

# functions.rmd

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```
get_mass_from_length_theropoda <- function(length){  
  mass <- 0.73 * length ^ 3.63  
  return(mass)  
}
```

##Writing function - Exercise 1

```
pounds <- 3  
pounds = 3  
yellow <- "Avi"  
red <- 3.75  
convert_pounds_to_grams <- function(pounds) {  
  grams = 453.6 * pounds  
  return(grams)  
}  
  
convert_pounds_to_grams <- function(pounds) {  
  grams = 3.75 * pounds  
  return(grams)  
}  
  
convert_pounds_to_grams(pounds = 1300)
```

```
## [1] 4875
```

```
length(x= yellow)
```

```
## [1] 1
```

```
#a) convert_pounds_to_grams - This is the object  
#b) { grams = 453.6 * pounds return(_____) } - #It is the last output of a function.  
#c) #function(_____) - It is the argument
```

```
get_mass_from_length_theropoda(16)
```

```
## [1] 17150.56
```

```
get_mass_from_length <- function(length, a, b) {  
  mass <- a * length ^ b  
  return(mass)  
}
```

```
get_mass_from_length(length = 26, a = 214.44, b = 1.46)
```

```
## [1] 24955.54
```

## Why do we use functions in programming?

- We already use functions a lot. Basically everything we run in R is a function.
- Reduce the amount of code we write.
- No need to repeat code, so less chance of repeating errors or introducing new errors by mistyping code.
- Helps with reproducibility: no need to repeat code, allows others to run code in a straightforward way, with accuracy.
- Makes it easier to write modular code that you can reuse for other projects.
- Makes it easier to run code and remember it.
- It allows to organize analysis better, by putting code intended to run something together in the same function.

## Combining Functions Exercise

```
kg = 5
convert_kg_to_pounds <- function(kg= 5) {
  pounds = 2.205 * kg
  return(pounds)
}
```

```
convert_kg_to_pounds(kg = 5)
```

```
## [1] 11.025
```

```
convert_kg_to_pounds(50)
```

```
## [1] 110.25
```

```
get_mass_from_length(length = 12, a = 10.95, b = 2.64) %>%
  convert_kg_to_pounds()
```

```
## [1] 17055.37
```

```
length_in_pounds <- function(length, a, b){
  get_mass_from_length(length = length, a = 10.95, b = 2.64) %>%
  convert_kg_to_pounds()
}
get_mass_from_length(length = 12, a = 10.95, b = 2.64)
```

```
## [1] 7734.863
```

```
length_in_pounds(length = 35, a = 13, b = 1.3)
```

```
## [1] 287847.4
```