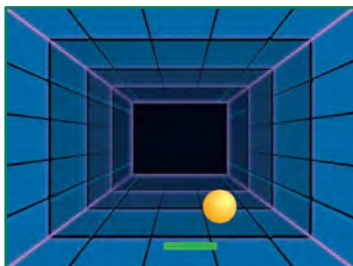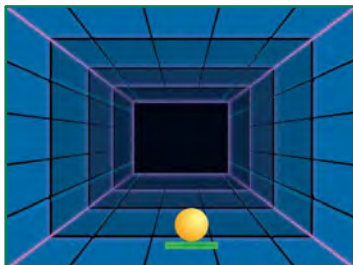
TIP
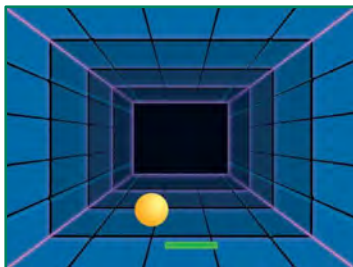
You can see the **x** position of the paddle change as you move the mouse pointer across the Stage.

↔ x 57   ↕ y -156

Bounce Off the Paddle
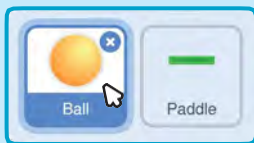
Make the ball bounce off the paddle.

SCRATCH

Bounce Off the Paddle

GET READY

Click to select the Ball sprite.

Ball   Paddle

ADD THIS CODE

Add this new stack of blocks to your Ball sprite.

Ball

```
when 🏴 clicked
forever
    if  touching Paddle ▾ ? then
        turn ↻ pick random 170 to 190 degrees
        move 15 steps
        wait 0.5 seconds
```
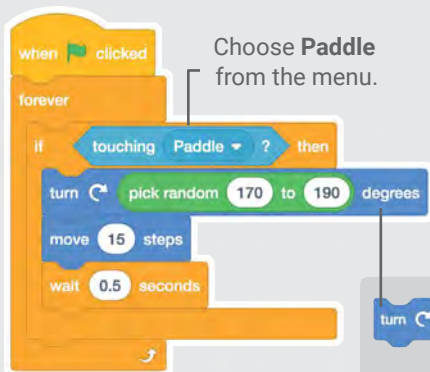
Choose **Paddle** from the menu.

```
turn ↻ ( ) degrees
    pick random 170 to 190
```

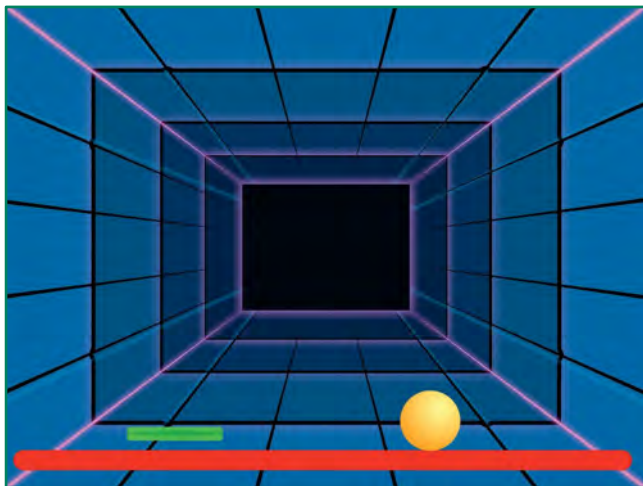Insert the **pick random** block and type in **170 to 190**

TRY IT

Click the green flag to start.

Game Over

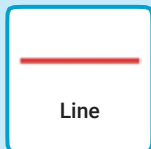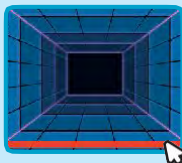## Stop the game if the ball hits the red line.

Game Over

GET READY

Line

Choose the sprite called Line.

Drag the Line sprite to the bottom of the Stage.

