



# GRADE 10 CHEMISTRY SCHEMES OF WORK FOR TERM 1

NAME OF THE TEACHER:.....

SCHOOL:..... YEAR:.....

| Week | LSN | Strand                         | Sub-strand                           | Specific Learning Outcomes                                                                                      | Key Inquiry Question(s)                                 | Learning Experiences                                                                                                                    | Learning Resources                                        | Assessment Methods | Refl |
|------|-----|--------------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------|------|
| 1    | 1   | <b>1.0 Inorganic Chemistry</b> | <b>1.1 Introduction to Chemistry</b> | By the end of the lesson, the learner should be able to explain the meaning of Chemistry as a field of science. | How is the study of Chemistry important in our society? | The learner is guided to brainstorm on concepts covered in junior school that relate to Chemistry and discuss the meaning of Chemistry. | KICD Curriculum Design 2024, Chemistry textbooks, charts. | Oral questions     |      |
|      | 2   |                                |                                      | By the end of the lesson, the learner should be able to identify the branches of Chemistry.                     |                                                         | The learner is guided to discuss with peers the branches of Chemistry (e.g., Organic, Inorganic, Physical).                             | Charts showing branches of science.                       | Observation        |      |
|      | 3   |                                |                                      | By the end of the lesson, the learner should be able to explore the role of Chemistry in day-to-day life.       |                                                         | The learner is guided to brainstorm the importance of Chemistry in daily life (agriculture, medicine, food industry).                   | Realia (medicine packets, fertilizers).                   | Oral discussion    |      |
|      | 4   |                                |                                      | By the end of the lesson, the learner should be able to examine career opportunities related to Chemistry.      |                                                         | The learner is guided to search for information using electronic/print media on careers in Chemistry and                                | Digital devices, career brochures.                        | Written assignment |      |

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|      |     |        |                     |                                                                                                                                                   |                                        | discuss gender stereotyping.                                                                                                        |                                       |                    |      |
| 2    | 1   |        |                     | By the end of the lesson, the learner should be able to examine the effects of drug and substance use in day-to-day life.                         |                                        | The learner is guided to discuss the meaning of drug, prescription, dosage, and substance use with peers.                           | Pamphlets on drug abuse.              | Oral questions     |      |
|      | 2   |        |                     | By the end of the lesson, the learner should be able to promote rights and responsibilities to a safe learning environment (Consumer protection). |                                        | The learner is guided to brainstorm on consumer rights regarding drug prescription and develop posters to sensitize peers on risks. | Manilla papers, markers.              | Project (Posters)  |      |
|      | 3   |        | <b>1.2 The Atom</b> | By the end of the lesson, the learner should be able to describe the structure of the atom (Review).                                              | How are electrons arranged in an atom? | The learner is guided to review the concept of the structure of the atom, atomic number, and mass number.                           | Periodic table charts, atomic models. | Oral questions     |      |
|      | 4   |        |                     | By the end of the lesson, the learner should be able to relate atomic number, mass number, and electron number.                                   |                                        | The learner is guided to discuss the relationship between atomic number, mass number, and number of electrons.                      | Worksheets.                           | Written exercise   |      |
| 3    | 1   |        |                     | By the end of the lesson, the learner should be able to illustrate the structure                                                                  |                                        | The learner is guided to illustrate the structure of the                                                                            | Charts of atomic models.              | Drawing            |      |

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|      |     |        |            | of the atom using Dalton's model.                                                                                      |                         | atom using Dalton's model.                                                                                         |                             |                      |      |
|      | 2   |        |            | By the end of the lesson, the learner should be able to illustrate the structure of the atom using Rutherford's model. |                         | The learner is guided to watch a simulation on the Rutherford Gold Foil experiment and discuss findings.           | Digital simulation tools.   | Observation          |      |
|      | 3   |        |            | By the end of the lesson, the learner should be able to explain the meaning of isotopes.                               |                         | The learner is guided to brainstorm the meaning of the terms isotopes and relative atomic mass.                    | Charts of isotopic data.    | Oral questions       |      |
|      | 4   |        |            | By the end of the lesson, the learner should be able to determine the relative atomic mass (RAM) of elements.          |                         | The learner is guided to calculate the relative atomic mass of elements from isotopic abundances (e.g., Chlorine). | Calculator, data sheets.    | Calculation exercise |      |
| 4    | 1   |        |            | By the end of the lesson, the learner should be able to determine the RAM of elements (Complex practice).              |                         | The learner is guided to practice calculating RAM for various elements with multiple isotopes.                     | Worksheets.                 | Written test         |      |
|      | 2   |        |            | By the end of the lesson, the learner should be able to describe energy levels and orbitals.                           |                         | The learner is guided to discuss the relationship between energy levels and orbitals in an atom.                   | Charts showing orbitals.    | Discussion           |      |
|      | 3   |        |            | By the end of the lesson, the learner should be able to                                                                |                         | The learner is guided to carry out simple activities to                                                            | Interactive board/diagrams. | Assignment           |      |

