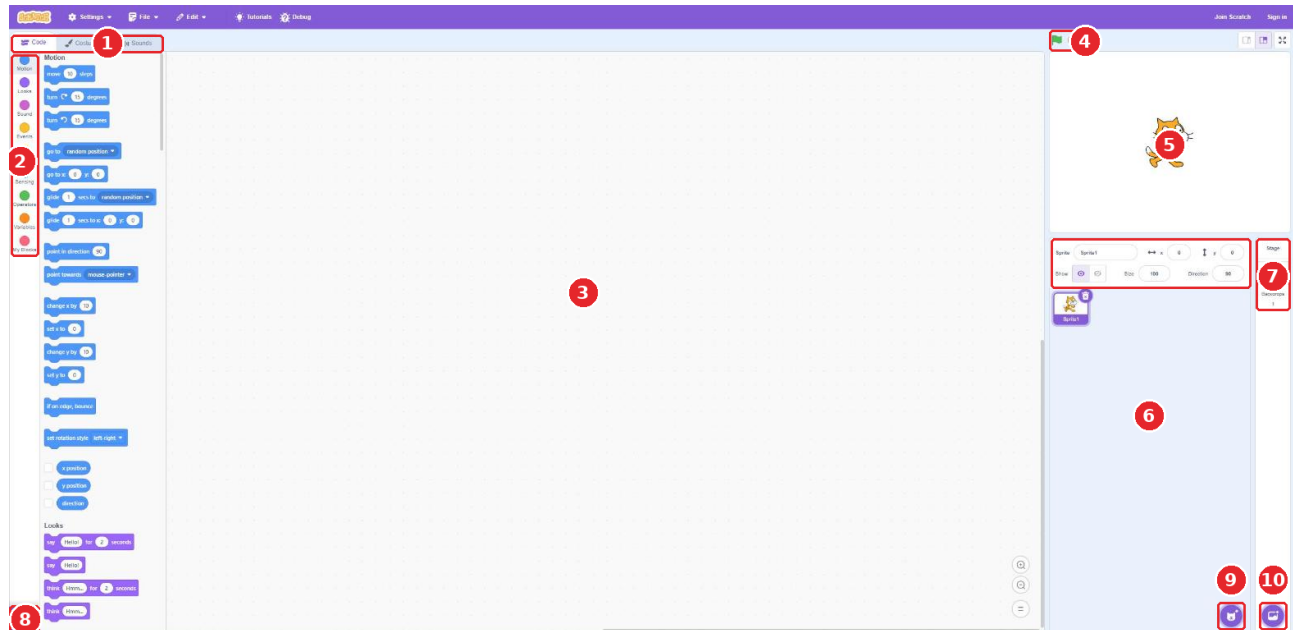


JOTI Dance Party

Picture guide for Scratch. Digital Maker Stage 2, requirement 1: create a piece of interactive or animated digital art.

How to use this guide. The pictures are real screenshots of the Scratch editor. A **red box and number** marks what to click or look at. They were taken in the online editor (scratch.mit.edu); Scratch Desktop looks the same apart from the menu bar along the top. Time needed: about 45-60 minutes.

Map of the Scratch screen



The whole editor, for orientation only. The numbers match the list below.

- | | | | |
|---|-------------------------------------|----|------------------------------------|
| 1 | Tabs: Code, Costumes, Sounds | 6 | Sprite panel: your characters |
| 2 | Block categories (coloured circles) | 7 | Stage selector (backdrops) |
| 3 | Code area: build your scripts here | 8 | Add Extension button (bottom-left) |
| 4 | Green flag (start) and red stop | 9 | Sprite button (cat and plus) |
| 5 | The Stage: where your art plays | 10 | Backdrop button (picture and plus) |

