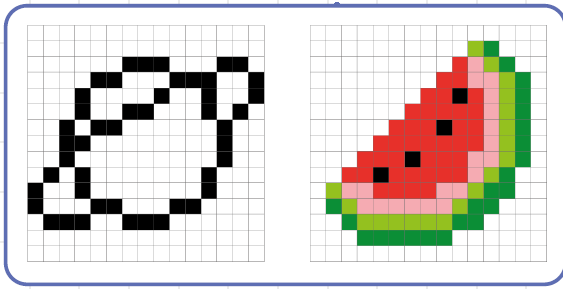
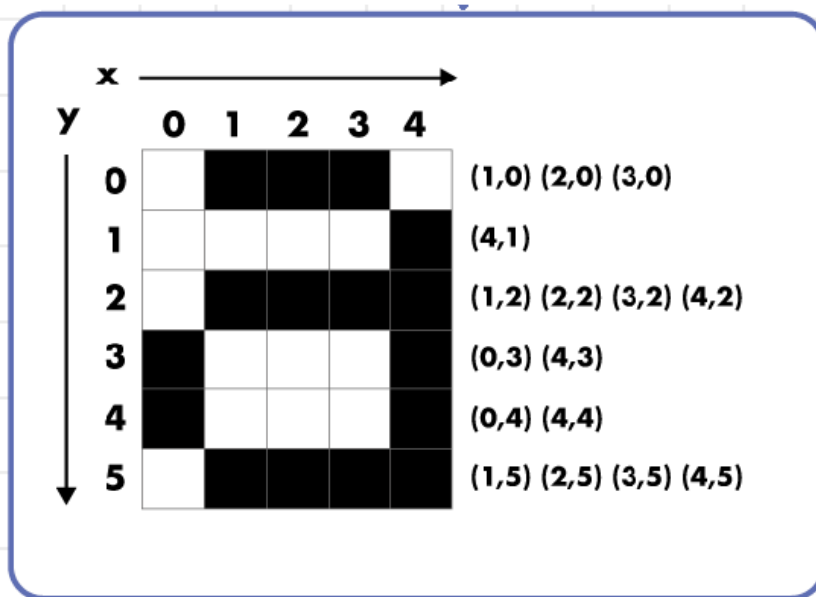


## Pixel Art



1. Where do you see images on computers? What sorts of images do you see?
2. Computer screens are divided up into a grid of small dots called pixels (picture elements). In a black and white picture like the planet, each pixel is black or white. In a colour picture like the watermelon, each pixel is a single colour.
3. Computers represent everything through numbers, including pictures. Computers code images by reading the coordinates of pixels. In this picture of an 'a', you can see how each square on the grid is labelled with a coordinate.

The grid numbering starts from (0,0) at the **top left-hand corner** of the grid (the opposite to maps). Computers use the same coordinates as old-fashioned televisions, which display images in horizontal lines from left to right and top to bottom.

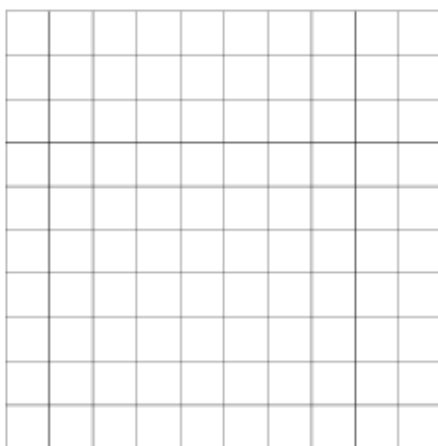


### Activity 1

Decode these images by colouring in the right squares. You can use whichever colour you like. What images do you see?



