

Data Visualization in R, Intermediate Level - Examples

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1. Introduction

```
library(ggplot2)
# !!! This required installing imagemagick via homebrew on Mac. Could say no to compiling
library(summarytools)

Let's take a quick look at our dataset.

d <- ToothGrowth
dfSummary(d)
```

Data Frame Summary
d
Dimensions: 60 x 3
Duplicates: 5

No	Variable	Stats / Values	Freqs (% of Valid)	Graph	Valid	Mi
1	len [numeric]	Mean (sd) : 18.8 (7.6) min < med < max: 4.2 < 19.2 < 33.9 IQR (CV) : 12.2 (0.4)	43 distinct values	: . : : : : : : . : : : : : : : : . : : : : : :	60 (100.0%)	0 (0
2	supp [factor]	1. OJ 2. VC	30 (50.0%) 30 (50.0%)	IIIIIIIIII IIIIIIIIII	60 (100.0%)	0 (0

```

3    dose      Mean (sd) : 1.2 (0.6)    0.50 : 20 (33.3%)    IIIIII      60      0
    [numeric] min < med < max:    1.00 : 20 (33.3%)    IIIIII      (100.0%)  (0
          0.5 < 1 < 2          2.00 : 20 (33.3%)    IIIIII
          IQR (CV) : 1.5 (0.5)
-----

```

Let's create a basic ggplot graph to answer our research question.

Research Question:

Do natural supplements (OJ) result in more teeth growth than artificial supplements (VC)?

2. Improving your R visualization workshop

2a. Design (*ggthemes*)

When you click the **Render** button a document will be generated that includes both content and the output of embedded code. You can embed code like this:

```
1 + 1
```

```
[1] 2
```

You can add options to executable code like this

```
[1] 4
```

The `echo: false` option disables the printing of code (only output is displayed).

2b. Sizing (*camcorder*)

2c. Layouts (various libraries)

3. More than ggplot2 graphs

4. Visualization Resources at Princeton