Wheel of Misfortune

Overview

Shows machinery accidents and how fast they occur. This is an interactive display that tests the reaction time of the participant and relates it to potentially dangerous activities. May be used with the “Crank-It” machinery safety display to further illustrate hazards.

Objective

The reaction timer shows a person’s reaction time compared to the injury situation, showing how a person can not react fast enough to prevent many machinery related injuries or fatalities.

Introduction

1. Introduce yourself to the students; let them know your name, background, and anything else that may interest them and ties into the presentation.
2. Make the students aware that the information you will present to them is important and that they need to pay attention.
3. Inform the students that they will participate in an activity as time allows and they must be responsible during this activity. Stressing responsibility is especially important if you deal with a younger group of students.

Introduce the Farm Machinery Safety Topic and the Wheel of Misfortune.

- Students all have their own stories and experiences to tell.
- Introduce the Wheel of Misfortune and ask the students if they know what some hazards of working with or around farm machinery might be.
- Ask the students if they have ever used, ridden on or played near farm machinery.

Activity

Materials Needed

- Wheel of Misfortune demonstration display
- Reaction timer

Conducting the Demonstration

1. Measure the reaction time for each participant

- Ruler-style timer: have the student hold their hand out with their thumb and forefinger approximately two to three inches apart. Hold the ruler vertically with the zero end between the student’s thumb and index finger. Explain to the student that you will drop the ruler. When the student sees the ruler start to fall, they need to catch it between their thumb and forefinger without moving their hand vertically. The marks on the ruler at the point where their thumb and forefinger catch the ruler tell the amount of reaction time for that participant. The rulers only measure up to 1/4 second and many participants will not

react that fast.

- Stopwatch-style timer: setup the timer with large pad on a table near the student and the display box facing you (single red light facing student). The small pad is held in your hand. Set the switch on the display box to the hundredths setting. Press the small pad to turn on the light and signal the student to turn off the machine by hitting the middle of the large pad with their finger. The display reads the amount of time from turning on the light until the participant can react. The time is displayed on the readout on the box in one-hundredths of a second. If a student takes longer than one second to react, the box displays “OR” for “out of range”.

2. Determine which machine the participant will be caught in.

- Have the student spin the colored “Wheel of Misfortune”. The color lined up with the indicator at the top of the wheel corresponds to a colored card by a piece of equipment on the opposite side of the display.

3. Determine a potential injury from the machine.

- Use the student’s reaction time and wheel spin result to look up the distance or number of revolutions the machine component would move for the student’s reaction time. Illustrate distance with the tape measure attached to the display.

Wrap Up

After the activity, discuss with the students what could happen if they were not careful around machinery. Use the following discussion questions and facts:

- It takes a human about one second to recognize an emergency situation, and as much as two more seconds to take appropriate action.
- Equipment and PTO entanglements cause some of the most serious farm injuries.
- Clothing, hair or shoestrings caught in rotating or moving equipment cause entanglements.
- Why should you never play on or near farm machinery?
- Can you react quickly enough to prevent all accidents?
- What are some hazards found on farms? How do you prevent these hazards? Are there ways to keep you away from the hazards (guards or shields)?
- What should you do if someone is in an unsafe situation around machinery?

Re-discuss the safety rules when working with farm machinery. Go though the following list (as time allows) with the students and make sure they understand the importance of these rules.

- Repair or replace damaged or missing shields on machinery.

- Stay safely away from unshielded moving parts.
- Under no circumstances should you reach into any part of an operating machine.
- Watch your step when walking or working around a running machine.
- Wear tight-fitting work clothing with no loose ends or strings to catch on or be caught by machinery.
- Keep long hair under a cap or tied back to prevent it from catching in machinery.
- Keep all PTO shielding, including the master shield, in place.
- Stop the PTO when dismounting from the tractor.
- Recognize and respect the Slow Moving Vehicle (SMV) emblem.
- Keep all bystanders away from work areas and working machinery. Keep children away from work areas.
- If equipment clogs or jams, never clean out the blockage until the machine is shut off and all moving parts come to a complete stop.
- Always take terrain into consideration when driving farm vehicles.
- Do not enter grain bins that are loading or unloading. Flowing grain can trap and suffocate you in seconds.
- Never permit children to ride in grain wagons or enter grain storage areas. Never allow children to play in grain storage equipment—empty or full.
- Always know where ALL family members are (especially children) at all times when grain is loaded, unloaded, moved or otherwise handled.
- A rotating auger moves too fast for someone to prevent an entanglement if they come in contact with it.
- Identify hazardous areas on equipment and make sure you stay away from moving parts. Beware of pinch points, shear points, wrap points, pull-in areas, thrown objects, crush points, stored energy hazards and freewheeling parts.