Animate the letters of your name, initials, or favorite word.

Animate a Name Cards

scratch.mit.edu Set of 7 cards
Animate a Name Cards

Try these cards in any order:

- Color Clicker
- Spin
- Play a Sound
- Dancing Letter
- Change Size
- Press a Key
- Glide Around
Make a letter change color when you click it.
**Color Clicker**

**GET READY**

Choose a letter from the Sprite Library.

Choose a backdrop.

To see just the letter sprites, click the Letters category at the top of the Sprite Library.

**ADD THIS CODE**

```
when this sprite clicked
change color ▼ effect by 25
```

Try different numbers.

**TRY**

Click your letter.
Spin

Make a letter turn when you click it.

Animate a Name

2

Scratch
**Spin**
scratch.mit.edu

**GET READY**
- Go to the Sprite Library.
- Click the Letters category.
- Choose a letter sprite.

**ADD THIS CODE**
```
when this sprite clicked
  repeat 10
    turn 18 degrees
```
Try different numbers.

**TRY IT**
Click your letter.

**TIP**
Click this block to reset the sprite’s direction.
```
point in direction 90
```
Play a Sound

Click a letter to play a sound.

Animate a Name
GET READY

- Go to the Sprite Library.
- Click the Letters category.
- Choose a letter sprite.
- Choose a backdrop.
- Click the Sounds tab.
- Choose a sound.

ADD THIS CODE

- Click the Code tab.
- Choose a sound from the menu.

TRY IT

Click your letter.
Dancing Letter

Make a letter move to the beat.

Animate a Name
GET READY

Choose a backdrop.

Choose a letter from the Sprite Library.

Click the Extensions button (at the bottom left).

Then click Music to add the music blocks.

ADD THIS CODE

Type a minus sign to move backward.

Choose a different drum from the menu.

TRY IT

Click your letter.
Make a letter get bigger and then smaller.
Go to the Sprite Library.

Click the Letters category.

Choose a letter sprite.

ADD THIS CODE

```
when this sprite clicked
repeat 15
change size by 10
repeat 15
change size by -10
```

Type a minus sign to get smaller.

TRY IT

Click your letter.

TIP

Click this block to reset the size.
Press a key to make your letter change.
Press a Key

GET READY

Choose a backdrop.

Choose a letter from the Sprite Library.

ADD THIS CODE

- when space key pressed
- turn 90 degrees
- change color effect by 25

Try different numbers.

TRY IT

Press the space key.

TIP

You can choose a different key from the menu. Then press that key!
Glide Around

Make a letter glide smoothly from place to place.

Animate a Name
When you move a sprite, you can see the numbers for x and y update.

x is the position from left to right.
y is the position up and down.
Animate a Character Cards

Bring characters to life with animation.
Animate a Character Cards

Try these cards in any order:

• Move with Arrow Keys
• Make a Character Jump
• Switch Poses
• Glide from Point to Point
• Walking Animation
• Flying Animation
• Talking Animation
• Draw an Animation
Move with Arrow Keys

Use the arrow keys to move your character around.

Animate a Character
Move with Arrow Keys

**GET READY**

Choose a backdrop.  
Soccer 2

Choose a character.  
Pico Walking

**ADD THIS CODE**

**Change x**
Move your character *side to side*.

- `when right arrow ▼ key pressed`
- `change x by 10`
- Type a minus sign to move *left*.

- `when left arrow ▼ key pressed`
- `change x by -10`

**Change y**
Move your character *up and down*.

- `when up arrow ▼ key pressed`
- `change y by 10`
- Type a minus sign to move *down*.

- `when down arrow ▼ key pressed`
- `change y by -10`

**TRY IT**

Press the arrow keys on your keyboard to move your character around.
Make a Character Jump

Press a key to jump up and down.

Animate a Character
Make a Character Jump

**GET READY**

Choose a backdrop.

Blue Sky

Choose a character.

Giga Walking

**ADD THIS CODE**

```
when [space] key pressed
change y by 60
wait 0.3 seconds
change y by -60
```

Type how high to jump.

Type a minus sign to go back down.

