**e-RPH SCIENCE FORM 4**

|  |
| --- |
| **DAILY LESSON PLAN** |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Safety Measures in the Laboratory | **DAY** |  |
| **TITLE** | Personal Protection Equipment | **TIME** |  |
| **LEARNING OBJECTIVES** |
| By the end of the PdPc, students will be able to:1. Explain the nine types of personal protective equipment in the laboratory and their functions, namely goggles, gloves, laboratory coats, face masks, safety shoes, laminar flow cabinets, fume chambers, safety showers and eyewash station.
 |
| **TEACHING AND LEARNING ACTIVITIES** |
| **Introduction:**1. Students carry out the '*Who am I*' activity to identify personal protective equipment.
2. Students and teachers do questioning and answering (Q&A) sessions to test the level of students' existing knowledge.
3. Students pay attention to the teacher's explanation about personal protection equipment.
 |
| **Activities:**1. Students are divided into several groups.
2. Students are given a card that contains the characteristics of a personal protective equipment found in the laboratory.
3. Students read the characteristics and others try to guess and identify the name of the equipment.
4. Students answer questions from interactive activities that can be accessed from ePelangi+ by the teacher.
 |
| **Closure:**Students answer the questions in Amali Sains Tingkatan 4 pages 48. |
| **REFLECTION** |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students able to achieve the learning objectives.\_\_\_\_\_\_ / \_\_\_\_\_\_ students able to complete the exercises given.\_\_\_\_\_\_ / \_\_\_\_\_\_ students need extra training and teacher guidance.Note: Today’s lesson will be carried forward due to:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

|  |
| --- |
| **DAILY LESSON PLAN** |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Safety Measures in the Laboratory | **DAY** |  |
| **TITLE** | Disposal of Waste  | **TIME** |  |
| **LEARNING OBJECTIVES** |
| By the end of the PdPc, students will be able to:1. Understand and explain two terms, namely 'substances that can be disposed of into the sink' and 'substances that cannot be disposed of into the sink'.
2. List at least two examples of substances that can be disposed of into the sink.
3. List at least three characteristics with examples of substances that cannot be disposed of into the sink.
 |
| **TEACHING AND LEARNING ACTIVITIES** |
| **Introduction:**1. The teacher distributes cards containing various types of waste to different students. Among them, there are wastes that can be disposed of into the sink and some that cannot be disposed of into the sink.
2. Students carry out a ‘*Musical Chair'* activity to classify materials into the categories 'can be disposed of into the sink' and 'cannot be disposed of into the sink'.
3. Students and teachers do questioning and answering (Q&A) sessions to test the level of students' existing knowledge.
4. Students pay attention to the teacher's explanation about the disposal of waste.
 |
| **Activities:**1. Students receive the card and cannot see the contents of the card.
2. Students take turns being asked to come forward and show the cards to another student. The student explains the characteristics of the substance on the card without telling him the actual type of substance written on the card.
3. Students move when the music plays, dividing themselves into two groups:

(a) Group 1: Substances that can be disposed of into the sink(b) Group 2: Substances that cannot be disposed of into the sink1. Students stop moving when the music stops. Students who are in the correct group will be rewarded.
 |
| **Closure:**Students answer the questions in Amali Sains Tingkatan 4 page 49. |
| **REFLECTION** |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students able to achieve the learning objectives.\_\_\_\_\_\_ / \_\_\_\_\_\_ students able to complete the exercises given.\_\_\_\_\_\_ / \_\_\_\_\_\_ students need extra training and teacher guidance.Note: Today’s lesson will be carried forward due to:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

|  |
| --- |
| **DAILY LESSON PLAN** |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Safety Measures in the Laboratory | **DAY** |  |
| **TITLE** | Disposal of Waste  | **TIME** |  |
| **LEARNING OBJECTIVES** |
| By the end of the PdPc, students will be able to:1. Understand and explain Standard Operating Procedures in the management of four categories of biological wastes, namely Category A, B, C and D.
 |
| **TEACHING AND LEARNING ACTIVITIES** |
| **Introduction:**1. Students and teachers do questioning and answering (Q&A) sessions to test the level of students' existing knowledge.
2. Students pay attention to the teacher's explanation about the disposal of waste.
 |
| **Activities:**1. Students are divided into several groups. Each group is asked to create a scrapbook containing the following items:
* Definition of biological waste
* Definition of Standard Operating Procedures (POS)
* Procedure for biological waste management (Category A, B, C and D)
1. Students are given a week to complete their respective scrapbooks.
2. Students display scrapbooks in the students’ work corner in class.
 |
| **Closure:**Students answer the questions in Amali Sains Tingkatan 4 pages 50 - 51. |
| **REFLECTION** |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students able to achieve the learning objectives.\_\_\_\_\_\_ / \_\_\_\_\_\_ students able to complete the exercises given.\_\_\_\_\_\_ / \_\_\_\_\_\_ students need extra training and teacher guidance.Note: Today’s lesson will be carried forward due to:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

