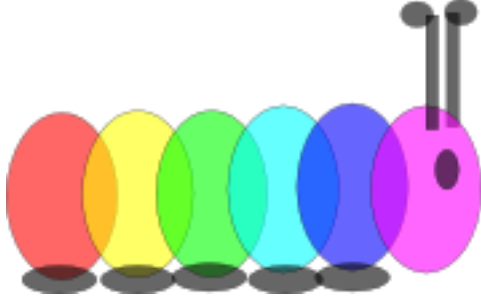


Inkscape – Colors on the Computer



Color wheels: using the RGB color window to mix and create colors. Understand difference of paint color theory and computer color theory

- *Art concepts:* Color theory, use of primary and mixed colors. Blending red and green to get yellow on the computer.
- *Technology concepts:* use of numbers to represent colors. Understanding RGB values.
- *Math concepts:* opacity of color based on number value

Differences between RGB and CMYK Color Modes

When a user generates graphics on a computer for printing, or wishes to print images from a digital camera, it is a common mistake to assume that the colors seen on the screen will look the same in print. As a result of this mistake, files for printing are often erroneously sent in the Red-Green-Blue (RGB) format for printing. The issue lies in the fact that the computer screen and many photo editing programs show colors in RGB mode, while images are printed on paper in Cyan-Magenta-Yellow-Black (CMYK) format. Sometimes the conversion from RGB to CMYK works without any problems arising, and a printout will look identical to what shows up on the computer. In other cases, there will be noticeable differences between the shades of color. The key to avoiding this potential problem is to convert all graphics to CMYK format during the layout design phase.

RGB Color Mode

RGB is the color scheme that is associated with electronic displays, such as CRT, LCD monitors, digital cameras and scanners. It is an additive type of color mode, that combines the primary colors, red, green and blue, in various degrees to create a variety of different colors. When all three of the colors are combined and displayed to their full extent, the result is a pure white. When all three colors are combined to the lowest degree, or value, the result is black. Software such as photo editing programs use the RGB color mode because it offers the widest range of colors.

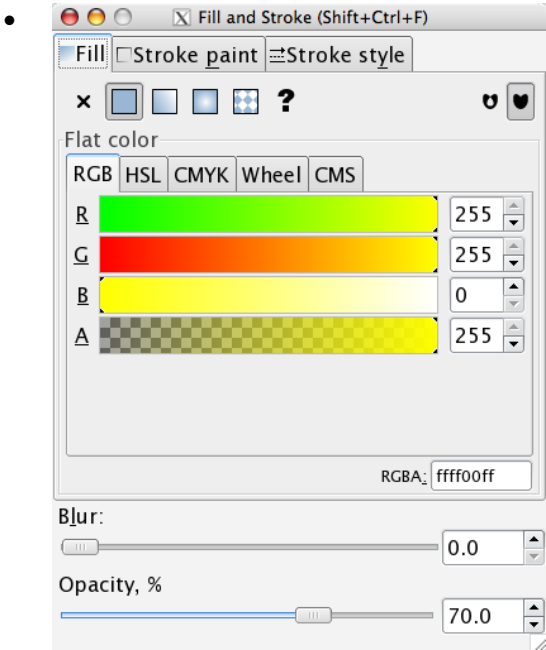
CMYK Color Mode

Printers print color onto paper using the CMYK color mode only. This is a four color mode that utilizes the colors cyan, magenta, yellow and black in various amounts to create all of the necessary colors when printing images. It is a subtractive process, which means that each additional unique color means more light is removed, or absorbed, to create colors. When the first three colors are added together, the result is not pure black, but rather a very dark brown. The K color, or black, is used to completely remove light from the printed picture, which is why the eye perceives the color as black.

Why RGB Colors Need to be Converted

The RGB scheme has a greater range of colors than CMYK and can produce colors that are more vivid and vibrant. These colors are beyond the range of CMYK to reproduce and will come out darker and more dull in print than what is seen on the monitor or display. Because the RGB color mode has the full range of colors, documents shown in CMYK mode will always show up precisely on-screen. RGB colors, however, will not necessarily appear in print as they do on-screen. To accurately print the document or image, it must be converted from its original RGB format to CMYK.

