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

Make a letter change color when you click it.
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.

when this sprite clicked
change color effect by 25

Try different numbers.

Click your letter.
Spin

Make a letter turn when you click it.

Animate a Name
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.
Play a Sound

Click a letter to play a sound.

Animate a Name
Play a Sound

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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.
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 drum from the menu.

TRY IT

Click your letter.
Change Size

Make a letter get bigger and then smaller.

Animate a Name
**GET READY**

- 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.

Animate a Name
**Press a Key**

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---

**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.
Glide Around

GET READY

Choose a backdrop.

Choose a letter from the Sprite Library.

ADD THIS CODE

Try different numbers.

TRY IT

Click your letter to start.

TIP

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.
Imagine a world where anything is possible!
Imagine a World

Try these cards in any order:

• Say Something
• Fly Around
• Go Right and Left
• Go Up and Down
• Change Costumes
• Glide from Here to There
• Grow and Shrink
• Change Backdrops
• Add a Sound
Say Something

Type what you want your sprite to say.

Imagine a World
Say Something

GET READY

Select the sprite you want to talk.

ADD THIS CODE

Sprite1

when clicked

say Hello! for 2 seconds

say Imagine if... for 2 seconds

Type what you want to say.

TRY IT

Click the green flag to start.
Fly Around

Press the space key to glide glide.
Fly Around
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GET READY

Choose a sprite.
Butterfly 2

Choose a backdrop.
Savanna

ADD THIS CODE

when space key pressed
start sound pop

glide 1 secs to random position

TRY IT

Press the space key to glide.
Go Right and Left

Press arrow keys to move right and left.
Go Right and Left

GET READY

Choose a sprite.  Ben
Choose a backdrop.  Playing Field

ADD THIS CODE

Change x to move your character side to side.

Type a minus sign to move left.

TRY IT

Press the right and left arrow keys on your keyboard.
Go Up and Down

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

GET READY

Choose a sprite.
Hedgehog

Choose a backdrop.
Woods and Bench

ADD THIS CODE

Change y to move your character up and down.

- When up arrow key pressed
  - Change y by 10

- When down arrow key pressed
  - Change y by -10

Type a minus sign to move down.

TRY IT

Press the up and down arrow keys on your keyboard.
Change Costumes

Animate a sprite when you click it.
GET READY

Choose a sprite.
Rooster

Choose a backdrop.
Blue Sky

ADD THIS CODE

when this sprite clicked

switch costume to rooster-b

wait 0.3 seconds

switch costume to rooster-a

wait 0.3 seconds

Choose one costume.

Choose another.

TRY IT

Click your sprite.
Glide From Here to There

Make a sprite glide from one point to another.
Glide From Here to There
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GET READY

Choose a sprite. Earth
Choose a backdrop. Stars

ADD THIS CODE

```
when green flag clicked
  go to x: 0
  y: 0
  glide 1 sec to x: -180
  y: -100
```

Set the starting point.
Set the end point.

TRY IT

Click the green flag to start.

TIP

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.
Grow and Shrink

Make a sprite change size when you click it.
GET READY

Choose a backdrop.  
Choose a sprite.  

ADD THIS CODE

Drums Tabla

when this sprite clicked
repeat 2
set size to 125 %
play sound Hi Na Tabla until done
set size to 100 %

Type a larger number to make it bigger.
Type 100 to return to original size.

TRY IT

Click your sprite.
Change Backdrops

Change scenes by switching backdrops.

![Scene 1: Desert](image1)

![Scene 2: City](image2)

Let's explore!
Choose two backdrops.

Choose a sprite.

Choose the backdrop you want to start with.

Choose the second backdrop.

Type what you want to say.

Click the green flag to start.
Add a Sound

Add your voice or other sounds to your project.

Imagine a World
GET READY

Choose a sprite.

Click the Sounds tab.

Then click Record from the pop-up menu.

Or, click here to choose a sound from the library.

To record your voice or other sound, click the red button.

If your device is unable to record, you can choose a sound.

ADD THIS CODE

Click the Code tab.

Select your sound.

Type what you want to say.

TRY IT.

Click the green flag to start.
Chase Game

Cards

Make a game where you chase a character to score points.
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.
Move Left and Right

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

TRY IT

Press the arrow keys.

TIP

Type a negative number to move to the left.

Type a positive number to move to the right.
Move Up and Down

Press arrow keys to move up and down.

Chase Game
Move Up and Down

GET READY

Click your character to select it.

ADD THIS CODE

Choose up arrow.

Choose down arrow.

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.
Choose a sprite to chase, like Star.

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

Click the green flag to start.  

Click the stop sign to stop.
Play a Sound

Play a sound when your character touches the star.
Play a Sound

GET READY

Click to select the Robot sprite.

Choose a sound from the Sounds Library, like Collect.

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.
Level Up!
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GET READY

Choose a second backdrop, like Nebula.

Select the Robot

ADD THIS CODE

Choose your first backdrop.