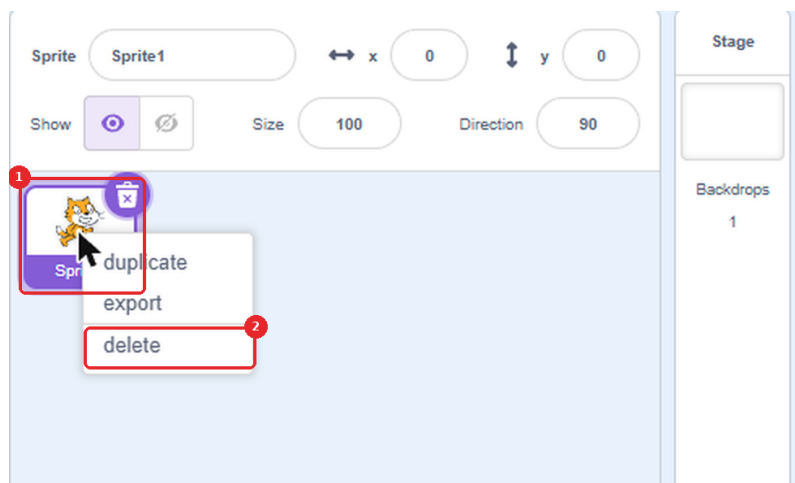
What you will make

A character that dances on a backdrop you draw. Click it and it changes colour and says hello in another language. Press the arrow keys and it moves. Click the stage and the scene changes. The requirement only asks for **interactive OR animated** art, so Parts A to C already meet it. Part D is for extra challenge.

Part A - Set up (5 minutes)

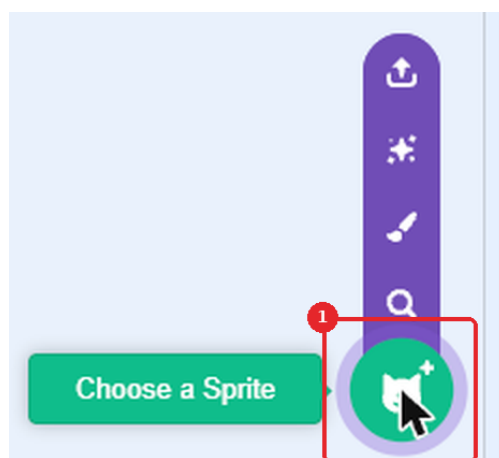
A1. Delete the cat

1. Open Scratch. A new project opens with an orange cat in the Sprite panel (bottom right).
2. **Right-click** the cat, then click **delete**.



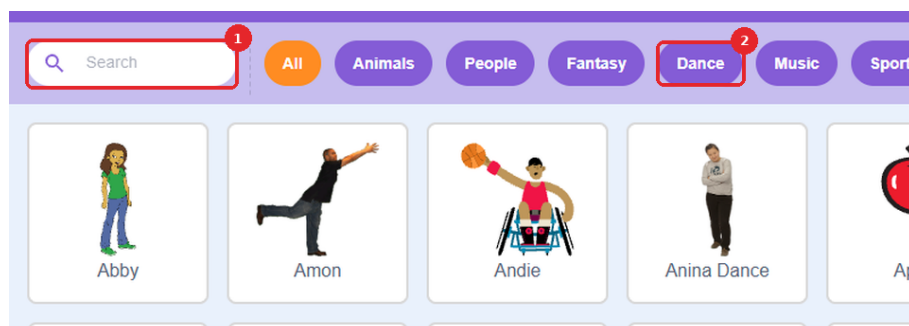
A2. Add a dancing character

1. Find the round purple button with a cat and a plus at the bottom-right of the Sprite panel. **Hover** over it, without clicking. Four icons pop up above it: upload, surprise (sparkles), paint (brush) and search.
2. Click the button itself (the tooltip says **Choose a Sprite**).

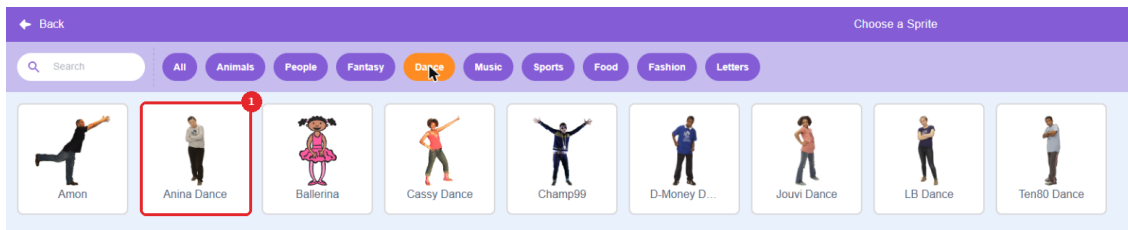


Hover over the button and the tooltip appears.

