

# ADMINISTRATION & STORING EQUIPMENT/MATERIAL IN SCIENCE LABORATORY

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# OBJECTIVE

- Understand how to order and store tools and materials in the laboratory
- Understand how to administer the tools and materials in the laboratory
- Identify and fill administration device
- Applying way order, store and administer equipment and materials in the laboratory

# ORDERING & STORING LAB EQUIPMENT/MATERIALS

Based on:

- ⦿ laboratory conditions
  - determined by facility / structure of laboratory , equipment and materials
- ⦿ user interests
  - determined based on the ease of storing and uptake equipment/materials

# 1. FACILITIES/STRUCTURE OF LABORATORY

- ◉ Form of laboratory space
- ◉ Existence of preparation space
- ◉ Existence of storeroom
- ◉ Existence of place to storing, exp:racks / cabinets

## 2. CONDITION OF EQUIPMENT & MATERIALS

- ⦿ Equipments:

can be grouped by these types of tools, types of shape equipment, how often the tool used, or types of experiments

- ⦿ Materials/ substance :

can be classified on the type of material (phase / form substances, acid-base properties of substances), how dangerous materials, and how often the materials used

# SYSTEM OF ORDERING TOOLS

System I based on:

- Tools and materials are often used in practice
- Tools and material practices that may be taken by the user's own laboratory
- Tools and materials that are expensive practices

System II based on:

- Type of equipment
- Experimental groups
- Type of tool-making material



# ORDERING TOOLS: BASED ON

- ◉ Type of Tool  
For example: beaker, funnel, mortar and pestle, petri dish
- ◉ Experimental Group  
Exp: Suppose the rate of reaction, equilibrium, anatomy
- ◉ Type of Equipment Manufacturers  
Exp: glass, porcelain, metal, wood
- ◉ How often used tool  
frequently used beaker  
are rarely used mortar and pestle

# SYSTEM OF STORING MATERIALS/SUBSTANCE

Based on:

- ⦿ Materials that often used
  - ⦿ Characteristic of materials
  - ⦿ Materials hazardous / toxic
  - ⦿ Amount of material stored
  - ⦿ Materials may be taken by the user
- laboratory





# STORING

## MATERIALS/SUBSTANCES: BASED ON

- ◉ Shape of Material
  - Solid, example NaOH, Citrate acid, KCl
  - Liquids such as HCl, H<sub>2</sub>SO<sub>4</sub>
- ◉ Characteristic of Materials
  - Acids such as HCl, H<sub>2</sub>SO<sub>4</sub>
  - Bases such as NaOH, KOH
  - Neutral for example KCl, Na<sub>2</sub>SO<sub>4</sub>
- ◉ Dangerously
  - Corrosive exp HCl, H<sub>2</sub>SO<sub>4</sub>
  - Irritants such as NH<sub>3</sub>, HNO<sub>3</sub>
  - Toxins such as BaCl<sub>2</sub>, CuSO<sub>4</sub>
- ◉ How often Used
  - Often used are usually concentrated aqueous HCl, NaOH
  - Sodium Metal is rarely used for example,

# STEPS TO ORDERING & STORING TOOLS AND MATERIALS

- Clean room and storeroom the equipment and materials
- Check and re-tool material data available.
- Classify the tools and materials based on the state of equipment and materials
- Ordering & Storing the equipment and materials based on laboratory facilities, conditions of equipment and material
- Note tools / materials that need special attention in storing

# THINGS TO LOOK FOR

## In Saving Tools:

1. The manufacture of tools
2. Weight Equipment
3. Sensitivity to the environment tools
4. Effect of other tools
5. Completeness of the device in a set of tools
6. Influence of materials / chemicals on the tool

# THINGS TO LOOK FOR

## ◉ In Storing Materials

1. Being → Solid substances are stored separately from the liquid
2. Substance Concentration → Concentrations of condensed kept separate and special example of concentrated HCl
3. Dangers of Substance → Substances that danger is not stored in the upper (higher than the body)
4. Labels → All containers berisis materials / chemicals must be labeled

# THINGS TO LOOK FOR IN STORE MATERIALS

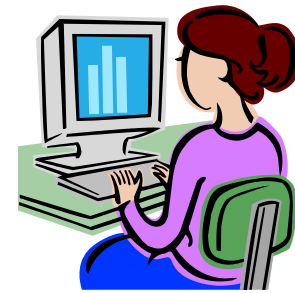
- ⦿ Substance sensitivity to light → light-sensitive substance that is stored in brown bottles
- ⦿ Ease evaporate volatile substances → stored in cold and cool and keep it away from direct light
- ⦿ The indicator solution is stored in the bottle drops (small bottle fitted with a pipette drops on the cork)

# INSPECTION EQUIPMENT AND MATERIALS

- Clean the bottle material / substance
- Check the label and if it is slightly damaged immediately replace it with a new
- Clean tools and check whether the tool is still functioning or not, to the appliance glass is there / not a cracked / chipped
- If something is not working or cracked / chipped separate

# ADMINISTRATING TOOLS AND MATERIALS

- ◉ Useful for easy checking, procurement, and accountability
- ◉ Includes administration and laboratory equipment
- ◉ That it should be noted in the administration of equipment / materials is the name, number, size, brand, and storage, the code number / catalog



# THE ADMINISTRATION TOOLS AND MATERIALS

Book inventory

Card stock

Format Bendelan request / borrowing

Bendelan return Format Tool

Card / book list equipment /  
material damaged

Card repair





# PROCUREMENT OF EQUIPMENT

- ◉ Special Material Science
- ◉ Animals and Plants
- ◉ Material non-IPA
- ◉ Special Materials IPA can be obtained through the factory and / or trader must be made specific and (outside / inside) the country.
- ◉ For overseas can be seen in the catalog

Animal and Plant to get a place to live must be recognized ecology / habitats of animals and plants

Non-science materials such as wood, metal, glass, chemicals simple / everyday can be obtained at hardware stores, pharmacy / pharmaceutical depot, parts store

# ORDERING THE LABORATORY EQUIPMENT

- Ordering is a process setting tool for well ordered in the laboratory