

# Wright City Chemistry Curriculum

(10-12)

|                                                                                         |                                                                                                                                         |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <b>Grade</b>                                                                            | 10-12                                                                                                                                   |
| <b>Unit of Study</b>                                                                    | Unit 1: Measurement and Matter                                                                                                          |
| <b>Length of Unit</b>                                                                   | 2 weeks                                                                                                                                 |
| <b>Sample Essential Questions</b>                                                       | <b>Sample Corresponding Big Ideas</b>                                                                                                   |
| What is the difference between precision and accuracy?                                  | Accuracy is a measure of how close a measurement is to an accepted value.<br>Precision is a measure of the consistency of measurements. |
| How do scientists select measuring devices when designing experiments?                  | Measuring devices that read out to more decimal places provide more accuracy and precision in measurement.                              |
| How does the molecular structure of substances affect physical and chemical properties? | Atoms, Compounds, and Mixtures vary in composition which affects physical and chemical properties.                                      |

| Missouri Learning Standards                                                                                                               |                        |
|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Priority Standard(s)                                                                                                                      | Supporting Standard(s) |
| I can explain how matter is structured, how its properties are determined by its structure, and how it changes during chemical reactions. | 9-12.PS1.A.3           |

| Unit 1 Sequence |                               |                                                                                                                                                                                                                                                     |                                                                                                                              |
|-----------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| MLS             | Topic(s)                      | Learning Targets                                                                                                                                                                                                                                    | Academic Vocabulary                                                                                                          |
| PS1.A.3         | Classification of Matter      | <p>I can classify substances into elements, compounds, or mixtures based on molecular composition.</p> <p>I can evaluate if a property is physical or chemical.</p>                                                                                 | <p>Element</p> <p>Compound</p> <p>Solution</p> <p>Heterogenous Mixture</p> <p>Physical Property</p> <p>Chemical Property</p> |
|                 | Physical and Chemical Changes | <p>I can use evidence to predict if an observed change is a physical or chemical.</p> <p>I can determine the name of common phase changes such as freezing or condensation.</p>                                                                     | <p>Physical Change</p> <p>Chemical Change</p> <p>Sublimation</p> <p>Deposition</p>                                           |
|                 | Measurement                   | <p>I can qualitatively describe the accuracy and precision of a data set.</p> <p>I can use significant figures to report findings with proper accuracy and precision.</p> <p>I can calculate percent error to determine the degree of accuracy.</p> | <p>Accuracy</p> <p>Precision</p> <p>Error</p> <p>Significant Figures</p>                                                     |

| MLS     | Learning Activities               |           |
|---------|-----------------------------------|-----------|
| PS1.A.3 | Density and Measurement Lab       | Must Do ▾ |
|         | Physical and Chemical Changes Lab | Must Do ▾ |
|         | Modeling Matter Activity          | Can Do ▾  |

| Assessments |                         |                 |
|-------------|-------------------------|-----------------|
| MLS         | Description or Location | Rubric/Location |
| PS1.A.3     | Unit 1 Test             | Paper           |

| Additional Resources                                                      |
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| <ul style="list-style-type: none"> <li>Phet, OpenStax, Javalab</li> </ul> |