

LAB OR DEMONSTRATION TITLE _____

RAMP Up Your Lab Activities and Demonstrations Template

Before performing any demonstration or having students complete laboratory activities, use this template to RAMP up safety.

RECOGNIZE potential hazards, review the chemicals, equipment, and procedures used. (Common hazards are shown on the back of this page.)

ASSESS and **MINIMIZE** the risks from those hazards and **PREPARE** for emergencies.

RECOGNIZE the hazards	ASSESS the risks of hazards	MINIMIZE the risks of hazards	PREPARE for emergencies from uncontrolled hazards
Identify Globally Harmonized System (GHS) hazards* present in activity, including reactants and products. Identify the process (temperature, pressure, electrical) hazards.	Think about how you might be exposed to the hazard and the results of exposure. Identify the most important risks that you will manage.	Evaluate all chemicals, equipment, and procedures and identify ways to minimize risks that are present. Layer controls if needed to improve protection (e.g. goggles and shield)	Know how to respond to chemical exposure, spills, cuts, fires, burns, and other possible incidents. Test emergency equipment. Practice emergency protocols.

*A list of GHS Hazard Statements may be found at: <http://bit.ly/GHS-Hazards>

Common Hazards in Lab Activities and Demonstrations

RECOGNIZE hazards. http://bit.ly/GHS-Hazards	ASSESS the risks of hazards.	MINIMIZE the risks from hazards.	PREPARE for emergencies from uncontrolled hazards.
<ul style="list-style-type: none"> • Broken glassware 	<ul style="list-style-type: none"> • Cuts and scratches on the skin • Glass sharps in the eye 	<ul style="list-style-type: none"> • Handle broken glassware with gloves. • Do not allow students to clean up broken glassware. • Always wear safety goggles when handling chemicals in the lab. • Do not soak dishes in cloudy sink water where broken glassware is not visible. 	<ul style="list-style-type: none"> • Broken glassware box in the laboratory. • Small broom and dustpan. • Wear protective eyewear.
<ul style="list-style-type: none"> • Fire 	<ul style="list-style-type: none"> • Burns to people and equipment • Ignition of volatile liquid vapors • Smoke inhalation 	<ul style="list-style-type: none"> • Do not open flammable liquid bottles in the presence of a flame or hot surface. • Always use caution around open flames. Tie back long hair, secure loose clothing, and never reach over an open flame. • Keep flames away from flammable substances. • Exercise caution when using a heat source. Hot plates should be turned off and unplugged as soon as they are no longer needed. • Remove excess solvents from work area 	<ul style="list-style-type: none"> • Dry chemical (ABC-type) fire extinguisher. • Fire blanket on wall. • Know location of gas master control valve. • Lab safety shield for demonstrations • Review Safety Data Sheets and pay particular attention to Section 5 for firefighting measures and special extinguishing materials
<ul style="list-style-type: none"> • Acid or base 	<ul style="list-style-type: none"> • Irritation/corrosion of skin and eyes • Respiratory distress 	<ul style="list-style-type: none"> • When working with acids and bases, if any solution gets on your skin immediately rinse the area with water. • When diluting acids, always add acid to water. • Use minimum concentration necessary. 	<ul style="list-style-type: none"> • Eyewash station • Shower or body drench hose • Review Safety Data Sheets. • Ventilation fan • Baking soda/Citric acid to neutralize spills –do not use on skin.
<ul style="list-style-type: none"> • Spills 	<ul style="list-style-type: none"> • Possible irritation of skin and eyes • Respiratory distress • Flammable vapors 	<ul style="list-style-type: none"> • Neutralize acids with sodium bicarbonate. • Neutralize bases with citric acid. • Extinguish sources of ignition for volatile liquid spills. 	<ul style="list-style-type: none"> • Ventilation fan • Dry sand and vermiculite or cat litter • Review Safety Data Sheets