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.
Color Clicker
scratch.mit.edu

GET READY

Choose a letter from the Sprite Library.

Choose a backdrop.

Boardwalk

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 IT

Click your letter.
Make a letter turn when you click it.
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.
Play a Sound

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.
Dancing Letter
scratch.mit.edu

GET READY

Choose a backdrop.
Choose a letter from the Sprite Library.

Stage

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.
Change Size

Make a letter get bigger and then smaller.

Animate a Name
**Change Size**

**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.

```
set size to 100%
```
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
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
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.
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.
Move with Arrow Keys

Choose a backdrop. Soccer 2
Choose a character. Pico Walking

GET READY

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.
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.
Switch Poses

Animate a character when you press a key.
Switch Poses
scratch.mit.edu

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.

- **when space key pressed**
- **switch costume to max-c**
- **wait 0.3 seconds**
- **switch costume to max-b**

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

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.
Walking Animation

GET READY

Choose a backdrop.

Jungle

Choose a walking or running sprite.

Unicorn Running

ADD THIS CODE

Add this code to your project:

```
when 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.
Choose Parrot (or another flying sprite).

Canyon

Choose a backdrop.

GET READY

ADD THIS CODE

Glide across the screen

Flap the wings

Set the starting point.

Set the end point.

Click the green flag to start.
Talking Animation

Make a character talk.

An image of a penguin in an icy environment. The penguin says "Hello!"
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.

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
Choose a character.

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

Click the Costumes tab.

Now you should have two identical costumes.

Click a costume to select and edit it.

Click the green flag to start.

Click the Code tab.

Use the next costume block to animate your character.
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
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.

Robot

when right arrow key pressed
change x by 10

Choose left arrow.

type a minus sign to move left.

ADD THIS CODE

when left arrow key pressed
change x by -10

TRY IT

Press the arrow keys.

TIP

x is the position on the Stage from left to right.

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
scratch.mit.edu

GET READY
Click your character to select it.

ADD THIS CODE
Choose **up arrow**.

Change y by **10**
Use the **change y by** block to move up.

Choose **down arrow**.

Change y by **-10**
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.
Choose a sound from the Sounds Library, like Collect.

Click the Sounds tab.

Choose a sound from the Sounds Library, like Collect.

Click to select the Robot sprite.

Click the Code tab and add this code.

Insert the touching block into the if then block.

Choose your sound from the menu.

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.
Select the Robot sprite.

Choose a second backdrop, like Nebula.

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

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!
GET READY

Click the Paint icon to make a new sprite.

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

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

ADD THIS CODE

Add this code to your project.

```
when [space] clicked
    hide

when backdrop switches to [Nebula]
    show
    wait (2) [seconds]
    hide
```

Try it

Click the green flag to play your game.
Make Music

Make Music Cards

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

scratch.mit.edu Set of 9 cards
Play a Drum

Press a key to make a drum sound.
Play a Drum
scratch.mit.edu

GET READY

Choose a backdrop.
Theater 2

Choose a drum.
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.

Dance  Music  Sports

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

ADD THIS CODE

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

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.
Make a Melody

Play a series of notes.
Make a Melody
scratch.mit.edu

GET READY

Choose an instrument, like Saxophone.

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

ADD THIS CODE

Choose up arrow (or another key).

Choose different sounds.

TRY IT

Press the up arrow key.
Play a Chord

Play more than one sound at a time to make a chord.
Play 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 make 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
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.
**Beatbox Sounds**

**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.

**ADD THIS CODE**

Click the **Code** tab.

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

**TRY IT**

Press the **C** key to start.
Play a Song

Add a music loop as background music.
**Play a Song**
scratch.mit.edu

**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.

```
when green flag clicked
forever
play sound "Drum Jam" until done
```

Choose your sound from the menu.

**TRY IT**

Click the green flag to start.
Choose characters, add conversation, and bring your story to life.
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 backdrop. Witch House  
Choose a character. Wizard

Type what you want your character to say.

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
scratch.mit.edu

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
```

Type what you want each character to say.

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.
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
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**GET READY**

- Choose a sprite.
  - Princess
- 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.

