SUNLIGHT FOUNDATION

# **Data Visualization** Style Guidelines

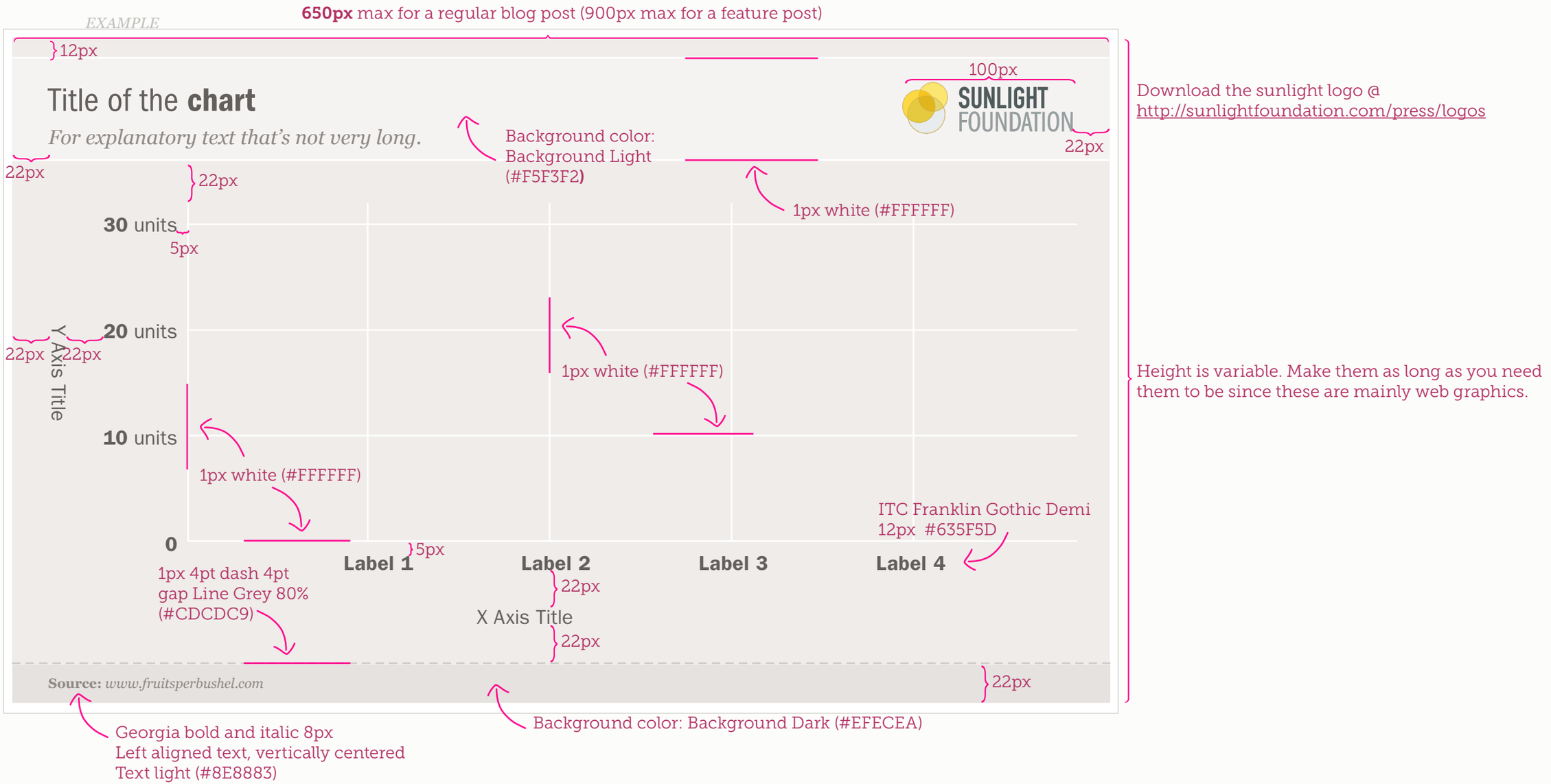
## This guide includes:

- basic graph structure
- bar graphs
- line graphs
- pie charts
- scatter plots
- maps
- graph or chart colors
- choropleth colors for maps
- network visualization colors

FORWARD

*This guide is meant to be a starting point for creating data visualizations for this organization. "Data Series" like the 1% of the 1% may have their own twist on these foundations. Visualizations that pertain to a particular project, like the 5 year review of Political Party Time, may also have variations on these standards. Feel free to use these as a starting point, and do what makes sense for your particular data. Please remember to respect the data as you go forth into the wonderful, but often confusing, world of turning numbers into visuals.*

