# Color Palette for Colorblind Users

# Introduction

Part of successful graphic design is making sure that it promotes the message that you intend to convey. This includes making a graphic aesthetically pleasing, easy to read, and accessible to all users. This includes users who may be colorblind. Users who are color-blind see colors differently, and as a result, may see your graphic differently or be unable to see portions of the graphic at all. Below, you will find links to two color palettes that are friendly to colorblind users and an example of using a colorblind-friendly palette.

For color contrast tools and a colorblind simulator, please visit our [**Tools for Color Contrast and Color Blindness toolkit document**](http://tinyurl.com/ColorContrastTools)**.** Direct link: <http://tinyurl.com/ColorContrastTools> .

# Palette One:

Martin Kryzwinski, a scientist and artist in Canada, has compiled scientific and artistic information regarding colorblindness. Mr. Kryzwinski uses facts and colorblind simulations to introduce his color palettes. One is a 7-color palette, one a 12-color palette, and one a 15-color palette. Direct link available here: <http://mkweb.bcgsc.ca/colorblind/>

# Palette Two:

Similar to Martin Kryzwinski, Luk uses science and graphics to explain the importance of using a colorblind-friendly palette. In fact, Luk references Mr. Kryzwinski’s work but uses more direct language, which may be more user friendly. Direct link available here: <http://www.somersault1824.com/tips-for-designing-scientific-figures-for-color-blind-readers/>

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# Samra’s Swatches:

For your convenience, I have used each of the colors below and provided their RGB and hex codes. This will allow you to reference the colors quickly and use a format painter/eyedropper tool. At a later date, I will upload a color-swatch file for users of Photoshop and other Adobe Design products. Although I created the hex codes, the original RGB information and color palette belong to Mark Kryzwinski.

Swatches of the 15-Color Kryzwinski Palette:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Color Name** | **Red Value** | **Green Value** | **Blue Value** | **RGB** | **Hex Code** | **Swatch** |
| Black | 0 | 0 | 0 | 0, 0, 0 | 000000 |  black  |
| Dark Turquoise | 0 | 73 | 73 | 0, 73, 73 | 004949 | Dark turquoise |
| Teal | 0 | 146 | 146 | 0, 146, 146 | 009292 | teal |
| Rosy Pink | 255 | 109 | 182 | 255, 109, 182 | f96b9e | Rosy pink |
| Light Pink | 255 | 182 | 219 | 255, 182, 219 | FFB6DB | Light pink |
| Purple\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | 73 | 0 | 146 | 73, 0, 146 | 490092 | purple |
| True Blue | 0 | 109 | 219 | 0, 109, 219 | 006DDB | True blue |
| Light Purple | 182 | 109 | 255 | 182, 109, 255 | B66DFF | Light purple |
| Light Blue | 109 | 182 | 255 | 109, 182, 255 | 6DB6FF | Light blue |
| Sky Blue | 182 | 219 | 255 | 182, 219, 255 | B6DBFF | Sky blue |
| Maroon | 146 | 0 | 0 | 146, 0, 0 | 920000 | maroon |
| Light Brown | 146 | 73 | 0 | 146, 73, 0  | 924900 | Light brown |
| Brown-Orange | 219 | 209 | 0 | 219, 209, 0 | DB6D00 | brown-orange |
| Lime | 36 | 255 | 36 | 36, 255, 36 | 24FF24 | lime |
| Pale Yellow | 255 | 255 | 109 | 255, 255, 109 | FFFF6D | Pale yellow |

# Swatches in Action

By using a colorblind-friendly color palette, the design is less likely to look different among different forms of color-blindness. Using VisCheck one of my custom graphics to simulate color-blindness, it is clear that the design is almost identical visually because of the use of a colorblind palette.