|  |
| --- |
| **DAILY LESSON PLAN** |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Safety Measures in the Laboratory | **DAY** |  |
| **TITLE** | Disposal of Waste | **TIME** |  |
| **LEARNING OBJECTIVES** |
| By the end of the PdPc, students will be able to:1. Communicate about steps to handle two types of accidents in the laboratory, namely chemical spillage and mercury spillage.
 |
| **TEACHING AND LEARNING ACTIVITIES** |
| **Introduction:**1. Students carry out ‘*Role Play'* activities to understand the steps that need to be taken when handling accidents in the laboratory.
2. Students and teachers do questioning and answering (Q&A) sessions to test the level of students' existing knowledge.
3. Students pay attention to the teacher's explanation about the disposal of waste.
 |
| **Activities:**1. Students in turn are given a card that writes the student's role to act out some accident-related situations in the laboratory.
2. Oil spillage accident
3. Mercury spillage accident
4. Electric shock accident
5. Acid or alkali splashes accident
6. Students discuss the steps that need to be taken to handle the accident that was acted out.
7. Students build a suitable i-Think map to list the steps to handle an accident situation.
 |
| **Closure:**Students answer the questions in Amali Sains Tingkatan 4 page 52. |
| **REFLECTION** |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students able to achieve the learning objectives.\_\_\_\_\_\_ / \_\_\_\_\_\_ students able to complete the exercises given.\_\_\_\_\_\_ / \_\_\_\_\_\_ students need extra training and teacher guidance.Note: Today’s lesson will be carried forward due to:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

|  |
| --- |
| **DAILY LESSON PLAN** |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Safety Measures in the Laboratory | **DAY** |  |
| **TITLE** | Fire Extinguishers | **TIME** |  |
| **LEARNING OBJECTIVES** |
| By the end of the PdPc, students will be able to:1. Communicate about the four types of fire extinguishers.
 |
| **TEACHING AND LEARNING ACTIVITIES** |
| **Introduction:**1. Students carry out the '*Mix and Match*' activity to understand the characteristics of the four types of fire extinguishers.
2. Students and teachers do questioning and answering (Q&A) sessions to test the level of students' existing knowledge.
3. Students pay attention to the teacher's explanation about fire extinguishers.
 |
| **Activities:**1. Students are given a flash card. Each flash card contains only one piece of information, either the type of fire extinguisher, the colour of the fire extinguisher or its use.
2. Students are required to find a friend holding a flash card that matches the flash card they have. For example, if a student is holding a flash card with 'Water type fire extinguisher', then he/she needs to find the flash card with 'Red' and 'Extinguish the fire that involves solid materials'.
3. The student who is the fastest to find matching friends will be rewarded.
 |
| **Closure:**Students answer the questions in Amali Sains Tingkatan 4 page 53. |
| **REFLECTION** |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students able to achieve the learning objectives.\_\_\_\_\_\_ / \_\_\_\_\_\_ students able to complete the exercises given.\_\_\_\_\_\_ / \_\_\_\_\_\_ students need extra training and teacher guidance.Note: Today’s lesson will be carried forward due to:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

|  |
| --- |
| **DAILY LESSON PLAN** |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Safety Measures in the Laboratory | **DAY** |  |
| **TITLE** | Fire Extinguishers | **TIME** |  |
| **LEARNING OBJECTIVES** |
| By the end of the PdPc, students will be able to:1. Explain the four correct steps when using a fire extinguisher.
 |
| **TEACHING AND LEARNING ACTIVITIES** |
| **Introduction:**1. The teacher shows a video on how to use a fire extinguisher.
2. Students and teachers do questioning and answering (Q&A) sessions to test the level of students' existing knowledge.
3. Students pay attention to the teacher's explanation about fire extinguishers.
 |
| **Activities:**1. Students write down the important notes in their respective notebooks after watching the video shown.
2. Students build a suitable i-Think map to explain how to use fire extinguishers.
 |
| **Closure:**Students answer the questions in Amali Sains Tingkatan 4 page 54. |
| **REFLECTION** |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students able to achieve the learning objectives.\_\_\_\_\_\_ / \_\_\_\_\_\_ students able to complete the exercises given.\_\_\_\_\_\_ / \_\_\_\_\_\_ students need extra training and teacher guidance.Note: Today’s lesson will be carried forward due to:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

|  |
| --- |
| **DAILY LESSON PLAN** |
| **CLASS** |  | **WEEK** |  |
| **THEME** | Scientific Methodology | **DATE** |  |
| **CHAPTER** | 1.0 Safety Measures in the Laboratory | **DAY** |  |
| **TITLE** | Fire Extinguishers | **TIME** |  |
| **LEARNING OBJECTIVES** |
| By the end of the PdPc, students will be able to:1. Create a simple fire extinguisher.
 |
| **TEACHING AND LEARNING ACTIVITIES** |
| **Introduction:**1. Students are asked to scan the QR code ‘Idea Projek' on page 196 to get initial ideas.
2. Students and teachers do questioning and answering (Q&A) sessions to test the level of students' existing knowledge.
3. Students pay attention to the teacher's explanation about fire extinguishers.
 |
| **Activities:**1. Students are divided into several groups.
2. Students discuss the materials and apparatus needed to create a simple fire extinguisher.
3. Students are given 2 weeks to complete the assignment.
4. Students present their findings using *Microsoft PowerPoint* after 2 weeks together with a simple fire extinguisher model they built.
 |
| **Closure:**Students answer the questions in Amali Sains Tingkatan 4 pages 196. |
| **REFLECTION** |
| \_\_\_\_\_\_ / \_\_\_\_\_\_ students able to achieve the learning objectives.\_\_\_\_\_\_ / \_\_\_\_\_\_ students able to complete the exercises given.\_\_\_\_\_\_ / \_\_\_\_\_\_ students need extra training and teacher guidance.Note: Today’s lesson will be carried forward due to:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |