

# SCRATCH PROGRAMMING

## Lesson 7: Create a Scratch Cartoon Animation

In this lesson, we will create a Scratch Cartoon Animation. We will first create a story line. Based on the story line, we will create sprites and scenes, and finally add scripts to put together the story.

### **Step 1: Create a Story Line, Sprites, and Scenes**

The first step to create an animation is to have an idea. It could be from a joke you've heard or a story you recently read. Or better yet, it could be entirely your own. I've created a really simple story as shown below.

In a small village far, far, AND far away, there lived a little boy who dreamed big.  
Bobby was a 9-year-old kid who got bullied all the time by this crazy bully and his sidekick.  
Then he met Master Meow, the Kung Fu master. Bobby was under intense training for many months.  
Then Bobby entered Kung Fu competition at school and defeated the bully.

From this simple story line, we have this "ingredient list" for our animation:

Sprites	Bobby, bully, sidekick , Master Meow
Scenes	Village, School, Training Ground, Fighting Stage



## **Step 2: Create Sprites and Scenes for the Story**

Create or import a sprite and name it "Bobby". Add extra costumes: "left kick" and "right kick".



Add a new sprite and name it "bully". Save the only costume as "front".



Add another new sprite and name it "sidekick". Save the only costume as "front".



Add yet another new sprite and name it "Master Meow". Just give him one costume: "happy".



To create scenes, just add backgrounds for Stage. We will create four backgrounds: village, school, training ground, and fighting stage.



Figure 1: VILLAGE SCENE (village background)

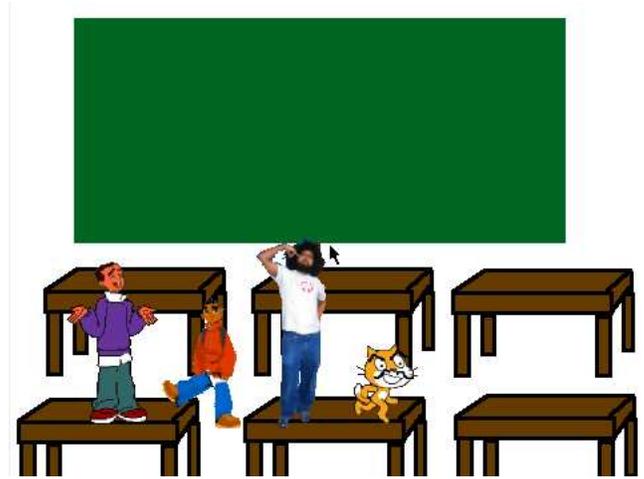


Figure 2: SCHOOL SCENE (school background)



Figure 3: TRAINING SCENE (Training Ground background)



Figure 4: FIGHTING SCENE (Fighting Stage background)

### Step 3: Introducing Broadcast Messages

Each scene has a set of sprites and each sprite needs to know where to go in a scene. Moreover, some sprites do not show up in some scenes. To let sprites know when and where they will go as scenes change, we will use Broadcast Messages.

A *Broadcast Message* is a message sent by a Sprite or a Stage, and can be received by all Sprites. We will let Stage send out Broadcast Messages. Drag out a "broadcast" block from Control Took Kit and drop it in Stage's Script Editor.

Click the little down arrow and select a message or create a new message.



To create a new message, click the "new..." from the popped bubble and then enter "school" as message name. Click "OK" to save this new Broadcast Message.



In total, we need these messages: "To School", "To Village", "To Training Ground", "To Fighting Stage", "Done Laughing", and "Done Training".

When the story first starts, Stage would change to "Village" background and broadcast a "To Village" message. Then Stage would change to "School" background and broadcast a "To School" message.

At the school scene, the bully sprite would say "Ha Ha" to Bobby and broadcast a "Done Laughing" message. Upon receiving this "Done Laughing" message, Stage would change to "Training Ground" background and broadcast a "To Training Ground" message.

At the training scene, Bobby would spin-kick across the field for several times and

then sends out a "Done Training" message. Upon receiving this "Done Training" message, Stage would change to "Fighting Stage" background and broadcast a "To Fighting Stage" message.

At the fighting scene, Bobby would kick Bully's until Bully is defeated. The story would end.

Below are snapshots of scripts for all sprites. Bobby's scripts include fly-kicking. Bully's scripts include laughing at Bobby and being kicked down and defeated.