3. The sprite library opens. Click the **Dance** filter at the top. You can also use the Search box.



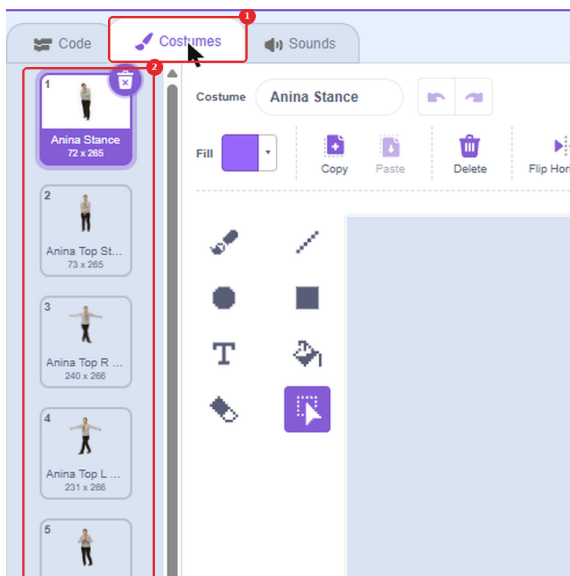
4. Click **Anina Dance** (or Ballerina, Cassy Dance or Champ99). It appears on the Stage and in the Sprite panel.



The Dance filter shows all the dancing characters.

A3. Look at the costumes (the animation frames)

1. Click the **Costumes** tab at the top left.
2. The list down the left shows every costume. Each one is one frame of the dance. Anina Dance has 12 or more. Count them.
3. Click the **Code** tab to go back to the blocks.



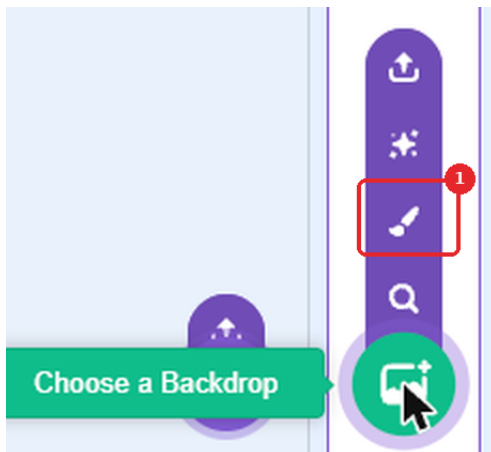
1 the Costumes tab, 2 the list of costumes (frames).

Part B - Make the art your own (15 minutes)

This part is what makes it **your** digital art and not just a library character. Do not skip it.

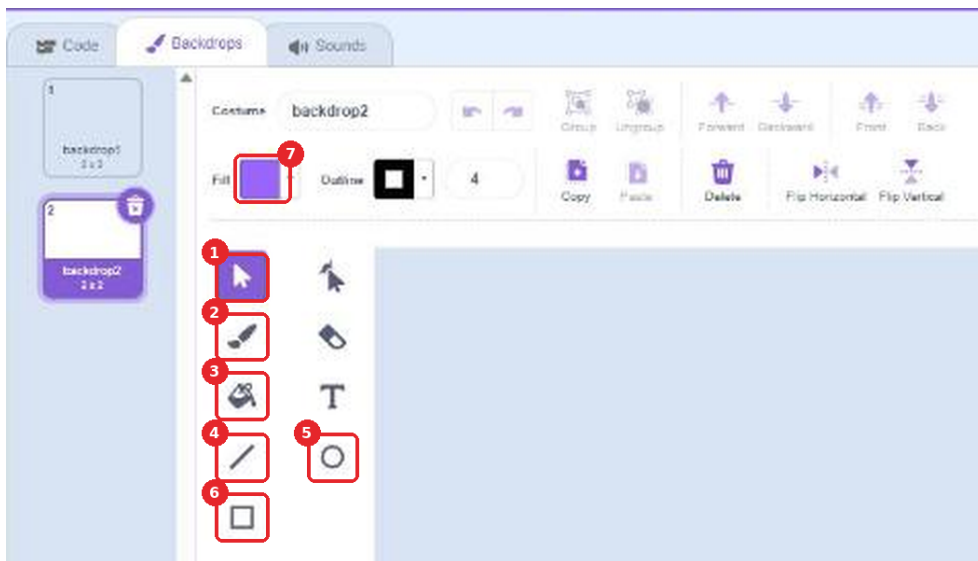
B1. Draw a backdrop

1. Look at the narrow Stage panel at the far right of the screen. At its bottom is a round purple button with a picture and a plus. **Hover** over it.
2. Click the **paintbrush** icon that pops up above it. The paint editor opens in a new **Backdrops** tab.