(1,1) (2,1) (6,1) (7,1)  
(0,2) (3,2) (5,2) (8,2)  
(0,3) (4,3) (8,3)  
(0,4) (8,4)  
(1,5) (7,5)  
(2,6) (6,6)  
(3,7) (5,7)  
(4,8)



(3,0) (6,0)  
(0,1) (4,1) (5,1) (9,1)  
(0,2) (1,2) (2,2) (3,2) (6,2) (7,2) (8,2) (9,2)  
(2,3) (7,3)  
(0,4) (2,4) (7,4) (9,4)  
(0,5) (1,5) (2,5) (7,5) (8,5) (9,5)  
(2,6) (7,6)  
(0,7) (1,7) (2,7) (7,7) (8,7) (9,7)  
(0,8) (3,8) (6,8) (9,8)  
(4,9) (5,9)

### Trivia

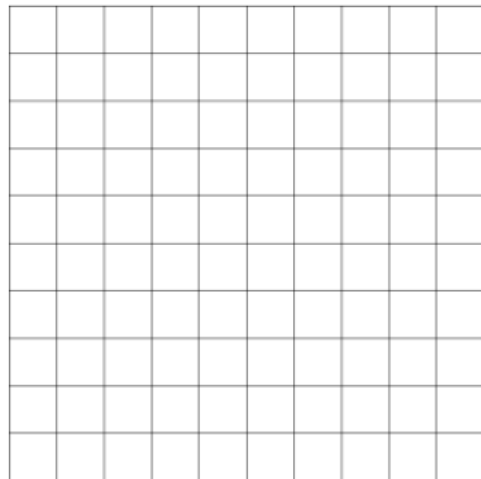
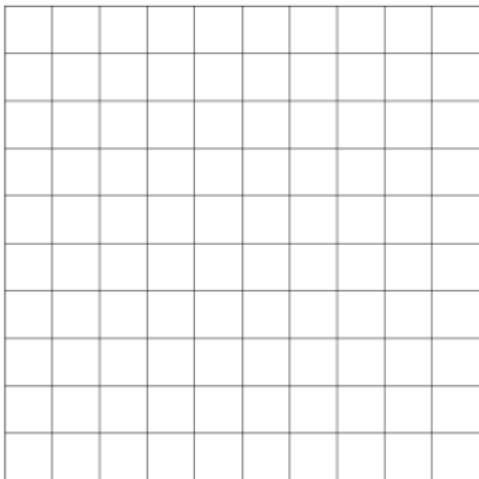
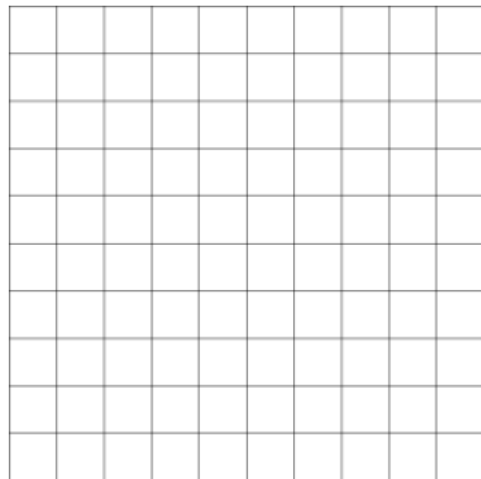
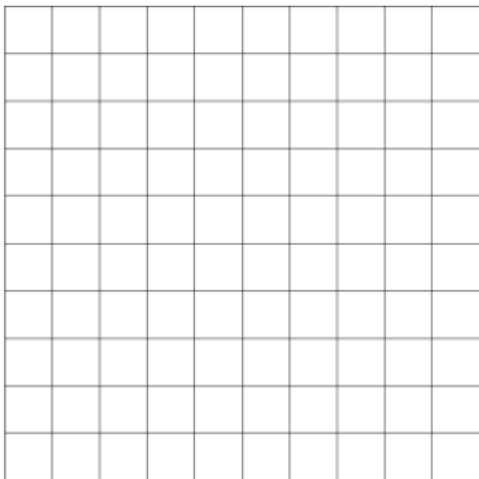
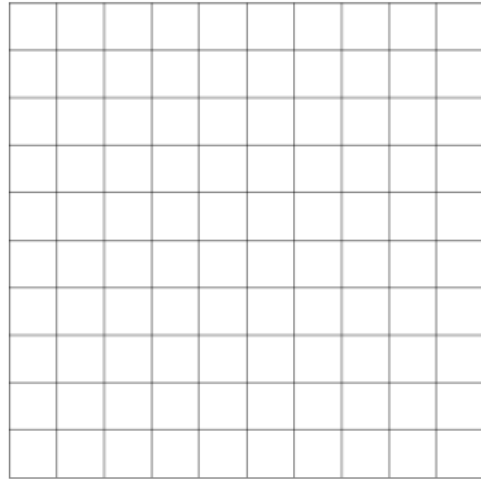
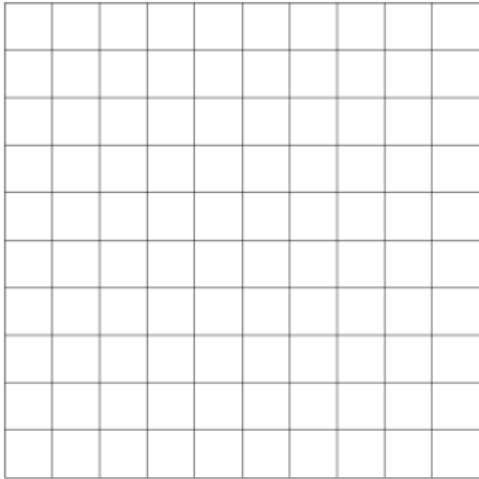