Choose the backdrop to switch to.

Insert the Score block into the equals block (from the Operators category).

Choose a sound.

TRY IT

Click the green flag to start the game!
Victory Message

Show a message when you go to the next level.
Victory Message

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

Hide the message at the beginning.

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.
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

**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**

```blocks
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.
GET READY

Choose a drum.

Click the Costumes tab to see the costumes.

You can use the paint tools to change colors.

ADD THIS CODE

Click the Code tab.

Choose a sound from the menu.

TRY IT

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

Play a series of notes.
Make a Melody

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.
Play a Chord
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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.

Make Music
Surprise Song

GET READY

Choose and 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.
Beatbox Sounds
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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.

Choose any sprite.

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

Click the Record button to record a short sound.

ADD THIS 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.
Play a Song
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GET READY

Choose a sprite, like Speaker.

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.
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 1
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

when left arrow key pressed
change x by -10

Type a minus sign to move left.

Change y
Move your character up and down.

when up arrow key pressed
change y by 10

when down arrow key pressed
change y by -10

Type a minus sign to move down.

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.
Make a Character Jump

GET READY

Choose a backdrop.  |  Choose a character.

Blue Sky

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.
Switch Poses

Animate a character when you press a key.
Switch Poses

GET READY

Choose a character with multiple costumes, like Max.

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

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

Animate a Character
Glide from Point to Point

GET READY

Choose a backdrop.  Nebula
Choose a character.  Rocketship

ADD THIS CODE

when [ ] clicked

go to x: -160  y: -130

[glide 1 secs to x: -40  y: 10]

[glide 1 secs to x: 140  y: 80]

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
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GET READY

Choose a backdrop.
Jungle

Choose a walking or running sprite.
Unicorn Running

ADD THIS CODE

when clicked
go to x: -140 y: -60
repeat 50
move 10 steps
next costume

TRY IT

Click the green flag to start.

TIP

wait 0.01 seconds
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 Parrot (or another flying sprite).

Canyon

GET READY

Choose a backdrop.

ADD THIS CODE

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.

ADD THIS CODE

Click the Code tab.

Type what you want your character to say.

when [green flag clicked]

say [Hello!] for 2 seconds

when [green flag clicked]

start sound [Chirp]

switch costume to [penguin2-b]

wait [0.3 seconds]

switch costume to [penguin2-a]

Choose one costume.

Choose another.

TRY IT

Click the green flag to start.
Draw an Animation

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

Animate a Character
Draw an Animation
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GET READY

Choose a character.

Choose a character.

Click the Costumes tab.

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

Now you should have two identical costumes.

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

Click a costume to select and edit it.

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

Click the green flag to start.

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.
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.

Choose a backdrop.

ADD THIS CODE

Type what you want your character to say.

Witch House

Wizard

when [green flag] 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?
Start a Conversation
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GET READY

Choose two characters, like Witch and Elf.

ADD THIS CODE

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

Witch

when [ ] clicked
say [I have a pet owl!] for [2] seconds
wait [2] seconds

Elf

when [ ] clicked
wait [2] seconds
say [What's its name?] for [2] seconds

TIP

To change the direction a character is facing, click the Costumes tab, then click Flip Horizontal.
Switch Backdrops

Change from one backdrop to another.
Switch Backdrops
scratch.mit.edu

GET READY

Choose a character.

Choose two backdrops.

ADD THIS CODE

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
GET READY

Choose a backdrop.

Choose a character.

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.

Create a Story
Create a Story

Choose a sprite.

Princess

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.

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

GET READY

Choose a backdrop.
Mountain

Choose a character.
Owl

ADD THIS CODE

Owl

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

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

GET READY

Choose a backdrop.

Mountain

Choose a character.

Dragon

ADD THIS CODE

When [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.

<table>
<thead>
<tr>
<th>Sprite</th>
<th>Show</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dragon</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

Size 50

Size 100

Size 150
Respond to a Character

Coordinate a conversation so that one character talks after another.

Where are you going?

To the forest!
Respond to a Character

GET READY

Choose a backdrop.

Mountain

Choose two characters.

Goblin

Princess

ADD THIS CODE

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

Goblin

when [flag] 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
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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

Set of 6 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.
Bounce Around
scratch.mit.edu

GET READY

Choose a backdrop.
Neon Tunnel
Choose a ball.

ADD THIS CODE

when 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.
Move the Paddle
scratch.mit.edu

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.
Bounce Off the Paddle

Make the ball bounce off the paddle.
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.
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
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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.
When you score enough points, display a winning message!
**Win the Game**

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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 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

Set of 9 cards

Design an animated dance scene with music and dance moves.

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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
Dance Sequence
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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.
Dance Loop
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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.

Let's Dance
Play Music
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GET READY

Choose a backdrop.

Click the Sounds tab.

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` or else the music won’t finish playing before it begins again.
Take Turns

Coordinate dancers so that one begins after the other finishes.
Choose two dancers from the Dance category.

Broadcast a message.

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

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

LB Dance

Tell your sprite where to start.

Set the sprite’s size.

Choose a starting costume.

Make sure the sprite is showing.

TIP

Use to set a sprite’s position on the Stage.

goto x: \(x\) y: \(y\) 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.
**GET READY**

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

**ADD THIS CODE**

**Choose brightness from the menu.**

