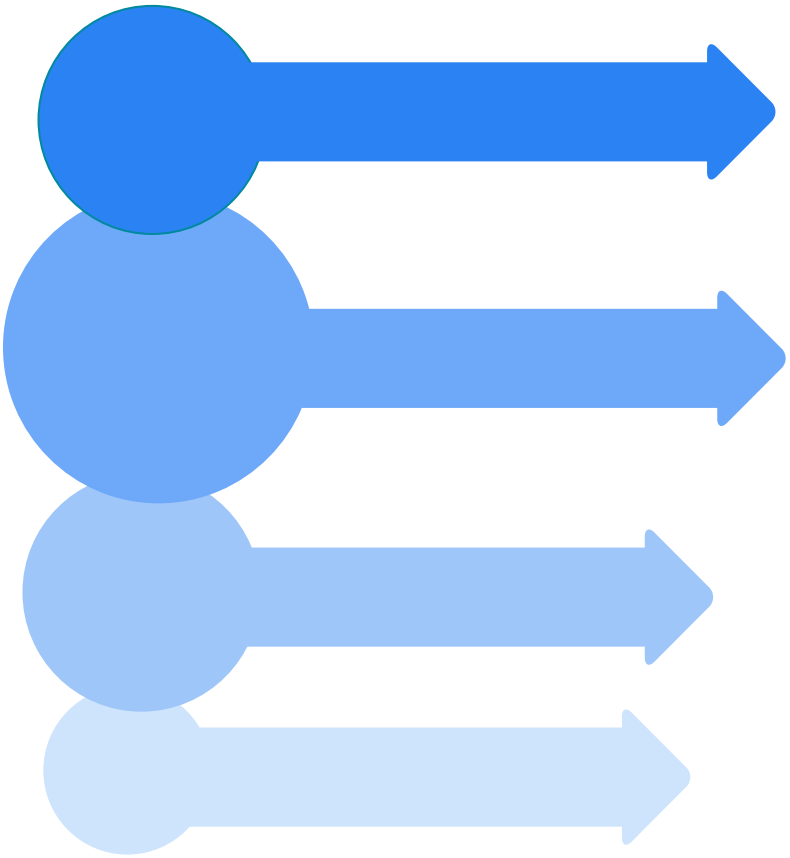
LEARN MORE 365



GGPLOT - Colors Lesson

Using colors in ggplot

Greg Martin

Using colors

Color has the power to convey emotions, highlight patterns, and bring attention to critical insights in your dataset. Using color creatively, you can give your data visualization the "look and feel" that fits with either your message or branding.

An easy start

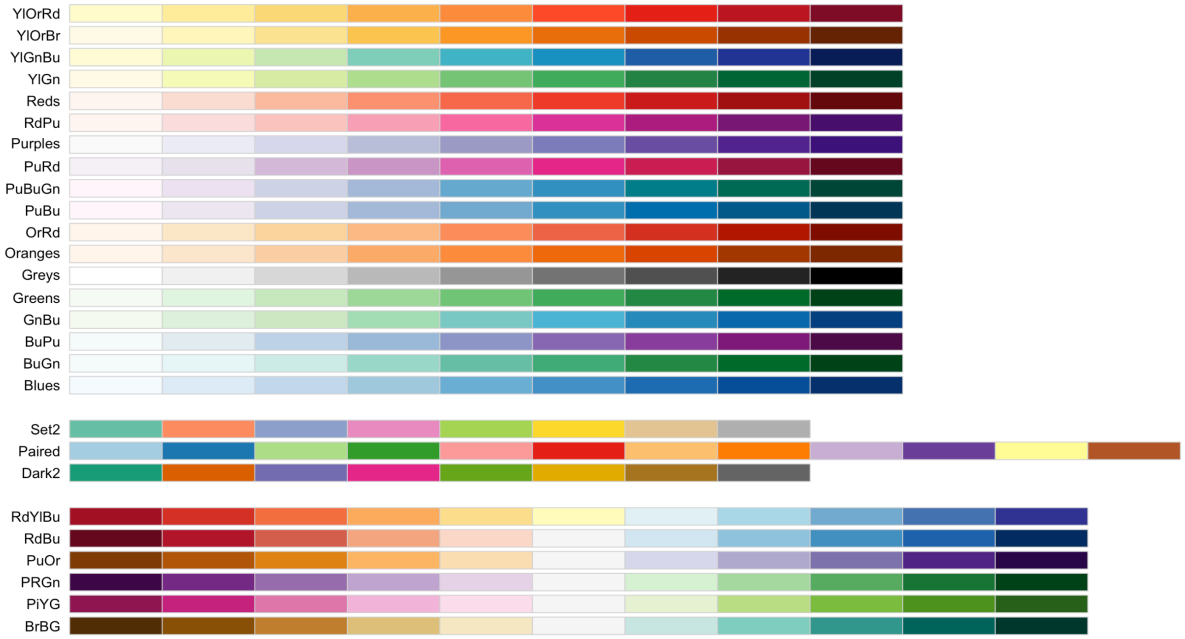
Whenever you create a plot that requires colors, R will automatically assign a set of colors that may or may not suit your data visualization objectives. If it does, then so be it. But more often than not, you'll want to bring a little of your own personality and style onto the canvas.

