

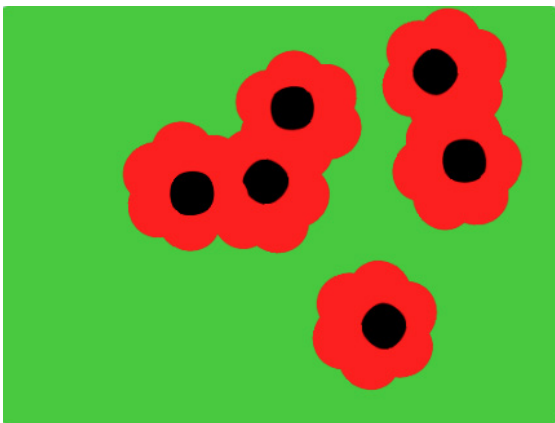
# CODE OF ORIGIN



## Poppy field

Create your own Scratch block to draw a poppy, then create a field of poppies to remember our ANZACs.

### INTRODUCTION



#### What you will need

##### HARDWARE

A computer capable of running Scratch 3

##### SOFTWARE

Scratch 3:  
either online  
[rpf.io/scratchon](https://scratch.mit.edu/projects/751355769/)  
or offline  
[rpf.io/scratchoff](https://scratch.mit.edu/projects/751355769/)

#### What you will learn

- How to define your own Scratch block
- How to use costumes
- How to use the pen extension tool

#### Starter Project

<https://scratch.mit.edu/projects/827551638/>

#### Additional notes for educators

Here is a link to the completed project  
<https://scratch.mit.edu/projects/751355769/>

Read this [blog post](#) for information about the Code of Origin project by Code Club Australia.



# STEP 1 - ADDING THE PEN EXTENSION

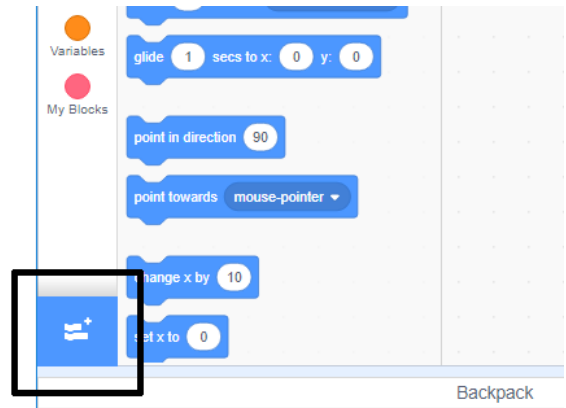
Open the starter project - <https://scratch.mit.edu/projects/827551638/>



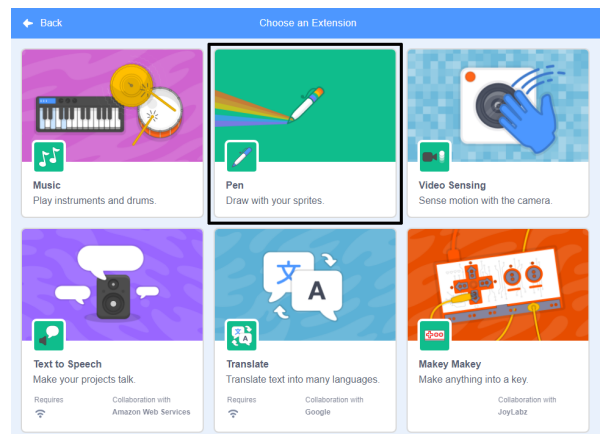
This project uses the pen extension. This is an extra set of coding blocks that allow the user to 'draw' with a pen. This project won't actually 'draw' but will use the 'stamp' function.



In the bottom left of your screen click on the Add Extension button.



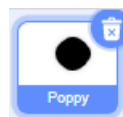
Select the Pen box to add this tool to your screen. You will notice a new set of blocks are now ready to use.



# STEP 2 - POPPY



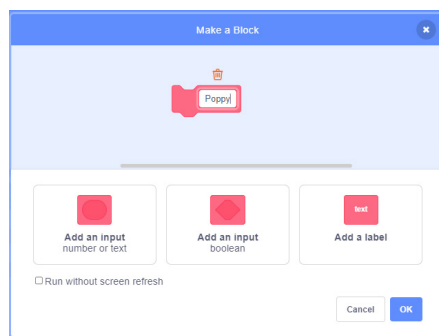
Select the Poppy sprite. This sprite has two costumes that will be used during the project.



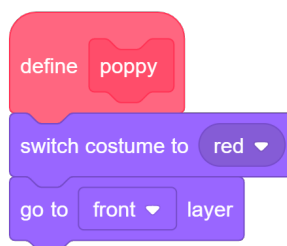


The first step is to create your own Scratch block. This is done using the **My Blocks tab**. Click Make a Block and call it poppy. Click OK.

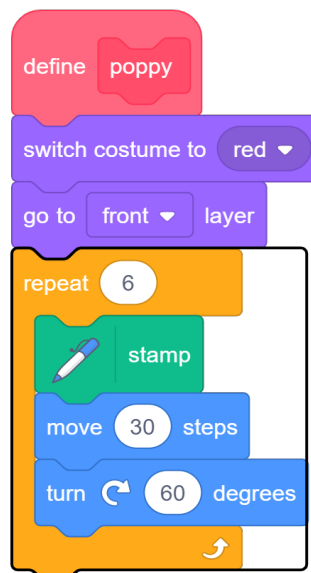
You are now defining your own Scratch block.



