Teacher directions:

- Print materials on colored cardstock for each student or small group as needed.
- Laminate all materials before using for longer durability.
- Cut cards apart and place sets in baggies or envelopes.
- Use **Conclusion Cards** to prompt student thinking and help students structure the writing of their conclusions.

**Suggested uses:**

- Select a few cards (by letters) appropriate to your investigation and ask students to be thinking about these as they complete the investigation.
- Discuss cards as a whole group or have groups or individuals discuss one or two cards.
- Incorporate discussion ideas into written conclusion paragraphs.
- Differentiate for the specific abilities of a student or group (Special Education, ELL, GT) by removing/adding cards.

- Generate additional cards for the set (S, T, U).
- Copy the rubric below and have students glue it into their science notebooks for continued use during the year.
- Use the rubric to assign and assess conclusion writing criteria.
- Additional Conclusion Rubrics are available at [http://www.sciencecutups.com/home/downloads](http://www.sciencecutups.com/home/downloads)

### Conclusion Rubric

<table>
<thead>
<tr>
<th>Criteria to include in conclusion</th>
<th>Points</th>
<th>Self or peer check</th>
<th>Teacher check</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. How the data was collected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Describe measuring or data collecting errors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C. How this testing could be useful</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D. Cite data to support or contradict hypothesis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E. How many trials were done</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F. Discuss relationships seen in the data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G. Discuss any pattern seen in the data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H. Were several trials averaged</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. Connect results back to the question</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J. Discuss highs or lows in the data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K. Were results verified by testing in other groups</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>L. What may have affected results</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M. Was some data unreliable, was it used or discarded</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N. What would you do differently next time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>O. 3 true statements from data</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P. Does graphed data show any trends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Q. What new questions could be explored</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R. Were any materials or procedures adjusted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>A.</strong></td>
<td>Briefly tell how the data was collected.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>B.</strong></td>
<td>Describe errors in measuring or data collecting that could have occurred.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>C.</strong></td>
<td>Tell how your testing could be useful to someone.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D.</strong></td>
<td>Tell specific data from your results that either supports or contradicts your hypothesis.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>E.</strong></td>
<td>Tell how many trials were done in testing.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>F.</strong></td>
<td>Look for connections or relationships in the data. Tell about them.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>G.</strong></td>
<td>Look for a pattern in the data. Tell about it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>H.</strong></td>
<td>Tell if the data from several trials was averaged.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>I.</strong></td>
<td>Relate your conclusions back to the question you were trying to answer.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>J.</strong></td>
<td>Tell about highs and lows in the data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>K.</strong></td>
<td>Tell if your results were verified by testing from other groups.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>L.</strong></td>
<td>Tell about other conditions during the testing that could have affected your results.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>M.</strong></td>
<td>Tell if any data seemed unreasonable. Tell why you chose to use it or discard it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>N.</strong></td>
<td>Tell what you would do differently next time.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>O.</strong></td>
<td>Make at least three true statements about your data.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>P.</strong></td>
<td>Tell if your graphed data shows a trend and what predictions could be made based upon it.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Q.</strong></td>
<td>What new questions could be explored next?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>R.</strong></td>
<td>Tell about any materials or procedures in your investigation plan that had to be adjusted.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>S.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>T.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>U.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>