**TRY IT**

Press the **space** key on your keyboard.
Animate a character when you press a key.
Switch Poses

GET READY

Choose a character with multiple costumes, like Max.

Scroll over sprites in the Sprite Library to see if they have different costumes.

Click the Costumes tab to view all of your sprite’s costumes.

ADD THIS CODE

Click the Code tab.

Choose a costume.

Choose a different costume.

TRY IT

Press the space key on your keyboard.
Glide from Point to Point

Make a sprite glide from point to point.
Glide from Point to Point

GET READY

Choose a backdrop. Nebula
Choose a character. Rocketship

ADD THIS CODE

Set the starting point.
Set another point to glide to.
Set the end point.

TRY IT

Click the green flag to start.

TIP

When you drag a sprite, its x and y positions will update in the blocks palette.
Walking Animation

Make a character walk or run.

Animate a Character
Walking Animation
scratch.mit.edu

GET READY

Choose a backdrop.

Jungle

Choose a walking or running sprite.

Unicorn Running

ADD THIS CODE

when green flag clicked

go to x: -140 y: -60

repeat 50

move 10 steps

next costume

TRY IT

Click the green flag to start.

TIP

If you want to slow down the animation, try adding a wait block inside the repeat block.
Flying Animation

Have a character flap its wings as it moves across the stage.

Animate a Character
Choose a backdrop. Choose Parrot (or another flying sprite).

Glide across the screen
- When clicked
- Go to x: -170, y: 120
- Glide 1 secs to x: 150, y: 50

Set the starting point. Set the end point.

Flap the wings
- When clicked
- Repeat 5
- Switch costume to parrot-a
- Wait 0.1 seconds
- Switch costume to parrot-b
- Wait 0.1 seconds

Choose one costume. Choose another.

Try it
Click the green flag to start.
Talking Animation

Make a character talk.

Animate a Character
Choose Penguin 2.

Click the **Costumes** tab to view the penguin’s other costumes.

---

Click the **Code** tab.

Type what you want your character to say.

---

**TRY IT**

Click the green flag to start.
Draw an Animation

Edit a sprite’s costumes to create your own animation.

Animate a Character
Choose a character.

Click the **Costumes** tab.

Right-click (on a Mac, control-click) a costume to duplicate it.

Click a costume to select and edit it.

Click the **Select** tool.

Select a part of the costume to squeeze or stretch it.

Drag the handle to rotate an object you’ve selected.

---

**ADD THIS CODE**

```
when this sprite clicked
  next costume
  wait 0.5 seconds
  next costume
```

Click the **Code** tab.

Use the **next costume** block to animate your character.

---

**TRY IT**

Click the green flag to start.
Chase Game
Cards

Make a game where you chase a character to score points.

scratch.mit.edu Set of 7 cards
Chase Game Cards

Use these cards in this order:

1. Move Left and Right
2. Move Up and Down
3. Chase a Star
4. Play a Sound
5. Add a Score
6. Level Up!
7. Victory Message
Move Left and Right

Press arrow keys to move left and right.

Chase Game
Move Left and Right
scratch.mit.edu

GET READY

Choose a backdrop.

Galaxy

Choose a character.

Robot

ADD THIS CODE

Choose right arrow.

when right arrow \_\_\_ key pressed

change x by 10

Choose left arrow.

when left arrow \_\_\_ key pressed

change x by -10

Type a minus sign to move left.

TRY IT

Press the arrow keys.

TIP

Type a negative number to move to the left.

change x by -10

Type a positive number to move to the right.

change x by 10
Move Up and Down

Press arrow keys to move up and down.
Move Up and Down

GET READY

Click your character to select it.

ADD THIS CODE

Choose **up arrow**.

Use the **change y by** block to move up.

Choose **down arrow**.

Type a minus sign to move down.

TRY IT

Press the arrow keys.  

TIP

*y* is the position on the Stage from top to bottom.

Type a positive number to move up.

Type a negative number to move down.
Chase a Star

Add a sprite to chase.
Chase a Star

GET READY

Choose a sprite to chase, like Star.

ADD THIS CODE

Type a smaller number (like 0.5) to make it glide faster.

