

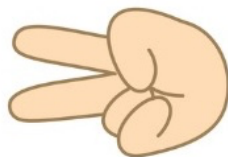
## Teach a machine to play Scissors, Paper, Stone

Open <https://teachablemachine.withgoogle.com>

- Click **Get Started**, **Image Project**, **Standard image model**

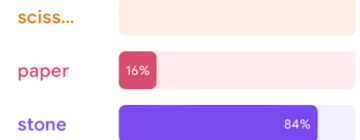
*Gather samples (You can close the how-to videos - **click on the X**)*

- Rename 'Class 1'. Click on the name and call it **scissors**.
- Rename 'Class 2' to **paper**.
- Click Add Class, and name it **stone**.
- On **scissors** click on Webcam  
Give the computer permission to use the camera - Allow / OK.
- Make a scissors sign with your hand in front of the camera, filling the image. Press **Hold to record** about 1000 images, moving your hand around a bit.
- Now hold your hand up flat, "speak to the hand" style. Press **Hold to record** on **paper**, and record a similar number of images. Remember to move around.
- Make a fist to the camera, and press **Hold to record** on **stone**. Record a similar number of images, moving around.
- Click **Train Model** - a progress bar shows you how long it takes.



- In the preview panel, test that it recognises scissors, paper, and stone.
- When you're happy it works, Click on **Export Model** then **Upload my model**

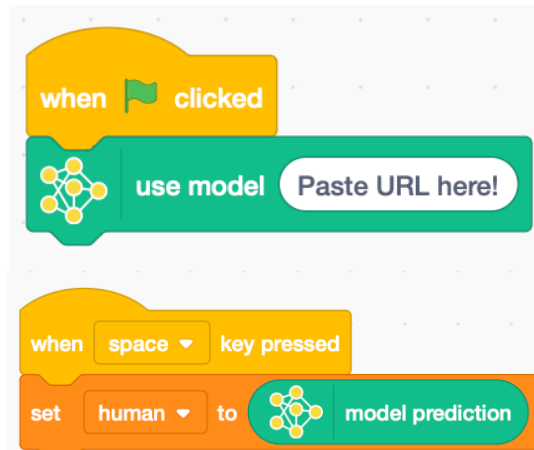
Output



- When it's finished, copy the sharable link using the copy button next to it.

In another browser tab, open: <https://playground.raise.mit.edu/main/>

- Delete the sprite.
- Add extension: **Teachable Machine** and allow it to use the camera.
- Add code to **use the model**, and paste in the link copied from the Teachable Machine.
- Click the **green flag** to run it.
- Create variables for **human** and **computer**.
- Add code to recognise **human** input when you press the space key.
- Make a list of objects, and add **scissors**, **paper**, **stone**.
- Add the **computer** choice, picking one at random.



objects	
1	scissors
2	paper
3	stone
+ length 3 =	

- Create a variable for the **winner**.
- Add code to decide who wins, or if it's a draw.



It can beat the next object up, so 1 beats 2, 2 beats 3, and it wraps around so 3 beats 1.

Your code isn't saved to Scratch. **Save it on a USB drive.**