



**UGANDA NATIONAL EXAMINATIONS BOARD**  
**CONTINUOUS ASSESSMENT OBSERVATION CHECKLIST**  
**545 CHEMISTRY**  
**Senior 4, Term 2**

**Centre/CA No:** ..... **Year:** .....

**Learner's Name:** ..... **Learner ID:** .....

**Instructions to the facilitator:**

1. This observation checklist contains **one** competency, which **must** be assessed by the end of this term.
2. Please **tick** against the indicator(s) the learner has exhibited at every level assessed.
3. Record the **number of indicators observed** in the boxes provided at the end of each level for **Subject Competency (SC)** and **Generic Skill (GS)**.
4. Indicate **N/A** if the learner has not been assessed for a particular level(s).

**Theme:**

Thermochemistry

**Topic:**

Energy changes during chemical reactions.

**Learning Outcome(s):**

1. Recognise and appreciate the difference between endothermic and exothermic reactions and understand that substances store chemical energy in their bonds.
2. Understand and appreciate the importance of exothermic and endothermic reactions in our everyday lives.
3. Recognise that the burning of fuels is an exothermic process producing useful energy.
4. Understand the concept of heat of reaction and interpret energy profiles of chemical reactions.

**Subject Competency (SC):**

Investigates chemical reactions.

**Generic Skill (GS):**

Mathematical computation and ICT proficiency.

**Learning Domain:**

Psychomotor.

**Level 1: Imitation**

**Subject Competency (SC): Imitating the teacher/peer/laboratory technician/resource person/video clip, etc., investigating chemical reactions, the learner:**

- ☐ Develops the aim of the experiment.
- ☐ Develops a hypothesis for the problem to be investigated.
- ☐ Identifies the independent variable.
- ☐ Identifies the dependent variable.
- ☐ Identifies equipment and materials required.
- ☐ Identifies the risks that may arise and ways to prevent
- ☐ States how the identified risks will be mitigated.
- ☐ Writes the steps to be followed for carrying out the experiment.
- ☐ Carries out the experiment following the laid down steps.
- ☐ Records the data from the experiment.
- ☐ Analyses the data recorded in the experiment.
- ☐ Draws conclusions based on the analysis made on the experiment.
- ☐ Writes recommendations on the experiment, in determining heat of reaction in chemical reactions.

**Generic Skill (GS): Imitating the teacher/peer/laboratory technician/resource person/video clip, etc., demonstrating mathematical computation and ICT proficiency while investigating chemical reactions, the learner:**

- ☐ Uses numbers and measurements accurately.
- ☐ Interprets and interrogates mathematical data.
- ☐ Uses mathematics to justify and support decisions.
- ☐ Uses technology to create, manipulate, and process information.
- ☐ Uses technology to collaborate, communicate, and refine their work.

Level 1 Indicators	
SC	GS

**Level 2: Manipulation**

**Subject Competency (SC): Following instructions from the teacher/peer/laboratory technician/resource person/video clip, etc., to investigate chemical reactions, the learner:**

- ☐ Develops the aim of the experiment.
- ☐ Develops a hypothesis for the problem to be investigated.
- ☐ Identifies the independent variable.
- ☐ Identifies the dependent variable.
- ☐ Identifies equipment and materials required.

- ☐ Identifies the risks that may arise and ways to prevent
- ☐ States how the identified risks will be mitigated.
- ☐ Writes the steps to be followed for carrying out the experiment.
- ☐ Carries out the experiment following the laid down steps.
- ☐ Records the data from the experiment.
- ☐ Analyses the data recorded in the experiment.
- ☐ Draws conclusions based on the analysis made on the experiment.
- ☐ Writes recommendations on the experiment, in determining heat of reaction in chemical reactions.

**Generic Skill (GS): Following instructions from the teacher/peer/laboratory technician/resource person/video clip, etc., to demonstrate mathematical computation and ICT proficiency while investigating chemical reactions, the learner:**

- ☐ Uses numbers and measurements accurately.
- ☐ Interprets and interrogates mathematical data.
- ☐ Uses mathematics to justify and support decisions.
- ☐ Uses technology to create, manipulate, and process information.
- ☐ Uses technology to collaborate, communicate, and refine their work.