Did you know that the most common computer screen size that people use (1366×768 resolution) contains 1,049,088 pixels? That's 10,491 copies of the (10×10) pixel grid you're using, scrunched into one single computer screen!

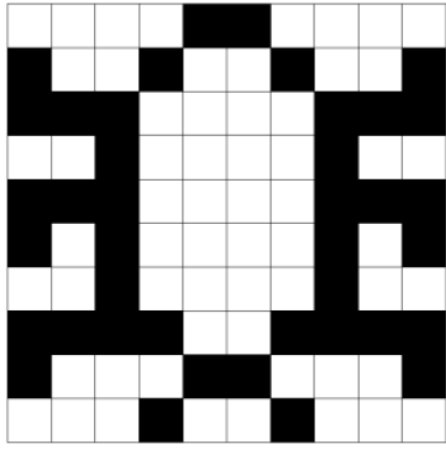
## Activity 2

Use the blank grids to create three of your own pixel art images.

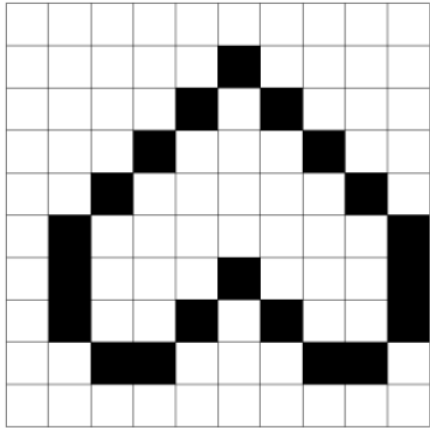
Can you create any outdoor themed images? For example, you could try to draw an insect, a plant, or a mountain. Write the coordinates for them.



# Pixel art answer sheet



(3,0) (6,0)  
(0,1) (4,1) (5,1) (9,1)  
(0,2) (1,2) (2,2) (3,2) (6,2) (7,2) (8,2) (9,2)  
(2,3) (7,3)  
(0,4) (2,4) (7,4) (9,4)  
(0,5) (1,5) (2,5) (7,5) (8,5) (9,5)  
(2,6) (7,6)  
(0,7) (1,7) (2,7) (7,7) (8,7) (9,7)  
(0,8) (3,8) (6,8) (9,8)  
(4,9) (5,9)



(1,1) (2,1) (6,1) (7,1)  
(0,2) (3,2) (5,2) (8,2)  
(0,3) (4,3) (8,3)  
(0,4) (8,4)  
(1,5) (7,5)  
(2,6) (6,6)  
(3,7) (5,7)  
(4,8)