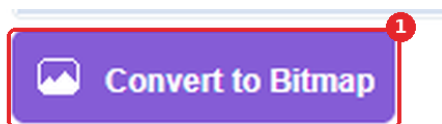
The backdrop button works the same way as the sprite button.

B2. Use the paint editor



The tools down the left, and the colour boxes above. 1 Select, 2 Brush, 3 Fill (paint bucket), 4 Line, 5 Circle, 6 Rectangle, 7 Fill colour.

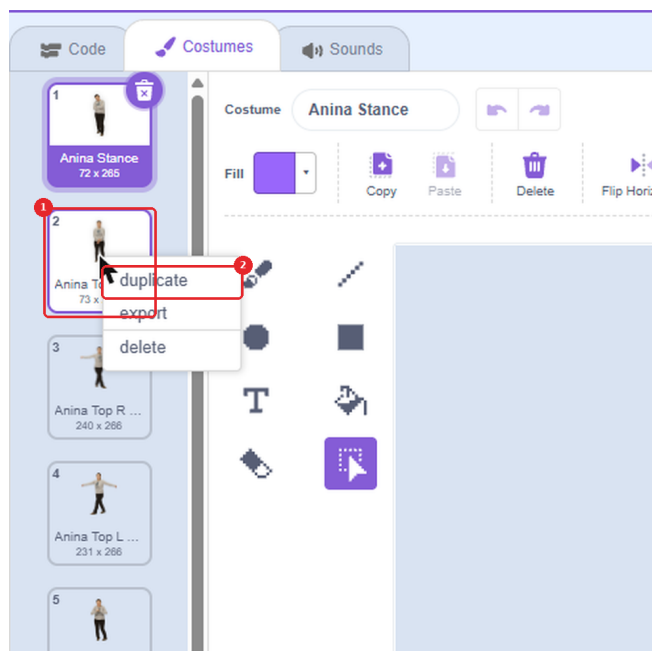
1. Click the **Fill colour** box (7) and pick a colour.
2. Click the **Rectangle** tool (6). Drag across the whole white drawing area to colour the background.
3. Add shapes with **Circle**, **Rectangle** and **Line**, and draw freehand with **Brush**. Change the colour first each time.
4. Made a mistake? Use the curved **undo arrow** at the top, or **Select** a shape and click **Delete**.
5. Ideas: a campsite at night, a stage with lights, a world map, flags of countries you chatted to on JOTI.



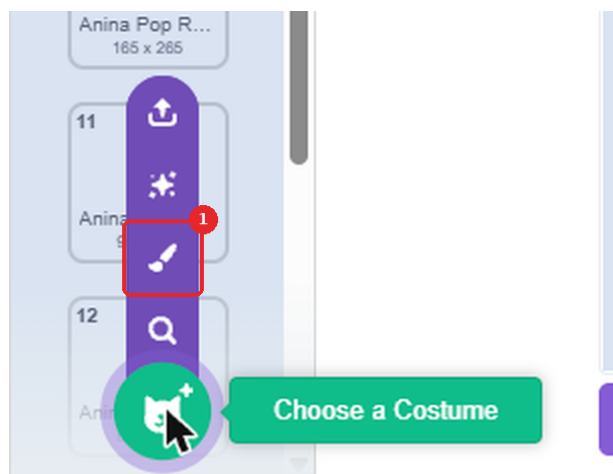
You are in Vector mode when the button at the bottom-left says Convert to Bitmap. Leave it as it is.

B3. Edit your character's costumes (optional but worth doing)

1. Select your character in the Sprite panel, then click the **Costumes** tab.
2. **Right-click** a costume in the list, then click **duplicate**. A copy appears below it.



3. Click the copy. Add something of your own using the tools: a Scout hat or necker drawn with **Circle**, **Rectangle** or **Brush**.
4. To add a completely new frame, hover over the purple button at the **bottom-left** of the Costumes tab and click the **paintbrush**.



