**Student Name:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Description of Topic**

When a fire breaks out in a building occupied by humans, it is vital get them out as quickly and safely as possible. In preparation for the most efficient and prudent exit to take place, an evacuation plan should be established before the event occurs. This plan includes finding the closest exit doors for different locations throughout the building, finding paths that are unobstructed, and placing fire alarms and fire- fighting equipment at strategic locations. A similar plan should be established in preparation for tornados. However, instead of exiting the building, a location should be found for protection near weight-baring walls.

**Materials/Equipment Required**

* Graph paper
* Drafting pencils
* Straight-edge
* CAD software program (optional)

**Objective**

* The student will identify fire evacuation routes, the locations of alarms and firefighting equipment, and the designated tornado shelter at a manufacturing facility or at the college.

**Lab Assignment**

* Using either graph paper or CAD software, neatly draw a building (at work or at the college) that shows the fire evacuation routes. Also, show where fire alarms are placed, fire extinguishers, or where any other firefighting equipment is located.
* Make another drawing that shows where the tornado shelter in the building is located.
* Write a brief report that includes:
* Your opinion on why the evacuation route was designed the way it was.
* Any improvements or changes you would recommend and why.
* Why the tornado shelter is located where it is.

**Grading Rubric**

Below is an example of a rubric to implement when evaluating the performance of individual students for each of the laboratory exercises.

|  | | **Excellent** **5 pts** | | **Good** **4 pts** | | **Fair** **3 pts** | | **Poor** **2 pts** | **Unacceptable** **1 pts** | **Grade Received** **(N/A)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Ability to Follow Directions** | Excellent  Followed directions to the letter. | | Good  Followed directions. | | Fair  Moderately followed directions. | | Poor  Did not follow directions. | | Unacceptable  Did not appear concerned with directions. | Grade Received |
| **Demonstrated Knowledge of Tools** | Excellent  Student knows and is able to identify and explain necessary tools for completion of the project. | | Good  Student is able to identify and explain necessary tools for completion of the project with some assistance. | | Fair  Student is unable to identify or use tools without major prompting. | | Poor  Student is not able to both identify and use tools. | | Unacceptable  Student's use of tools posed a danger to self and others. | Grade Received |
| **Level of Needed Assistance** | Excellent  Student was able to complete the task without assistance. | | Good  Student was able to complete the task with little assistance. | | Fair  Student was able to complete the task with moderate assistance. | | Poor  Student was unable to complete task  without major assistance. | | Unacceptable  Student was unable to complete task with assistance. | Grade Received |
| **Student Preparedness** | Excellent  Student had/gathered all materials and was completely ready to go to work. | | Good  Student had/gathered most materials and went to work. | | Fair  Student had/gathered most materials, however, they needed excess time to do so. | | Poor  Student did not have/gather some  of the needed materials to perform work. | | Unacceptable  Student did not have/gather the needed materials and was unable to perform work. | Grade Received |
| **Time Management** | Excellent  Routinely used time well throughout the project to get the job done on time. | | Good  Used time fairly well throughout the project. | | Fair  Procrastinated somewhat but did get the job done on time. | | Poor  Was unable to adequately meet  timeline due to inability. | | Unacceptable  Did not meet timeline due to procrastination or wasting time. | Grade Received |

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