Of course you can specify exactly the color of each element of your plot (and we'll discus that below). A first step might be to simply select a range of colors from a palette that are known to work well together. `ColorBrewer` is a collection of color palettes that you can chose from and have applied to any data visualization. You'll need to install and call the `RColorBrewer` package with the following code:

```
install.packages("RColorBrewer")
library(RColorBrewer)
```

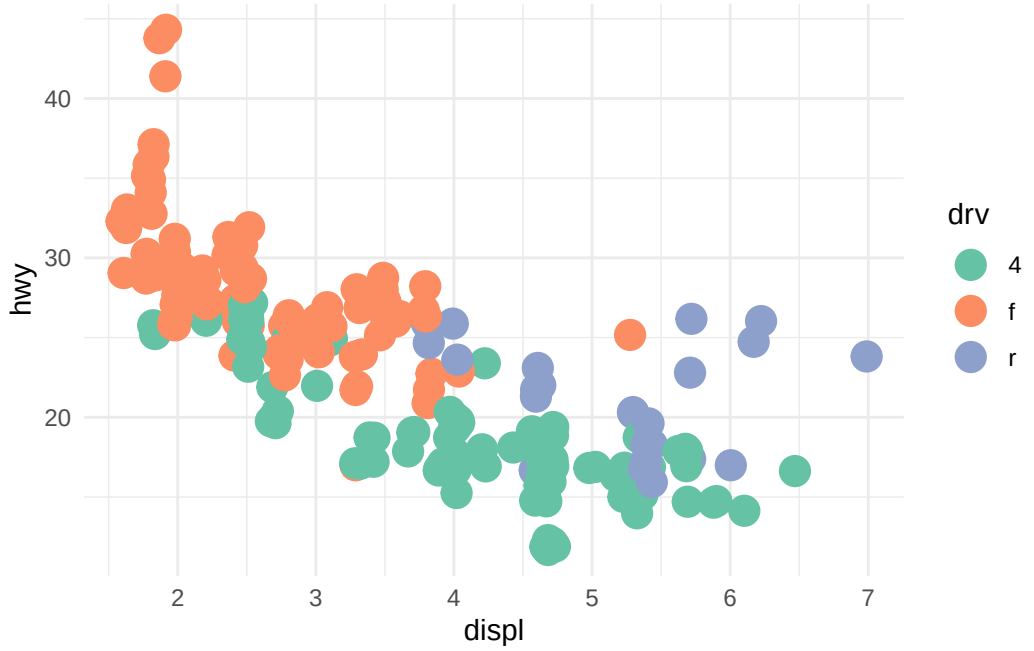
You can easily view the colorblind friendly palettes with the code:

```
display.brewer.all(colorblindFriendly=TRUE)
```



Each palette has a name and we'll be using those names in our ggplot code to set the colors used in any given plot using the `scale_color_brewer` function and then setting the palette argument to the name of the palette that you want to use. Take a look:

```r
mpg %>%
  ggplot(aes(displ, hwy, color = drv))+
  geom_jitter(size = 5)+
  scale_color_brewer(palette = "Set2")+
  theme_minimal()
```