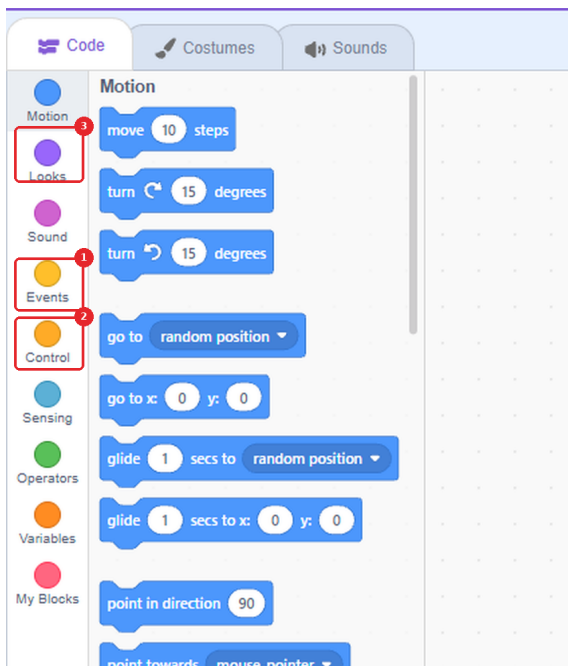
The new-costume button works like the sprite button.

Note: Anina Dance's costumes are photographs (bitmaps). The button at the bottom-left of the editor says **Convert to Vector**, and drawing on top works fine but the Fill tool will not recolour her clothes. For easy recolouring pick a cartoon character from the library, such as **Ballerina**.

Part C - Animate it (10 minutes)

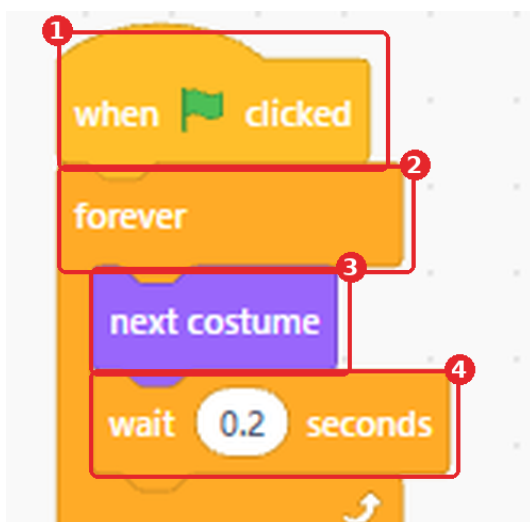
C1. How blocks work

1. Click your character in the Sprite panel, then click the **Code** tab.
2. Blocks live in the palette. The coloured circles on the far left pick the type: **Events** is yellow, **Control** is orange, **Looks** is purple.
3. To use a block: **click and hold** it, **drag** it into the big white Code area, then **let go**. Drop a block just under another one and it clicks into place.
4. Dragged one by mistake? Drag it back onto the palette on the left to delete it.



The categories you need for the dance script: 1 Events, 2 Control, 3 Looks.

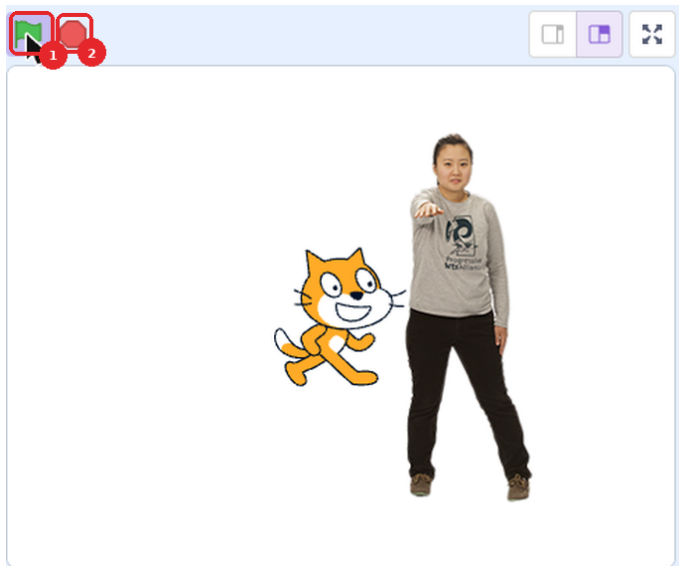
C2. Build Script 1: the dance



The finished script. Numbers match the steps below.

1. Click **Events** (yellow). Drag **when green flag clicked** into the Code area.
2. Click **Control** (orange). Drag **forever** and drop it under the yellow block.
3. Click **Looks** (purple). Drag **next costume** and drop it inside the mouth of the forever block.
4. Click **Control** again. Drag **wait 1 seconds** and drop it under next costume.
5. Click on the number **1** in the wait block, type **0.2** and press Enter.

C3. Run it

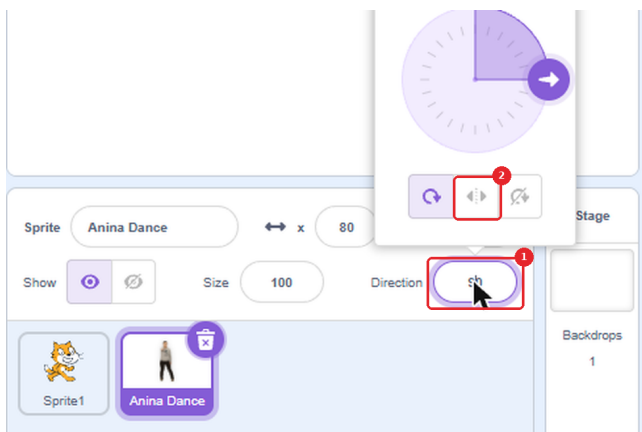


1 Green flag starts your animation, 2 red stop button stops it.

1. Click the **green flag** above the Stage. Your character should dance.
2. Click the **red stop** button to stop it.

C4. Experiment

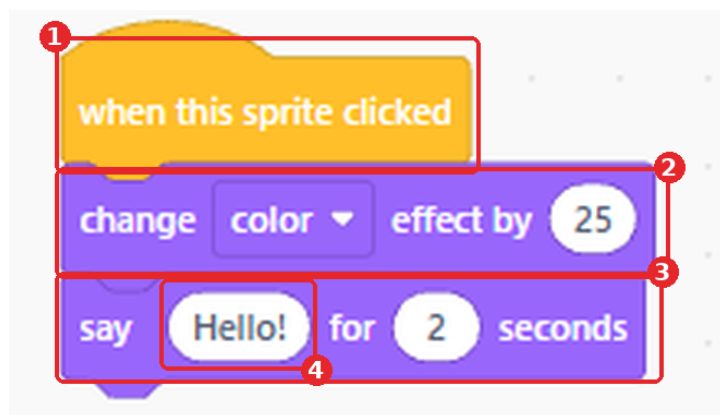
1. Change **0.2** to **0.05** (faster) or **0.5** (slower).
2. To make it travel: add **move 10 steps** and **if on edge, bounce** (both Motion, blue) inside the forever loop, under the wait block.
3. If the character flips upside down when it bounces, click the **Direction** box and pick the middle button in the pop-up.



1 Click the Direction box. 2 Pick the middle button (left/right).

Part D - Make it interactive (15 minutes)

D1. Script 2: click the character



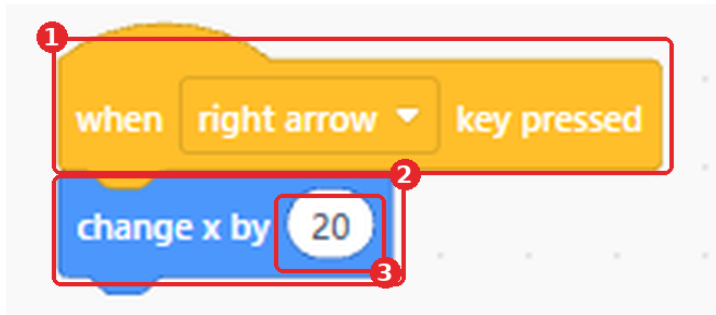
1. Events (yellow): drag **when this sprite clicked** into an empty space in the Code area.
2. Looks (purple): drag **change color effect by 25** under it.
3. Looks (purple): drag **say Hello! for 2 seconds** under that.
4. Click the word **Hello!** (4) and type a greeting from a country you chatted to on JOTI.
5. Click your character on the Stage to test it.

D2. Script 3: move with the keyboard

1. Events (yellow): drag **when space key pressed** into an empty space.
2. Click the little arrow on **space** and choose **right arrow** from the list.