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|      |     |        |            | illustrate the order of filling electrons in orbitals.                                                                            |                         | illustrate the order of filling electrons in s and p orbitals.                                          |                     |                    |      |
|      | 4   |        |            | By the end of the lesson, the learner should be able to write the electron arrangement for elements 1-5 using s and p notation.   |                         | The learner is guided to draw the electron arrangement for the first 5 elements using s and p orbitals. | Periodic table.     | Drawing            |      |
| 5    | 1   |        |            | By the end of the lesson, the learner should be able to write the electron arrangement for elements 6-10 using s and p notation.  |                         | The learner is guided to draw the electron arrangement for elements 6 to 10 using s and p orbitals.     | Periodic table.     | Drawing            |      |
|      | 2   |        |            | By the end of the lesson, the learner should be able to write the electron arrangement for elements 11-15 using s and p notation. |                         | The learner is guided to draw the electron arrangement for elements 11 to 15 using s and p orbitals.    | Periodic table.     | Drawing            |      |
|      | 3   |        |            | By the end of the lesson, the learner should be able to write the electron arrangement for elements 16-20 using s and p notation. |                         | The learner is guided to draw the electron arrangement for elements 16 to 20 using s and p orbitals.    | Periodic table.     | Drawing            |      |
|      | 4   |        |            | By the end of the lesson, the learner should be able to develop interest in the study of the atom (Modelling).                    |                         | The learner is guided to model the structure of the atom using locally available materials.             | Clay, wires, beads. | Project            |      |

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| 6    | 1   |        |            | By the end of the lesson, the learner should be able to model the structure of the atom (Presentation). |                         | The learner is guided to present their atomic models and explain the arrangement of particles.                 | Student models.    | Peer assessment    |      |
|      | 2   |        |            | By the end of the lesson, the learner should be able to discuss the stability of atoms.                 |                         | The learner is guided to discuss with peers the stability of atoms regarding loss or gain of electrons.        | Charts.            | Discussion         |      |
|      | 3   |        |            | By the end of the lesson, the learner should be able to predict ion formation (Cations).                |                         | The learner is guided to predict the type of ion formed from a given electron arrangement (loss of electrons). | Worksheets.        | Written quiz       |      |
|      | 4   |        |            | By the end of the lesson, the learner should be able to predict ion formation (Anions).                 |                         | The learner is guided to predict the type of ion formed from a given electron arrangement (gain of electrons). | Worksheets.        | Written quiz       |      |
| 7    | 1   |        |            | By the end of the lesson, the learner should be able to write electron arrangement of ions.             |                         | The learner is guided to write electron arrangement of ions using s and p notation.                            | Periodic table.    | Written exercise   |      |
|      | 2   |        |            | By the end of the lesson, the learner should be able to infer valency from electron arrangement.        |                         | The learner is guided to discuss the relationship between valency                                              | Charts.            | Oral questions     |      |

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|      |     |        |                        |                                                                                                                                               |                                                   | and oxidation number.                                                                         |                        |                    |      |
|      | 3   |        |                        | By the end of the lesson, the learner should be able to infer oxidation numbers from electron arrangement.                                    |                                                   | The learner is guided to determine oxidation numbers based on electron gain/loss.             | Worksheets.            | Assignment         |      |
|      | 4   |        |                        | By the end of the lesson, the learner should be able to consolidate knowledge on the Atom.                                                    |                                                   | The learner is guided to review key concepts of the sub-strand through questions and answers. | Revision papers.       | Written test       |      |
| 8    | 1   |        | 1.3 The Periodic Table | By the end of the lesson, the learner should be able to appreciate the role of electron arrangement in the development of the periodic table. | Why is the study of the periodic table important? | The learner is guided to brainstorm in groups on the development of the periodic table.       | Periodic Table charts. | Oral questions     |      |
|      | 2   |        |                        | By the end of the lesson, the learner should be able to relate the position of an element to its electron arrangement (Groups).               |                                                   | The learner is guided to arrange the first 20 elements of the periodic table into groups.     | Periodic Table charts. | Observation        |      |
|      | 3   |        |                        | By the end of the lesson, the learner should be able to relate the position of an element to its electron arrangement (Periods).              |                                                   | The learner is guided to arrange the first 20 elements of the periodic table into periods.    | Periodic Table charts. | Written exercise   |      |
|      | 4   |        |                        | By the end of the lesson, the learner                                                                                                         |                                                   | The learner is guided to identify                                                             | Periodic Table.        | Identification     |      |

