**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**  | ExcellentFollowed directions to the letter.  | GoodFollowed directions.  | FairModerately followed directions.  | PoorDid not follow directions.  | UnacceptableDid not appear concerned with directions.  | Grade Received |
| **Demonstrated Knowledge of Tools**  | ExcellentStudent knows and is able to identify and explain necessary tools for completion of the project.  | GoodStudent is able to identify and explain necessary tools for completion of the project with some assistance.  | FairStudent is unable to identify or use tools without major prompting.  | PoorStudent is not able to both identify and use tools.  | UnacceptableStudent's use of tools posed a danger to self and others.  | Grade Received |
| **Level of Needed Assistance**  | ExcellentStudent was able to complete the task without assistance.  | GoodStudent was able to complete the task with little assistance.  | FairStudent was able to complete the task with moderate assistance.  | PoorStudent was unable to complete task without major assistance.  | UnacceptableStudent was unable to complete task with assistance.  | Grade Received |
| **Student Preparedness**  | ExcellentStudent had/gathered all materials and was completely ready to go to work.  | GoodStudent had/gathered most materials and went to work.  | FairStudent had/gathered most materials, however, they needed excess time to do so.  | PoorStudent did not have/gather some of the needed materials to perform work.  | UnacceptableStudent did not have/gather the needed materials and was unable to perform work.  | Grade Received |
| **Time Management**  | ExcellentRoutinely used time well throughout the project to get the job done on time.  | GoodUsed time fairly well throughout the project.  | FairProcrastinated somewhat but did get the job done on time.  | PoorWas unable to adequately meet timeline due to inability.  | UnacceptableDid not meet timeline due to procrastination or wasting time.  | Grade Received |

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