

Unit 3 - Topic 2: Identification of the Problem Situation

Choose ONE(1) of the following problem situations to be your project for the remainder of the course:

1. John Doe, a Grade 8 student at Anywhere Academy, was recently involved in an unfortunate ATV accident that has left him paralyzed from the waist down. Anywhere Academy is an older building that is not yet fully wheelchair accessible. The stage at the school is one of those areas. Before the accident, John was actively involved in the school’s drama program and would like to continue upon his return. The local school board has hired your design team to design and build a hydraulic lift that will make the stage wheelchair accessible.
2. Jane Doe, a Grade 8 student at Anywhere Academy, was recently involved in an unfortunate mountain biking accident that has left her with two broken arms. This makes it very hard for her to open doors. Jane’s parents have hired your design team to build a hydraulic door system .
3. Max Smart, the CEO of “Acme Tennis Ball Packing and Shipping”, has a high turnover in employees. Mr. Smart hires workers, but they quit within 4 weeks. Mr. Smart could not figure out why. So, he approached a former employee and asked why they quit. The former employee said that the job was too monotonous. The job was to fill boxes with tennis balls. Employees were developing “repetitive stress injuries”. Mr. Smart decided to hire you to build a hydraulic machine to pick up tennis balls and place them in containers.
4. [YOUR HYDRAULIC IDEA]

1. Discuss with your partner which problem situation you prefer to solve. Watch some YouTube videos of pneumatic and hydraulic robot arms, cranes and tractors. Note the web address of these videos and put the links on your Google Classroom slides. Write jot notes of your conversation on your slides too. [5 marks]:
2. With reference to your jot notes from Step #1 (above), create the following table [8 marks]:

PROBLEM SITUATION	ANALYSIS (discussion jot notes in point form)
1. Hydraulic lift	Why did you choose/not choose this idea?
2. Hydraulic door	Why did you choose/not choose this idea?
3. Hydraulic machine	Why did you choose/not choose this idea?
4. [YOUR HYDRAULIC IDEA]	Why did you choose/not choose this idea?

3. During the last 7-10 minutes of class add a log entry to your Design Portfolio (What did you accomplish today? Any difficulties? Any successes?)

TOTAL: 13 MARKS