# Basic Structure



# **Text** Styles

| | |
|---|---|
| Header Title with **emphasis** | ITC Franklin Gothic Std \| Book Condensed with Demi Condensed emphasis \| 20px \| Left Aligned \| #635F5D (Text Main) |
| *Header title explanatory text* | Georgia \| italic \| 12px \| left aligned \| #8E8883 (Text Light) |
| **X axis & Y axis labels** | ITC Franklin Gothic Std \| Demi \| 12px \| centered on line \| #635F5D (Text Main) |
| X Axis & Y Axis Title | ITC Franklin Gothic Std \| Book \| 12px \| centered \| #635F5D (Text Main) |
| Key labels | ITC Franklin Gothic Std \| Book \| 10px \| left aligned \| #635F5D (Text Main) |
| *Callout text* | Georgia \| italic\| 10px \| left aligned \| #635F5D (Text Main) |
| Point Label | ITC Franklin Gothic Std \| Book \| 10px \| right aligned to point \| #635F5D (Text Main) |
| **Source:** *www.fruitsperbushel.com* | Georgia \| bold title with italic text \| 8px \| left aligned \| #8E8883 (Text Light) |

# Background **Colors**

## Base Colors

### Background

CMYK: 5, 5, 5, 0
RGB: 239, 236, 234
Hex: #EFECEA

### Background Light Accent

CMYK: 2, 2, 2, 0
RGB: 245, 243, 242
Hex: #F5F3F2

### Background Dark Accent

CMYK: 9, 8, 8, 0
RGB: 229, 226, 224
Hex: #E5E2E0

### Text Main

CMYK: 59, 54, 54, 25
RGB: 99, 95, 93
Hex: #635F5D

### Text Light

CMYK: 46, 41, 44, 5
RGB: 142, 136, 131
Hex: #8E8883

### Line White

CMYK: 0, 0, 0, 0
RGB: 255, 255, 255
Hex: #FFFFFF

### Line Grey Accent

CMYK: 25, 19, 23, 0
RGB: 192, 192, 187
Hex: #C0C0BB

# Data **Colors**

## Main Colors

### a thing

CMYK: 12, 24, 100, 0
RGB: 227, 186, 34
Hex: #E3BA22

### a different thing

CMYK: 7, 57, 97, 1
RGB: 230, 132, 42
Hex: #E6842A

### another different thing

CMYK: 86, 35, 46, 10
RGB: 19, 123, 128
Hex: #137B80

### another different thing

CMYK: 48, 61, 28, 4
RGB: 142, 109, 138
Hex: #8E6C8A

### neutral thing

CMYK: 42, 38, 49, 4
RGB: 151, 143, 128
Hex: #978F80

### No Data

CMYK: 9, 8, 8, 0
