

Exercise 1.4(H)

Care & Cleaning of Laboratory Equipment

Name: _____

Date: _____ Per: _____

Selecting Equipment for Labs

It's important to select laboratory equipment designed for its intended use. Some equipment is suitable for use in high temperature processes, while other equipment would be ruined by overheating. Some equipment is suitable for making accurate and precise measurements, while other equipment is designed for approximation only. Certain equipment is meant to be used only in conjunction with other specific equipment. It's important that you have a firm grasp of lab equipment and its use to ensure safety and collection of reliable data.

Proper usage of lab equipment also includes the ability to correctly clean and care for the equipment. Equipment damaged by improper cleaning, use, or storage creates a dangerous situation for all students using that equipment in the future.

After watching the video <https://www.flinnsci.com/how-to-clean-your-glassware/vht0319/>, use online resources (may be found on Mr. Fry's school website or many other websites) to complete the following.

PART A

DIRECTIONS: For each of the following pieces of lab equipment draw a diagram of the item and describe its use.

<i>Equipment</i>	<i>Diagram</i>	<i>Use</i>
<i>Beaker</i>		
<i>Beaker Tongs</i>		
<i>Bunsen Burner</i>		
<i>Buret</i>		

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<i>Equipment</i>	<i>Diagram</i>	<i>Use</i>
<i>Chemical Scoop</i>		
<i>Clay Triangle</i>		
<i>Crucible</i>		
<i>Crucible tongs</i>		
<i>Dropper Pipet</i>		

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<i>Equipment</i>	<i>Diagram</i>	<i>Use</i>
<i>Erlenmeyer Flask</i>		
<i>Evaporating Dish</i>		
<i>Forceps (Tweezers)</i>		
<i>Graduated Cylinder</i>		
<i>Iron Ring</i>		

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<i>Equipment</i>	<i>Diagram</i>	<i>Use</i>
<i>Magnetic Stirrer</i>		
<i>Stirring Rod</i>		
<i>Test Tube</i>		
<i>Test Tube Brush</i>		
<i>Test Tube Rack</i>		

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<i>Equipment</i>	<i>Diagram</i>	<i>Use</i>
<i>Test Tube Tongs</i>		
<i>Utility Clamp</i>		
<i>Utility Stand</i>		
<i>Volumetric Flask</i>		
<i>Volumetric Pipet</i>		

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<i>Equipment</i>	<i>Diagram</i>	<i>Use</i>
<i>Watch Glass</i>		
<i>Wire Gauze</i>		

PART B

DIRECTIONS: Identify which piece of lab equipment would be most useful for each of the following tasks. Some lab equipment will not be used.

- Measuring exactly 43.0 mL of water _____
- Measuring out exactly 3.00 mL of water _____ or _____
- Removing solid chemicals from a reagent bottle _____
- A narrow-mouthed container used to transport, heat or store substances _____
- Dropping small quantities of liquids into test tubes _____
- A wide-mouthed container used to transport, heat or store substances _____
- Holding a test tube over a Bunsen burner for heating _____
- A small glass container for viewing chemical reactions or heating small amounts of a substance _____
- Protects the eyes from flying objects or chemical splashes _____
- Covering a beaker of boiling water to prevent splattering _____
- The pieces of lab equipment required to hold a test tube in a beaker of boiling water above a Bunsen burner
 - Test tube* _____
 - Beaker* _____
 - Bunsen burner* _____
 - _____
 - _____
 - _____
- Rinsing out glassware with distilled water _____
- Heating a solution to drive off water and crystallize a solid _____
- Holding hot objects in flame _____
- Heating substances to a constant temperature _____
- Used to pour liquids into containers with small openings or to hold filter paper _____
- Measuring approximate amounts of liquids _____

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Part C

DIRECTIONS: Answer each of the following in the space provided.

1. Describe the process for checking and cleaning laboratory glassware before use. _____

- a. Explain the hazards associated with using dirty glassware for heating. _____

- b. Explain the hazards associated with using cracked or chipped glass for heating. _____

- c. When should glassware be dried before use? _____

2. Describe the process for checking and cleaning laboratory glassware before storage. _____

- a. When should glassware be dried before storage? _____

3. Describe the proper use of a chemical dropper bottle. _____

4. Describe the proper use of a chemical wash bottle. _____

5. Explain why objects must be cooled before weighing on a digital balance. _____

