

Useful Words and Phrases in Scientific Writing

Questions	Observations	Contrasts	Sequence of Time, Cause and Effect, Reasoning
What would happen if _____? How does [the <i>changed variable</i>] affect [the <i>measured, observed, responding variable</i>]?	I observed _____ I noticed _____ When _____, After _____,	_____, but _____. _____, whereas _____. However, In contrast, At first, _____. But now, _____.	First, _____. Next, _____. Then, _____. Finally, _____. If _____, then _____. So, This leads to As a result, Consequently,
Evidence	Reasoning	Adding Information, Evidence, Reasoning	Conclusions
_____ because _____. For example, For instance, The evidence is The data show The data provide evidence that	_____ because _____. I think this because I think this means	Also, In addition, Furthermore,	Therefore, I think In conclusion, I think Therefore, In conclusion,
Note to teachers: Students can become too dependent on sentence starters and writing frames that teachers provide. To support students in becoming more independent writers, you can post a chart like this in the classroom, adding words and phrases as needed. Also teach students to use words from questions as appropriate in beginning their responses.			

Observations

Think of the four senses
(not taste).

Size, shape, color, lines,
patterns, texture, weight,
smell/odor, sound, behavior
...

I observed _____ .

I noticed _____ .

Connect it with what you
know or have investigated.

It reminds me of _____
because _____ .

Observe and record cause
and effect.

When _____ , it _____ .

Note any changes.

At first, _____ . But now
_____ .

Be curious, and ask
questions you might
investigate.

I am curious about _____ .
It surprised me that _____
because _____ .

I wonder what would
happen if _____ .

How does _____ affect
_____ ?

Compare and Contrast

Start with how things are the same or similar.

The _____ and the _____ are similar because they both _____. In addition, they _____.

Add more as needed.

...

Explain how they are different. You can compare the same property or characteristic in the same sentence. Use *and*, *but*, or *whereas* to set up the contrast.

They are different because the _____, but the _____. Also, the _____, whereas _____.

Add more as needed.

...

Remember to ask, "Will it be clear to the reader what I mean when I use pronouns such as *they* and *it*? If not, how can I edit the sentence to make it clearer?"

Data Analysis

Start with a topic sentence to say what the graph / table is about (as shown in the main title and the title for each axis/row or column).

Summarize the data. (Write about the important points in the graph or table; do *not* write about all the data.)

- **Qualitative data**
(e.g., *more/fewer; increase/decrease*)
- **Specific quantitative data**
(e.g., actual numbers, percentages)
Give examples from the greatest and least; *do not include all the data in between.*

End with a conclusion that answers the question you were investigating (investigative question). Include:

- The main *inferences* made from the data.
- Whether the data support your *prediction* and if your thinking has changed.

You may also need to include:

- *Outliers and inconsistent or inconclusive data* and what you think might have caused them (e.g., variables in the testing).
- How this information might be important in the real world.

This graph / table shows _____ .

The larger wheels go *farther* than the smaller wheels do.

The distance *increases* as the wheels get larger.

For example, the 4.5 cm wheels went *145 cm*, whereas the 11 cm wheels went *276 cm*.

Therefore, I think _____ .

The data _____ . My thinking _____ .

Some data were inconsistent. I think this happened because _____ .

This information could be important _____ because _____ .