RGB: 229, 226, 224
Hex: #E5E2E0

### a subset of the thing

CMYK: 6, 9, 78, 0
RGB: 242, 218, 87
Hex: #F2DA57

### a subset of the different thing

CMYK: 2, 31, 76, 0
RGB: 246, 182, 86
Hex: #F6B656

### a subset of the other different thing

CMYK: 70, 17, 28, 0
RGB: 66, 165, 179
Hex: #42A5B3

### a subset of the other different thing

CMYK: 31, 42, 18, 0
RGB: 179, 150, 173
Hex: #B396AD

### a subset of the neutral thing

CMYK: 25, 22, 32, 0
RGB: 193, 186, 169
Hex: #C1BAA9

### a subset of the thing

RGB: 189, 143, 34
Hex: #BD8F22

### a subset of the different thing

RGB: 186, 95, 6
Hex: #BA5F06

### a subset of the other different thing

RGB: 0, 93, 110
Hex: #005D6E

### a subset of the other different thing

RGB: 104, 70, 100
Hex: #684664

### a subset of the neutral thing

RGB: 124, 113, 94
Hex: #7C715E

## Specialty Colors

### Republican

CMYK: 27, 84, 96, 22
RGB: 154, 62, 37
Hex: #9A3E25

### Democrat

CMYK: 89, 52, 27, 6
RGB: 21, 107, 144
Hex: #E6842A

### Independent

CMYK: 58, 34, 73, 13
RGB: 112, 130, 89
Hex: #708259

### Con

CMYK: 18, 95, 98, 8
RGB: 189, 45, 40
Hex: #BD2D28

### Pro

CMYK: 84, 24, 60, 5
RGB: 15, 140, 121
Hex: #0F8C79

### Money

CMYK: 67, 30, 100, 13
RGB: 92, 129, 0
Hex: #5C8100

### a subset of Republican

CMYK: 25, 60, 69, 8
RGB: 179, 112, 85
Hex: #B37055

### a subset of Democrat

CMYK: 64, 38, 20, 1
RGB: 104, 139, 171
Hex: #688BAB

### a subset of independent

CMYK: 44, 27, 57, 2
RGB: 149, 161, 126
Hex: #95A17E

### a subset of Con

CMYK: 6, 79, 80, 1
RGB: 226, 90, 66
Hex: #E25A42

### a subset of Pro

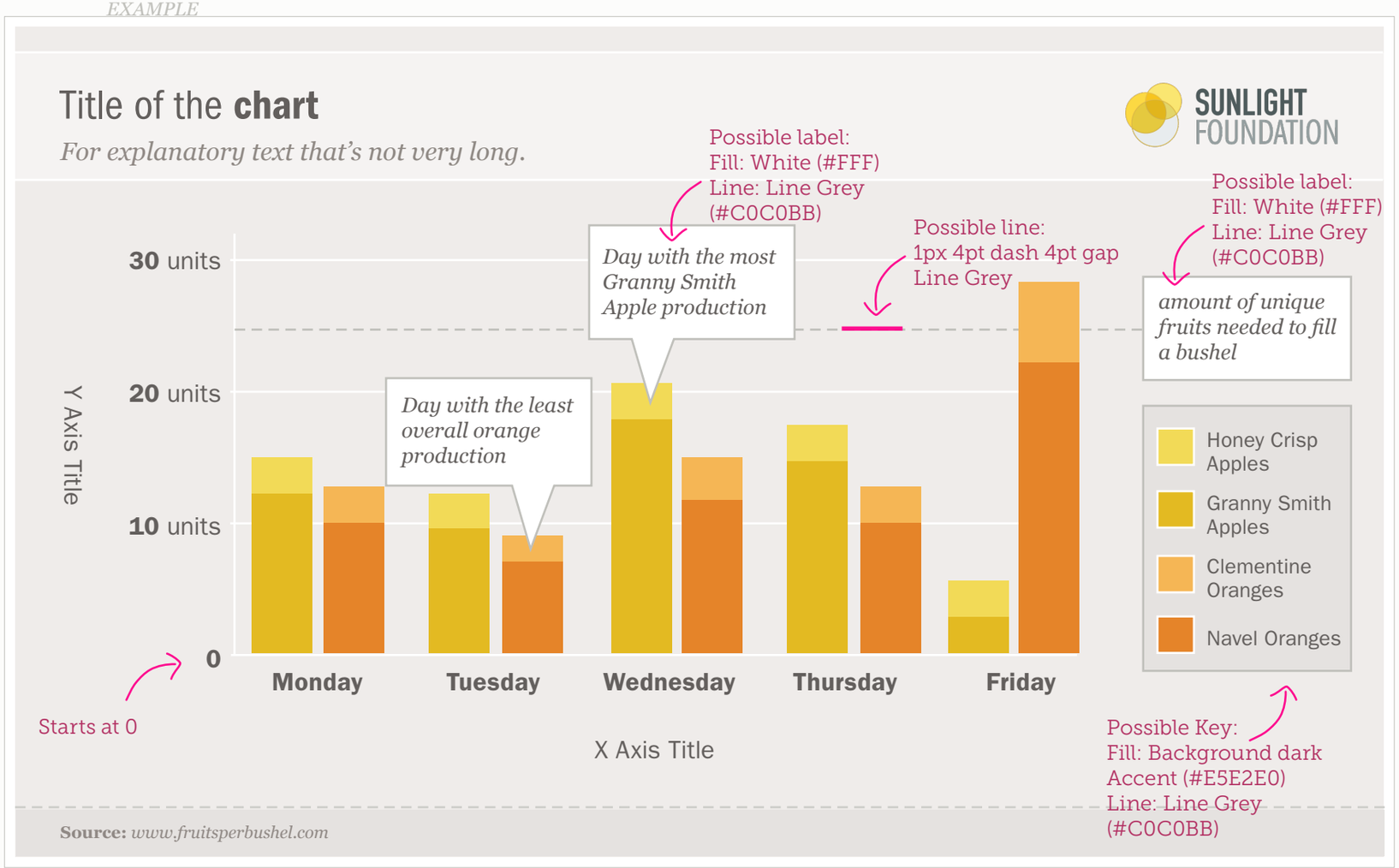
CMYK: 58, 5, 45, 0
RGB: 107, 187, 161
Hex: #6BBBA1

### a subset of Money

CMYK: 43, 12, 100, 0
RGB: 160, 183, 0
Hex: #A0B700

# **Bar Graph** (categorical)

*EXAMPLE*




### When to use a Bar or Column Chart

» Use mostly for one variable.

» Compares numerical values for different observations. Shows relative amounts.

