**Learning Unit**

**The Department of Science Level of Students: M. 1**

**Subject Code: SC20202 Subject: Universal Science 2**

**Number of Credit: 1.0 Time: 40 Periods**

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| --- | --- | --- | --- | --- |
| **Learning Unit** | **Time/ hours** | **Learners’ Key Competencies - Activities** | **Teaching Materials** | **Evaluation Tools** |
| **1.Chemical Elements**  1.1 Elements and Compounds  1.2 Atoms and Molecules  1.3 Classifying Elements  1.4 Properties of metals and non-metals  1.5 Pure Substances and mixtures  1.6 Atomic Structure  1.7 Chemical Bonds  1.8 The molecules structure of matter  1.9 Properties and uses of materials | **20**  2  2  2  2  4  2  2  2  2 | **Learners’ Key Competencies**  Science Knowledge, scientific process, and scientific skills   * Experiment * Explanation * Classification * Organizing Data and Communication * Interpreting Data and Conclusion * Questioning/ Problem Determination * Hypothesis * Data Collection * Analyzing Data * Conclusion and Communication   **Activities**  5E Model | 1. Textbook 2. Supplementary Sheets 3. Work sheets 4. PowerPoint Presentation 5. Websites 6. Learning Resources Centre 7. Laboratory Apparatus | 1. Quizzes 2. Tests 3. Exercises 4. Concept Mapping 5. Observation form 6. Behavior   Observation |

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| **2. Temperature and Heat**  2.1 The nature of heat  2.2 Thermal Equilibrium  2.3 Effects of heat  2.3.1 Change of State  2.3.2 Thermal expansion  1 Thermal expansion of solid  2 Thermal expansion of liquid  3 Thermal expansion of gases  2.4 Temperature and its measurement  2.4.1 Scales of thermometer  2.4.2 Types of thermometer  2.5 Heat transfer  2.5.1 conduction  2.5.2 convection  2.5.3 radiation | 13  1  1  4  3  4 | **Learners’ Key Competencies**  Science Knowledge, scientific process, and scientific skills   * Experiment * Explanation * Classification * Organizing Data and Communication * Interpreting Data and Conclusion * Questioning/ Problem Determination * Hypothesis * Data Collection * Analyzing Data * Conclusion and Communication   **Activities**  5E Model | 1. Textbook  2. Supplementary Sheets  3. Work sheets  4. PowerPoint Presentation  5. Websites  6. Learning Resources Centre  7. Laboratory Apparatus | 1. Quizzes  2. Tests  3. Exercises  4. Concept Mapping  5. Observation form  6. Behavior  Observation |

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| **3. The Atmosphere**  3.1 Air pressure and Altitude  3.2 The layers of the atmosphere  3.3 The types of storms  3.4 Weather forecasting  3.5 Factors affecting climate  3.6 Climate change  3.6.1 Green house effect  3.6.2 El nino and La nina  3.6.3 Global warming | **7**  1  1  1  1  1  2 | **Learners’ Key Competencies**  Science Knowledge, scientific process, and scientific skills   * Experiment * Explanation * Classification * Organizing Data and Communication * Interpreting Data and Conclusion * Questioning/ Problem Determination * Hypothesis * Data Collection * Analyzing Data * Conclusion and Communication   **Activities**  5E Model | 1. Textbook  2. Supplementary Sheets  3. Work sheets  4. PowerPoint Presentation  5. Websites  6. Learning Resources Centre  7. Laboratory Apparatus | 1. Quizzes  2. Tests  3. Exercises  4. Concept Mapping  5. Observation form  6. Behavior  Observation |