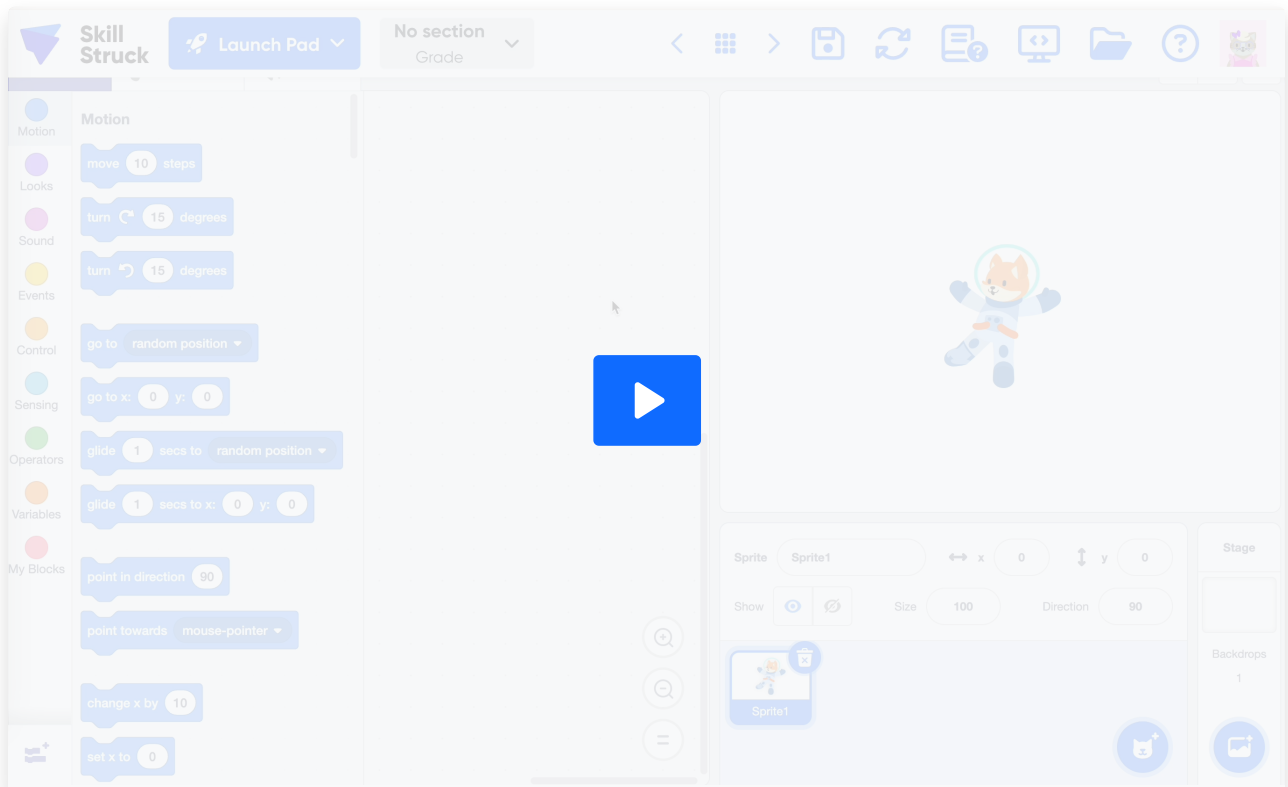


# Events

## Textbook

## Events





When you think of the word *event*, what comes to mind? What kind of events have you ever been to? Have you ever been to a concert, play, fair, or festival? An event is where things are happening.

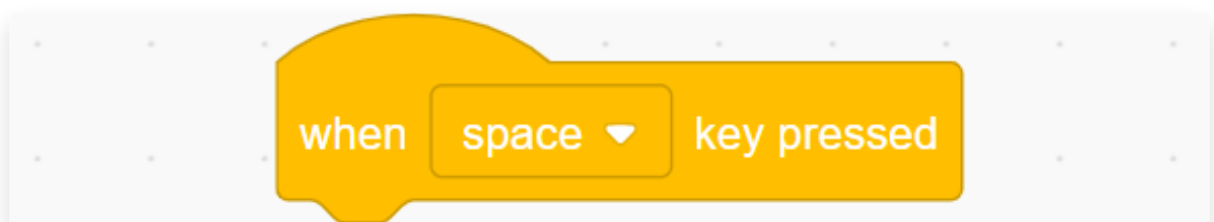
An event in [programming](#) is similar. An event is something that responds on a computer when the user does something, like pressing a button.

Think about when you click a button or select an [icon](#). Perhaps something happens when you just hover over a part of a website or program. Sometimes you click on a "submit" button to turn in your school assignments. You also click "Save" to keep your place. All of these are examples of **events**.

