
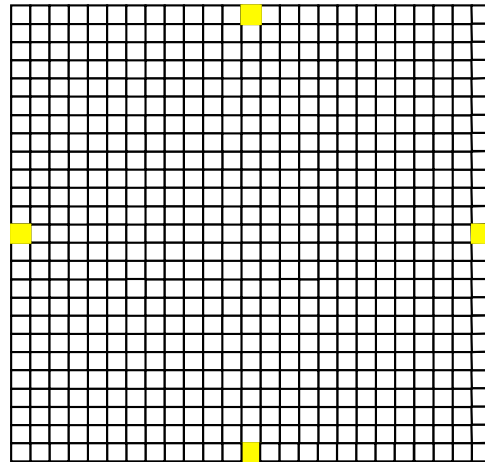


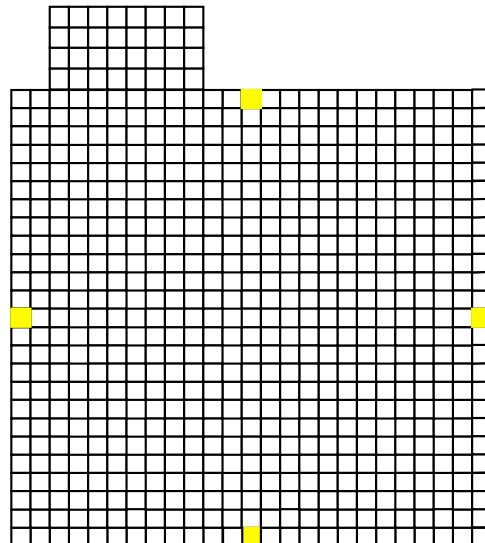
Tessellations

1. Open Paint Program – Goto Start Menu goto Programs, goto Accessories, goto Paint. Set the foreground colour to black and background colour to white.
2. Choose the select  tool select transparent option at base of toolbar.
3. From the view menu select custom 800%, Check the 'Show Grid' option in the view menu.

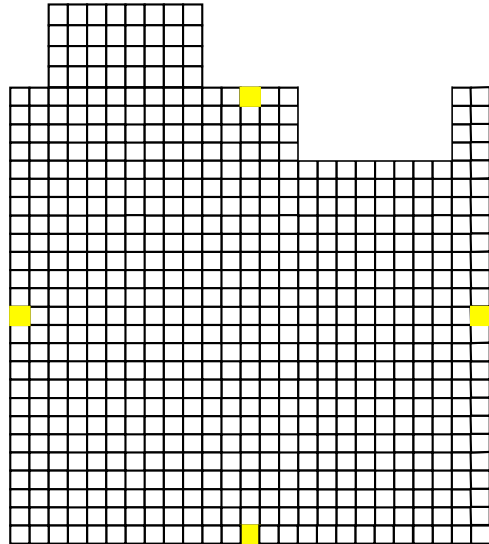
4. Draw a black square 25 pixels x 25 pixels.
TIP – Watch the pixel counter on the lower right of the screen pull the square out to 26x26 – when you check the last pixel filled in it will be 25x25.
Colour in the 13th square on each side in yellow.



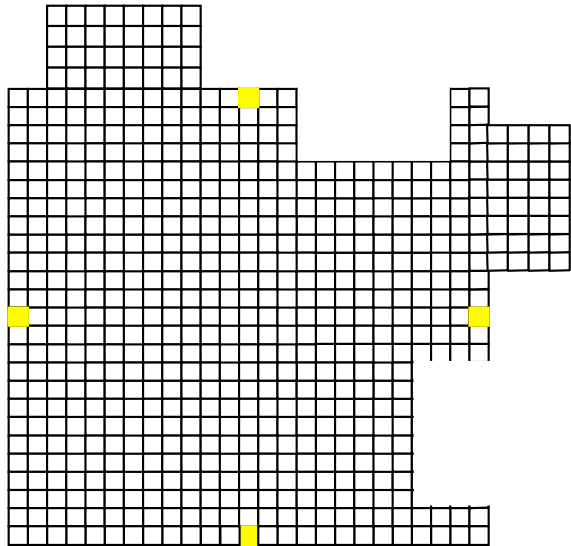
5. Add a small section to the top left of the square. I added a 4 x 8 rectangle like this:-



