<table>
<thead>
<tr>
<th>Program Outcome</th>
<th>Q1</th>
<th>Q2</th>
<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
<th>Q6</th>
<th>MID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demonstrate an understanding of the importance of learning chemistry. Recognize the steps of the scientific method and apply them to real-life situations.</td>
<td>100%</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>100%</td>
</tr>
<tr>
<td>Express basic math skills to be applied to the fundamentals of chemical theory.</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>80%</td>
<td>85%</td>
<td>83%</td>
</tr>
<tr>
<td>Demonstrate a basic understanding of chemical theory as it applies to the composition and changes of matter.</td>
<td>90%</td>
<td>95%</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>87%</td>
</tr>
<tr>
<td>Demonstrate knowledge of nomenclature, learn the rules to write the formula of ionic and molecular compounds.</td>
<td>x</td>
<td>x</td>
<td>50%</td>
<td>60%</td>
<td>75%</td>
<td>85%</td>
<td>80%</td>
</tr>
<tr>
<td>Balance equations and perform basic chemical conversions.</td>
<td>70%</td>
<td>85%</td>
<td>85%</td>
<td>90%</td>
<td>95%</td>
<td>87%</td>
<td>85%</td>
</tr>
<tr>
<td>Recall the various features of the periodic table.</td>
<td>90%</td>
<td>100%</td>
<td>100%</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>95%</td>
</tr>
<tr>
<td>Identify everyday reactions as combination, decomposition, acid-base, metathesis, and reduction/oxidation.</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>90%</td>
<td>90%</td>
<td>87%</td>
<td>90%</td>
</tr>
</tbody>
</table>

Benchmark: 80% of students will achieve each outcome with a score of 75% or better. The percentage given for each quiz shows the percentage of students that met the outcome with the required criteria.

**Quiz 1:**
- 100% of students achieved outcome 1; no action needed
- 90% of students achieved outcome 3; will ask more questions about differentiating between chemical and physical changes on quiz 2
- In regards to outcome 5, 70% of students (or 16/23 students) were able to balance equations according to the benchmark; will provide additional practice problems in class and give students link to a website where they can continue practicing balancing equations
- 90% of students achieved outcome 6; no action needed at this point, as we will continue to expand upon this throughout the course

**Quiz 2:**
- 95% of students achieved outcome 3; examples provided in lecture and demos performed in lab assisted with better results
- 85% of students achieved outcome 5; practice problems and website appeared to help; will continue to ask questions on future quizzes, since this is such as crucial outcome
- 100% of students were able to identify elements based on their characteristics and location in the periodic table (outcome 6)

**Quiz 3:**
- Students continue to do well with balancing equations and basic conversions
- Only 50% of students achieved outcome 4 according to the benchmark; I will immediately lecture on these topics again, providing more examples; a website where students can practice naming will be given

**Quiz 4:**
- Students were able to balance equations, perform basic conversions, and classify reactions according to the set benchmark
- Although naming skills improved, the class a whole is not yet where it needs to be; a dry lab assignment will be created to assist students with this outcome
Quiz 5:

- Students were able to balance equations and classify reactions according to the set benchmark
- Students were able to use what they learned about basic conversions and apply them to chemical conversions
- Although the nomenclature dry lab helped, the class as a whole still did not achieve the naming outcome to the set benchmark; another (similar) dry lab assignment will be given

Quiz 6:

- All assessed outcomes were achieved to the set benchmark

Midterm exam

- All assessed outcomes were achieved to the set benchmark