VICTORYXR

VR SIMULATION

CURRICULAR & TEACHER SUPPORT GUIDE

Forklift Training VR Simulation

This teacher support guide is designed to assist educators, instructors, and workplace safety trainers in integrating the **Forklift VR Simulation** into technical education, vocational training, and OSHA compliance programs. The VR module provides a risk-free, immersive environment where students practice pre-operational inspections, identify workplace hazards, and learn critical equipment safety rules.

1 Course Overview & Learning Objectives

The VR training simulation emphasizes OSHA standards—specifically **29 CFR 1910.178**—and safe operating principles to establish a safety-first mindset in industrial environments.

Key Student Learning Outcomes

- **Pre-Operational Inspection Mastery:** Conduct thorough visual and physical pre-check inspections to identify damaged, worn, or unsafe forklift components.
- **OSHA Hazard & Decal Recognition:** Differentiate safety warning levels (**DANGER**, **WARNING**, **CAUTION**) and understand physical backrest and tire safety rules.
- **Environmental Awareness:** Recognize floor hazard conditions including wet surfaces, clutter, spills, and debris that risk slips, trips, falls, or traction loss.
- **Operational Equipment Safety:** Inspect critical components including the forks, top clip retaining pins, heels, and vertical load backrest extensions.

2 Curricular Structure & Module Breakdown

Module	Key Focus Areas	OSHA Standard / Reference	Student Action & Learning Objective
Module 1: Environmental & Floor Inspection	Spills, wet floors, clutter, debris, mold/fungi hazards	General Duty Clause / OSHA Walking-Working Surfaces	Identify wet spots and clutter; explain risks of slips/trips/falls and biological growth on damp surfaces.
Module 2: Tire & Wheel Inspection	Balding spots, cracks, cuts, and gouges in tires	29 CFR 1910.178(q)(7)	Examine tire surfaces for structural damage; understand threats to machine and operator safety.
Module 3: Fork Assembly & Pin Inspection	Top clip retaining pin, heel wear, structural cracks	29 CFR 1910.178(m)(5)	Inspect forks for bending or wear to prevent dropped loads, snapped forks, and structural failure.

Module	Key Focus Areas	OSHA Standard / Reference	Student Action & Learning Objective
Module 4: Backrest Extension & Decals	Vertical load backrest extension, safety warning labels	29 CFR 1910.178(e)(2)	Verify vertical load backrest presence to prevent backward falling loads; differentiate DANGER, WARNING, and CAUTION plates.

3 Step-by-Step Lesson Plan & Facilitation Guide

1 Phase 1: Pre-VR Classroom Instruction — 20 Mins

- **Introduction to Pre-Operational Protocols:** Discuss why every shift requires a pre-operational inspection before starting a forklift.
- **Review Safety Decals:**
  - **DANGER:** Hazards that **will** cause severe injury or death.
  - **WARNING:** Hazards that **could potentially** cause severe injury or death.
  - **CAUTION:** Hazards that **could** cause light or moderate injury.
- **Safety Standard Review:** Review OSHA standard **29 CFR 1910.178(e)(2)** regarding vertical load backrest extensions designed to protect operators from falling backward loads.

2 Phase 2: VR Simulation Execution — 25 Mins

Students enter the VR environment (**Driving Scene: Pre-Operational Inspection**):

- Perform a 360-degree walk-around inspection around the virtual forklift.
- Locate and flag floor hazards (spills, clutter, wet surfaces).
- Inspect tire conditions (balding spots, deep gouges, side cuts).
- Verify the top clip retaining pin and heel on the fork assembly.
- Confirm all warning plates and decals are legible and in place.
- Confirm the operator's cabin/area is clear of debris that could interfere with controls.

3 Phase 3: Post-VR Debrief & Quiz Assessment — 15 Mins

- Facilitate a group debrief on hazards discovered during the VR walk-through.
- Administer the **Forklift Knowledge Check Quiz** to reinforce regulatory standards and inspection steps.

4 Assessment & Knowledge Check Questions

Q1 **Under OSHA standard 29 CFR 1910.178(e)(2), when is a vertical load backrest extension required?**

Answer: It is required whenever a load presents a hazard of falling back toward the operator.

Q2 **What are the three safety decal hazard levels, and how do they differ?**

Answer: **DANGER** (will cause severe injury/death), **WARNING** (could potentially cause severe injury/death), and **CAUTION** (could cause light/moderate injury).

Q3 **What are the risks of skipping a thorough fork inspection?**

Answer: Worn or cracked forks can snap under load weight, causing dropped loads, equipment damage, and severe workplace injury.

Q4 **Why must floor debris and wet surfaces be cleared before operating a forklift?**

Answer: Wet floors reduce traction and promote biological growth (mold, fungi, bacteria), while debris can interfere with controls or cause slips, trips, and tip-overs.

5 Teacher Facilitation Tips

Instructor Tip: Pair students up during VR simulation runs. One student actively navigates the VR headset while the second student acts as the "Safety Inspector Observer," filling out a physical pre-operational checklist.