

Science Scope and Sequence - Chemistry

Term: 1st Nine Weeks

| Taught | Term | TAKS Obj | Curriculum Sequence TEKS/SE and Alignment Objectives | | Inst. Level | TAKS | Labs and Activities | Approved District Campus Resources |
|---|------|----------|---|--|-------------|------------|---|---|
| Strand: Chemistry/Scientific Processes | | | | | | | | |
| Definition: "Lesson" in the spreadsheet below includes instruction, application through practice and assessment (through demonstration, quiz and/or test) | | | | | | | | |
| 1st nine weeks: Matter, Measurement, Units, Atomic structure, Electron Arrangement, Periodicity (Chapters 1 - 5 in Holt <i>Modern Chemistry</i>) | | | | | | | | |
| "Term" = Week number in the school year (Week # excludes weeks of 11/19, 12/24, 12/31, 3/17, 6/2) | | | | | | | | |
| TEKS Strand: Field and Lab Investigations | | | | | | | | |
| | 1 | 1 | Chem 1A | Demonstrate safe practices during field and laboratory investigations. | MT | T10 T11 | Lab safety lesson Bunsen burner technique lab Note that all labs incorporate this objective. | Holt Lab B1 |
| | 1 | 1 | Chem 1B | Make wise choices in the use and conservation of resources and the disposal or recycling of materials. | M | | Density lab | Pre-AP Summer Institute or Laying the Foundation #2 |
| TEKS Strand: Characteristics of Matter | | | | | | | | |
| | 1 | 4 | Chem 4A | Differentiate between physical and chemical properties of matter. | DMT | T10 T11 | Mixture separation lab or Chemical change lab | Holt Lab 1-1, Holt Lab A5 or Chemical Change Lab found at www.unit5.org/christjs/8alcuc12lab.doc or on MISD Chemistry Labs Disk |
| | 1 | 4 | Chem 4B | Analyze examples of solids, liquids, and gases to determine their compressibility, structure, motion of particles, shape, and volume. | IDM | | Phases of matter lesson | Holt Ch. 1 |
| | 1 | 4 | Chem 4C | Investigate and identify properties of mixtures and pure substances. | DM | | Matter classification lesson | Holt Ch. 1 |
| | 1 | 4 | Chem 4D | Describe the physical and chemical characteristics of an element using the periodic table and make inferences about its chemical behavior. | DMT | T11 | Periodic table lesson | Holt Ch. 1 |
| TEKS Strand: Scientific Methods | | | | | | | | |
| | 1 | 1 | Chem 2A | Plan and implement investigative procedures including asking questions, formulating testable hypotheses, and selecting equipment and technology. | MT | T10 T11 | Density lab Note that all labs incorporate this objective. | Pre-AP Summer Institute or Laying the Foundation #2 |
| | 1 | 1 | Chem 2B | Collect data and make measurements with precision. | MT | T10 T11 | Density lab Note that all labs incorporate this objective. | Pre-AP Summer Institute or Laying the Foundation #2 |
| | 1 | 1 | Chem 2C | Express and manipulate chemical quantities using scientific conventions and mathematical procedures such as dimensional analysis, scientific notation, and significant | IM | | Dimensional analysis lesson Scientific notation lesson Significant figures lesson | Holt Ch. 2 |
| | 1 | 1 | Chem 2D | Organize, analyze, evaluate, make inferences, and predict trends from data. | MT | T10 T11 | Density lab Note that all labs incorporate this objective. | Pre-AP Summer Institute or Laying the Foundation #2 |

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| | 1 | 1 | Chem 2E Communicate valid conclusions. | MT | T10 T11 | Density lab Note that all labs incorporate this objective. | Pre-AP Summer Institute or Laying the Foundation #2 |
| TEKS Strand: Critical Thinking/Scientific Problem Solving | | | | | | | |
| | 1 | 1 | Chem 3A Analyze, review, and critique scientific explanations, including hypotheses and theories, as to their strengths and weaknesses using scientific evidence and information. | MT | T10 T11 | Conservation of Mass Lab or How Sweet It Is Lab | Holt Lab 3-1 or D1 |
| | 1 | 1 | Chem 3B Make responsible choices in selecting everyday products and services using scientific information. | MT | T10 T11 | How Sweet It Is Lab | Holt Lab D1 |
| | 1 | 1 | Chem 3C Evaluate the impact of research on scientific thought, society, and the environment. | DM | | <i>Three Mile Island</i> video or equivalent Nova video with discussion | |
| | 1 | 1 | Chem 3D Describe the connection between chemistry and future careers. | IDM | | College/career research | |
| | 1 | | Chem 3E Research and describe the history of chemistry and contributions of scientists. | IDM | | Atomic scientists contribution presentations and/or scientist research project | Holt Ch. 3 for atomic scientists |
| TEKS Strand: Atomic Structure/Atoms/Electrons/Gases | | | | | | | |
| | 1 | 4 | Chem 6A Describe the existence and properties of subatomic particles. | IDM | | Atomic structure lesson | Holt Ch. 3 |
| | 1 | 4 | Chem 6B Analyze stable and unstable isotopes of an element to determine the relationship between the isotope's stability and its application. | IDM | | Isotope lesson Average atomic mass lesson | Beanium Lab: From summer workshops or site such as http://home.earthlink.net/~ssbeaton/labs/atomtheorylabs.html |
| | 1 | 1 | Chem 2C Express and manipulate chemical quantities using scientific conventions and mathematical procedures such as dimensional analysis, scientific notation, and significant | IM | | Mole conversion to grams practice | Holt Ch. 3 |
| | 1 | 4 | Chem 6A Describe the existence and properties of subatomic particles. | IDM | | Electron configuration lesson | Holt Ch. 4 |
| TEKS Strand: Changes in Matter | | | | | | | |
| | 1 | 5 | Chem 5A Identify changes in matter, determine the nature of the change, and examine the forms of energy involved. | DM | | Atomic spectra lab | Flinn Chemtopic Labs Volume 3 |
| TEKS Strand: Atomic Structure/Atoms/Electrons | | | | | | | |
| | 1 | 4 | Chem 6C Summarize the historical development of the periodic table to understand the concept of periodicity. | DM | | Periodic table lesson Flame test Lab | Holt Ch. 5 Holt Lab 4-1 |
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| | | | KEY: | | | | |
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| | | | I = Introduced -- the objective is introduced to the student | | | T10 = Tested on 10th grade TAKS | |
| | | | T = Taught -- the objective is presented | | | T11 = Tested on 11th grade TAKS | |
| | | | D = Developed -- the objective is developed through specific activities | | | | |
| | | | M = Mastered -- the objective should be mastered (tested, etc.) | | | | |