ADD THIS CODE

Line

```
when [flag] clicked
go to x: 0 y: -170
forever
  if < touching [Ball ▾] ? > then
    stop [all ▾]
```
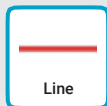
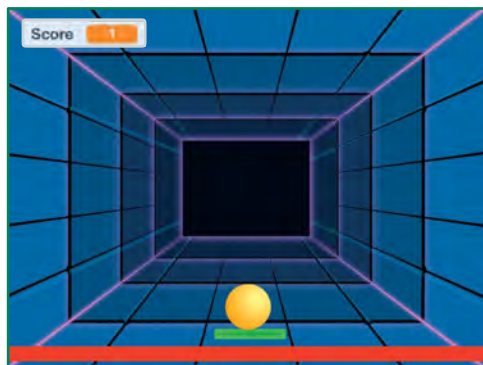Set the position of the Line.

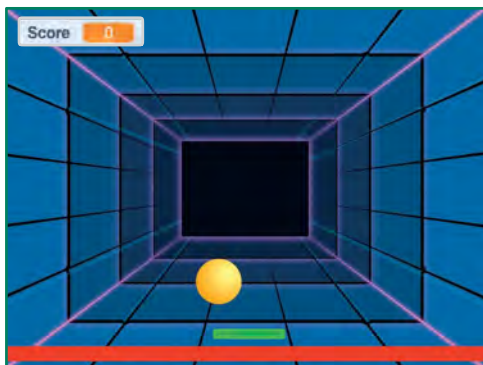Choose **Ball** from the menu.

TRY IT

Click the green flag to start.

Score Points

Add a point each time you hit the ball with the paddle.
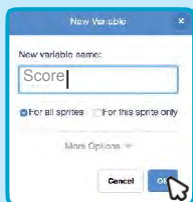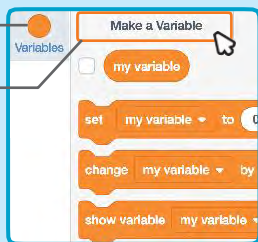
SCRATCH

Score Points

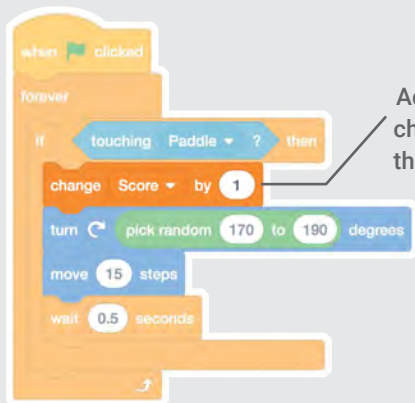scratch.mit.edu
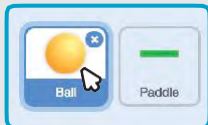
GET READY

Choose **Variables**.

Click the **Make a Variable** button.

Make a Variable

Variables

my variable

set my variable to 0

change my variable by

show variable my variable

New Variable

New variable name:

Score

For all sprites   For this sprite only

More Options

Cancel   Ok

Name this variable **Score** and then click **OK**.

ADD THIS CODE

Click to select the Ball sprite.

Ball   Paddle

when 🏳 clicked

forever

if touching Paddle ? then

change Score by 1

turn ↻ pick random 170 to 190 degrees

move 15 steps

wait 0.5 seconds

Add this block and choose **Score** from the menu.

when 🏳 clicked

set Score to 0

Use this block to reset the score. Choose **Score** from the menu.

Win the Game

When you score enough points, display a winning message!
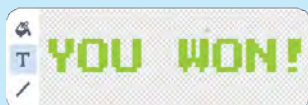
Win the Game

GET READY

Use the **Text** tool to write a message, like "You Won!"
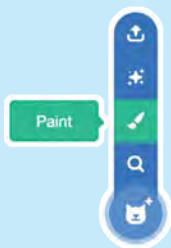
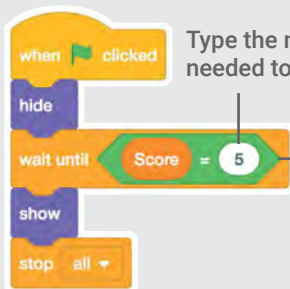**Click the Paint icon to make a new sprite.**

You can change the font color, size, and style.

