

## 5-Homework Using `dplyr` and `ggplot2`

BIOL 5000

You will need these libraries:

```
library(ggplot2)
library(dplyr)
```

You will need this data:

```
data(msleep)
```

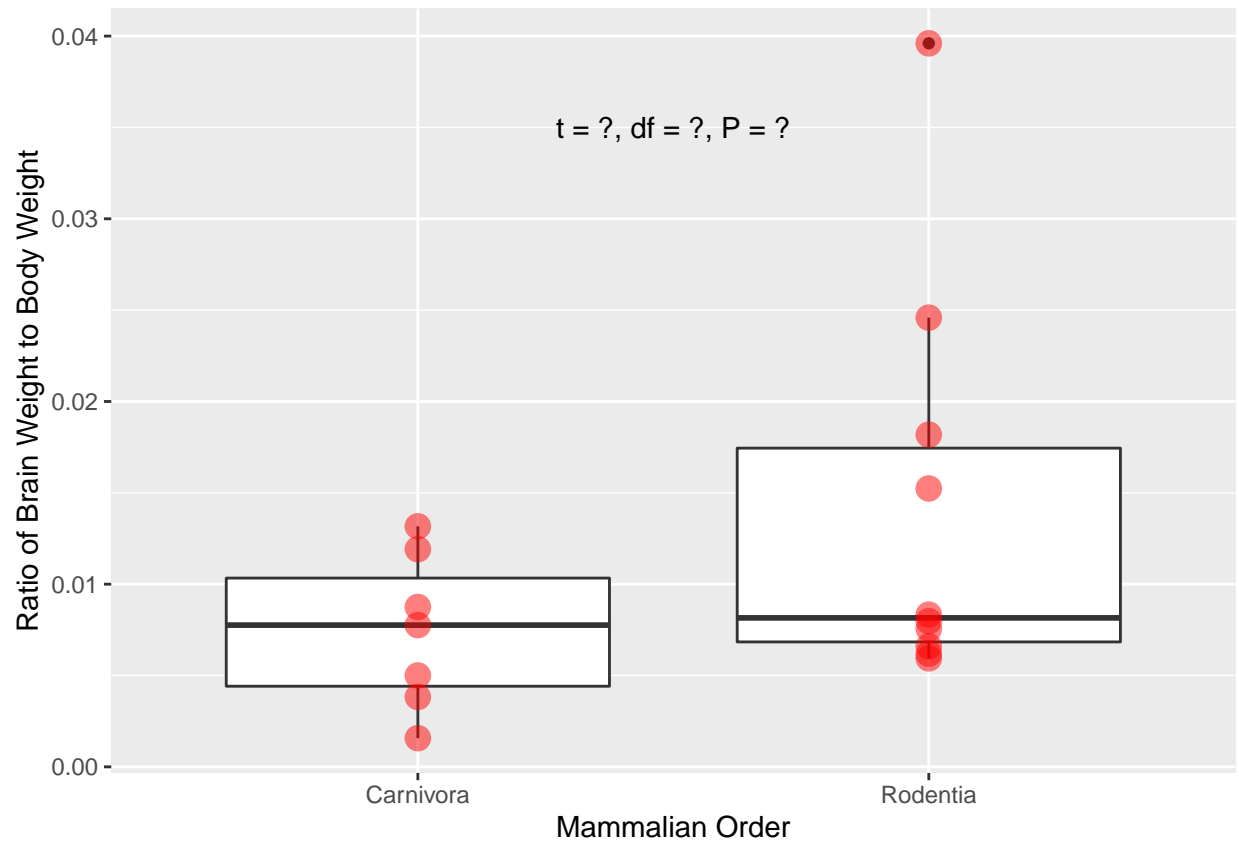
**Question 1.** Use `dplyr` to recreate the summary table below using the `msleep` dataset (built into `ggplot2`). You will need to use several of the `dplyr` verbs (functions) we have learned in class.

```
## # A tibble: 17 x 5
```

	name	order	brainwt	bodywt	ratio
##	<chr>	<chr>	<dbl>	<dbl>	<dbl>
##	1 Jaguar	Carnivora	0.157	100	0.00157
##	2 Gray seal	Carnivora	0.325	85	0.00382
##	3 Dog	Carnivora	0.07	14	0.005
##	4 Red fox	Carnivora	0.0504	4.23	0.0119
##	5 Arctic fox	Carnivora	0.0445	3.38	0.0132
##	6 Domestic cat	Carnivora	0.0256	3.3	0.00776
##	7 Genet	Carnivora	0.0175	2	0.00875
##	8 African giant pouched rat	Rodentia	0.0066	1	0.0066
##	9 Arctic ground squirrel	Rodentia	0.0057	0.92	0.00620
##	10 Guinea pig	Rodentia	0.0055	0.728	0.00755
##	11 Chinchilla	Rodentia	0.0064	0.42	0.0152
##	12 Laboratory rat	Rodentia	0.0019	0.32	0.00594
##	13 Cotton rat	Rodentia	0.00118	0.148	0.00797
##	14 Mole rat	Rodentia	0.003	0.122	0.0246
##	15 Golden hamster	Rodentia	0.001	0.12	0.00833
##	16 Thirteen-lined ground squirrel	Rodentia	0.004	0.101	0.0396
##	17 House mouse	Rodentia	0.0004	0.022	0.0182

**Question 2.** Use a t-test to compare the two mammal orders, Rodentia and Carnivora, in their ratio of brain weight to body weight.

**Question 3.** Using `ggplot2`, replicate the following figure. Fill in the values from your t-test (Question 2).



**Question 4.** Save the plot to your Rproject folder for this exercise as a 6" X 6" .jpg file.

Homework (R project file) is due to the D2L Assignments dropbox **before class on November 3rd**. As before, make each of your 'answers' an object. (e.g.) `Answer_3 <- ggplot(data_summary, aes(x = . . . . .`