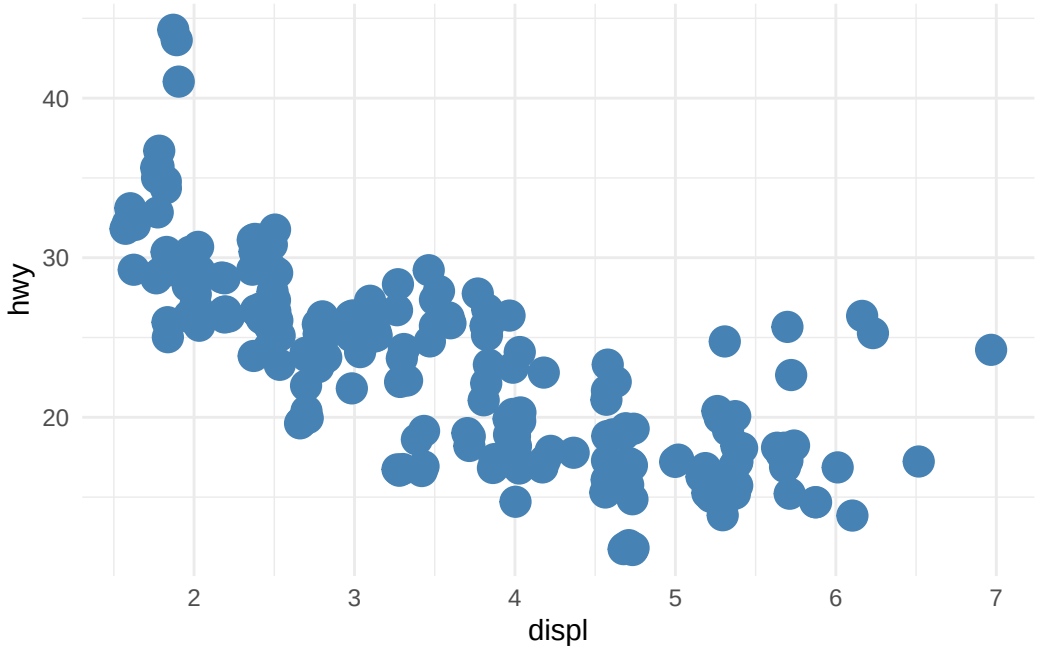


Not that in the code above we've used the function `scale_color_brewer` because the `color` aesthetic is being mapped to a variable. For many geometries (like `geom_bar` or `geom_density`), it is the `fill` aesthetic that is mapped against the variable (as a shape is being filled up). In these cases we use `scale_fill_brewer` instead.

Take control

You can of course specify the color of an element directly by using a color name; here is an example:

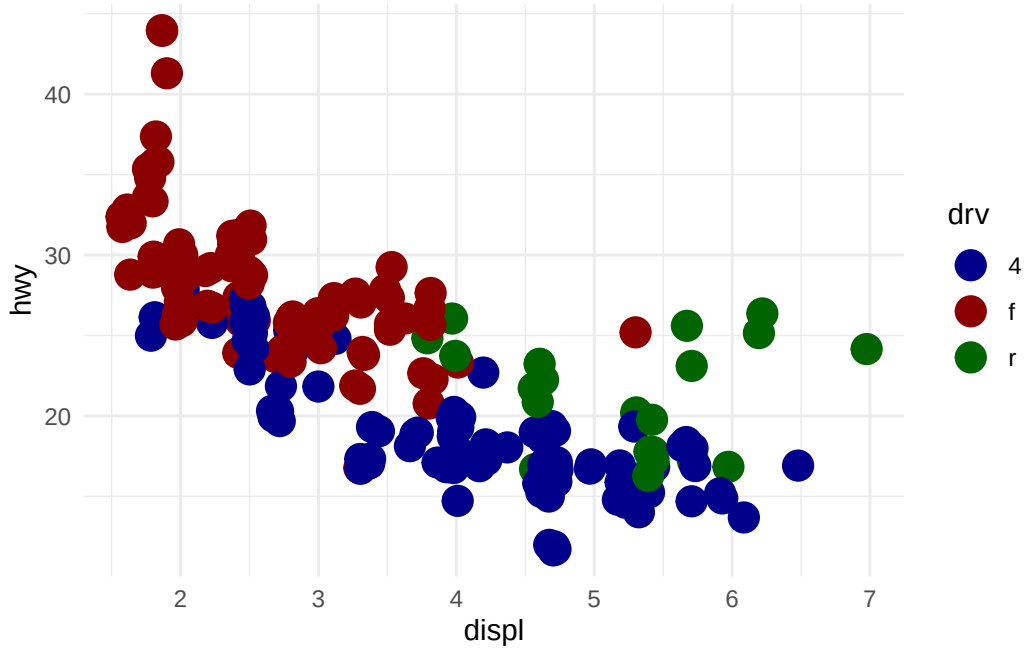
```
mpg %>%
  ggplot(aes(displ, hwy))+
  geom_jitter(color = "steelblue",
              size = 5)+
  theme_minimal()
```