ADD THIS CODE

Click the **Code** tab.

Type the number of points needed to win the game.

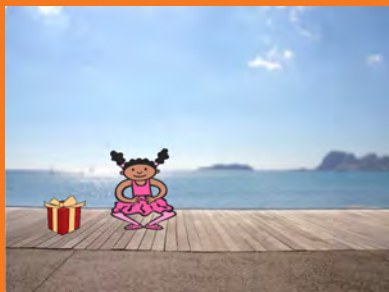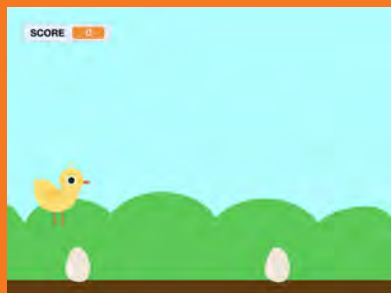Insert the **Score** block into the **equals** block from the **Operators** category.

TRY IT

Click the green flag to start.

Play until you score enough points to win!

Jumping Game Cards

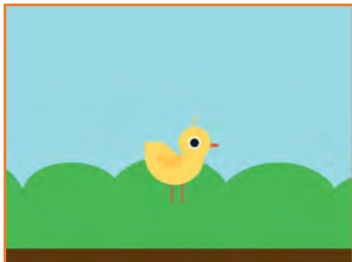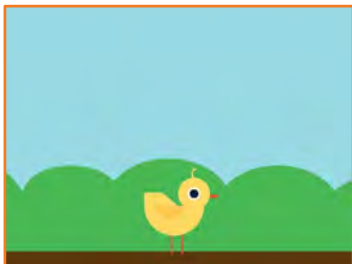**Make a character jump over moving obstacles.**

Jumping Game Cards

Use these cards in this order:

1. Jump
2. Go to Start
3. Moving Obstacle
4. Add a Sound
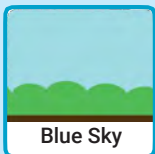5. Stop the Game
6. Add More Obstacles
7. Score

Jump
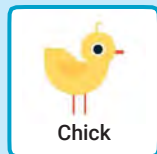
Make a character jump.

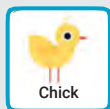scratch

Jump

GET READY

Choose a
backdrop.

Blue Sky

Choose a character,
like Chick.

Chick

ADD THIS CODE

Chick

```
when space ▾ key pressed
repeat 10
    change y by 10
repeat 10
    change y by -10
```
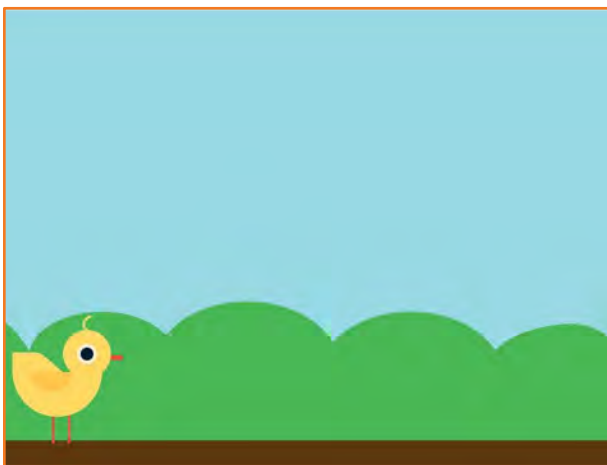
Type a minus sign
to go back down.

TRY IT

C V B N M

Press the **space** key on your keyboard.

Go to Start

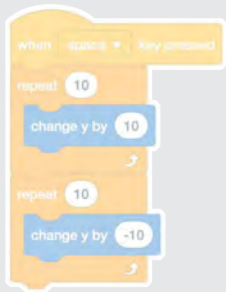Set the starting point for your sprite.

Go to Start

GET READY
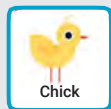
When you move your character, its **x** and **y** position will update in the blocks palette.

Drag your character to where you want it.

Now when you drag out a **go to** block, it will set to your character's new position.