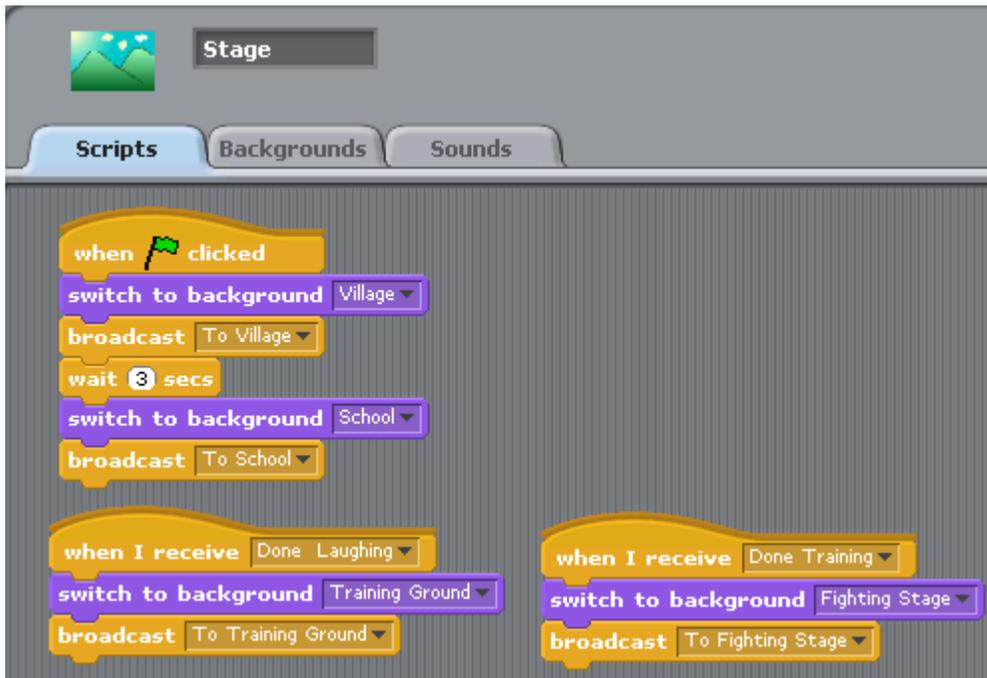


Figure 5: Stage sprite's scripts



Figure 6: Master Meow sprite's scripts

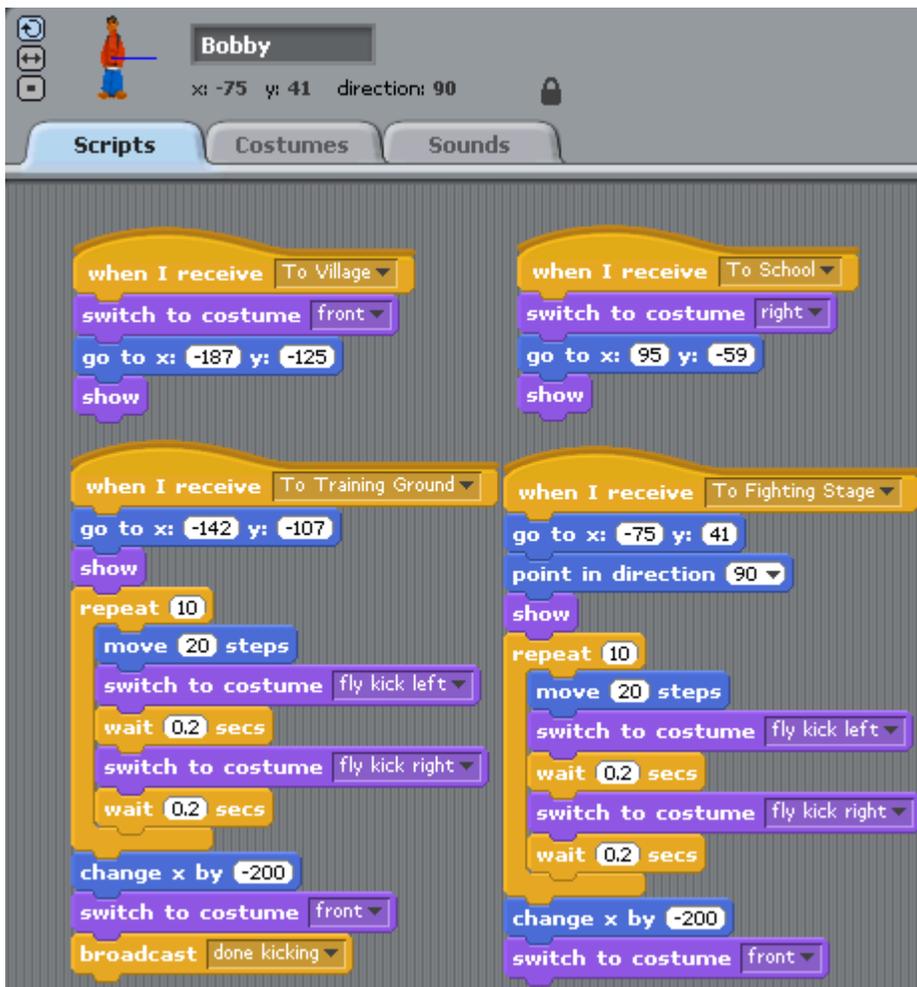


Figure 7: Bobby sprite's scripts