TRY IT

Click the green flag to start. Click the stop sign to stop.
Play a Sound

Play a sound when your character touches the star.

Chase Game
Play a Sound

GET READY

Choose a sound from the Sounds Library, like Collect.

Click the Sounds tab.

Click to select the Robot sprite.

ADD THIS CODE

Click the Code tab and add this code.

Choose your sound from the menu.

Insert the touching block into the if then block.

TRY IT

Click the green flag to start.
Add a Score

Score points when you touch the star.
Add a Score

GET READY

Choose Variables.

Click the Make a Variable button.

Name this variable Score and then click OK.

ADD THIS CODE

Select Score from the menu.

Add this block to reset the score.

Add this block to increase the score.

TIP

Use the set variable block to reset the score to zero.

Use the change variable block to increase the score.
Level Up!

Go to the next level.

Chase Game 6
Insert the Score block into the equals block from the Operators category.

Choose a second backdrop, like Nebula.

Select the Robot

Choose your first backdrop.

Choose the backdrop to switch to.

Choose a sound.

Click the green flag to start the game!
Victory Message

Show a message when you go to the next level.

Score: 9

Score: 10

LEVEL UP!
Victory Message
scratch.mit.edu

GET READY

Use the **Text** tool to write a message, like “Level Up!”

Click the **Paint** icon to make a new sprite.

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

ADD THIS CODE

---

**LEVEL UP!**

**Sprite2**

- **when** **clicked**
- **hide**

Hide the message at the beginning.

- **when backdrop switches to** **Nebula**
- **show**
- **wait** **2** **seconds**
- **hide**

Choose the backdrop for the next level.

Show the message.

TRY IT

Click the green flag to play your game.
Choose instruments, add sounds, and press keys to play music.
Make Music Cards

Try these cards in any order:

• Play a Drum
• Make a Rhythm
• Animate a Drum
• Make a Melody
• Play a Chord
• Surprise Song
• Beatbox Sounds
• Record Sounds
• Play a Song
Play a Drum

Press a key to make a drum sound.
Play a Drum

GET READY

Choose a backdrop.

Choose a drum.

ADD THIS CODE

when space key pressed

start sound Low Tom

Select the sound you want from the menu.

TRY IT

Press the space key on your keyboard.
Make a Rhythm

Play a loop of repeating drum sounds.
Make a Rhythm
scratch.mit.edu

GET READY

Choose a backdrop.

Choose a drum from the Music category.

To see just the music sprites, click the **Music** category at the top of the Sprite Library.

ADD THIS CODE

``` Scratch
when [space] key pressed
  repeat 3
  [start sound] [Hi Na Tabla]
  wait 0.25 seconds
  [start sound] [Hi Tun Tabla]
  wait 0.25 seconds
```

Type how many times you want to repeat.

Try different numbers to change the rhythm.

TRY IT

Press the **space** key on your keyboard.
Animate a Drum

Switch between costumes to animate.
Animate a Drum
scratch.mit.edu

GET READY

Choose a drum.

- **Costumes**
  - Click the **Costumes** tab to see the costumes.
  - You can use the paint tools to change colors.

ADD THIS CODE

- **Code**
  - Click the **Code** tab.

```
when left arrow key pressed
repeat 4
  play sound High Conga until done
  next costume
  wait 0.25 seconds
  play sound Low Conga until done
  next costume
  wait 0.25 seconds
```

Choose a sound from the menu.

TRY IT

- Press the **left arrow** key on your keyboard.
Make a Melody

Play a series of notes.
Choose an instrument, like Saxophone.

To see just the music sprites, click the Music category at the top of the Sprite Library.

Choose up arrow (or another key).

Choose different sounds.

Press the up arrow key.
Play more than one sound at a time to make a chord.
GET READY

Choose an instrument, like Trumpet.

To see just the music sprites, click the Music category at the top of the Sprite Library.

ADD THIS CODE

Choose down arrow (or another key).

Choose different sounds.

TRY IT

Press the down arrow key.

TIP

Use start sound to play sounds play at the same time.

Use play sound until done to play sounds one after another.
Surprise Song

Play a random sound from a list of sounds.