ADD THIS CODE

Chick

```
when space ▼ key pressed
repeat 10
    change y by 10
repeat 10
    change y by -10
```
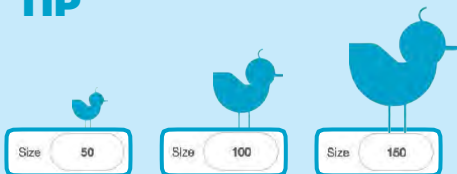
```
when 🏳 clicked
go to x: -180 y: -120
```

Set the starting position.
(Your numbers may be different.)

TIP

Sprite	Chick	x	-36
⊙ Ø	Size	100	Direction

Size	50

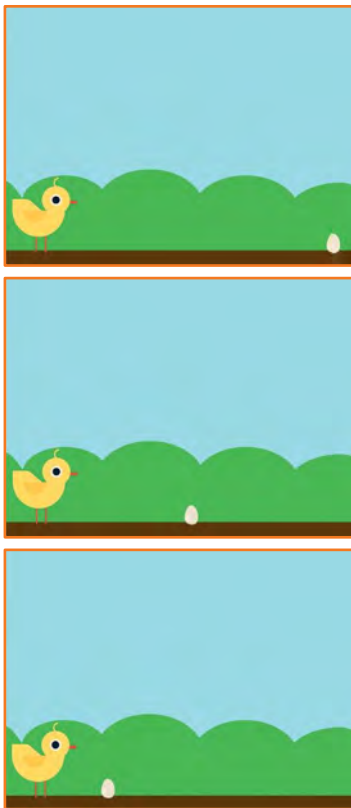| Size	100

Size	160
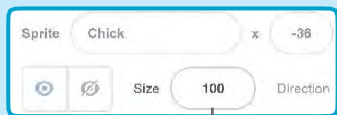
Change the size of a sprite by typing a smaller or larger number.

Moving Obstacle

Make an obstacle move across the Stage.

Moving Obstacle

GET READY
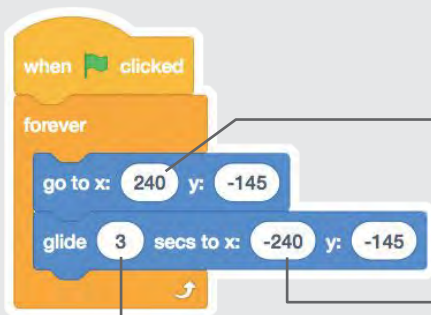
Choose a sprite to be an obstacle, such as Egg.

Egg

ADD THIS CODE

Egg

```
when 🚩 clicked
forever
  go to x: 240 y: -145
  glide 3 secs to x: -240 y: -145
```

Start at the right edge of the Stage.

Glide to the left edge of the Stage.
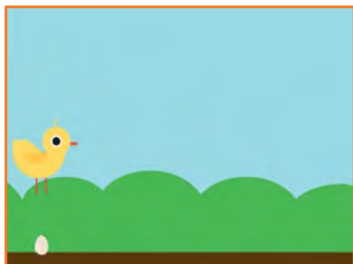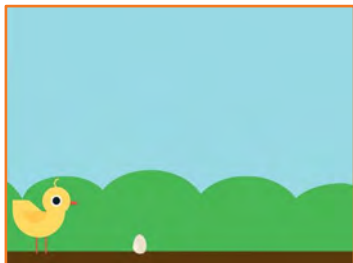
Type a smaller number to go faster.

TRY IT

Click the green flag to start.

Press the **space** key on your keyboard.

Add a Sound

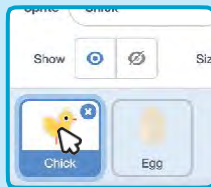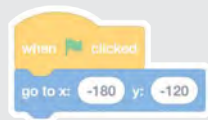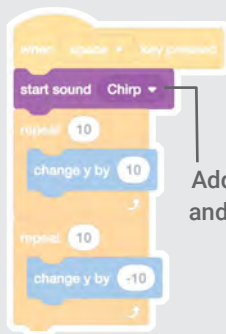Play a sound when your sprite jumps.
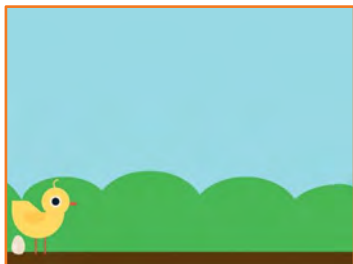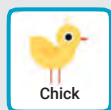
SCRATCH

Add a Sound

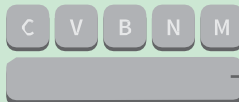scratch.mit.edu

GET READY

Click to select the Chick sprite.