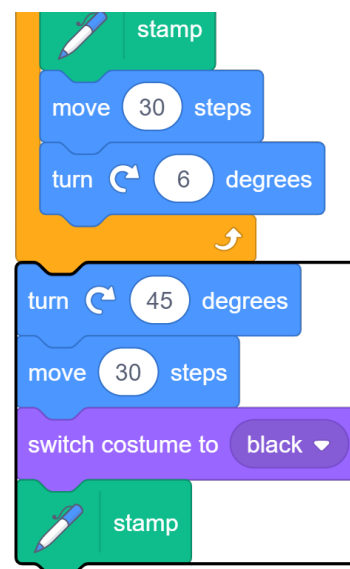
Add blocks to set the starting conditions. Add a block to **switch the costume** to red and to **go to the front layer**.



The red costume draws the petals of the poppy. Add a **repeat** block. Inside add a pen block to **stamp** the sprite, **move 30 steps** and **turn clockwise 60 degrees**.



Now add code to create the black centre. Under the repeat code add a block to **turn clockwise** and **move 30 steps**. Then **switch the costume** to black and **stamp**.



To see if your code works, click on the **define poppy** tab to make the code run.



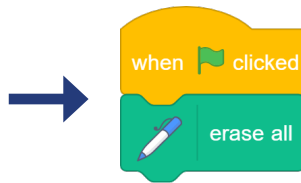


You have now created your own block. When you add your block to an algorithm it will follow this code.



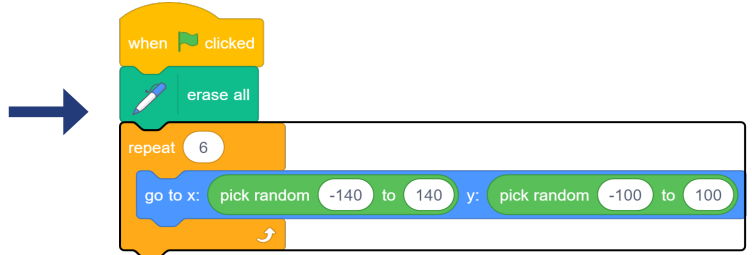
Let's create the algorithm to draw poppies on the screen. Start with the event **when the green flag** is clicked.

Add a block to **erase all** pen marks. By doing this the user can click the green flag many times, creating new art each time.



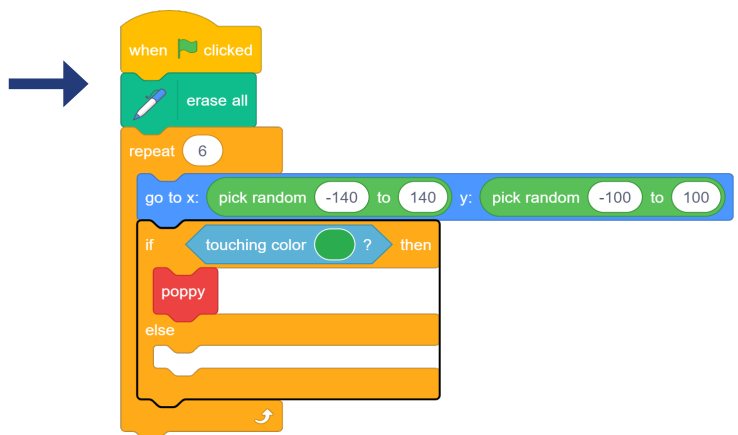
The next code will create a condition for random places to start drawing.

Add a **repeat** block and inside it a **go to** block. Add a **pick random** operator into each of the x and y coordinates locations then fill in the details.

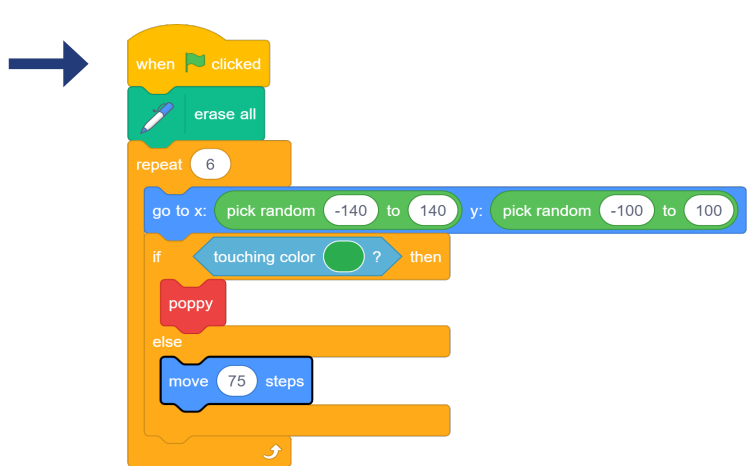


Inside the repeat block, add an **if then else** block. This code will create conditions that if the sprite is touching green, to execute the code, but if it isn't to move somewhere else.

Add in a sensing block if **touching colour** and select green. **Use the eye dropper to colour match to the background.** After then, add in the block called **poppy**.



In the else space, add a block to **move 75 steps**.



Test your code. Watch as 6 poppies get drawn on your screen. Click the green flag a few times to see how it changes each time.





# Challenges:

## Refine the code

At the moment the code is quite glitchy. Sometimes flowers are close on top of each other. Sometimes they are not spread across the page. Can you refine the code to improve the finished piece of art?

## Add information

Can you take the idea of this project and create something new?

- Draw a variety of different flowers
- Draw a completely different topic such as leaves, fruit - whatever you choose.

## A new topic

How can you add to the project to share with users why poppies are significant for events such as ANZAC day? Some different ideas are:-

- create an animation
- add an introduction
- add voice or speech

## Congratulations!

You have created an art piece.

Which state or territory will win the Code of Origin? [Vote here](#).

