FORM 3

TERM 1

SUBJECT: CHEMISTRY.

TOPIC 1: GAS LAWS.

**TEACHER’S NAME: ………………………………………… TSC NO: …………….**

**SCHOOL/ INSTITUTION : ……………………………………………………………….**

**FORM: 3 TERM: 1 YEAR……………..**

**NUMBER OF STUDENTS……. SUBJECT: CHEMISTRY**

TOPIC: GAS LAWS.

SUB-TOPIC: BOYLE’S LAW.

**WEEK: …….. LESSON NUMBER: ……..**

**DATE: …….. TIME: ……….**

**OBJECTIVES**: **By the end of the lesson the learner should be able to;**

-State Boyle’s law.

-Explain Boyle’s law using kinetic theory of matter.

-Represent Boyle’s law mathematically and graphically.

-Solve further problems involving Boyle’s law.

-Plot and interpret graphs involving pressure and volume of gases.

LESSON PRESENTATION

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| **TIME** | **CONTENT** | **LEARNING ACTIVITIES** | **RESOURCES** | **REFERENCE** |
| 5 MINUTES | **INTRODUCTION**  State the Boyle’s law. | Discussion.  Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | ***K.L.B. BK III***  *PP. 1-5* |
| 30 MINUTES | **BODY DEVELOPMENT**  -State Boyle’s law.  -Explain Boyle’s law using kinetic theory of matter.  -Represent Boyle’s law mathematically and graphically.  -Solve further problems involving Boyle’s law.  -Plot and interpret graphs involving pressure and volume of gases. | -State Boyle’s law.  -Explain Boyle’s law using kinetic theory of matter.  -Represent Boyle’s law mathematically and graphically.  -Solve further problems involving Boyle’s law.  -Plot and interpret graphs involving pressure and volume of gases. | Chart  Volume-pressure relationship.  Syringes.  Calculators.  Graph papers. | ***K.L.B. BK III***  *PP. 1-5*  ***Longhorn Book III***  *PP 1 -8* |
| 5 MINUTES | **CONCLUSION**  Giving assignments. | Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | ***K.L.B. BK III***  *PP. 1-5* |

SELF-EVALUATION:­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**TEACHER’S NAME: ………………………………………… TSC NO: …………….**

**SCHOOL/ INSTITUTION : ……………………………………………………………….**

**FORM: 3 TERM: 1 YEAR……………..**

**NUMBER OF STUDENTS……. SUBJECT: CHEMISTRY**

TOPIC: GAS LAWS.

SUB-TOPIC: CHARLE’S LAW.

**WEEK: …….. LESSON NUMBER: ……..**

**DATE: …….. TIME: ……….**

**OBJECTIVES**: **By the end of the lesson the learner should be able to;**

State Charles’ law.

Explain Charles’ law using kinetic theory of matter.

Convert temperature in degree Celsius to Kelvin and vice-versa.

Express Charles’ law with equations.

Give a graphical representation of Charles’ law.

Solve numerical problems based on Charles’ Law.

LESSON PRESENTATION

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| **TIME** | **CONTENT** | **LEARNING ACTIVITIES** | **RESOURCES** | **REFERENCE** |
| 5 MINUTES | **INTRODUCTION**  -State Charles’ law. | Discussion.  Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | *Longhorn Book III PP 9-14* |
| 30 MINUTES | **BODY DEVELOPMENT**  Teacher demonstration:- To show expansion of air when heated and contraction when pressure is constant.  Explain increase in volume when temperature is raised.  Q/A: - relation between volume and temperature, leading to Charles’ law.  Teacher explains inter-conversion of the units.  Students complete a table of temperature in the two units  Derive equations from volume and temperature relationship.  Exposition: - Teacher exposes a volume-temperature graph and extrapolates it to obtain the absolute temperature. The definition of absolute temperature is exposed.  Worked examples.  Supervised exercise. | Teacher demonstration:- To show expansion of air when heated and contraction when pressure is constant.  Explain increase in volume when temperature is raised.  Q/A: - relation between volume and temperature, leading to Charles’ law.  Teacher explains inter-conversion of the units.  Students complete a table of temperature in the two units  Derive equations from volume and temperature relationship.  Exposition: - Teacher exposes a volume-temperature graph and extrapolates it to obtain the absolute temperature. The definition of absolute temperature is exposed.  Worked examples.  Supervised exercise. | Calculators.  Colored water,  Glass tube,  Warm water,  Cork and  Flask. | ***K.L.B.***  ***BK III*** *P. 6-12*  *Longhorn Book III PP 9-14* |
| 5 MINUTES | **CONCLUSION**  Giving assignment on the sub-topic. | Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | *Longhorn Book III PP 9-14* |

SELF-EVALUATION:­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**TEACHER’S NAME: ………………………………………… TSC NO: …………….**

**SCHOOL/ INSTITUTION : ……………………………………………………………….**

**FORM: 3 TERM: 1 YEAR……………..**

**NUMBER OF STUDENTS……. SUBJECT: CHEMISTRY**

TOPIC: GAS LAWS.

SUB-TOPIC: COMBINED LAW.

**WEEK: …….. LESSON NUMBER: ……..**

**DATE: …….. TIME: ……….**

**OBJECTIVES**: **By the end of the lesson the learner should be able to;**

-Derive the Gas Law.

-Derive the combined gas law equation.

-Solve numerical problems using the equation.

LESSON PRESENTATION

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| **TIME** | **CONTENT** | **LEARNING ACTIVITIES** | **RESOURCES** | **REFERENCE** |
| 5 MINUTES | **INTRODUCTION**  Explain and deduce a formulae for the combined gas equation. | Discussion.  Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | ***K.L.B.***  ***BK III*** *P. 12* |
| 30 MINUTES | **BODY DEVELOPMENT**  Q/A: - Combining Boyle’s and Charles’ Laws.  Worked examples. | Q/A: - Combining Boyle’s and Charles’ Laws.  Worked examples. | Calculators. | ***K.L.B.***  ***BK III*** *P. 12*  *Longhorn Book III PP 14-16* |
| 5 MINUTES | **CONCLUSION**  Oral evaluation on the sub-topic. | Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | ***K.L.B.***  ***BK III*** *P. 12* |

SELF-EVALUATION:­­­­­­­­­­­­­­­­­­­\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**FOR FULL LESSON PLANS TEXT 0722546300/ click this WHATSAPP link wa.link/12zftz**