ADD THIS CODE

Chick

Add the **start sound** block, and then select a sound.
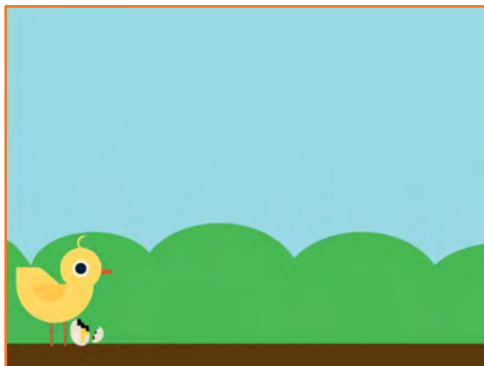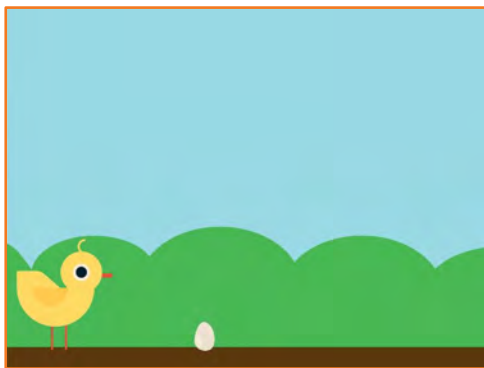
TRY IT

Click the green flag to start.

Press the **space** key on your keyboard.

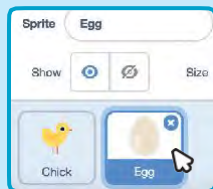# Stop the Game

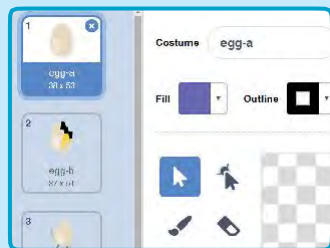Stop the game if your sprite touches the egg.

SCRATCH

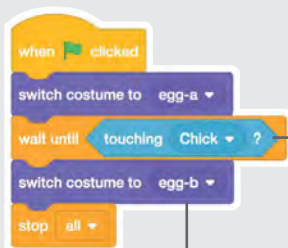# Stop the Game

GET READY

Click to select the **Egg** sprite.

Costumes

Click the **Costumes** tab to see the Egg sprite's costumes.

Costume   egg-a

Fill ▾   Outline

ADD THIS CODE

Code Click the **Code** tab and add this code.

Egg

```
when 🚩 clicked
switch costume to  egg-a ▾
wait until  touching  Chick ▾  ?
switch costume to  egg-b ▾
stop  all ▾
```

Insert the **touching** block and choose **Chick** from the menu.

```
touching  mouse-pointer ▾  ?
```

mouse-pointer
edge
Chick
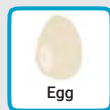
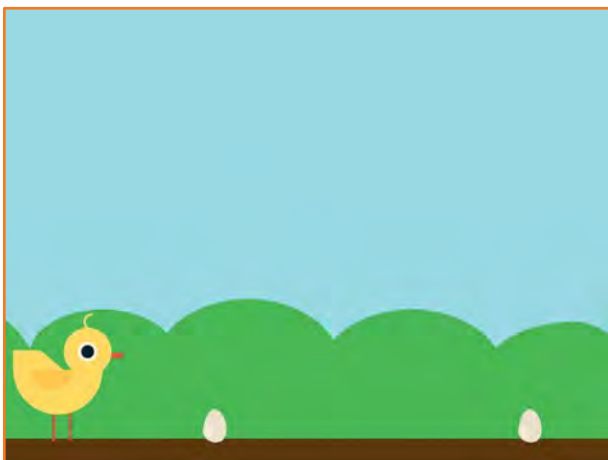Choose a second costume for the Egg sprite to change to.