1. 🎵
2. 🎵
3. 🎵
4. 🎵
GET READY

Choose an instrument, like Guitar.

Click the Sounds tab to see how many sounds are in your instrument.

ADD THIS CODE

Click the Code tab.

Choose right arrow.

Insert a pick random block.

Type the number of sounds in your instrument.

TRY IT

Press the right arrow key.
Beatbox Sounds

Play a series of vocal sounds.

Make Music
**Beatbox Sounds**  
scratch.mit.edu

**GET READY**

Choose the **Microphone** sprite.

Click the **Sounds** tab to see how many sounds are in your instrument.

**ADD THIS CODE**

Click the **Code** tab.

Choose **b** (or another key).

Insert a **pick random** block.

Type the number of sounds in this sprite.

**TRY IT**

Press the **B** key to start.
Record Sounds

Make your own sounds to play.
GET READY

Choose a backdrop. Beach Malibu

Choose any sprite. Beachball

Click the Sounds tab. Then choose Record from the pop-up menu.

Click the Record button to record a short sound.

ADDTHIS CODE

Click the Code tab.

Choose c (or another key).

TRY IT

Press the C key to start.
Add a music loop as background music.
GET READY

Choose a sprite, like Speaker.

Click the Sounds tab.

Choose a sound from the Loops category, like Drum Jam.

To see just the music loops, click the Loops category at the top of the Sounds Library.

ADD THIS CODE

Click the Code tab.

Choose your sound from the menu.

TRY IT

Click the green flag to start.
Create a Story
Cards

Choose characters, add conversation, and bring your story to life.

scratch.mit.edu  Set of 9 cards
Create a Story Cards

Start with the first card, and then try the other cards in any order:

• Start a Story
• Start a Conversation
• Switch Backdrops
• Click a Character
• Add Your Voice
• Glide to a Spot
• Walk onto the Stage
• Respond to a Character
• Add a Scene
Start a Story

Set the scene and have a character say something.

Welcome to Magic School!
Choose a character.

Click the green flag to start.

ADD THIS CODE

Type what you want your character to say.

Wizard

when clicked

say Welcome to Magic School! for 2 seconds

TRY IT

Click the green flag to start.
Start a Conversation

Make two characters talk to each other.

-I have a pet owl!

-What's its name?
To change the direction a character is facing, click the Costumes tab, then click Flip Horizontal.
Switch Backdrops

Change from one backdrop to another.

Create a Story
Switch Backdrops
scratch.mit.edu

GET READY

Choose a character.

Elf

Choose two backdrops.

Witch House

Mountain

ADD THIS CODE

when clicked

switch backdrop to Witch House

wait 4 seconds

switch backdrop to Mountain

Choose the backdrop you want to start with.

Choose the second backdrop.

TRY IT

Click the green flag to start.
Click a Character

Make your story interactive.

Create a Story
Click a Character

GET READY

Choose a backdrop.

Mountain

Choose a character.

Unicorn

ADD THIS CODE

You can choose different effects.

Select a sound from the menu.

TRY IT

Click your character.
Add Your Voice

Record your voice to make a character talk.

Let's go!
Add Your Voice

GET READY

Choose a sprite.

Click the Sounds tab.

Choose Record from the pop-up menu.

Click Record.

When you’re done, click Save.

ADD THIS CODE

Click the Code tab.

Select your recording from the menu.

TRY IT

Click the green flag to start.
Glide to a Spot

Make a character move across the Stage.
Glide to a Spot
scratch.mit.edu

GET READY

Choose a backdrop.  
Mountain

Choose a character.  
Owl

ADD THIS CODE

ADD THIS CODE

```
when [clicked] do
  go to x: -180 y: 140
  glide 1 secs to x: -30 y: 50
```

TRY IT

Click the green flag to start.

TIP

When you drag a sprite, the numbers for x and y will update in the blocks palette.
Walk onto the Stage

Have a character enter the scene.
Walk onto the Stage
scratch.mit.edu

GET READY

Choose a backdrop.

Mountain

Choose a character.

