

Code With Scratch:

Create a Space Themed Screensaver

The coding steps:

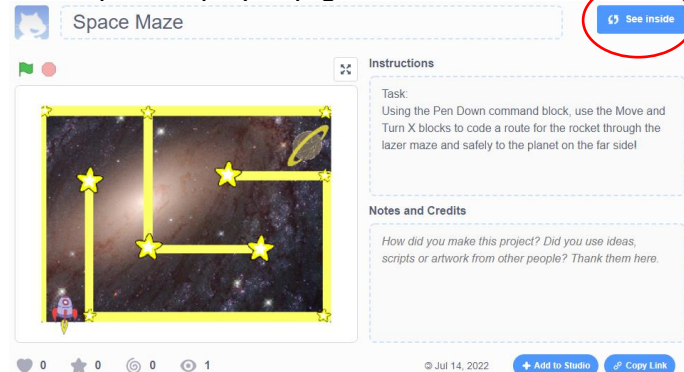
1. Open the Space Maze template
2. Check that the coding blocks you need are in place
3. Open the Pen coding blocks
4. Set up a drawing code
5. Adding directional code
6. Code the rocket to “draw” a route.
7. Debug, evaluate and refine

Step 1: Open the Space Maze template

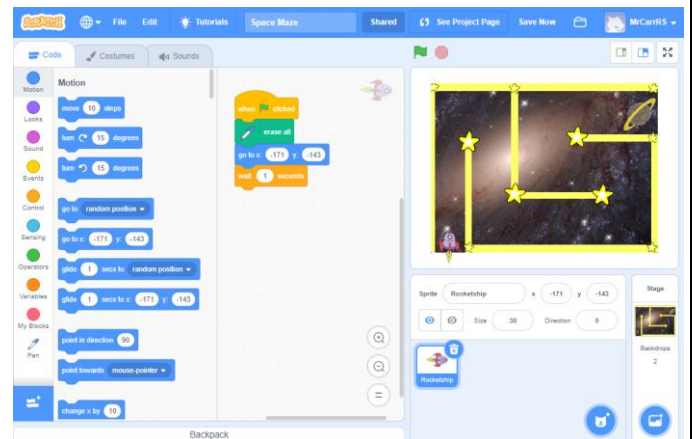
Click on this link:

<https://scratch.mit.edu/projects/714201294>

It will open this project page...



Click on **See Inside** and this project will be ready to explore...



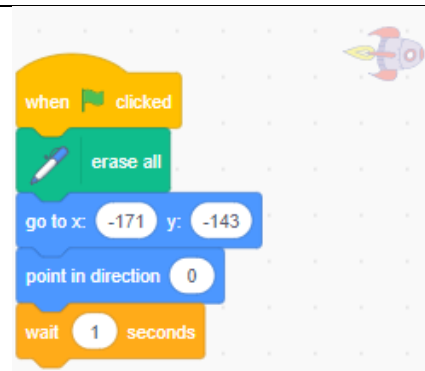
Step 2: Check that the coding blocks you need are in place

This project has been set up ready to use.

However...

Before you begin coding the route that the rocket must take around the maze, make sure that this code block is linked to the rocket sprite.

If anything is missing, add it using the example here until it matches exactly.

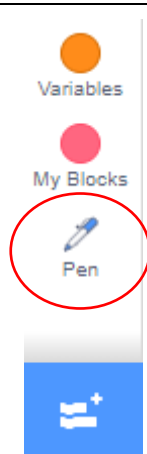


Step 3: Open the “Pen” coding blocks

Open the **Pen** tools.

It is located on towards the bottom of the left-hand side of the code blocks.

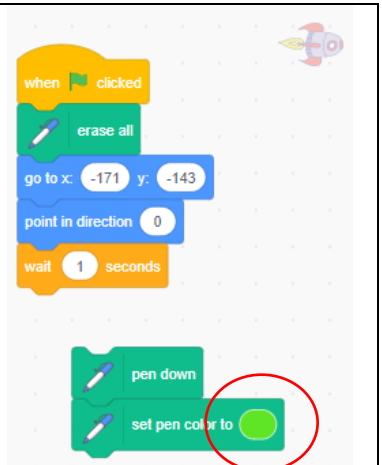
If it is not there, click on the squiggly lines at the very bottom of the pages and the click on the large **Pen Tools** area!



Drag the **Pen Down** and Set Pen colour to ___ onto the coding area.

Connect them together, but do not connect them to the blocks that we there when the project first opened... yet!

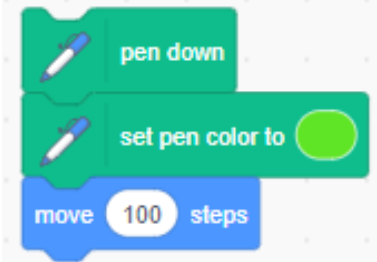
Click inside the **set pen colour to** block and chose a drawing colour.



Step 4: Set up a drawing code

Got to the Motion code area and drag **Move 10 Steps** onto the **Pen** blocks.

Change the Move 10 steps block into a larger number. This block will move the rocket forward. By looking at the screen, try and work out how far it will need to travel in order to reach the top of the screen! 😊

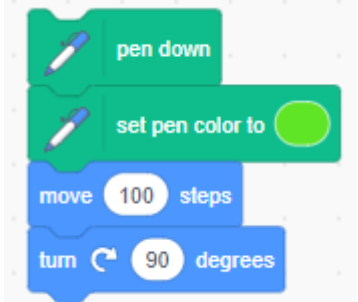


Step 5: Adding directional code

Got to the Motion code area and drag **turn 15 degrees** onto the **Pen** blocks.

This will allow the rocket to turn. You will need to change the 15 degrees to a more suitable number.

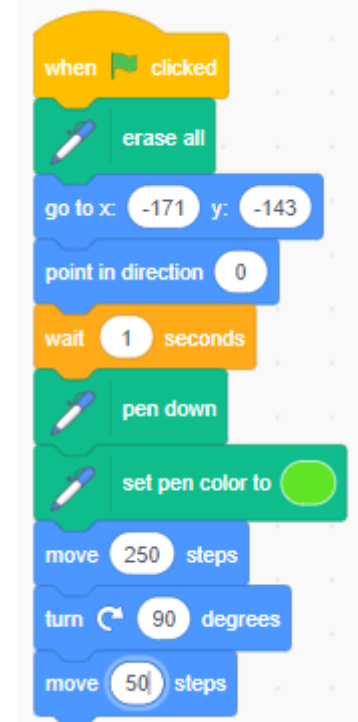
It might be a good idea to turn at right angles! **How many degrees is this?**



Step 5: Code the rocket to “draw” a route.

Now you are ready to code the rockets route to the ringed planet.

You will now need to connect the pen blocks to the original code blocks and add more **move** and **turn** motion blocks in order to get to the final destination!



Step 7: Debug, evaluate and refine

Warning! This project involves trial and debugging! In order to successfully draw a route through the maze, you will need to try ideas out. Some will not be successful but, if they don't work, **debug** them and try again. Remember to be resilient – You can do it! 😊

Extra details: What could you change to improve this program?

- Refine your code. What is the least number of commands needed?
- Create your own maze by making a new background.