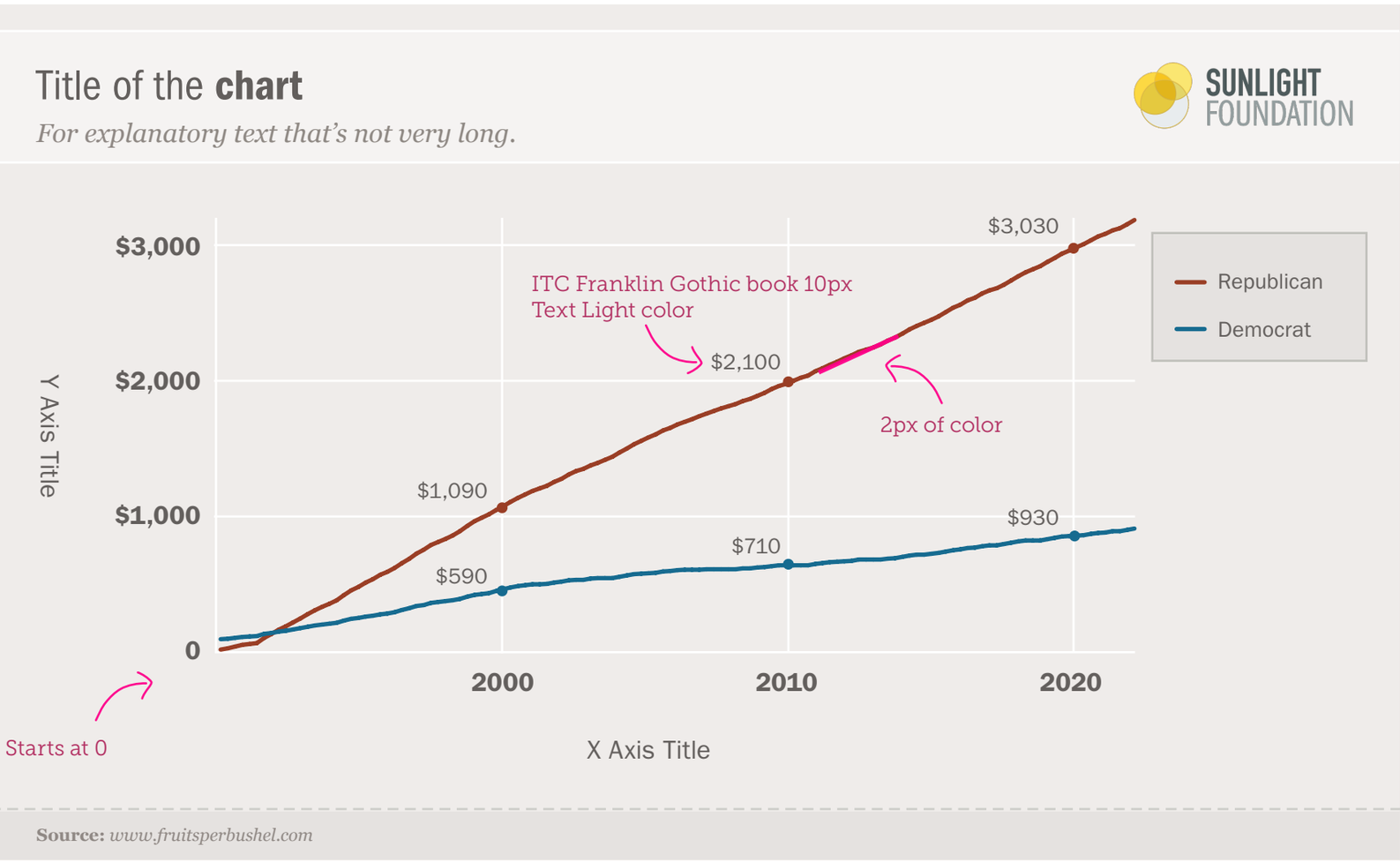
» Grouped or stacked bars or columns can break that one numerical variable out into different sub-groups.

### Your data should look like:

| | Honey Crisp | Granny Smith | Clementine | Navel |
|---|---|---|---|---|
| **Monday** | 3 | 12 | 3 | 10 |
| **Tuesday** | 3 | 9 | 2 | 7 |
| **Wednesday** | 3 | 18 | 4 | 12 |
| **Thursday** | 3 | 15 | 3 | 10 |
| **Friday** | 3 | 3 | 5 | 22 |

# **Line Graph** (political)

*EXAMPLE*




### When to use a Line Graph

» Shows the trend in one variable usually over time.

» Multiple lines can show multiple variables (if they are on the same scale).