Dragon

ADD THIS CODE

when green flag clicked
hide
go to x: -240 y: -60
show
glide 2 secs to x: 0 y: -60

Type -240 to place your sprite at the left edge of the Stage.

Change this number to glide faster or slower.

TIP

Change the size of a sprite by typing a smaller or larger number.
Respond to a Character

Coordinate a conversation so that one character talks after another.

1. Character A: Where are you going?
2. Character B: To the forest!
Respond to a Character

GET READY

Choose a backdrop.

Choose two characters.

Mountain

Goblin

Princess

ADD THIS CODE

Click the thumbnail for each character, and then add its code.

Goblin

when clicked

say Where are you going? for 2 seconds

broadcast message1

Broadcast a message.

Princess

when I receive message1

say To the forest! for 2 seconds

Tell this character what to do when it receives the broadcast.

TIP

You can click the menu to add a new message.
Add a Scene

Create multiple scenes with different backdrops and characters.
Add a Scene

GET READY

Choose two backdrops.

Witch House  Mountain

Choose a character.

Fox

ADD THIS CODE

when green flag clicked

switch backdrop to Witch House

hide

wait 4 seconds

switch backdrop to Mountain

when backdrop switches to Mountain

go to x: 80  y: -100

show

Choose the backdrop name from the menu.

TRY IT

Click the green flag to start.
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.

Pong Game
Bounce Around
scratch.mit.edu

**GET READY**

Choose a backdrop.

Choose a ball.

**ADD THIS CODE**

When [click]

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.
Move the Paddle

**GET READY**

Choose a sprite for hitting the ball, like Paddle.

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

**ADD THIS CODE**

Insert the `mouse x` block into the `set x to` block.

**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.
Make the ball bounce off the paddle.
GET READY

Click to select the Ball sprite.

ADD THIS CODE

Add this new stack of blocks to your Ball sprite.

Choose Paddle from the menu.

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
scratch.mit.edu

GET READY

Choose the sprite called Line.
Drag the Line sprite to the bottom of the Stage.

ADD THIS CODE

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.
Score Points

GET READY

Choose Variables.

Click the Make a Variable button.

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

ADD THIS CODE

Click to select the Ball sprite.

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

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

When you score enough points, display a winning message!

YOU WON!
Win the Game

GET READY

Click the Paint icon to make a new sprite.

Use the Text tool to write a message, like “You Won!”

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!
Let’s Dance Cards

Design an animated dance scene with music and dance moves.
Let’s Dance
Cards
Try these cards in any order:

• Dance Sequence
• Dance Loop
• Play Music
• Take Turns
• Starting Position
• Shadow Effect
• Interactive Dance
• Color Effect
• Leave a Trail
Dance Sequence

Make an animated dance.

Let’s Dance
GET READY

Choose a dancer.

Click the Costumes tab to see the different dance moves.

To see just the dance sprites, click the Dance category at the top of the Sprite Library.

ADD THIS CODE

Click the Code tab.

Type how long to wait between dance moves.

Pick different dance moves.

TRY IT

Click the green flag to start.
Dance Loop

Repeat a series of dance steps.

Let’s Dance

2
GET READY

Go to the Sprite Library.

Click the Dance category.

Choose a dancer.

ADD THIS CODE

Choose a dance pose.

Type how many times you want to repeat the dance.

Add a repeat block around your dance sequence.

TRY IT

Click the green flag to start.
Play Music

Play and loop a song.
Play Music
scratch.mit.edu

GET READY

Choose a backdrop.

Choose a song from the Loops category.

ADD THIS CODE

Click the Code tab.

Type how many times you want the song to repeat.

TIP

Make sure to use play sound (not start sound) or else the music won’t finish playing before it begins again.
Take Turns

Coordinate dancers so that one begins after the other finishes.

Let's Dance
Take Turns

GET READY

Choose two dancers from the Dance category.

ADD THIS CODE

Broadcast a message.

Tell this dancer sprite what to do when it receives the message.

TRY IT

Click the green flag to start.
Starting Position

Tell your dancers where to start.
Starting Position

**GET READY**

- Go to the Sprite Library.
- Click the Dance category.
- Choose a dancer.

