Activity 1: Compare the effect of the different feed types on the weights of chicks.

The dataset used in this example is chickwts.

Datasets used across RStudio examples are chickwts, InsectSprays, cars and PlantGrowth.

To get started working with the built-in datasets in RStudio, please do the following:

1. Access RStudio through Noteable
2. Access the RStudio file available on [INSERT ONLINE LOCATION] titled as above
3. In the top-left scripts and files window in RStudio on Noteable, type data() to see the list of in-built datasets. Run this by clicking on ‘Run’ in the menubar or the Ctrl and Enter buttons at the same time.
4. Then type View(chickwts) to see the dataset called chickwts.
5. Type ?chickwts to see information about the dataset called chickwts.
6. Type attach(chickwts) to use the data in the dataset called chickwts, which will provide further information on this dataset.

\* Examples of code in R within this workbook will be indented with > at the start and colour coded in blue.

Activity Exercise

Compare the effect of the different feed types on the weights of chicks.

To carry out the activity, the following steps should be followed in RStudio:

Step 1: input the following code on line 1 of your script window in RStudio on Noteable:

* attach(chickwts)

Step 2: this will open a new tab called ‘R data sets’, you can have a look at the variety of data sets readily available for you to work with in RStudio on Noteable.

Step 3: input the following code in your next script line:

> boxplot(split(weight,feed))

Step 4: this will generate a new plot analysing the weight of bird chicks, viewable on the bottom-right window of RStudio, under the ‘Plots’ tab. Have a look at this plot graph.

Machine generated alternative text:
3 
3 
casem 
horsebean 
linseed 
meatmeal 
soybean 
sunflower 

Step 5: input the following code in the next line of your script:

> aggregate(weight,list(feed),summary)

This will generate a list of the 5 figure summaries for the chick weights associated with each feed type:

Group.1 x.Min. x.1st Qu. x.Median x.Mean x.3rd Qu. x.Max.  
1 casein 216.0000 277.2500 342.0000 323.5833 370.7500 404.0000  
2 horsebean 108.0000 137.0000 151.5000 160.2000 176.2500 227.0000  
3 linseed 141.0000 178.0000 221.0000 218.7500 257.7500 309.0000  
4 meatmeal 153.0000 249.5000 263.0000 276.9091 320.0000 380.0000  
5 soybean 158.0000 206.7500 248.0000 246.4286 270.0000 329.0000  
6 sunflower 226.0000 312.7500 328.0000 328.9167 340.2500 423.0000

Step 6: input the following code in the next line of your script:

> aggregate(weight,list(feed),sd)

This will generate a list of the standard deviations associated with each feed type:

Group.1 x  
1 casein 64.43384  
2 horsebean 38.62584  
3 linseed 52.23570  
4 meatmeal 64.90062  
5 soybean 54.12907  
6 sunflower 48.83638

Activity Sample Analysis

**Analyse the following description/come up with your own analysis of the data:**

\*SAMPLE ANALYSIS BELOW\*

* The least effective feed seems to be horsebean with by far the lowest mean weight for the chicks that are given this type of feed.
* The most effective feed seems to be sunflower (seeds?) but there are low and high outliers.
* The protein casein also seems to be effective but has much more varied outcomes.