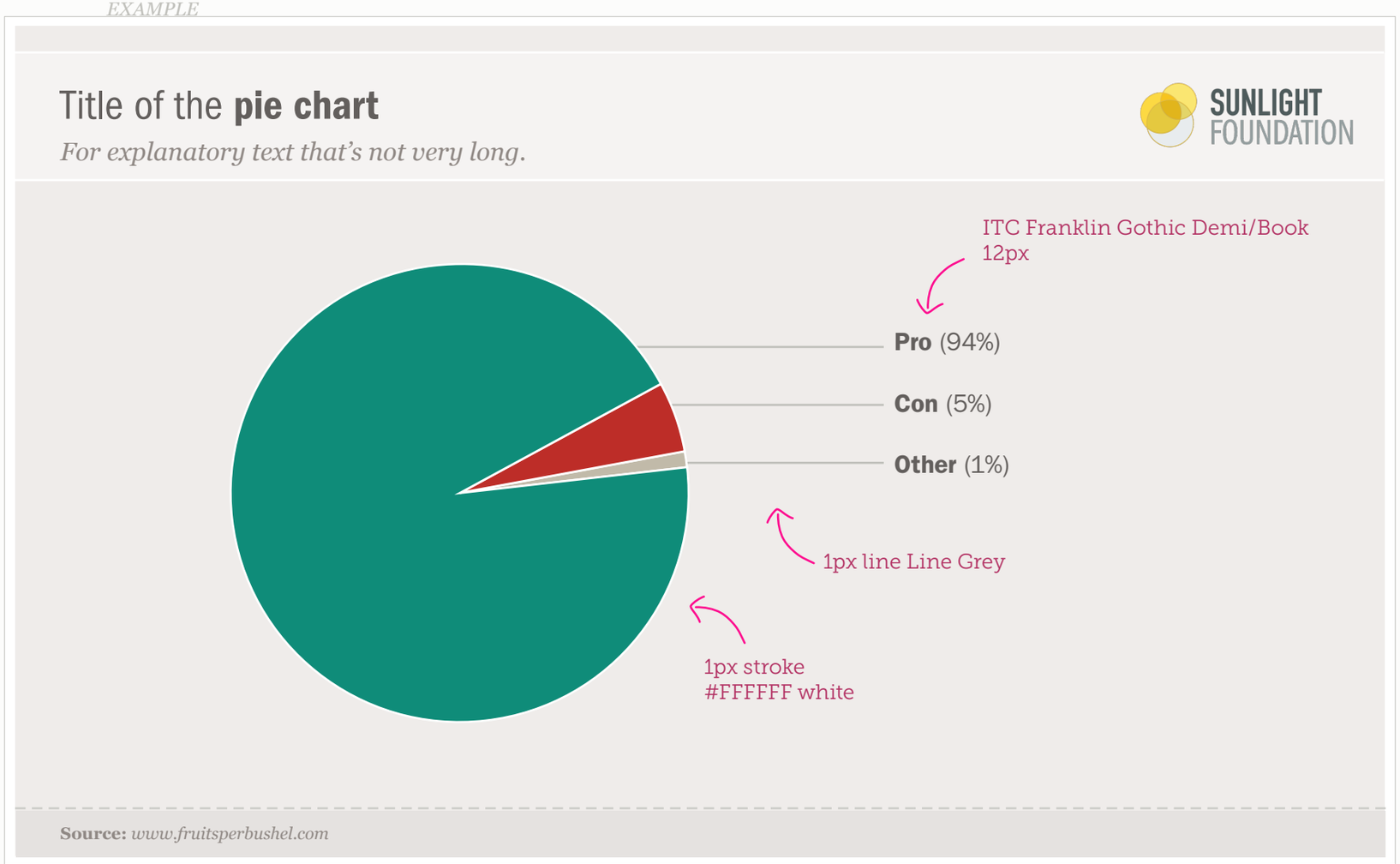
» Multiple lines can also show the same variable for multiple observations.

### Your data should look like:

| Time | Republican | Democrat |
|---|---|---|
| 1990 | 1 | 2 |
| 1991 | 2 | 5 |
| 1992 | 4 | 9 |
| 1996 | 6 | 13 |
| 1994 | 7 | 15 |
| 1995 | 8 | 17 |

# **Pie Chart** (pro/con)

*EXAMPLE*




### When to use a Pie Chart

» Use them very sparingly. Often a bar or column chart is better. It is much more difficult to visually judge the size of circles (or circle segments) vs. rectangles.

» You want to show the relative relationship between 2-3 things.