**ADD THIS CODE**

- When clicked:
  - go to x: -10  y: 20
  - set size to 90 %
  - switch costume to lb stance
  - show

- **TIP**

  Use `go to x: y:` to set a sprite’s position on the Stage.

  - x is the position on the Stage from left to right.
  - y is the position on the Stage from top to bottom.
Shadow Effect

Make a dancing silhouette.

Let's Dance
**Shadow Effect**

_scratch.mit.edu_

**GET READY**

- Go to the Sprite Library.
- Click the **Dance** category.
- Choose a dancer.

**ADD THIS CODE**

- Choose **brightness** from the menu.
- Set the brightness to **-100** to make the sprite completely dark.

**TRY IT**

- Click the green flag to start.
- Click the stop sign to stop.
Interactive Dance

Press keys to switch dance moves.

Let's Dance
Interactive Dance
scratch.mit.edu

GET READY

Go to the Sprite Library.

Click the Dance category

Choose a dancer.

ADD THIS CODE

Choose a different key to press for each dance move.

Press the arrow keys on your keyboard.

TRY IT

Press the arrow keys on your keyboard.
Color Effect

Make the backdrop change colors.
Color Effect
scratch.mit.edu

GET READY

Choose a backdrop.

ADD THIS CODE

when green旗 clicked
forever
change color effect by 25
wait 0.3 seconds

Try different numbers.

TRY IT

Click the green flag to start.
Leave a Trail

Stamp a trail as your dancer moves.
Choose a dancer from the Dance category.

Click the Extensions button, and then click Pen to add the blocks.

Type how many times to repeat.

Stamp an image of the sprite on the Stage.

Clear all the stamps.

Click the green flag to start.
Jumping Game
Cards

Make a character jump over moving obstacles.

scratch.mit.edu Set of 7 cards
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.
GET READY

Choose a backdrop. Blue Sky
Choose a character, like 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

Press the space key on your keyboard.
Go to Start

Set the starting point for your sprite.
GET READY

Drag your character to where you want it.

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

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

ADD THIS CODE

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

TIP

Change the size of a sprite by typing a smaller or larger number.
Make an obstacle move across the Stage.
GET READY

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

ADD THIS CODE

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.
Add a Sound
scratch.mit.edu

GET READY
Click to select the Chick sprite.

ADD THIS CODE
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.
Stop the Game
scratch.mit.edu

GET READY
Click to select the Egg sprite.

Click the Costumes tab to see the Egg sprite’s costumes.

ADD THIS CODE
Click the Code tab and add this code.

Choose a second costume for the Egg sprite to change to.

TRY IT
Click the green flag to start.

Press the space key on your keyboard.
Add More Obstacles

Make the game harder by adding more obstacles.
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

Add these blocks to wait before showing the second egg.

TRY IT

Click the green flag to start.
Add a point each time your sprite jumps over an egg.
GET READY

Choose Variables.

Click the Make a Variable button.

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

ADD THIS CODE

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

1. Add this block and then choose **Score** from the menu.
2. Add this block to increase the score. Choose **Score** from the menu.

TRY IT

Jump over the eggs to score points!
Virtual Pet
Cards

Create an interactive pet that can eat, drink, and play.

scratch.mit.edu Set of 7 cards
Virtual Pet Cards

Use these cards in this order:

1. Introduce Your Pet
2. Animate Your Pet
3. Feed Your Pet
4. Give Your Pet a Drink
5. What Will Your Pet Say?
6. Time to Play
7. How Hungry?
Introduce Your Pet

Choose a pet and have it say hello.

My name is Kiki!
Introduce Your Pet

GET READY

Choose a backdrop, like Garden Rock.

Choose a sprite to be your pet, like Monkey.

Pick a sprite with more than one costume.

Scroll over sprites in the Sprite Library to see their different costumes.

ADD THIS CODE

Drag your pet to where you want it on the Stage.

Set its position. (Your numbers may be different.)

Type what you want your pet to say.

TRY IT

Click the green flag to start.
Animate Your Pet

Bring your pet to life.

Virtual Pet
Animate Your Pet

GET READY

Click the **Costumes** tab to see your pet’s costumes.