```
set color \[ effect \]
```

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

```
when green flag clicked
set brightness \[ effect \] to -100
forever
next costume
wait 0.3 seconds
```

**TRY IT**

- Click the green flag to start.
- Click the stop sign to stop.
Press keys to switch dance moves.
Choose a different key to press for each dance move.

- When `left arrow` key pressed, switch costume to `jo pop left`.
- When `right arrow` key pressed, switch costume to `jo pop right`.
- When `up arrow` key pressed, switch costume to `jo top stand`.
- When `down arrow` key pressed, switch costume to `jo pop down`.

Pick a dance move from the menu.

Try it

Press the arrow keys on your keyboard.
Color Effect

Make the backdrop change colors.

Let's Dance
GET READY

Choose a backdrop.

ADD THIS CODE

when green flag 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.
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.

Choose a character, like Chick.

ADD THIS CODE

```
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.

ADD THIS CODE

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

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

TIP

Change the size of a sprite by typing a smaller or larger number.
Moving Obstacle

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.

Type a smaller number to go faster.

Glide to the left edge of the Stage.

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**

**GET READY**

Click to select the Chick sprite.

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

**ADD THIS CODE**

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

**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
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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.
Score

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:

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

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.

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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**

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**GET READY**

Choose a backdrop, like Garden Rock.

Choose a sprite to be your pet, like Monkey.

- **Garden**
- **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.
**Animate Your Pet**

**GET READY**

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

**ADD THIS CODE**

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

```blocks
when this sprite clicked
  start sound Chee Chee
  repeat 4
    switch costume to monkey-a
    wait 0.2 seconds
    switch costume to monkey-b
    wait 0.2 seconds
```

- Choose a costume.
- Choose a different costume.

**TRY IT**

- Click your pet.
Feed Your Pet

Click the food to feed your pet.
Feed Your Pet

GET READY

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 a Drink

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

GET READY

Choose a drink sprite, like Glass Water.

ADD THIS CODE

when this sprite clicked
  go to front ▼ layer
  broadcast drink ▼
    wait 1 seconds
    switch costume to glass water-b ▼
  start sound Water Drop ▼
    wait 1 seconds
    switch costume to glass water-a ▼
  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.

when I receive drink ▼
  glide 1 secs to Glass Water ▼
    wait 1 seconds
    glide 1 secs to x: -50 y: 60 ▼
  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.
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.

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.
**Time to Play**

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**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.
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.
Catch Game
Cards

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.
Get Ready

Choose a backdrop, like Boardwalk.

Choose a sprite, like Apple.

Add This Code

Apple

When green flag clicked

go to random position

set y to 180

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.

y = 180

x = -240  x = 240

y = -180
Fall Down

Make your sprite fall down.
**Fall Down**

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---

**GET READY**

Click to select the Apple sprite.

---

**ADD THIS CODE**

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

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

- Type a minus sign to fall down.
- Check if near the bottom of the Stage.
- Go back to the top of the Stage.

---

**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
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GET READY

Choose a catcher like Bowl.

Drag the bowl to the bottom of the Stage.

ADD THIS CODE

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 the falling sprite.
Catch It!
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GET READY

Click to select the Apple.

ADD THIS CODE

Choose Bowl from the menu.

Choose a sound.

TIP

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.

Score
0

Score
5
Add this code:

Choose **Score** from the menu.

Add two new blocks to your code:

- **Set Score to 0**
- **Change Score by 1**

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!
Get extra points when you catch a golden sprite.
**GET READY**

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

Choose **duplicate**.

Click the **Costumes** tab.

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

---

**ADD THIS CODE**

Click the **Code** tab.

![Code Block](image)

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!
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!
Interact with projects using video sensing.
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.
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

when video motion > 20

switch costume to dragon-c

wait 0.5 seconds

switch costume to dragon-a

Choose one costume.

Choose a different costume.

TRY IT

Move around to animate the dragon.
Pop a Balloon

Use your finger to pop a balloon.

Video Sensing 3
Get Ready

Click the Extensions button, then choose Video Sensing.

Choose a sprite, like Balloon1.

Add This Code

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.

Video Sensing
Play the Drums

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

Choose a sprite, like Beachball.

ADD THIS CODE

when green flag 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!

GET READY

- Click the **Extensions** button.
- Choose a backdrop.
- Choose a **sprite**.
- Choose a **costume**.
- Choose another **costume**.

ADD THIS CODE

- Click the **Code** tab.

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

  - **Set a starting point.**

  - **Choose a costume.**

  - **Choose another costume.**

  - **Set the position your sprite will glide to.**

TRY IT

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