**High School**

**Chemistry**

**Curriculum Guide**

**­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**LINDEN PUBLIC SCHOOLS**

**LINDEN, NEW JERSEY**

**Dr. Marnie Hazelton**

**Superintendent**

**Denise Cleary**

**Assistant Superintendent**

**Michael Walters**

**Director of Science**

**The Linden Board of Education adopted the Curriculum Guide on:**

|  |  |  |
| --- | --- | --- |
| **August 25, 2022** |  | **Education Report #11** |
| **Date** |  | **Agenda Item** |
|  | | |
| **Rationale**  **Be it resolved, that all curricula within the following content areas be readopted for use in the Linden Public Schools for the 2022-2023 school year. All curricula are aligned to the**  **New Jersey Student Learning Standards.** | | |

**Public Notice of Non-Discrimination**

If any student or staff member feels that they have experienced discrimination on the basis of race, color, creed, religion, gender, ancestry, national origin, social or economic status, sexual orientation or disability, contact:

Affirmative Action Officer

Kevin Thurston – (908) 486-5432 ext. 8307; [kthurston@lindenps.org](mailto:kthurston@lindenps.org)

504 Officer & District Anti-Bullying Coordinator

Annabell Louis – (908) 486-2800 ext. 8025; [alouis@lindenps.org](mailto:alouis@lindenps.org)

Title IX Coordinator

Steven Viana – (908) 486-7085; [sviana@lindenps.org](mailto:sviana@lindenps.org)

Director of Special Education

Marie Stefanick – (908) 587-3285; [mstefanick@lindenps.org](mailto:mstefanick@lindenps.org)

**Linden Public Schools Vision**

The Linden Public School District is committed to developing respect for diversity, excellence in education, and a commitment to service, in order to promote global citizenship and ensure personal success for all students.

**Linden Public Schools Mission**

The mission of the Linden Public School District is to promote distinction through the infinite resource that is Linden’s diversity, combined with our profound commitment to instructional excellence, so that each and every student achieves their maximum potential in an engaging, inspiring, and challenging learning environment.

**Science Department Vision**

Our vision is to develop scientifically literate students, by teaching them to think critically, become problem-solvers, and develop into life-long learners. Our classrooms will be collaborative settings that are driven by discovery, exploratory learning, and which require each student to actively engage throughout the learning to successfully construct explanations and design solutions.

**Science Department Mission Statement**

The mission of the Science Department is to create a community of diverse learners and educators who foster equitable active learning, quantitative reasoning, and scientific inquiry. Through integration of classroom laboratory, research, and practical experiences, students acquire skills necessary for life-long learning, critical thinking, and collaborative problem-solving. Our students will engage in the “Practices of Science” as they investigate the natural and designed worlds seeking to construct explanations for phenomena and design solutions for problems. They will collaboratively ask questions, develop and use models, plan and carry out investigations, analyze data, use mathematics and computational thinking, construct explanations, engage in argument from evidence, and obtain, evaluate, and communicate information. These will serve as foundations for informed, responsible citizens, and their successful careers, in an ever-changing world that is increasingly dependent on evidence-based decision making, science, technology, and engineering.

**Science Department Goals**

The Science Department strives to provide ***all*** students with an engaging program that:

• Captures the imagination and curiosity, producing scientifically literate, life-long learners.

• Develops critical thinking skills, positive science attitudes, and problem-solving skills through collaborative, inquiry centered investigation.

• Provides context and connections to deepen their proficiency in literacy, mathematics, and use of technology; and

• Continuously improves through professional learning experiences which ensure equity and excellence in on-going, research-based educator development.

1. **Course Description:**

This is a one-year laboratory course designed for students on the college preparatory track. Students are introduced to theories and concepts of chemistry that include the study of matter, its properties and the changes it undergoes. Problem solving, critical thinking and algebraic skills are emphasized. Topics included are atomic structure, the periodic table, chemical nomenclature, bonding, molar relationships, chemical reactions, stoichiometry, kinetics, nuclear chemistry, gas laws, and acids and bases.

1. **Course Instructional Materials:**

Experience Chemistry, Savvas

1. **Standards Guiding Instruction**

New Jersey Student Learning Standards for Science

<https://www.nj.gov/education/standards/science/Index.shtml>

New Jersey Student Learning Standards for English Language Arts

<https://www.nj.gov/education/standards/ela/Index.shtml>

New Jersey Student Learning Standards for Mathematics

<https://www.nj.gov/education/standards/math/Index.shtml>

New Jersey Student Learning Standards for Social Studies

<https://www.nj.gov/education/standards/socst/index.shtml>

New Jersey Student Learning Standards for Computer Science and Design Thinking

<https://www.nj.gov/education/standards/compsci/Index.shtml>

New Jersey Student Learning Standards for Career Readiness, Life Literacies & Key Skills

<https://www.nj.gov/education/standards/clicks/index.shtml>

1. **Pacing Guide**

|  |  |  |
| --- | --- | --- |
| 9/6/22-11/15/22 | First  Marking Period  9/6/22-11/15/22 | Unit 1: Matter and Measurement, Unit 2: Atomic Structure, Unit 3: The Periodic Table |
| 11/16/22-1/31/23 | Second  Marking Period  11/16/22-1/31/23 | Unit 4: Chemical Bonding, Unit 5: Physical Properties of Materials, Unit 6: Chemical Quantities |
| 2/1/23-4/5/23 | Third  Marking Period  2/1/23-4/5/23 | Unit 7: Chemical Reactions, Unit 8: Stoichiometry, Unit 9: Thermochemistry, Kinetics, and Equilibrium |
| 4/17/23-6/22/23 | Fourth  Marking Period  4/17/23-6/22/23 | Unit 10: Nuclear Processes, Unit 11: Gases, Unit 12: Acids and Bases |

1. **Curriculum Guide**