ADD THIS CODE

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

Choose a costume.

Choose a different costume.

TRY IT

Click your pet.
Feed Your Pet

Click the food to feed your pet.

Virtual Pet
Feed Your Pet
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GET READY

Sounds
Click the Sounds tab.

Choose a sound from the Sounds Library, like Chomp.

Choose a food sprite, like Bananas.

ADD THIS CODE

Click the code tab.

Select New message and name it food.

Broadcast the food message.

Select your pet.

Choose food from the menu.

Choose Bananas from the menu.

Glide to the starting position.

TRY IT

Click the food.
Give your pet some water to drink.
Give Your Pet a Drink

GET READY

Choose a drink sprite, like Glass.

ADD THIS CODE

Broadcast a new message.

Switch to the empty glass.

Switch to the full glass.

Tell your pet what to do when it receives the message.

Choose drink from the menu.

Choose Glass Water from the menu.

Glide to the starting position.

TRY IT

Click the drink to start.
What Will Your Pet Say?

Let your pet choose what it will say.

Choice 1
I like bananas!

Choice 2
That tickles!

Choice 3
Let’s play!
What Will Your Pet Say?

GET READY

Choose **Variables**.

Click the **Make a Variable** button.

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

ADD THIS CODE

Insert the **pick random** block.

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

Type things for your pet to say.

TRY IT

Click your pet to see what it says.
Time to Play

Have your pet play with a ball.
GET READY

Choose a sprite, like Ball.

ADD THIS CODE

Insert the touching block into the wait until block.

Broadcast a new message.

Choose Monkey from the menu.

Type a minus sign to make the ball move down.

A positive number makes the ball move up.

TRY IT

Click the ball.
How Hungry?

Keep track of how hungry your pet is.

Virtual Pet 7
How Hungry?
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**GET READY**

Choose Variables.

Click the Make a Variable button.

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

**ADD THIS CODE**

Choose food from the menu.

Type a minus sign to make your pet less hungry when it gets food.

**TRY IT**

Click the green flag to start.

Then click the food.
Make a game where you catch things falling from the sky.
Catch Game Cards

Use these cards in this order:

1. Go to the Top
2. Fall Down
3. Move the Catcher
4. Catch It!
5. Keep Score
6. Bonus Points
7. You Win!
Go to the Top

Start from a random spot at the top of the Stage.
Go to the Top
scratch.mit.edu

GET READY

Choose a backdrop, like Boardwalk.

Choose a sprite, like Apple.

ADD THIS CODE

Type 180 to go to the top of the stage.

TRY IT

Click the green flag to start.

TIP

y is the position on the Stage from top to bottom.
Fall Down

Make your sprite fall down.
GET READY

Click to select the Apple sprite.

ADD THIS CODE

Keep the previous code as is, and add this second stack of blocks:

Type a minus sign to fall down.

Check if near the bottom of the Stage.

Go back to the top of the Stage.

Insert the y position block into this block from the Operators category.

Try It

Click the green flag to start.

Click the stop sign to stop.

Tip

Use change y by to move up or down.
Move the Catcher

Press the arrow keys so that the catcher moves left and right.
Move the Catcher
scratch.mit.edu

GET READY

Choose a catcher, like Bowl.

Drag the bowl to the bottom of the Stage.

ADD THIS CODE

when green flag clicked
forever
if key right arrow pressed? then
  change x by 10
if key left arrow pressed? then
  change x by -10

Choose the right arrow from the menu.
Choose the left arrow from the menu.

TRY IT

Click the green flag to start.

Press the arrow keys to move the catcher.
Catch It!

Catch the falling sprite.
Click to select the Apple.

Choose Bowl from the menu.

Choose a sound.

Click the Sounds tab if you want to add a different sound.

Then choose a sound from the Sounds Library.

Click the Code tab when you want to add more blocks.
Keep Score

Add a point each time you catch the falling sprite.
Keep Score

GET READY

Choose Variables.
Click the Make a Variable button.

Name this variable Score and then click OK.

ADD THIS CODE

Add two new blocks to your code:

Add this block to reset the score.

