

Lab Safety

Ms. Larsh Earth Science 2018-2019

Personal Protective Equipment (PPE)

Includes the following:

- Eye Protection
- Protective Gloves
- Laboratory Aprons/ Coats
- Proper Footwear
- Face Masks/ Shields
- Hearing Protection



Eye Protection

GOGGLES!

- Should be large enough to protect & form a seal around the eyes
- Should meet the American National Standards Institute (ANSI) Z87.1 rating.



Question:

What lab conditions require us to wear goggles?

Answer:

Safety goggles are required whenever any hazardous chemical, open flames, or glassware is used.

Why goggles with an ANSI Z87.1 rating?



- Designed to withstand high impact
- Withstands exposure to non-ionizing radiation and chemicals
- Durability to flammables and corrosion

Protective Gloves

- Protect hands from heat
- Absorb perspiration
- Shield from corrosive chemicals and body fluids
- Prevent the transmission of microorganisms



Plastic - Protects against light corrosives and irritants

Latex - Protects against biological materials; should be changed as soon as they are soiled

Natural Rubber - Protects against electric shock & light corrosive material

Neoprene - Use when working with solvents, oils, or light corrosive materials

Cotton - Absorbs perspiration; worn under latex gloves

Asbestos - Insulates against heat



Question:

When using latex or nitrile gloves that come into contact with biological materials, corrosives, irritants, or microorganisms, it is extremely important to . . .

Answer:

Use proper glove removal techniques

How To Remove Gloves Video

<https://www.youtube.com/watch?v=dyLEd9cng5U>

Laboratory Aprons & Coats

- Designed to protect clothing and skin from splashed & spilled chemicals and biological materials
- Usually fire retardant
- Should fit the wearer properly to provide maximum protection



Lab Safety Review



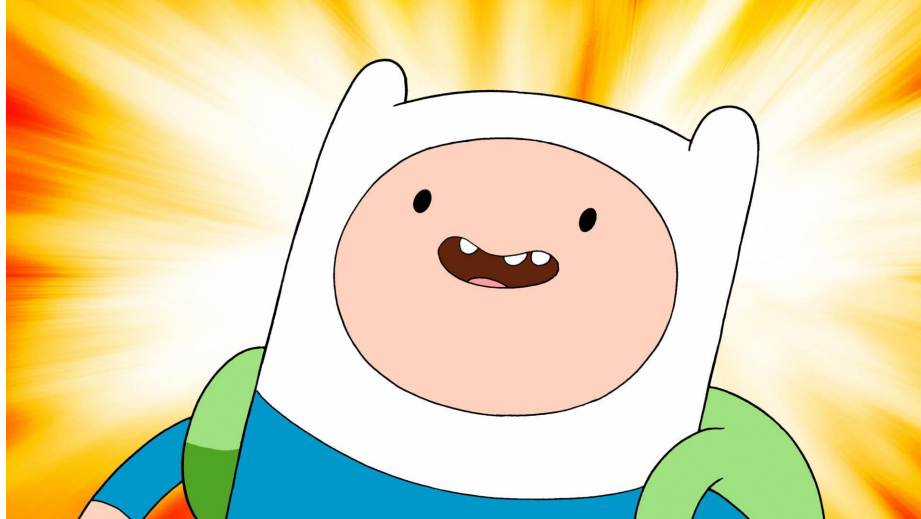
Long Hair

Question:

If you have long hair, what should you do before participating in a lab?



Long Hair



Answer: Tie it back and keep it away from any lab hazards

Flammable Materials

Question:

Flammable materials should never be in close proximity to what?



Flammable Materials

Answer:

Fire / Flames



Heating Substances

Question:

Should you walk away from lit burners or anything being heated?



Heating Substances

Answer:

NO!!!!!!!!!!!!!!



Never leave an open flame unsupervised

Hot vs Cold Glassware

Question:

Does hot glassware look
different from cold glassware?



Remember, **we are not** “glass blowing” in the Science Lab



Hot vs Cold Glassware

Answer:

No

We only heat glassware to heat the substance in the glassware

You won't be able to tell if glassware is hot by "looks"



Accident or Injury



Question:

What should you do FIRST in the event of an injury, accident, or emergency in the Science Lab?

Code One?



Code One is the universal verbal notification for “Teacher Come Quick” in Science Labs

ALWAYS tell your Science Instructor FIRST

Use “Code One” or whatever it takes to get their attention!

Goggles

Question:

What lab conditions require us to wear goggles?



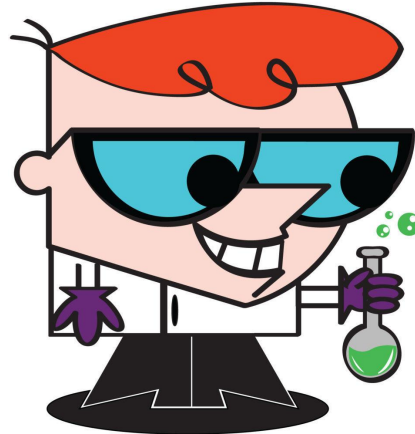
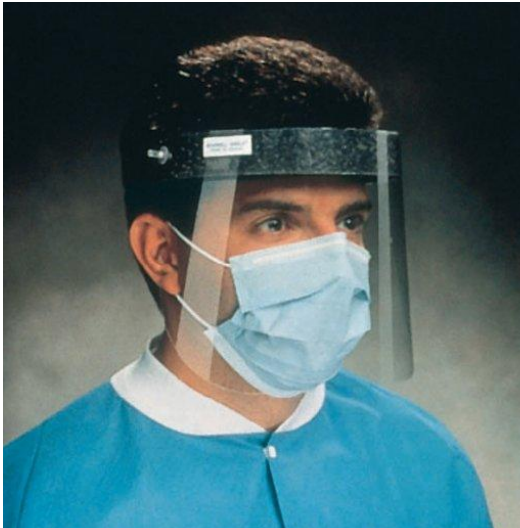
Goggles

Answer:



Safety goggles are required whenever any chemicals, heat, or glassware is used.