Be specific

As you've seen, if the color of the elements of a plot are to be allocated by the values of a variables (through the process of mapping that we've discuss), then ggplot will assign a color automatically. Can the colors that get assigned by specified? The answer is of course, yes. Take a look:

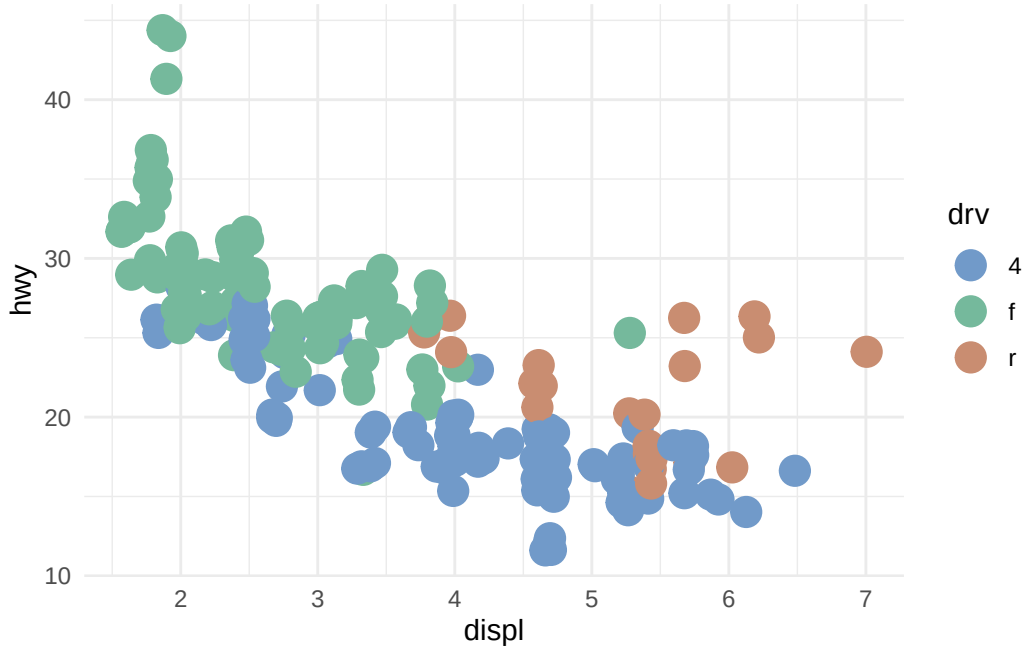
```r
mpg %>%
  ggplot(aes(displ, hwy, color = drv))+
  geom_jitter(size = 5)+
  scale_color_manual(values =
                       c("4" ="darkblue",
                         "f" = "darkred",
                         "r" = "darkgreen"))+
  theme_minimal()
```



Be even more specific

Can you use hex code to specify exactly what colors you'd like to use? Again, the answer is yes. To find the right code, simply do an internet search for "hex code" that will give you any number of webpages that will let you select from a palette and provide you with hex codes for the exact colors that you want to use. Take a look:

```r
mpg %>%
  ggplot(aes(displ, hwy, color = drv))+
  geom_jitter(size = 5)+
  scale_color_manual(values =
                       c("4" = "#719AC9",
                         "f" = "#75B99C",
                         "r" = "#C98D71"))+
  theme_minimal()
```



Learn More 365

Share this cheat sheet with others

Unlock a wealth of FREE resources TODAY!

Click on the links below to enrich your knowledge in these topics:

- Statistics & Research Methods Resource Library
- R Programming & Data Visualization Resource Library
- Discover the Public Health & Epidemiology Resource Library

Explore video lessons on **Statistics & Research Methods, R Programming & Data Visualization Public Health & Epidemiology,** and more at Learn More 365!

Click **HERE** or scan the QR code below to start learning!