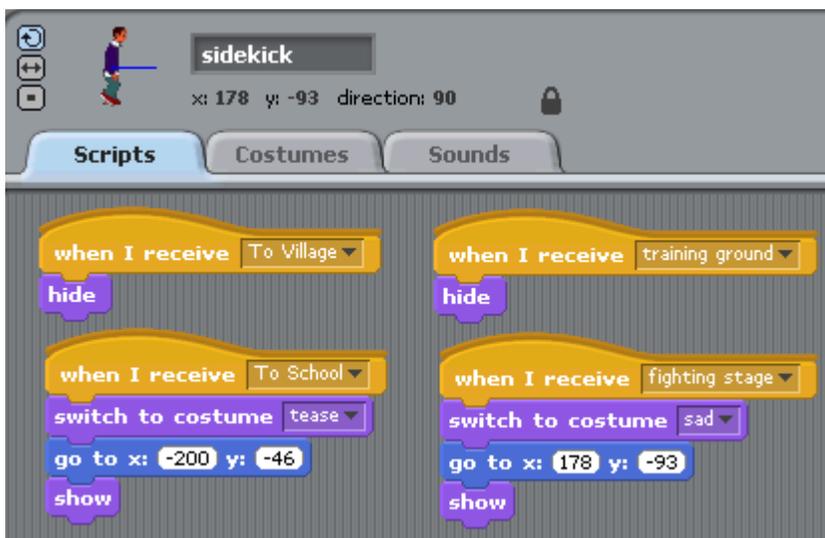


Figure 8: Sidekick sprite's scripts

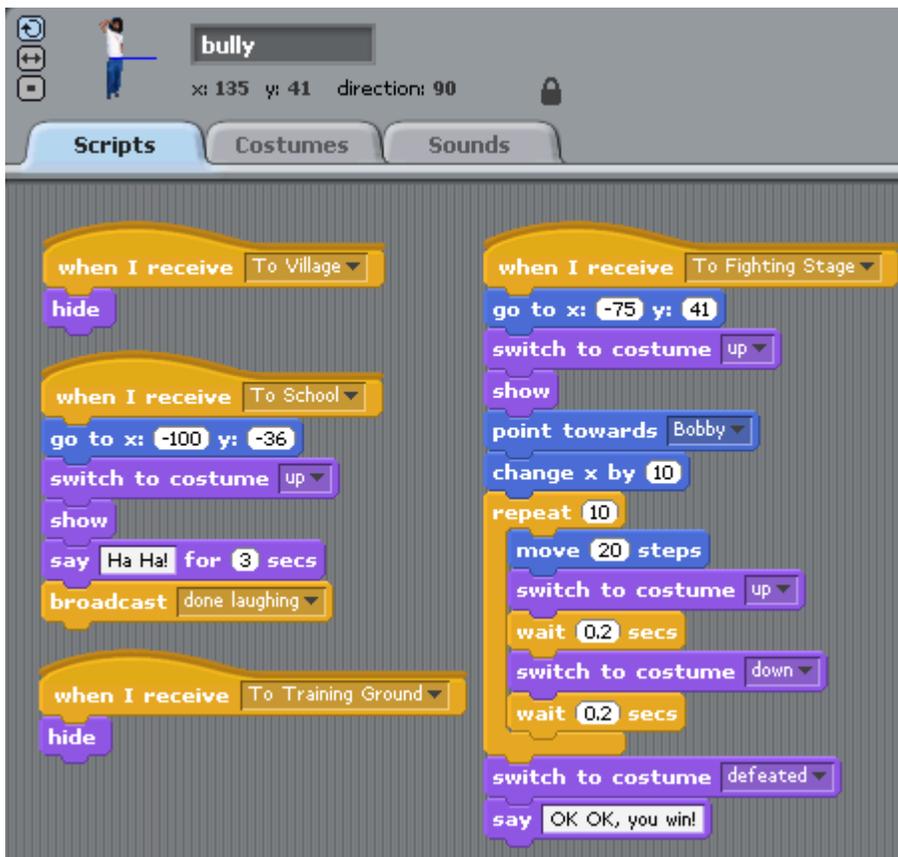


Figure 9: Bully sprite's scripts



**TEST: View the movie.**