**Hazard Recognition Train the Trainer**

**Course Guide**

It is recommended that Stop Work Authority posters, along with emergency reporting information, be posted throughout learning and practice areas and that this information be refreshed with your students throughout work activities.

**Pre-presentation Information**

The instructor should cover the following items prior to training:

Introduce yourself and ensure your class is familiar with their emergency evacuation and equipment information and how to contact emergency services in the event of an emergency.

Provide the contact names, contact information, and means by which they should contact an adult when hazards need to be reported and addressed.

***Suggested Trainer Script***

***(Bold text below indicates suggested script to be read aloud.)***

*Slide 1: Cover Slide*

**Hazard Recognition is key to ensuring a safe learning and working environment. In this training, we are going to talk about why and how incidents occur, and we will be giving you some tools to use to evaluate hazards in your environment.**

*Slide 2: Hazard Hunt*

**What hazards do you see in this picture?**

Answers may include oil leaks, chemical exposure, pinch points, entire car falling, hydraulic failure, ergonomics, neck strain, repetitive motion injury, fumes exposure, gas tank leak, head knocker, etc. Do not provide answers.

*Slide 3: Why and How Incidents Occur*

**Why do incidents occur? Basically, why do things go wrong?**

(Optional examples included below):

**Lack of training/experience** *EXAMPLE: new to craft or job?*

**Lack of site control/ designated boundaries**  *EXAMPLE: no designated areas/ no safety tape to guide in shop areas?*

**Instructions incorrect/ not followed** EXAMPLE: *outdated instructions?*

**Miscommunication** EXAMPLE: indirect communication

**Improper tools/ equipment** *EXAMPLE: a screwdriver is not a crowbar*

**Incorrect # of people/ workers** *EXAMPLE: too many or too few workers*

**Weather or conditions** *EXAMPLE: cold weather? busy worksite?*

**Lack of a safety culture** EXAMPLE: hiding mistakes or incidents

**Now let’s talk about the list on the right. The list we just covered were conditions that may lead up to incidents, but what physically makes things go wrong? Now we look at how incidents occur. The whys we just talked about and what else?**

**What allows your blood to flow? Pressure from a pump, your heart.**

**What makes your heart pump? Electrical impulses.**

**What is that blood circulating? A chemical called Oxygen.**

**Pressure, Electricity, Chemical…**

**These are energies. The addition of, or lack of, energy is what makes things happen or not happen. Take away Oxygen and we can’t breathe. Take away heat, and we might freeze.**

**It may be one energy or many involved but nothing happens without energy or a lack of it.**

**The basics of life require energy. If we study plants we learn they need the sun, or radiation, to grow. They usually need thermal energy, that’s heat, to survive.**

**Chemical, radiation, electrical, biological (which are things like germs, viruses, animals, humans, and plants), thermal (heat or a lack of it), pressure, motion, and gravity, are all basic energies.**

*Slide 4: Things Are Not Hazards*

**Is a fire extinguisher a hazard?**

**Can it move? Not without motion.**

**Can it cause breathing issues? Not without chemicals inside.**

**Can it smash your toe? Not without gravity involved.**

**A fire extinguisher is a non-living thing. It cannot hurt you. The energies involved, if not recognized and addressed, can hurt you.**

**When we look at our work area and tasks, we should focus on those energies individually to address them, or mitigate them, properly.**

*Slide 5: Pressure*

**Before we start any project or task we need to ask ourselves some questions.**

**Let’s start with pressure.**

**What sources of pressure am I exposed to when performing my tasks?**

**How can that pressure hurt me?**

**How can I avoid being exposed?**

*Example Answers:*

|  |  |  |
| --- | --- | --- |
| Exposure | Hazard | Mitigation |
| Hydraulics | Failure – dropped load | Warmup and test |
| Pinch Points | Broken fingers or hand | Use equipment guards |
| Vehicles/equipment | Crush | Use spotters/ vehicle walkaround |

*Slide 6: Biological*

**What biological energy sources might I be exposed to?**

**How can it hurt me?**

**What can I do to avoid exposure?**

*Example Answers:*

|  |  |  |
| --- | --- | --- |
| *Exposure* | *Hazard* | *Mitigation* |
| *Animals* | *Bite or viral exposure (rabies)* | *Store food & waste properly* |
| *Dirty PPE/ tools* | *Germs or viruses* | *Clean items before use* |
| *Plants (poisonous)* | *Stings/ rashes* | *Awareness/ gloves* |

