

ggplot Customization with National Park Visitation Data (Solution)

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Solution

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Load National Park Visitation data

```
np_data <- read.csv("https://raw.githubusercontent.com/melaniewalsh/Neat-Datasets/main/1979-2019-np-visitation.csv",  
  stringsAsFactors = FALSE)
```

View the np_data dataframe by clicking on the spreadsheet icon in the Global Environment

Load libraries

```
library("dplyr")  
library("stringr")  
library("ggplot2")  
library("scales")
```

- How have visits to a particular National Park changed over time?
- What is the most interesting period of change?

Exercise 1

First, filter the dataframe for a park of your choice. Then, pick a National Park that you haven't worked with yet, and filter the data for only that park.

```
my_parks_df <- np_data %>%  
  filter(ParkName == "Mount Rainier NP")  
  
head(my_parks_df)
```

| ParkName | Region | State | Year | RecreationVisits |
|------------------|--------------|-------|------|------------------|
| Mount Rainier NP | Pacific West | WA | 1979 | 1516703 |
| Mount Rainier NP | Pacific West | WA | 1980 | 1268256 |
| Mount Rainier NP | Pacific West | WA | 1981 | 1233671 |
| Mount Rainier NP | Pacific West | WA | 1982 | 1007300 |
| Mount Rainier NP | Pacific West | WA | 1983 | 1106306 |
| Mount Rainier NP | Pacific West | WA | 1984 | 1152411 |

Exercise 2

Now, make a line plot that shows the number of visits per year to that park from 1979 to 2022.

2a.

Choose a color for the line.

2b.

Give the plot a title that also functions as a kind of “headline” for the most interesting story of the plot.

2c.

Change the x-axis ticks so that they increase 5 years at a time.

2d.

Change the y-axis tick labels so that they abbreviate millions to M and thousands to K.

```
ggplot(my_parks_df) +  
  geom_line(aes(  
    x = Year,  
    y = RecreationVisits  
  ),  
  color = "green") +  
  scale_x_continuous(  
    breaks = seq(from = 1980, to = 2020, by = 5),  
  ) +  
  scale_y_continuous(labels = label_number(scale_cut = cut_short_scale()),  
    limits = c(0, 2000000)) +  
  labs(title = "Visits to Mt. Rainier Are Surprisingly Stable")
```



Exercise 3

Now, create a plot that zooms in on the most interesting time period for this particular National Park.

3a.

Change the x-axis limits so that it only shows the most interesting years.

3b.

Come up with a new title that describes this time period.

```
ggplot(my_parks_df) +  
  geom_line(aes(  
    x = Year,  
    y = RecreationVisits  
  ),  
  color = "green") +  
  scale_x_continuous(  
    breaks = seq(from = 1980, to = 2020, by = 5),  
    limits = c(2005, 2023),  
  ) +  
  scale_y_continuous(labels = label_number(scale_cut = cut_short_scale()),  
    limits = c(0, 2000000)) +  
  labs(title = "After a COVID Dip, Mt. Rainier Visits Are Higher Than Ever")
```