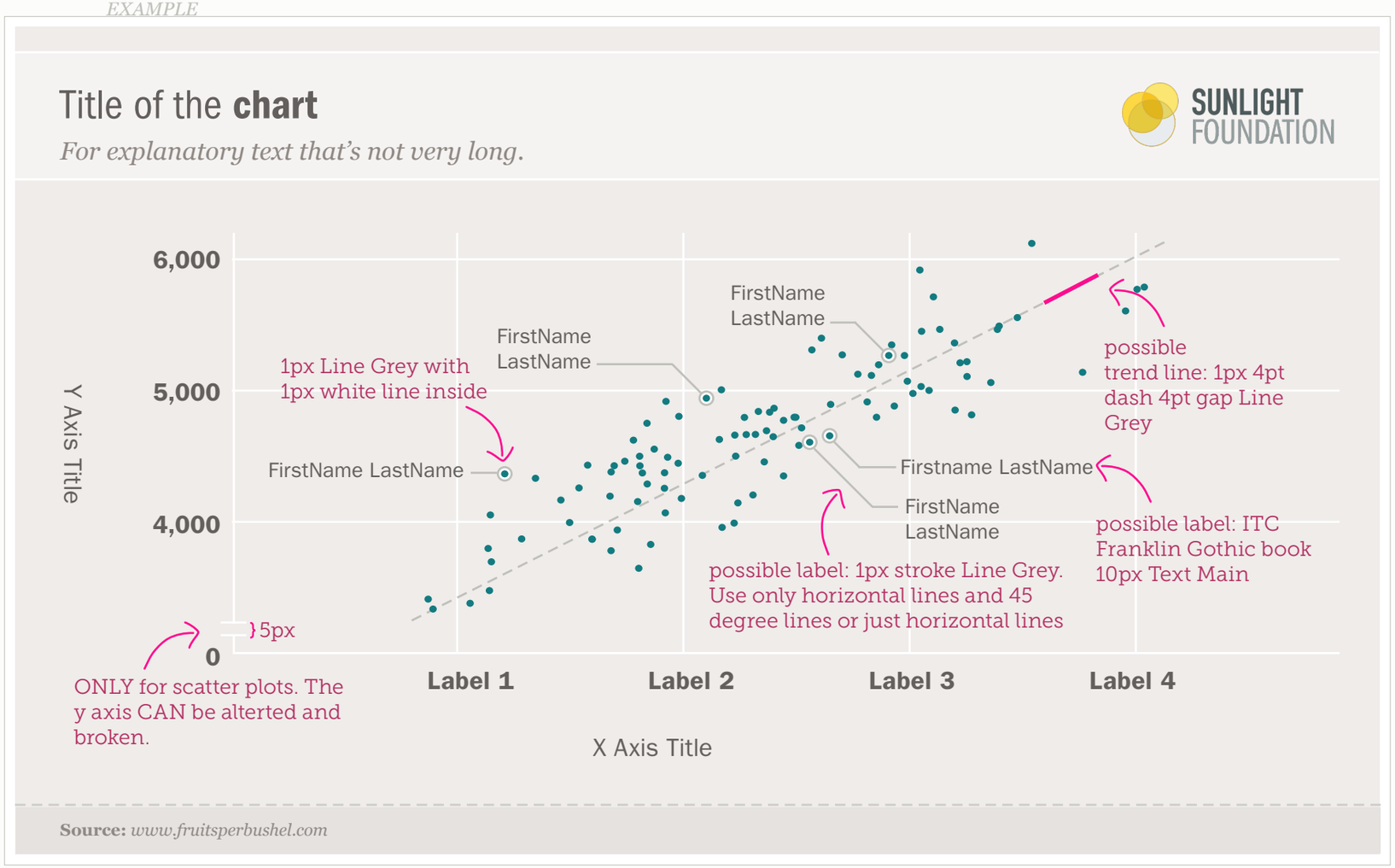
» They add up to 100% (which may necessitate the inclusion of a category such as "none", "other", etc.)

### Your data should look like:

| Pro | Con | Other |
|---|---|---|
| 94 | 5 | 1 |

# **Scatter Plot** (single variable)

*EXAMPLE*




### When to use a Scatter Plot

» Shows the relationship between two continuous variables for your set of observations.

» Each point in the plot represents an object.

» You can change color or symbol to show groups.

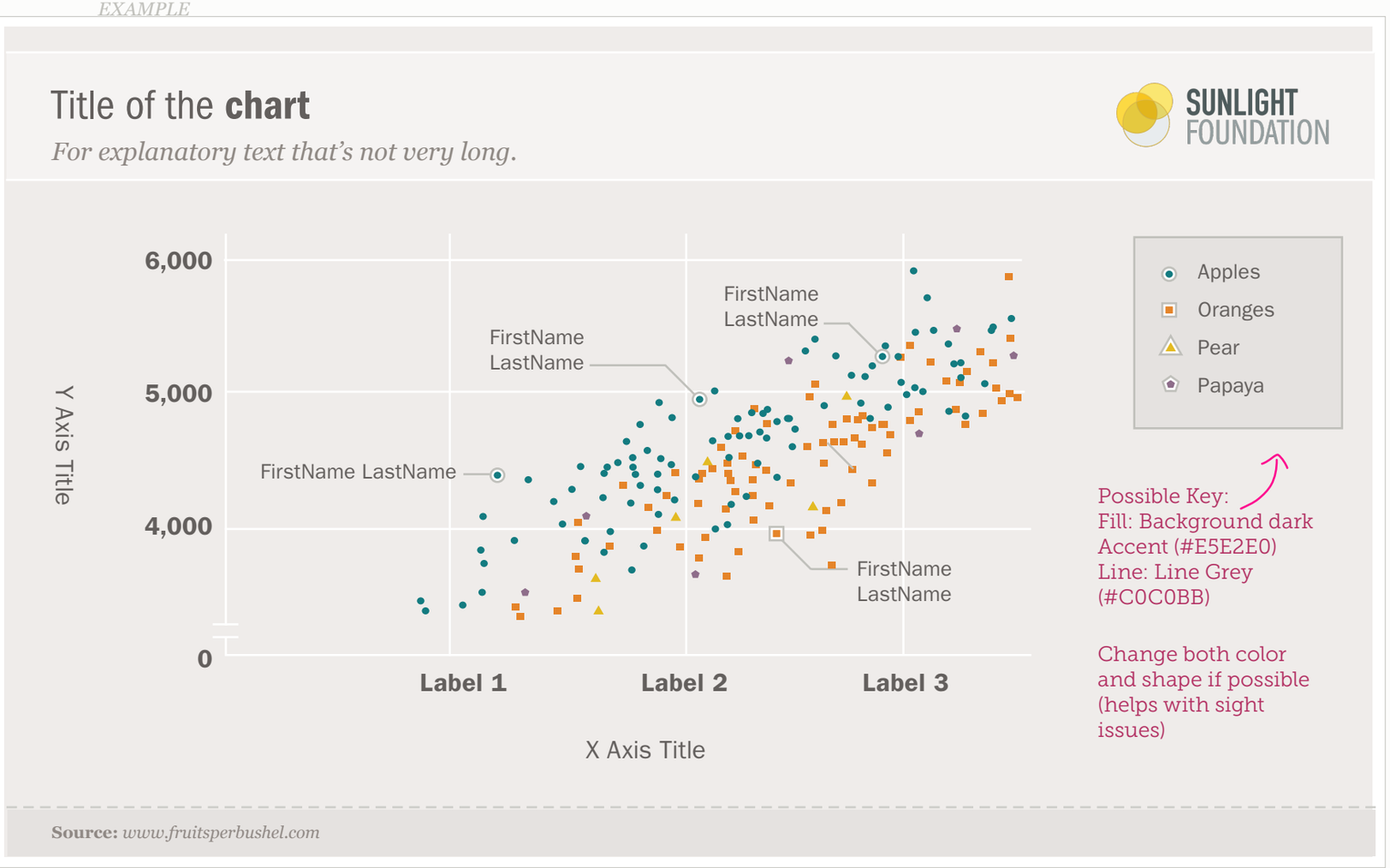
» Sometimes it is nice to show a trend line (regression).