Add this block to increase the score.

TRY IT

Click the green flag to start.
Then, catch apples to score points!
Bonus Points

Get extra points when you catch a golden sprite.

Catch Game
GET READY

To duplicate your sprite, right-click (Mac: control+click).

Choose **duplicate**.

You can use the paint tools to make your bonus sprite look different.

ADD THIS CODE

Click the **Code** tab.

Type how many points you get for catching a bonus sprite.

TRY IT

Catch the bonus sprite to increase your score!
You Win!

When you score enough points, display a winning message!
You Win!
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GET READY

Click the Paint icon to make a new sprite.

Use the Text tool to write a message, like “You Win!”

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

ADD THIS CODE

Click the Code tab.

Insert the Score block from the Variables category.

TRY IT

Click the green flag to start.

Play until you score enough points to win!
Video Sensing Cards

Interact with projects using video sensing.

scratch.mit.edu Set of 7 cards
Video Sensing Cards

Try these cards in any order:

• Pet the Cat
• Animate
• Pop a Balloon
• Play the Drums
• Keep Away Game
• Play Ball
• Start an Adventure
Pet the Cat

Make the cat meow when you touch it.
GET READY

Click the **Extensions** button (at the bottom left of the screen).

Choose **Video Sensing** to add the video blocks.

ADD THIS CODE

This will start when it senses video motion on a sprite.

Type a number between 1 and 100 to change the sensitivity.

(1 will start with very little movement, 100 requires a lot of movement.)

TRY IT

Move your hand to pet the cat.
Animate

Move around to bring a sprite to life.

Video Sensing
GET READY

Click the Extensions button, then choose Video Sensing.

Choose a sprite to animate.

Pick a sprite with more than one costume.

Scroll over sprites in the Sprite Library to see their different costumes.

ADD THIS CODE

Choose one costume.

Choose a different costume.

TRY IT

Move around to animate your sprite.
Pop a Balloon

Use your finger to pop a balloon.
**Pop a Balloon**

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**GET READY**

- Click the **Extensions** button, then choose **Video Sensing**.
- Choose a sprite, like **Balloon1**.

**ADD THIS CODE**

```
when video motion > 10
play sound Pop until done
change color effect by 25
![](image)
go to random position
```

Type a larger number to make it harder to pop.

**TRY IT**

Use your finger to pop the balloon.
Play the Drums

Interact with sprites that play sounds.
GET READY

Click the Extensions button, then choose Video Sensing.

Choose two sprites, like Drum and Drum-cymbal.

ADD THIS CODE

Click on a drum to select it, then add its code.

Type a minus sign to get smaller.

Choose a different costume.

TRY IT

Use your hands to play the drums!
Keep Away Game

Move around to avoid a sprite.

Video Sensing
Keep Away Game
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GET READY

Click the **Extensions** button, then choose **Video Sensing**.

Choose a backdrop, like **Ocean**.

Choose a sprite, like **Jellyfish**.

ADD THIS CODE

Type a number between 0 and 100. (0 to show the video, 100 to make the video transparent.)

TRY IT

Move around to avoid the jellyfish.
Play Ball

Use your body to move a sprite across the screen.
**GET READY**

Click the **Extensions** button, then choose **Video Sensing**.

Choose a sprite, like **Beachball**.

**ADD THIS CODE**

```
when clicked
    go to x: 0 y: 0

when video motion > 10
    point in direction video direction on sprite
    repeat 10
        move 10 steps
```

Choose **direction** from the menu.

**TRY IT**

Use your hands to push the beach ball around the screen. Try it with a friend!
Start an Adventure!

Interact with a story by moving your hands.

Let's go explore!
Start an Adventure!
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GET READY

- Click the **Extensions** button.
- Choose a backdrop.
- Choose a sprite.
- Choose Video Sensing.

Click the Costumes tab to see your sprite's other costumes.

ADD THIS CODE

- Insert the `video motion on sprite` block into the `greater than` block from the Operators category.

Choose another costume.
Set the position your sprite will glide to.

Set a starting point.
Choose a costume.

Try it

Click the green flag.
Then wave to wake up the fox.