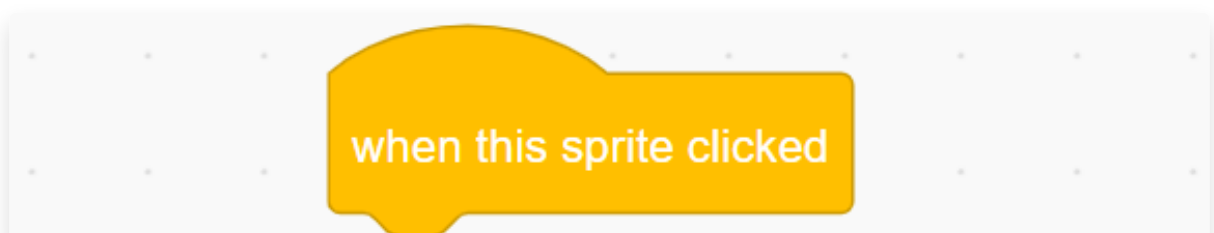
## Coding with Events

1. Drag the following blocks into the code editor:

When [space](#) key pressed:



When this sprite clicked:



When backdrop switches to [backdrop1](#) :

when backdrop switches to backdrop1 ▼

2. Attach motion blocks to each event block.
3. Play each [algorithm](#) built by triggering the event tied to each algorithm.

As you complete the challenges in today's lesson, discuss with others their algorithms. Explain the methods you used for completing your sequence of steps.

## Critical Thinking Questions

1. How is pressing a button in coding like the bell ringing at school? What happens when the "bell" (event) goes off?
2. If you were designing a game, what kinds of events could you use to make the game fun and interactive for the player?

## Questions (5)

### 1. What is an event in programming?

MULTIPLE CHOICE

Choose the correct answer:

- A. Something that starts code
- B. A lunch meeting for programmers
- C. A box that holds information
- D. The output of a program

### 2. True or False: Something that lights up when you hover over it with your mouse is an example of an event.

MULTIPLE CHOICE

Choose the correct answer:

- A. True
- B. False

MULTIPLE CHOICE

**3. True or False: Selecting an option on a touch screen is an example of an event.**

**Choose the correct answer:**

- A. True
- B. False

MULTIPLE CHOICE

**4. Which of the following is an example of an event?**

**Choose the correct answer:**

- A. Changing the sprite's color
- B. Clicking a button to submit an assignment
- C. Moving the sprite
- D. Selecting a backdrop from a library

**5. What happens when you drag the block "When space key is pressed" into the code editor?**

MULTIPLE CHOICE

**Choose the correct answer:**

- A. It changes the sprite's size
- B. It moves the sprite
- C. It changes the backdrop
- D. It responds when the space key is pressed

## Games (3)

### 1. Events Memory Game

Full Screen

Audio

Instructions

Answer Key

Pause

Flips: 0

1

when this sprite clicked

2

when key pressed ▼ space

3

when key pressed ▼ space

4

when this sprite clicked

5

when backdrop switched to backdrop 1 ▼

6

when backdrop switched to backdrop 1 ▼



W

ⓧ

### 2. Events Typing Game

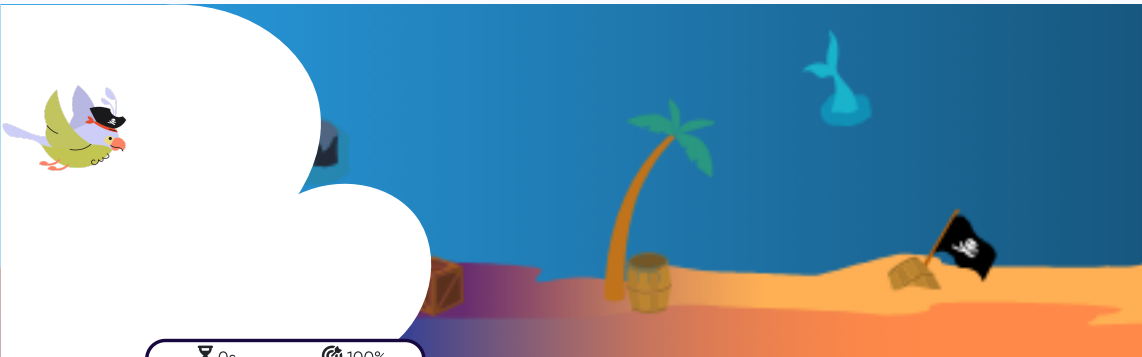
Full Screen

Audio

Instructions

Restart

Pause



⌚ 0s

🎯 100%

An event is something th

### 3. Events Category Game

Full Screen

Audio

Instructions

Answer Key

Pause

Clear All

Check Order

Attempts: 0

The order of  
code blocks

When the space  
key is pressed

When a sprite is  
clicked

The sprite color

When the  
backdrop  
switches

The number of  
sprites



Events

Not an Event

# Blocks Pro Challenges (3)

## 1. Goal!

Challenge

Textbook

### Goal!

Use the soccer background. Then, create a program so when you click the soccer ball it will move to a random position until it goes in the goal.

