



Pixels & Hexadecimal Values

Pixels are the smallest elements in an image on a screen, and they collectively form pictures and videos. There are thousands of them on your screens and in your video games! All pixels are made from 3 colours: red, blue and green. **Hexadecimal values** are the numbers used to define different colours, including shades and hues. Each colour is made from a mix of red, green and blue, and it is this that determines the value. We use these values when creating websites!

Challenge – Pixel Art 2.0

Uncover the pixel art that is hidden in the grids!

Use the key to discover the hex value in each square, and then find the colour in the table! Colour in the squares according to the colour you found and uncover the hidden picture!

Extension: Create your own art using the key and empty grids!

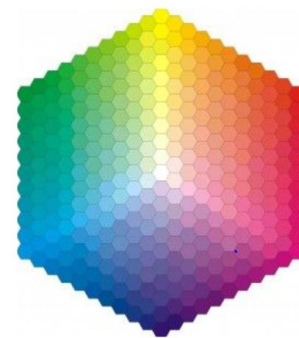
What You'll Need

- Pens/pencils
- This handout, or plain paper
- Colouring pencils

Why are we doing this?

- Pixels make up all the displays that you see on screens!
- Hexadecimal values are used for creating and designing websites.

Key



Number	Hex value
0	fafcfc
1	ffc333
2	33ffff
3	ff9c33
4	3346ff
5	33ff58
6	727676

Table

Hex value	Colour
ffc333	Yellow
33ffff	Light blue
ff9c33	Light orange
3346ff	Dark blue
33ff58	Bright green
727676	Grey
fafcfc	White

How to Create Your Own Grids at Home

What you need:

Pencil or pen; Ruler; Plain paper

1. Gather what you need and check that your pencil is sharp/your pen has plenty of ink.
2. Decide how big you want your grid to be – ours are 10 across and 8 down.
3. Measure out your grid (we suggest 1cm per square) and mark the corners. Then, measure where each square is going to be, using our grids as a guide.
4. Using a ruler, draw lines connecting the corners.
5. Use your ruler to create the squares inside of the grid.
6. Insert the 1s and 0s either as shown, or in the positions you want to put them to create your own art.