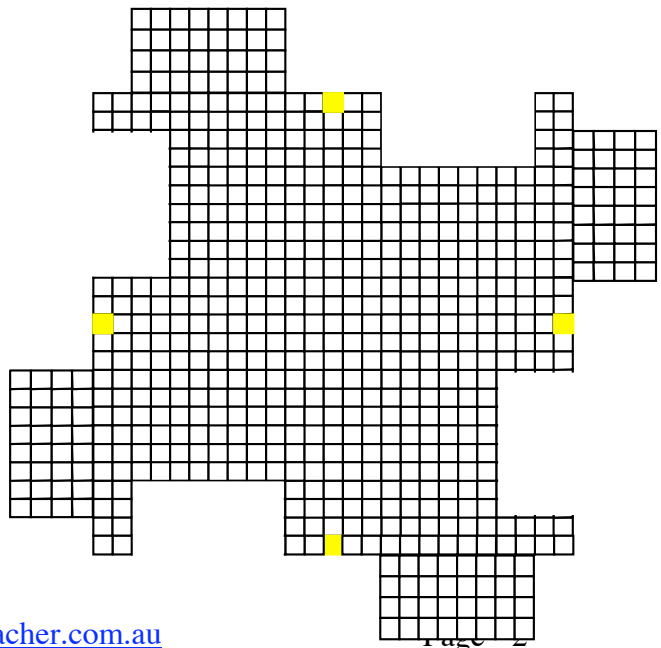
6. Remove an equivalent rectangle on the top right.



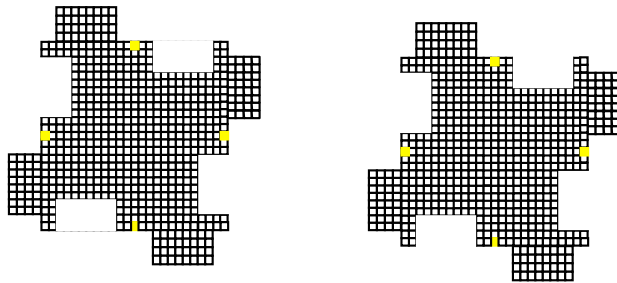
7. Do the same again to the right side, add an equivalent rectangle to the top right, and remove an equivalent rectangle from the bottom right side.



8. Do the same again on the bottom and left side. Your tessellation should look like this.



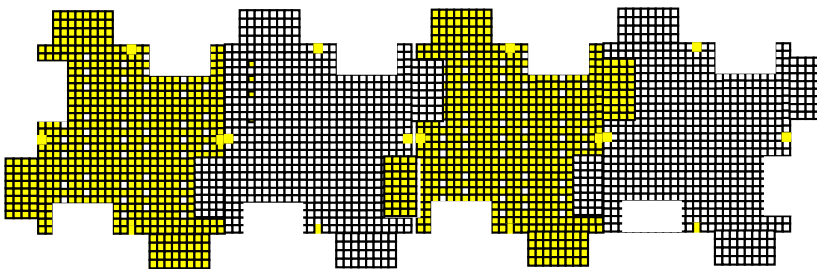
9. Choose Zoom, Custom, 400%. Use the select tool to select your new shape. Make a copy of your shape.



10. Make sure the background colour is still white and 'transparent' is still selected. From the view menu choose, custom, 200%.

11. Colour one shape yellow (or choose another light colour). Copy the black shape and place it in the middle of the screen.

12. Copy the yellow shape and add it to the black shape. Continue copy and paste until you build up your tessellation.



13. When you have a tessellation of about 12 pieces, select the lot and copy and paste in larger chunks.

14. **Evaluation:** What did you learn, what did you enjoy most, what would you like to explore next.

15. **Extension:** Experiment with different colours. Try taking different sized chunks out of each side, remember each side must have a positive and negative version of a shape as this provides the 'lock and key' for tessellations. Try rotational tessellations. Check out some really cool tessellations at:

<http://www.virtualteacher.com.au/maths.html>