TRY IT

Click the green flag to start.

C V B N M

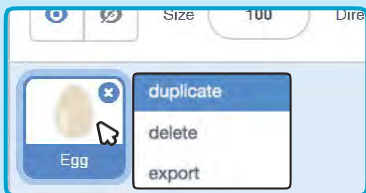Press the **space** key on your keyboard.

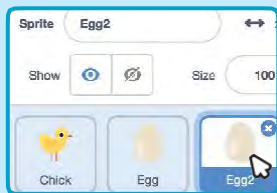# Add More Obstacles

Make the game harder by adding more obstacles.

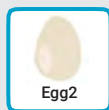SCRATCH

Add More Obstacles

GET READY

To duplicate the Egg sprite, right-click (Mac: control-click) on the thumbnail, and then choose **duplicate**.

Click to select **Egg2**.
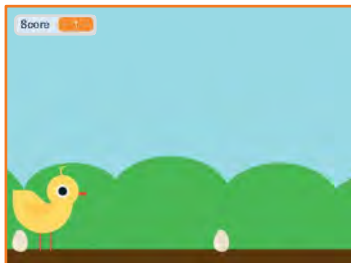
ADD THIS CODE

Egg2

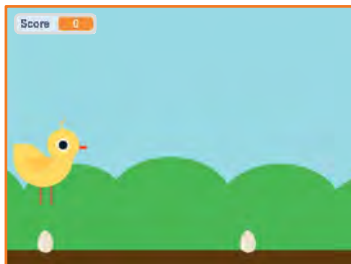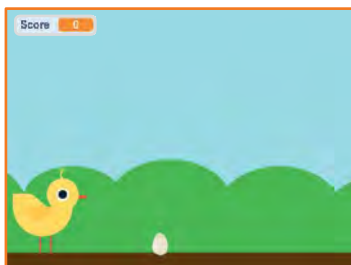Add these blocks to wait before showing the second egg.

TRY IT

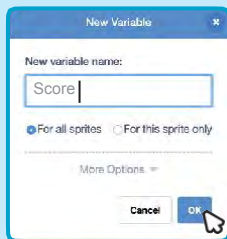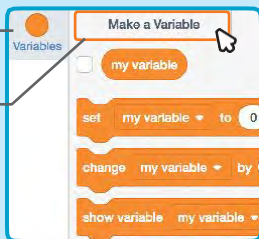Click the green flag to start.

Score

Add a point each time your sprite jumps over an egg.
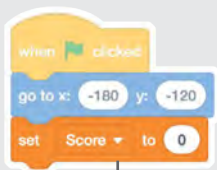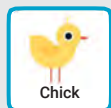
Score

GET READY

Choose **Variables**.

Click the **Make a Variable** button.

Variables

Make a Variable

my variable

set my variable ▾ to 0

change my variable ▾ by

show variable my variable ▾

New Variable ✕

New variable name:

Score

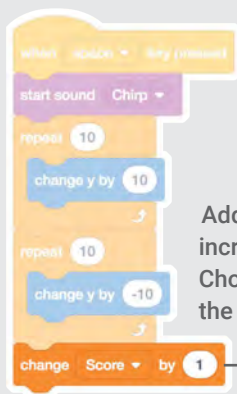● For all sprites   ○ For this sprite only

More Options ▾

Cancel   OK

Name this variable **Score** and then click **OK**.

ADD THIS CODE

Click the Chick sprite and add two blocks to your code:

Chick

when ⚑ clicked

go to x: -180 y: -120

set Score ▾ to 0

Add this block to reset the Score. Choose **Score** from the menu.

when space ▾ key pressed

start sound Chirp ▾

repeat 10

change y by 10

repeat 10

change y by -10

change Score ▾ by 1

Add this block to increase the score. Choose **Score** from the menu.

TRY IT

Jump over the eggs to score points!