Requirements

0/2

1 Motion

1 Event

Blocks must be connected to an Event block in order to pass the requirements

Submit

Code

Costumes

Sounds

Motion

move 10 steps

turn 15 degrees

turn 15 degrees

go to random position

go to x: 0 y: 0

glide 1 secs to random position

glide 1 secs to x: 0 y: 0

point in direction 90

point towards mouse-pointer

change x by 10

set x to 0

change y by 10

set y to 0

if on edge, bounce

set rotation style left-right

x position

Sprite

Sprite1

x 0 y 0

Size 100 Direction 90

Sprite1

Stage

Backdrops 1

## 2. Chase

Challenge

Textbook

### Chase

Code two sprites. One sprite will move to a random position when you press the space bar.

You will control the second sprite and chase the other object. The second sprite should move left when you press the left arrow, move right when you press the right arrow, and so on for the up and down arrows.

Requirements

0/2

5 Motion

5 Event

Blocks must be connected to an Event block in order to pass the requirements

Submit

Code

Costumes

Sounds

Motion

move 10 steps

turn 15 degrees

turn 15 degrees

go to random position

go to x: 0 y: 0

glide 1 secs to random position

glide 1 secs to x: 0 y: 0

point in direction 90

point towards mouse-pointer

change x by 10

set x to 0

change y by 10

set y to 0

if on edge, bounce

set rotation style left-right

x position

Sprite

Sprite1

x 0 y 0

Size 100 Direction 90

Sprite1

Stage

Backdrops 1

### 3. Racing Cars

Challenge

Textbook

#### Racing Cars

Set up different sprites around the coding scene to act as obstacles. Then, create a racing game where you control a car that starts at the bottom and move it through the scene to reach the top.

You will need to program the car to move left when you press the left arrow, move right when you press the right arrow, and so on for the up and down arrows.

Requirements

0/2

4 Motion

4 Event

Blocks must be connected to an Event block in order to pass the requirements

Submit

Code

Costumes

Sounds

Motion

Looks

Sound

Events

Control

Sensing

Operators

Variables

My Blocks

move 10 steps

turn 15 degrees

turn 15 degrees

go to random position

go to x: 0 y: 0

glide 1 secs to random position

glide 1 secs to x: 0 y: 0

point in direction 90

point towards mouse-pointer

change x by 10

set x to 0

change y by 10

set y to 0

if on edge, bounce

set rotation style left-right

x position

Sprite1

x 0 y 0

Size 100 Direction 90

Sprite1

Stage

Backdrops 1



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## Answer Keys & Solutions

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### Questions

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#### 1. What is an event in programming?

MULTIPLE CHOICE

Correct Answer:

- |                                    |             |
|------------------------------------|-------------|
| A. Something that starts code      | ✓ Correct   |
| B. A lunch meeting for programmers | ✗ Incorrect |
| C. A box that holds information    | ✗ Incorrect |
| D. The output of a program         | ✗ Incorrect |

#### Explanation:

Remember, an event can trigger the computer to do something

#### 2. True or False: Something that lights up when you hover over it with your mouse is an example of an event.

MULTIPLE CHOICE

Correct Answer:

- |          |             |
|----------|-------------|
| A. True  | ✓ Correct   |
| B. False | ✗ Incorrect |

#### Explanation:

An event is when you do something and the computer responds

#### 3. True or False: Selecting an option on a touch screen is an example of an event.

MULTIPLE CHOICE

Correct Answer:

- |         |           |
|---------|-----------|
| A. True | ✓ Correct |
|---------|-----------|

B. False

✗ Incorrect

**Explanation:**

An event is when you do something and the computer responds

**4. Which of the following is an example of an event?**

MULTIPLE CHOICE

**Correct Answer:**

A. Changing the sprite's color

✗ Incorrect

B. Clicking a button to submit an assignment

✓ Correct

C. Moving the sprite

✗ Incorrect

D. Selecting a backdrop from a library

✗ Incorrect

**Explanation:**

Events are triggered actions by the user.

**5. What happens when you drag the block "When space key is pressed" into the code editor?**

MULTIPLE CHOICE

**Correct Answer:**

A. It changes the sprite's size

✗ Incorrect

B. It moves the sprite

✗ Incorrect

C. It changes the backdrop

✗ Incorrect

D. It responds when the space key is pressed

✓ Correct







**Explanation:**

This block responds to a specific keyboard input.

**Games**

**1. Events Memory Game**

### Memory Game Pairs:

1.  A yellow code block that says "When space key is pressed" ↔  A yellow code block that says "When space key is pressed"
2.  A yellow code block that says "When this sprite clicked" ↔  A yellow code block that says "When this sprite clicked"
3.  A yellow code block that says "When this sprite clicked" ↔  A yellow code block that says "When this sprite clicked"

*Students must find all matching pairs by flipping cards and remembering their positions.*

## 2. Events Typing Game

*Typing game – no answer key needed. Students practice typing the provided content.*

## 3. Events Category Game

### Category Solutions:

#### Category 1: Events

- When the space key is pressed
- When a sprite is clicked
- When the backdrop switches

#### Category 2: Not an Event

- The sprite color
- The number of sprites
- The order of code blocks

### Scoring:

- Gold: 1 attempts or fewer
- Silver: 2 attempts or fewer
- Bronze: 3 attempts or fewer

*Students must sort items into their correct categories.*