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# Research





Article submitted to journal

#### **Subject Areas:**

subject 1, subject 2, subject 3

#### Keywords:

one, two, optional, optional, optional

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# Template for preparing your research report submission to Royal Society Open Science using RMarkdown

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The abstract text goes here. The abstract text goes here.

### 1. Insert A head here

This demo file is intended to serve as a "starter file"" for articles submitted to the Royal Society Open Science journal using RMarkdown.

Place \EndFirstPage at the point where the plain text on the first page stops. Warning: excess text will be hidden behind the copyright box. The example below contains line 1 to 19 in the code. Lines 14 to 17 are hidden behind the copyright box.

#### (a) Insert B head here

Subsection text here.

#### (i) Insert C head here

Subsubsection text here.

Line 1

Line 2

Line 3

Line 4

Line 5

Line 6

Line 7

Line 8

Line 9

Line 10

Line 11

Line 12

Line 13

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Line 18

Line 19

THE ROYAL SOCIETY

#### 2. Lists

- one
- two
- three
- fruits
  - apples
    - \* macintosh
    - \* red delicious
  - pears
  - peaches
- vegetables
  - broccoli
  - chard

#### (a) Citations

Blabla [1] blabla. Blabla [2] blabla. Blabla [1,3] blabla. Blabla [2,4–6] blabla.

(i) Headling level 3

Subsubsection text here.

#### 3. R code

 $R\ code\ can\ be\ added\ as\ usual.\ Note\ that\ syntax\ highlighting\ is\ not\ available.\ Fig.\ 1\ is\ a\ an\ example.$ 

```
10
              20
                       30
                                 40
                                          50
summary(lm(mpg ~ disp, data = mtcars))
##
## Call:
## lm(formula = mpg ~ disp, data = mtcars)
## Residuals:
##
             1Q Median
     Min
                            30
                                  Max
## -4.8922 -2.2022 -0.9631 1.6272 7.2305
##
## Coefficients:
##
             Estimate Std. Error t value Pr(>|t|)
## (Intercept) 29.599855   1.229720   24.070   < 2e-16 ***
## disp
            -0.041215
                       0.004712 -8.747 9.38e-10 ***
## ---
## Signif. codes: 0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
## Residual standard error: 3.251 on 30 degrees of freedom
## Multiple R-squared: 0.7183, Adjusted R-squared: 0.709
## F-statistic: 76.51 on 1 and 30 DF, p-value: 9.38e-10
                     cyl
                                    disp
                                                   hp
       mpa
## Min. :10.40 Min. :4.000 Min. :71.1
                                            Min. : 52.0
```

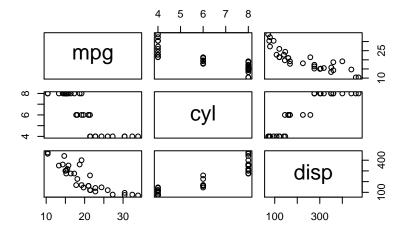


Figure 1. The caption

```
1st Qu.:15.43
                    1st Qu.:4.000
                                      1st Qu.:120.8
                                                       1st Qu.: 96.5
##
    Median :19.20
                    Median :6.000
                                     Median :196.3
                                                       Median :123.0
##
           :20.09
                    Mean
                            :6.188
                                             :230.7
                                                              :146.7
    Mean
                                     Mean
                                                       Mean
##
    3rd Qu.:22.80
                    3rd Qu.:8.000
                                      3rd Qu.:326.0
                                                       3rd Qu.:180.0
##
           :33.90
                    Max.
                            :8.000
                                             :472.0
                                                              :335.0
    Max.
                                     Max.
                                                       Max.
##
         drat
                           wt
                                           qsec
                                                             V.S
           :2.760
                                             :14.50
##
                            :1.513
                                                              :0.0000
    Min.
                    Min.
                                     Min.
                                                       Min.
##
    1st Qu.:3.080
                    1st Qu.:2.581
                                      1st Qu.:16.89
                                                       1st Qu.:0.0000
##
    Median :3.695
                    Median :3.325
                                     Median :17.71
                                                       Median :0.0000
##
           :3.597
                            :3.217
                                             :17.85
                                                              :0.4375
    Mean
                    Mean
                                     Mean
                                                       Mean
##
    3rd Qu.:3.920
                     3rd Qu.:3.610
                                      3rd Qu.:18.90
                                                       3rd Qu.:1.0000
##
    Max.
           :4.930
                    Max.
                            :5.424
                                      Max.
                                             :22.90
                                                       Max.
                                                             :1.0000
##
                           gear
          am
                                            carb
##
    Min.
           :0.0000
                     Min.
                             :3.000
                                      Min.
                                              :1.000
##
    1st Qu.:0.0000
                     1st Qu.:3.000
                                      1st Qu.:2.000
##
    Median :0.0000
                     Median :4.000
                                      Median :2.000
##
    Mean
           :0.4062
                     Mean
                             :3.688
                                      Mean
                                              :2.812
##
    3rd Qu.:1.0000
                      3rd Qu.:4.000
                                       3rd Qu.:4.000
                             :5.000
   Max.
           :1.0000
                     Max.
                                      Max.
                                              :8.000
```

Ethics. Please provide details on the ethics.

Data Accessibility. Please provide details on the data availability.

Authors' Contributions. Please provide details of author contributions here.

Competing Interests. Please declare any conflict of interest here.

Funding. Please provide details on funding

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Acknowledgements. Please include your acknowledgments here, set in a single paragraph. Please do not include any acknowledgments in the Supporting Information, or anywhere else in the manuscript.

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