

Name: _____

Grade: _____

Pixel art

Task 1 Pixel art

Using the grid below, create your own pixel art by shading in some squares in one colour.

Binary value

Explorer task How many colours?

Your image uses 1 bit per pixel to represent the colour of each pixel. How many colours could be represented with 2 bits per pixel?

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Colour depth

Task 1 2-bit colour depth



boat.jpg

Image source:

<https://pixabay.com/photos/boat-lake-nature-water-mountain-4899802/>

Steps

Instructions

1. In GIMP, **open** the boat.jpg file.

- Load GIMP. (Check www.febstar.com under useful links <https://fixthephoto.com/online-gimp-editor.html>)
- Go to **File > Open**.
- Navigate to the file and select **Open**.

2. **Convert** the **bit depth** of the image.

- Go to **Image > Mode > Indexed**.
- Select **Generate optimum palette**.
- Change the number of colours to **4** (this is the maximum number of colours used in an image with a 2-bit colour depth).
- Select **Convert**.

3. **Export** the file.

- Go to **File > Export As**.
- Save the file as boat2bits.jpg.

4. **Insert** the image below.

If you are completing this activity sheet electronically, insert the image below.

Task 2 4-bit colour depth



regensburg.jpg

Image source:

<https://pixabay.com/photo/s/panorama-regensburg-historic-center-2646143/>

How many colours does an image with a 4-bit colour depth have?

Answer:

Use the steps from Task 1 to convert the regensburg.jpg image into an image with a 4-bit colour depth. Insert your image below:

Draw a LINE pointing the term to the correct description/statement.

1. Pixel		It is data about data
2. 8 colors		Is expressed in the number of pixels of an image' width & height
3. 2-bits/pixel		is an image made up of pixels formed with different rows of colour.
4. Image resolution		are produced for a 3-bit colour depth.
5. Color depth		can create four combinations of colour bit patterns.
6. Metadata		refers to the number of bits per pixel
7. Bitmap image		It is the smallest element in an image