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|      |     |        |            | should be able to identify chemical families (Alkali Metals).                                               |                         | Alkali metals in the periodic table.                                                                          |                    |                    |      |
| 9    | 1   |        |            | By the end of the lesson, the learner should be able to identify chemical families (Alkaline Earth Metals). |                         | The learner is guided to identify Alkaline earth metals in the periodic table.                                | Periodic Table.    | Identification     |      |
|      | 2   |        |            | By the end of the lesson, the learner should be able to identify chemical families (Halogens).              |                         | The learner is guided to identify Halogens in the periodic table.                                             | Periodic Table.    | Identification     |      |
|      | 3   |        |            | By the end of the lesson, the learner should be able to identify chemical families (Noble Gases).           |                         | The learner is guided to identify Noble gases in the periodic table.                                          | Periodic Table.    | Identification     |      |
|      | 4   |        |            | By the end of the lesson, the learner should be able to identify chemical families (Transition Elements).   |                         | The learner is guided to identify Transition elements in the periodic table.                                  | Periodic Table.    | Identification     |      |
| 10   | 1   |        |            | By the end of the lesson, the learner should be able to discuss elements with variable oxidation numbers.   |                         | The learner is guided to discuss elements (mainly transition metals) that exhibit variable oxidation numbers. | Charts/Textbooks.  | Discussion         |      |
|      | 2   |        |            | By the end of the lesson, the learner should be able to identify radicals.                                  |                         | The learner is guided to identify common radicals                                                             | Table of radicals. | Written quiz       |      |

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|      |     |        |            |                                                                                                                         |                         | and determine their valencies.                                                                 |                        |                    |      |
|      | 3   |        |            | By the end of the lesson, the learner should be able to derive the formulae of binary compounds.                        |                         | The learner is guided to practice writing formulae of simple binary compounds using valencies. | Worksheets.            | Written exercise   |      |
|      | 4   |        |            | By the end of the lesson, the learner should be able to derive the formulae of compounds with radicals.                 |                         | The learner is guided to practice writing formulae of compounds involving radicals.            | Worksheets.            | Written exercise   |      |
| 11   | 1   |        |            | By the end of the lesson, the learner should be able to derive the formulae of complex compounds.                       |                         | The learner is guided to continue practicing writing formulae using oxidation states.          | Worksheets.            | Assignment         |      |
|      | 2   |        |            | By the end of the lesson, the learner should be able to write balanced equations for chemical reactions (Introduction). |                         | The learner is guided to understand the principles of balancing chemical equations.            | Balance scales models. | Oral questions     |      |
|      | 3   |        |            | By the end of the lesson, the learner should be able to write balanced equations for simple reactions (Synthesis).      |                         | The learner is guided to write balanced equations for simple synthesis reactions.              | Whiteboard/Charts.     | Written exercise   |      |
|      | 4   |        |            | By the end of the lesson, the learner should be able to write balanced equations for simple reactions (Decomposition).  |                         | The learner is guided to write balanced equations for simple decomposition reactions.          | Whiteboard/Charts.     | Written exercise   |      |

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| 12   | 1   |        |            | By the end of the lesson, the learner should be able to write balanced equations for simple reactions (Displacement). |                         | The learner is guided to write balanced equations for displacement reactions.                     | Whiteboard/Charts.   | Written exercise   |      |
|      | 2   |        |            | By the end of the lesson, the learner should be able to write balanced equations (Practice).                          |                         | The learner is guided to practice balancing various chemical equations.                           | Worksheets.          | Test               |      |
|      | 3   |        |            | By the end of the lesson, the learner should be able to demonstrate understanding of Term 1 concepts (Review).        |                         | The learner is guided to review key concepts from Introduction, Atom, and Periodic Table strands. | Past papers/Quizzes. | Peer review        |      |
|      | 4   |        |            | By the end of the lesson, the learner should be able to demonstrate understanding of Term 1 concepts (Assessment).    |                         | Administration of End of Term 1 Examination.                                                      | Exam papers.         | Written Exam       |      |
| 13   | 1   |        |            | By the end of the lesson, the learner should be able to demonstrate understanding of Term 1 concepts (Assessment).    |                         | Administration of End of Term 1 Examination.                                                      | Exam papers.         | Written Exam       |      |
|      | 2   |        |            | By the end of the lesson, the learner should be able to reflect on Term 1 performance.                                |                         | Reviewing exam performance and closing for the holiday.                                           |                      | Reflection         |      |