### Your data should look like:

| variable 1 | variable 2 |
|---|---|
| 7.560309668 | 48.87193277 |
| 8.569477057 | 57.70873996 |
| 5.178854559 | 35.50990599 |
| 5.044602676 | 31.94896911 |
| 7.629095533 | 49.76954493 |
| 6.631379 | 46.66529366 |
| 7.035723733 | 45.68632108 |
| 8.152163624 | 57.46279438 |

# **Scatter Plot** (multi variable)

*EXAMPLE*




### When to use a Scatter Plot

» Shows the relationship between two continuous variables for your set of observations

» Each point in the plot represents an object.

» You can change color or symbol to show groups.

» Sometimes it is nice to show a trend line (regression).

### Your data should look like:

| variable 1 | variable 2 |
|---|---|
| 7.560309668 | 48.87193277 |
| 8.569477057 | 57.70873996 |
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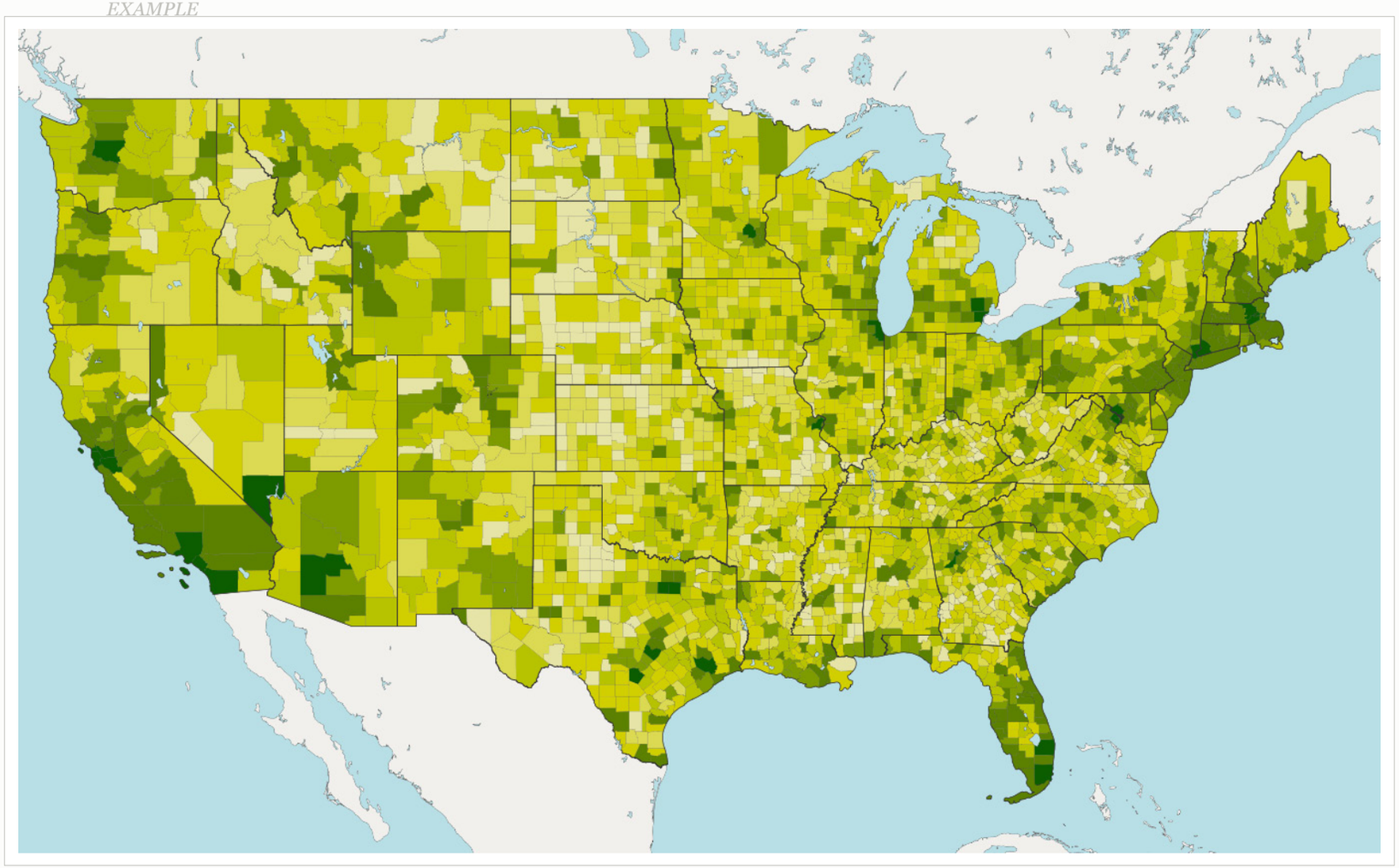
| 5.044602676 | 31.94896911 |
| 7.629095533 | 49.76954493 |
| 6.631379 | 46.66529366 |
| 7.035723733 | 45.68632108 |
| 8.152163624 | 57.46279438 |

