FORM 4

TERM 1

SUBJECT: PHYSICS.

TOPIC 4: ELECTROMAGNETIC SPECTRUM.

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

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

**FORM: 4 TERM: 1 YEAR……………..**

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

TOPIC: ELECTROMAGNETIC SPECTRUM.

SUB-TOPIC: THE ELECTROMAGNETIC SPECTRUM

**WEEK: …….. LESSON NUMBER: ……..**

**DATE: …….. TIME: ……….**

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

-Describe a complete electromagnetic spectrum.

LESSON PRESENTATION

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| **TIME** | **CONTENT** | **LEARNING ACTIVITIES** | **RESOURCES** | **REFERENCE** |
| 5 MINUTES | **INTRODUCTION**  Define electromagnetic spectrum. | Discussion.  Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | -Golden tips Physics pages 174 |
| 30 MINUTES | **BODY DEVELOPMENT**  -Discussions on the charge in wave length of electromagnetic radiations  explanations | -Discussions on the charge in wave length of electromagnetic radiations  explanations | charts showing the components of the electromagnetic spectrum | -Secondary physics KLB students book 4 page 79  -Principles of physics (M.Nelkon) pages 345  -Golden tips Physics pages 174 |
| 5 MINUTES | **CONCLUSION**  Giving assignment on the sub-topic. | Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | -Golden tips Physics pages 174 |

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

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

**FORM: 4 TERM: 1 YEAR……………..**

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

TOPIC: ELECTROMAGNETIC SPECTRUM.

SUB-TOPIC: PROPERTIES OF ELECTROMAGNETIC WAVES.

**WEEK: …….. LESSON NUMBER: ……..**

**DATE: …….. TIME: ……….**

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

-State the properties of electromagnetic waves

LESSON PRESENTATION

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| **TIME** | **CONTENT** | **LEARNING ACTIVITIES** | **RESOURCES** | **REFERENCE** |
| 5 MINUTES | **INTRODUCTION**  Review the previous lesson. | Discussion.  Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | -Principles of physics (M.Nelkon) pages 345 |
| 30 MINUTES | **BODY DEVELOPMENT**  Explaining the properties of each component of the electromagnetic spectrum | Explaining the properties of each component of the electromagnetic spectrum | Charts showing the properties of electromagnetic waves | -Secondary physics KLB students book 4 page 80-81  -Principles of physics (M.Nelkon) pages 345  -Golden tips Physics pages 175 |
| 5 MINUTES | **CONCLUSION**  Giving assignment on the sub-topic. | Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | -Principles of physics (M.Nelkon) pages 345 |

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

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

**FORM: 4 TERM: 1 YEAR……………..**

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

TOPIC: ELECTROMAGNETIC SPECTRUM.

SUB-TOPIC: DETECTION OF ELECTROMAGNETIC SPECTRUM.

**WEEK: …….. LESSON NUMBER: ……..**

**DATE: …….. TIME: ……….**

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

-Describe the methods of detecting electromagnetic radiations

LESSON PRESENTATION

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| **TIME** | **CONTENT** | **LEARNING ACTIVITIES** | **RESOURCES** | **REFERENCE** |
| 5 MINUTES | **INTRODUCTION**  Review the previous lesson. | Discussion.  Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | -Golden tips Physics pages  175-176 |
| 30 MINUTES | **BODY DEVELOPMENT**  Demonstrating and explaining how to detect electromagnetic radiations | Demonstrating and explaining how to detect electromagnetic radiations | Radiation detectors  Charts showing detectors of electromagnetic radiation | -Secondary physics KLB students book 4 page 81  -Golden tips Physics pages  175-176 |
| 5 MINUTES | **CONCLUSION**  Giving assignment on the sub-topic. | Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | -Golden tips Physics pages  175-176 |

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

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

**FORM: 4 TERM: 1 YEAR……………..**

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

TOPIC: ELECTROMAGNETIC SPECTRUM.

SUB-TOPIC: APPLICATIONS OF ELECTROMAGNETIC RADIATION.

**WEEK: …….. LESSON NUMBER: ……..**

**DATE: …….. TIME: ……….**

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

-Describe the applications of electromagnetic radiations including greenhouse effect

LESSON PRESENTATION

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| **TIME** | **CONTENT** | **LEARNING ACTIVITIES** | **RESOURCES** | **REFERENCE** |
| 5 MINUTES | **INTRODUCTION**  Outline some of the applications of electromagnetic radiations. | Discussion.  Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | -Golden tips Physics pages 175-176 |
| 30 MINUTES | **BODY DEVELOPMENT**  Discussions of application of electromagnetic radiations | Discussions of application of electromagnetic radiations | Pictures and chart on application of electromagnetic radiations | -Secondary physics KLB students book 4 page 82  -Principles of physics (M.Nelkon) pages 336  -Golden tips Physics pages 175-176 |
| 5 MINUTES | **CONCLUSION**  Answering questions from the learners. | Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | -Golden tips Physics pages 175-176 |

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

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

**FORM: 4 TERM: 1 YEAR……………..**

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

TOPIC: ELECTROMAGNETIC SPECTRUM.

SUB-TOPIC: PROBLEMS ON C=FX.

**WEEK: …….. LESSON NUMBER: ……..**

**DATE: …….. TIME: ……….**

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

-Solve numerical problems involving C=fx

LESSON PRESENTATION

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| **TIME** | **CONTENT** | **LEARNING ACTIVITIES** | **RESOURCES** | **REFERENCE** |
| 5 MINUTES | **INTRODUCTION**  Ask probing questions. | Discussion.  Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | -Secondary physics KLB students book 4 page 80 |
| 30 MINUTES | **BODY DEVELOPMENT**  -Problem solving  -Discussions  -Explanations  -Questions and answers | -Problem solving  -Discussions  -Explanations  -Questions and answers | -Questions and answers exercises | -Comprehensive secondary physics students book 4 pages 45  teachers book 34pages 20-21  -Secondary physics KLB students book 4 page 80 |
| 5 MINUTES | **CONCLUSION**  Giving assignment on the whole topic. | Questions and answers. | -Chalk board/white board.  -A piece of chalk/ marker pen. | -Secondary physics KLB students book 4 page 80 |

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

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