

Titre

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Summarise a dataset and make a graph with error bars. Load the ToothGrowth data (tooth growth ('len') as function of supplement type ('supp') and dose ('dose')).

Load the required packages.

```
library(tidyverse)
library(grid)
library(extrafont)

tg <- ToothGrowth
```

Summarize the data set grouped by 'supp' and 'dose'.

```
tg_summarised <- tg %>% group_by(supp, dose) %>% summarise(
  N=n(),
  length=mean(len),
  sd=sd(len),
  se=sd/sqrt(N),
  ci.student=qt(0.975,df=N-1)*se
)
```

Load extra fonts to be called in ggplot2 (type fonts() to get a list of available fonts)

```
loadfonts(device="pdf")
```

Generate the plot with Comic Sans MS font family.

```
ggplot(tg_summarised, aes(x=dose, y=length, colour=supp)) +
  geom_errorbar(aes(ymin=length-se, ymax=length+se), width=.1) +
  geom_line() +
  geom_point() +
  theme_bw() +
  theme(text=element_text(family="Impact"))
```