Do Glasses Count?



Do Glasses Count?



Answer:

No

You still have to wear goggles

Pipetting



Question:

What should you never do when pipetting?

Pipetting

Answer:

Never, ever, pipette by mouth

New pipettes are cooler
anyways



Clothing



Question:

What kind of clothing should **NOT** be worn in the lab?

Clothing

Answer:



If You Don't Know?

Question:

What if you don't know how to do or use something in the lab?



If You Don't Know?

Answer:

ALWAYS ask your Science Instructor FIRST



Glassware

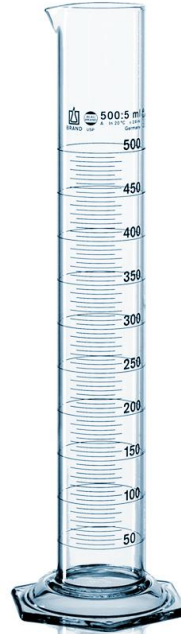
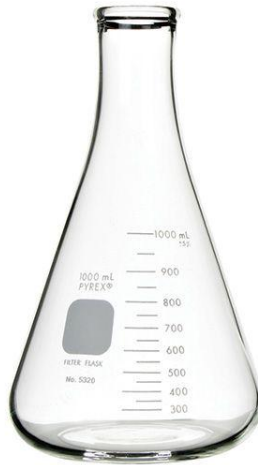
Question:

What should you check before using glassware?



Glassware

- Check for cracks or chips
- Verify it is clean
- Ensure you use the proper equipment



Lab Safety

Question:

Most Common Lab
Injury?



Lab Safety



Answer:

Cuts & Punctures from
Glass

Glass Tubing + Rubber Stopper

NO



Glass Tubing + Rubber Stopper

YES



Flinn Scientific Laboratory Safety Quiz Tomorrow!

Study:

Flinn Scientific Laboratory
Safety Contract

Handout with locations of
Safety Equipment in our
Science Lab

First Things First:

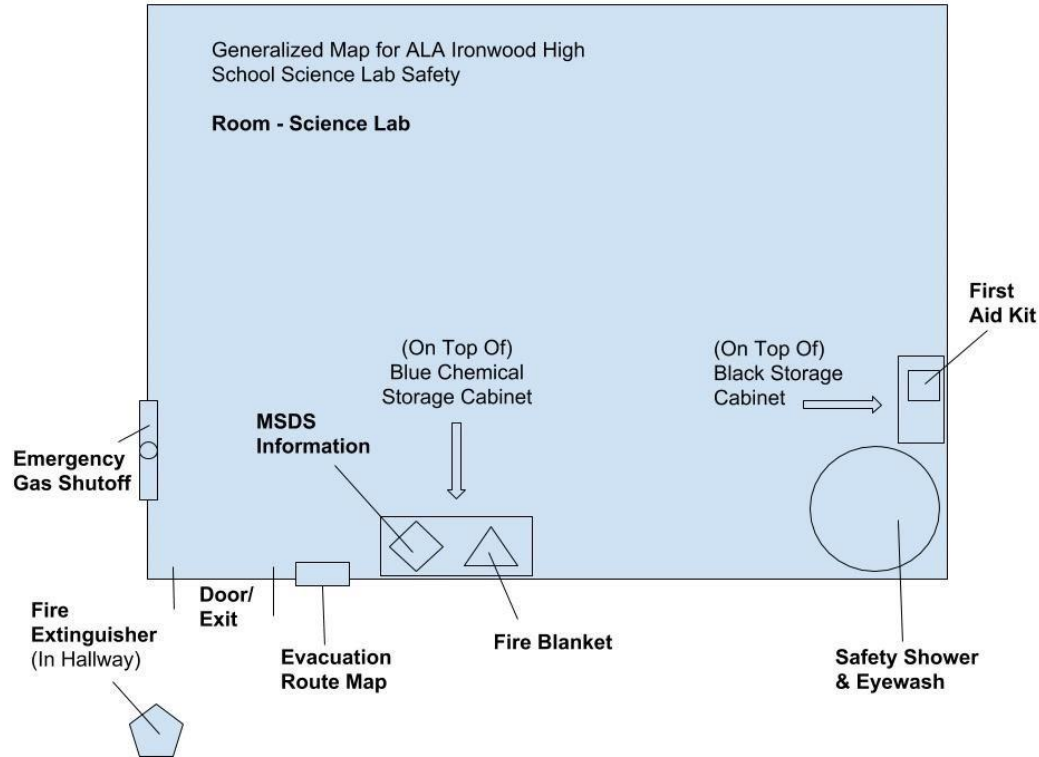
Know your Surroundings...

Know the locations of the following:

- Evacuation Route Map
- MSDS Information
- Eye Wash
- Emergency Gas Shutoff
- Fire Blanket
- Fire Extinguisher
- Safety Shower
- First Aid Kits
- Exits



Science Lab “Map”



Emergency Gas Shut Off



Safety Shower & Eye Wash Station



Fire Blanket & MSDS Binders



The End

SAFETY FIRST



**Safety
Starts
Here**

Think Safe...
Work Safe...
Be Safe