Create a Story
Glide to a Spot
scratch.mit.edu

GET READY

Choose a backdrop. Mountain
Choose a character. Owl

ADD THIS CODE

Owl

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

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.
Create a Story

Respond to a Character

Coordinate a conversation so that one character talks after another.

1. Where are you going?
2. To the forest!
Respond to a Character
scratch.mit.edu

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 [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 drop-down 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!

scratch.mit.edu Set of 6 cards
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

1
Bounce Around
scratch.mit.edu

GET READY

Choose a backdrop.  
Neon Tunnel  
Choose a ball.  
Ball

ADD THIS CODE

when [green 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.
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**

Choose a sprite for hitting the ball, like Paddle.

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

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.
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

GET READY

Choose the sprite called Line.

Drag the Line sprite to the bottom of the Stage.

ADD THIS CODE

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.

Add 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

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!
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.
GET READY

Choose a dancer. Ten80 Dance

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.
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 loop around your dance sequence.

TRY IT

Click the green flag to start.
Play Music

Play and loop a song.

Let’s Dance
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 Dance Celebrate` (not `start sound Dance Celebrate`) or else the music won’t finish playing before it begins again.
Take Turns

Coordinate dancers so that one begins after the other finishes.

My turn to dance!
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.
**GET READY**

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

**ADD THIS CODE**

```blocks
when [green flag clicked]
goto x: -10 y: 20
set size to 90%
switch costume to lb stance
show
```

- Tell your sprite where to start.
- Set the sprite’s size.
- Choose a starting costume.
- Make sure the sprite is showing.

**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.
Shadow Effect

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.
**Interactive Dance**

**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.
- Pick a dance move from the menu.

**TRY IT**
- Press the arrow keys on your keyboard.
Color Effect

Make the backdrop change colors.
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.
Leave a Trail

Choose a dancer from the Dance category.

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

ADD THIS CODE

when [ ] clicked
repeat [6]
stamp
move [10] steps
wait [0.1] seconds
erase all

Type how many times to repeat.
Stamp an image of the sprite on the Stage.
Clear all the stamps.

TRY IT

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

scratch.mit.edu Set of 7 cards
Make a character jump.
GET READY

Choose a backdrop. Blue Sky
Choose a character, like Chick.

ADD THIS CODE

Type a minus sign to go back down.

TRY IT

Press the space key on your keyboard.
Set the starting point for your sprite.
**Go to Start**

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---

**GET READY**

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**

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.
Moving Obstacle
scratch.mit.edu

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 THIS CODE

Add the start sound block, then select a sound.

TRY IT

Click the green flag to start.

Press the space key on your keyboard.
Stop the game if your sprite touches the egg.
Stop the Game

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.

Insert the touching block and choose Chick from the menu.

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
scratch.mit.edu

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.

Add this code and then click OK.

ADD THIS CODE

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

Add this block and then 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.

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.
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.

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

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.

I like bananas!

That tickles!

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 Choice block into the equals block from the Operators category.

Type things for your pet to say.

Insert the pick random block.

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.
GET READY

Choose **Variables**. Click the **Make a Variable** button.

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

ADD THIS CODE

Reset hunger level.

Increase hunger level every 5 seconds.

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!

scratch.mit.edu Set of 7 cards
Go to the Top

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

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

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 It!

Catch the falling sprite.
**Catch It!**

**GET READY**

Click to select the Apple sprite.

**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.
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:

Choose **Score** from the drop-down menu.

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.
**Bonus Points**

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.

---

**GET READY**

Click the **Code** tab.

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

---

**ADD THIS CODE**

**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

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

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.

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.

set of 7 cards

scratch.mit.edu
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.
Pet the Cat

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.
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**

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.
Pop a Balloon

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.
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 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.
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

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.

Video Sensing
Start an Adventure!

GET READY

Click the **Extensions** button.

Choose a **backdrop**.

Choose a **sprite**.

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

Choose **Video Sensing**.

ADD THIS CODE

Click the **Code** tab.

Set a starting point.

Choose a costume.

Choose another costume.

Glide to a different point.

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

TRY IT

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