Level 2 Indicators	
SC	GS

### Level 3: Precision

**Subject Competency (SC): Investigating chemical reactions independently but with minimal errors, the learner:**

- ☐ Develops the aim of the experiment.
- ☐ Develops a hypothesis for the problem to be investigated.
- ☐ Identifies the independent variable.
- ☐ Identifies the dependent variable.
- ☐ Identifies equipment and materials required.
- ☐ Identifies the risks that may arise and ways to prevent
- ☐ States how the identified risks will be mitigated.
- ☐ Writes the steps to be followed for carrying out the experiment.
- ☐ Carries out the experiment following the laid down steps.
- ☐ Records the data from the experiment.
- ☐ Analyses the data recorded in the experiment.
- ☐ Draws conclusions based on the analysis made on the experiment.
- ☐ Writes recommendations on the experiment, in determining heat of reaction in chemical reactions.

**Generic Skill (GS): Demonstrating mathematical computation and ICT proficiency independently while investigating chemical reactions, the learner:**

- ☐ Uses numbers and measurements accurately.
- ☐ Interprets and interrogates mathematical data.
- ☐ Uses mathematics to justify and support decisions.
- ☐ Uses technology to create, manipulate, and process information.
- ☐ Uses technology to collaborate, communicate, and refine their work.

Level 3 Indicators	
SC	GS

#### Level 4: Articulation

**Subject Competency (SC): Investigating chemical reactions correctly and innovatively while investigating chemical reactions, the learner:**

- ☐ Develops the aim of the experiment.
- ☐ Develops a hypothesis for the problem to be investigated.
- ☐ Identifies the independent variable.
- ☐ Identifies the dependent variable.
- ☐ Identifies equipment and materials required.
- ☐ Identifies the risks that may arise and ways to prevent
- ☐ States how the identified risks will be mitigated.
- ☐ Writes the steps to be followed for carrying out the experiment.
- ☐ Carries out the experiment following the laid down steps.
- ☐ Records the data from the experiment.
- ☐ Analyses the data recorded in the experiment.
- ☐ Draws conclusions based on the analysis made on the experiment.
- ☐ Writes recommendations on the experiment, in determining heat of reaction in chemical reactions.

**Generic Skill (GS): Demonstrating mathematical computation and ICT proficiency innovatively and correctly while investigating chemical reactions, the learner:**

- ☐ Uses numbers and measurements accurately.
- ☐ Interprets and interrogates mathematical data.
- ☐ Uses mathematics to justify and support decisions.
- ☐ Uses technology to create, manipulate, and process information.
- ☐ Uses technology to collaborate, communicate, and refine their work.

Level 4 Indicators
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SC	GS

### Level 5: Naturalisation

**Subject Competency (SC): Investigating chemical reactions with ease, the learner:**

- ☐ Develops the aim of the experiment.
- ☐ Develops a hypothesis for the problem to be investigated.
- ☐ Identifies the independent variable.
- ☐ Identifies the dependent variable.
- ☐ Identifies equipment and materials required.
- ☐ Identifies the risks that may arise and ways to prevent
- ☐ States how the identified risks will be mitigated.
- ☐ Writes the steps to be followed for carrying out the experiment.
- ☐ Carries out the experiment following the laid down steps.
- ☐ Records the data from the experiment.
- ☐ Analyses the data recorded in the experiment.
- ☐ Draws conclusions based on the analysis made on the experiment.
- ☐ Writes recommendations on the experiment, in determining heat of reaction in chemical reactions.

**Generic Skill (GS): Demonstrating mathematical computation and ICT proficiency innovatively with ease while investigating chemical reactions, the learner:**

- ☐ Uses numbers and measurements accurately.
- ☐ Interprets and interrogates mathematical data.
- ☐ Uses mathematics to justify and support decisions.
- ☐ Uses technology to create, manipulate, and process information.
- ☐ Uses technology to collaborate, communicate, and refine their work.

Level 5 Indicators	
SC	GS