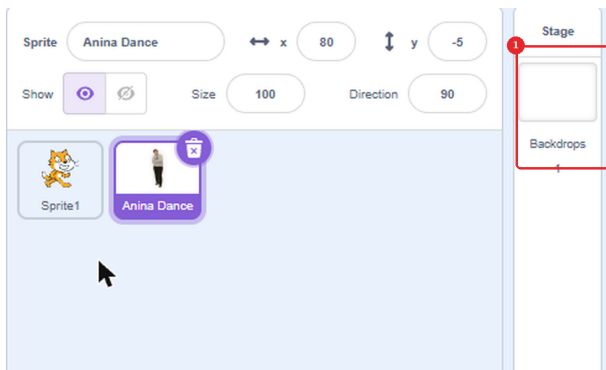
3. Motion (blue): drag **change x by 10** under it. Click the 10 and type **20**.



- Make three more copies: right-click the yellow block, click **Duplicate**, and drop it in an empty space. Change the key to left arrow (use -20), up arrow (use **change y by 20**) and down arrow (**change y by -20**).

D3. Script 4: click the stage to change the scene

- First make a **second backdrop**: hover over the Backdrop button (far right) and click the paintbrush, as in B1.
- Click the **Stage** panel on the far right to select it.



- Click the **Code** tab. Events (yellow): drag **when stage clicked**.
- Looks (purple): drag **next backdrop** under it.
- Click your character in the Sprite panel to go back to its blocks.

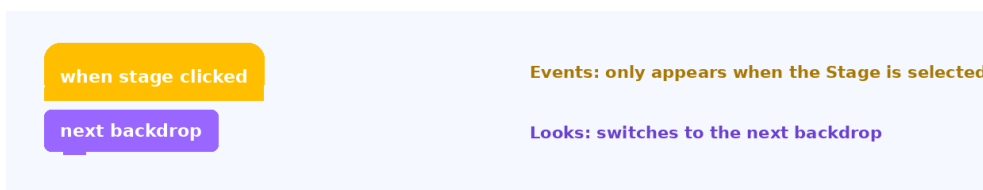


Diagram of the blocks, drawn to match Scratch (colours and wording are the same as the real blocks).

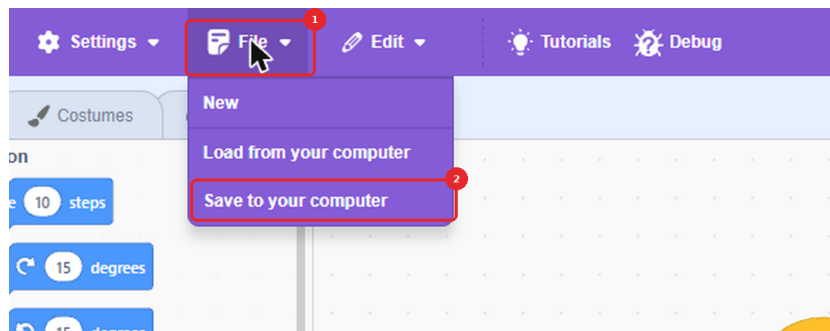
D4. Optional: add a sound



Diagram of the blocks, drawn to match Scratch (colours and wording are the same as the real blocks).

Click **Sound** (pink) in the palette and drag **start sound** into the click script from D1.

Saving and evidence for the badge



1. Click **File** (1), then **Save to your computer** (2). Choose the shared folder. Name the file **YourName_JOTI_Dance**. It ends in .sb3.
2. Take a screenshot of your finished Stage: press **Windows + Shift + S**, drag a box round the Stage, then paste it into a document.
3. Show your leader: the animation playing, and at least one interaction working (click, key press or stage click).
4. Optional video: press **Windows + G** (Xbox Game Bar) and record 15 seconds.

If something goes wrong

Problem	Fix
Character spins or flips upside down	Click the Direction box and choose the middle (left/right) button
Dance is too fast to see	Increase the number in the wait block
Nothing happens when I press a key	Click the Stage once so Scratch notices the keyboard, then press the key
Colour effect never resets	Add clear graphic effects (Looks) under the green flag block
Blocks will not click together	Drop the block closer to the bottom of the block above it
Can't find the paint editor	Hover over the purple button (sprite, backdrop or costume) and click the paintbrush
The when stage clicked block is missing	Click the Stage on the far right of the Sprite panel first
Fill tool does not recolour a costume	The costume is a photo (bitmap). Draw on it instead, or pick a cartoon character

Leader checklist

- [] Scratch Desktop installed on every laptop before the day
- [] Test run on one laptop: the sprite library loads and sounds play
- [] Shared folder ready for .sb3 files
- [] Each Scout's project has an animated or interactive element they can explain