Inkscape Color Project



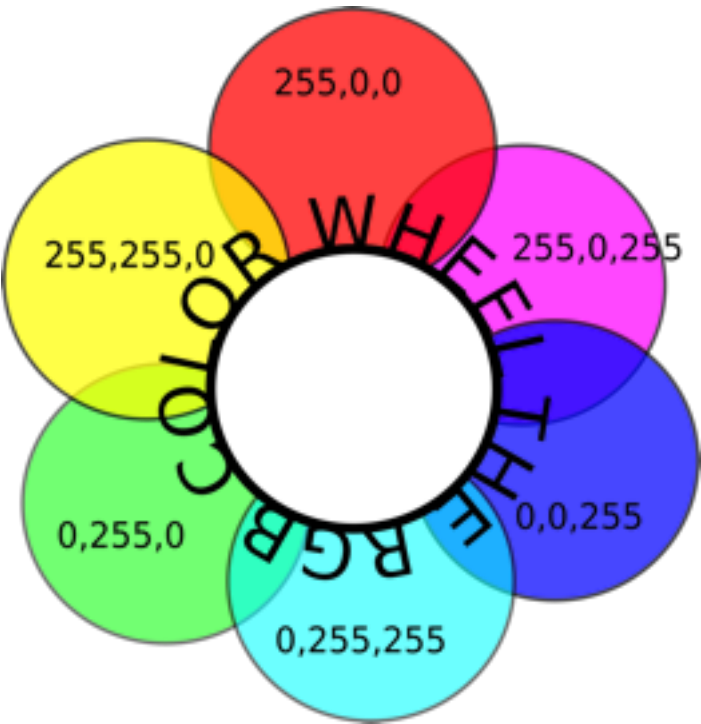
Selection Pointer



Lesson

1. Start Inkscape
2. Select the ellipse/circle shape and click and drag to make a circle
3. Click on Selection pointer to select the circle.
4. Click on the paintbrush icon on top to get to the color menu
5. Make sure the RGB tab is selected and then move the sliders of R,G, B to see the different color
6. Drag both R and G to see what is R+G (red combined with blue)
7. Try all combination and get all the following colors as per the following color wheel.

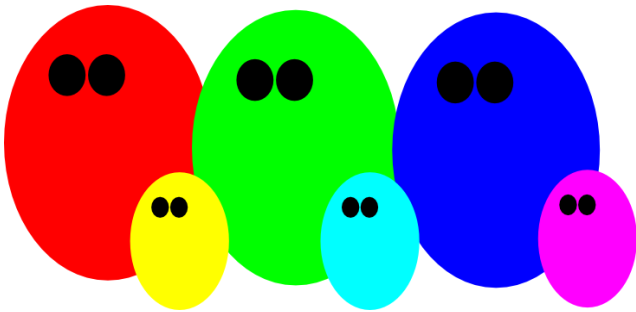
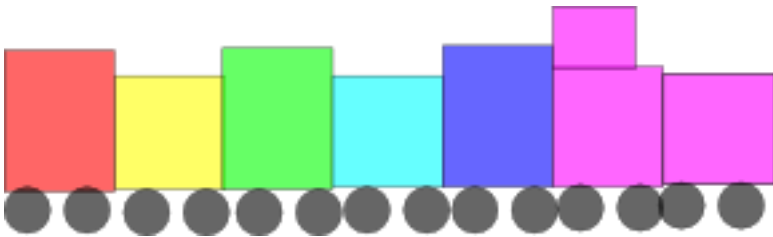
Paint brush Fill Stroke



- Experiment to see what combination makes Back and White

Using just the shapes, create a color wheel that is different from the above.

Remember to use control D to duplicate a shape. Example: the color caterpillar above. Other examples include



Use only one shape and rotate and create a pattern. Use transparent colors (alpha (A) less than 255) to create overlap patterns.

Use only one color or alternating colors. Examples below use rectangle, star, ellipse shapes

