What is the purpose of the Results section?

To provide the data from your study via tables and figures and to summarize them briefly so that other researchers can understand fully the basis for your conclusions. Results explain what the data show. They objectively present your new evidence that addresses the “gap” you outlined in the Introduction.

<table>
<thead>
<tr>
<th>Do</th>
<th>Don’t</th>
</tr>
</thead>
<tbody>
<tr>
<td>refer to your tables and introduce their content.</td>
<td>simply repeat the content of the tables.</td>
</tr>
<tr>
<td>highlight the most important result(s).</td>
<td>generalise from your results.</td>
</tr>
<tr>
<td>summarise and compare results.</td>
<td>just list the results.</td>
</tr>
<tr>
<td>write with certainty about your results.</td>
<td></td>
</tr>
<tr>
<td>identify unexpected results.</td>
<td></td>
</tr>
<tr>
<td>state the (statistical) significance of your results.</td>
<td></td>
</tr>
</tbody>
</table>

Source: http://www.usyd.edu.au/learningcentre/wrise/civil_engineering/results/res_bground2.html
Commentary in Results Sections

**Type 1:** Gives a straightforward description of the author's results; includes no commentary at all.

**Type 2:** Is mostly restricted to present findings but includes a few minor uses of commentary; leaves more wide-ranging observations until the Discussion or Conclusions.

**Type 3:** Consists of both description of findings and a number of commentary elements; Authors can anticipate that readers may be thinking, “Why did they use this method?” or “Isn’t this result rather strange?”

**Type 4:** Makes heavy use of commentary; could almost be taken for a discussion.

Some researchers prefer to offer a combined Results and Discussion section.
Data ≠ Results

• Data: Facts and numbers; represented in graphs, tables, and other figures

• Results: Statements you make in your article text that summarize or explain what the data show

• Why this matters: Your results give your readers context for interpreting the data

Source: Meagan Kittle Autry, Director of NC State Thesis and Dissertation Support Services
Results ≠ Discussion

- **Results**: Statements you make in your article text that summarize or explain what the data show. (Generally, you want to avoid further discussion beyond what the results are.)

- **Discussion**: Why the results are *meaningful* in relation to previous, related work and the specific research question you were exploring.

- **Why this matters**: Your discussion argues the specific contribution you make to your larger field.

*Source: Meagan Kittle Autry, Director of NC State Thesis and Dissertation Support Services*
Data Commentary: Location Statements

Some examples:

• *Table 5 shows* the types of internet misbehavior common among university students.
• *Table 6 provides* summary statistics for the variables used in the analysis.
• *Figure 2 shows* a honeycomb solid oxide fuel cell (SOFC) unit with air cooling paths.
• *Figure 1 plots* wealth as a function of age.

Passive voice:

• The types of internet misbehavior common among university students *are shown in Table 4*.
• Summary statistics for the variables used in the analysis *are provided in Table 5*.
• Wealth as a function of age *is plotted in Figure 1*.

Some verbs to use:

*shows / provides / plots / delineates / graphs / reveals / gives / presents / summarizes / illustrates / indicates / displays / demonstrates*
The void ratio (e) and the coefficient of permeability (k) can now be determined as shown in Table 4.

<table>
<thead>
<tr>
<th>Stage</th>
<th>$M_{si}$ (g)</th>
<th>$V_{si}$ (cm$^3$)</th>
<th>$V_{tot}$ (cm$^3$)</th>
<th>$V_{a} + V_{w}$ (cm$^3$)</th>
<th>e</th>
<th>k (cm/sec)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>701.80</td>
<td>264.83</td>
<td>460.71</td>
<td>195.88</td>
<td>0.7396</td>
<td>0.0512</td>
</tr>
<tr>
<td>2</td>
<td>744.10</td>
<td>280.79</td>
<td>477.55</td>
<td>196.75</td>
<td>0.7007</td>
<td>0.0327</td>
</tr>
<tr>
<td>3</td>
<td>755.10</td>
<td>284.94</td>
<td>483.29</td>
<td>198.34</td>
<td>0.6961</td>
<td>0.0257</td>
</tr>
</tbody>
</table>

As expected the Table shows the void ratio, the ratio of void volume to solid volume, reduces as more soil is added to the cylinder.

By using the values for permeability (k) and void ratio (e) in Table 4, a graph relating the two variables was produced in Figure 1 below.

The graph clearly indicates a positive correlation between void ratio and permeability. That is, as the void ratio and the number of voids in a soil increases, the permeability and hence the ease of water flow is also increased.

Stage 2: Tables

Tables show information clearly and precisely, whereas figures show movement, trends, and comparisons.

Captions

- are placed above the table
- should include enough information to be self-explanatory so that they can be understood without reference to the text
- should be succinct and specific. Broad generalizations are useless:
  - Table 1. Graduation rates
  - Table 1. Graduation rates of Wake County, NC, public high school students for the academic years 2005-2014
- footnotes used sometimes to clarify information in the table body

Table numbers

- should be consecutive with tables numbered separately from figures
- can sometimes include two numbers:
  - First number: the article or report section where the table is located
  - Second number: the sequence of tables within that section
  - Table 2.4 = the fourth table in the second section
Stage 2: Tables

Placement
• formatted so that there is enough white space between the table and the text
• placed as near as possible to where the table is referenced in the text

Column and row headings
• similar material placed in columns
• dependent variables usually listed in row headings and independent variables in column headings.
• units under column headings and clearly specified. Generally, they are not repeated in the rest of the table.

Borders
Sometimes journals will only print tables with no cell borders or only horizontal borders. Check to see if the journal you are submitting to has formatting preferences for borders.

(www.usyd.edu.au/learningcentre/wrise/)
Stage 2: Figures

Everything that is not a table is a figure. Figures are visual presentations of results, and include graphs, diagrams, photos, drawings, schematics, maps, etc.

Choosing a figure type
- purpose
- relationship
- simplicity, clarity

Captions
- placed below the figure
- “Figure” spelled out in caption; abbreviated (Fig.) in text

Formatting: Some suggest
- making the caption match the width of the table or figure; left-justified
- using a font one size smaller than the body text
- using the same font as the body text
- choosing a reasonable size
Stage 3: Summarize the Results

Organize the summary of the results of your study according to the way the questions are sequenced in the statement of the problem.

- Which results will you present? Should you present every result you obtained?

- Is it a good idea to present negative or unanticipated results?

Some helpful websites:

[Writing a Short Scientific Paper in Civil Engineering](#)

[Almost Everything You Wanted to Know About Making Tables and Figures](#)

[Labeling Figures](#)

[Including Tables and Figures in Academic Writing](#)
Visual Editing Software

Inkscape - Free vector graphic/image creator

Gimp - Free Photoshop-like program

Tableau

NC State Library Visualization Support