# **Map** (sequential, single hue, money)

*EXAMPLE*



### When to use a Map

» Be sure to only use a map if the primary component of your data is geographical. Sometimes a ranked list or bar chart is better if you are just trying to compare a single value for each state.

» Color scale comparisons are harder for humans than size comparisons. Keep this in mind as you choose between a map or another layout.

# Choropleth **Colors** (for maps)

## Political Colors (stick to choropleths of 5 or fewer colors for maximum readability)

| More Republican | | | | Less Republican | No data |
|---|---|---|---|---|---|
| #712422 | #9A3E25 | #B37055 | #D9A78D | #EDCEBC | #E5E2E0 |

| More Democrat | | | | Less Democrat | No data |
|---|---|---|---|---|---|
| #05426C | #E6842A | #688BAB | #8CAEC6 | #BAD2E2 | #E5E2E0 |

| More Republican | | 50/50 | | More Democrat | No data |
|---|---|---|---|---|---|
| #9A3E25 | #D9A78D | #C8C6C6 | #8CAEC6 | #E6842A | #E5E2E0 |

## Non-political Colors (stick to choropleths of 5 or fewer colors for maximum readability)

| Anti | | 50/50 | | Pro | No Data |
|---|---|---|---|---|---|
| #BD2D28 | #C37A73 | #C8C6C6 | #75A999 | #0F8C79 | #E5E2E0 |

| More Money | | | | Less Money | No Data |
|---|---|---|---|---|---|
| #0C4E00 | #5C8100 | #A0B700 | #D2CF00 | #E6E4A6 | #E5E2E0 |

| More Thing | | | | Less Thing | No Data |
|---|---|---|---|---|---|
| #936B00 | #BD8F22 | #E3BA22 | #F2DA57 | #F1E8AE | #E5E2E0 |

# Network Graph **Colors**

- 30 colors. TRY not to use them all.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| #F2DA57 | #F6B656 | #E25A42 | #DCBDCF | #B396AD | #B0CBDB | #33B6D0 | #7ABFCC | #C8D7A1 | #A0B700 |
| 242, 218, 87 | 244, 182, 86 | 226, 90, 66 | 220, 189, 207 | 179, 150, 173 | 176, 203, 219 | 51, 182, 208 | 122, 191, 204 | 200, 215, 161 | 160, 183, 0 |
| #E3BA22 | #E58429 | #BD2D28 | #D15A86 | #8E6C8A | #6B99A1 | #42A5B3 | #0F8C79 | #6BBBA1 | #5C8100 |
| 227, 186, 34 | 229, 132, 41 | 189, 45, 40 | 209, 90, 134 | 142, 108, 138 | 107, 153, 161 | 66, 165, 179 | 15, 140, 121 | 107, 187, 161 | 92, 129, 0 |
| #B08B12 | #BA5F06 | #8C3B00 | #6D191B | #842854 | #5F7186 | #193556 | #137B80 | #144847 | #254E00 |
| 176, 139, 18 | 186, 95, 6 | 140, 59, 0 | 109, 25, 27 | 132, 40, 84 | 95, 113, 134 | 25, 53, 86 | 19, 123, 128 | 20, 72, 71 | 37, 78, 0 |