*Slide 7: Gravity*

**What gravity hazards am I exposed to? How can gravity hurt me? What can I do to avoid exposure?**

*Example Answers:*

|  |  |  |
| --- | --- | --- |
| *Exposure* | *Hazard* | *Mitigation* |
| *Slick surface* | *Slips/ trips/ falls on ice or water* | *Traction devices, clean up spills* |
| *Working at heights* | *Falls to lower level, dropped objects hitting other workers* | *Guardrails, fall protection, tool lanyards* |
| *Ladder use* | *Fall from ladder* | *3 points of contact – two feet and a hand, two hands and a foot on ladder at all times* |

*Slide 8: Thermal*

**What heat or cold source am I exposed to? How can it hurt me? What can I do to avoid being exposed?**

*Example Answers:*

|  |  |  |
| --- | --- | --- |
| Exposure | Hazard | Mitigation |
| Sun | Heat stress | Drink water, take breaks |
| Cold weather | Cold stress/ hypothermia | Warm-up breaks |
| Cold surfaces | Frostnip | Gloves |

*Slide 9: Electrical*

**What electrical energy source am I exposed to? How can it hurt me? What can I do to avoid being exposed?**

*Example Answers:*

|  |  |  |
| --- | --- | --- |
| Exposure | Hazard | Mitigation |
| Power tools | Shock | Use insulated tools/ maintain and inspect tools |
| Power lines | Electrocution | Call power company to turn off power/ Use spotter if lines are nearby |
| Extension cords | Shock | Route cords safely/ use GFCIs\* |

\*Ground Fault Circuit Interrupter - disconnects power supply to protect the worker when a ground fault occurs

*Slide 10: Radiation*

**What radiation source am I exposed to? How can it hurt me? What can I do to avoid being exposed?**

*Example Answers:*

|  |  |  |
| --- | --- | --- |
| Exposure | Hazard | Mitigation |
| Sun | Sunburn/ skin cancer | Cover-up, shade, sunscreen |
| Welding Arc | Eye and skin burns | Welding hood, designated area (welding bays) |
| X-ray Equipment | Cancer | Know your equipment, use and follow barrier markers, maintain a safe distance |

*Slide 11: Chemical*

**What chemicals am I exposed to? How can it hurt me? What can I do to avoid being exposed?**

*Example Answers:*

|  |  |  |
| --- | --- | --- |
| Exposure | Hazard | Mitigation |
| Oxygen bottles | Flammable atmosphere/ fire | Turn off bottles/ ventilate the work area |
| Nitrogen | Asphyxiation (lack of Oxygen) | Use an Oxygen sensor/ ventilate the work area |
| Cleaning agents | Burns to lungs/ toxic exposure | Use a less harmful chemical/ use respiratory protection |

*Slide 12: Motion*

**What moves? Do I want it to move? Should it not move?**

*Example Answers:*

|  |  |  |
| --- | --- | --- |
| Exposure | Hazard | Mitigation |
| Moving parts | Pinch points/ loss of limbs | Equipment guards/ energy isolation (lock and tag) |
| Upright grinder | Long hair/ loose clothing snag | Put up hair/ tuck hoodie strings |
| Heavy equipment | Crush/ struck by injury | Spotter/ traffic pattern/ backup alarms |

*\*Hand out the Job Hazard Analysis form now.*

*Slide 13: Job Hazard Analysis*

**Hazard analysis should be conducted prior to performing work and any time you return to the task (after breaks, lunch, etc.), and any time your work conditions change. When returning to your work task, you do not need to complete a new form, re-evaluate to confirm you are still aware of and addressing all hazards you recognize and edit your JHA form to keep it current.**

**Perform the analysis anytime there is a significant change in your work conditions or job scope.**

*Slide 14, 15, and 16: What Hazards Do You See Now?*

**Using the energies checklist on your Job Hazard Analysis form, we’re going to look at the same picture we looked at earlier, but with a fresh set of eyes and our JHA in hand. Let’s focus on the energies, not things. When we focus on the energy, or energies, involved with our task we find more hazards, faster, and from a safer distance than without our JHA. We also address the energy, which as we’ve learned, is really what will allow incidents and unplanned events to occur. If we control the energies around us to the best of our ability, we are working much safer. This hazard evaluation should be done prior to, and during, our work tasks. We’ll talk about stopping the job later.**

Let the learners tell you some of the hazards they now see in all 3 slides. Remind learners to identify the energies first, then the hazards associated, and lastly how they might address, or mitigate, the hazards before they begin work.

**Remember to manage change as the work progresses. Edit the JHA as appropriate and communicate changes with those involved.**

*Slide 17: Safety Is a Mindset*

**If you don’t recognize what can harm you or others, or put your work at risk, you cannot address, or mitigate, it properly.**

**If you recognize a hazard and properly evaluate the risk, but don’t mitigate the risk at the right time (before something goes wrong), the hazard may hurt you or coworkers, or damage materials causing injury or work delays.**

**Recognition, risk assessment, and proper detailed mitigation performed at the right time can keep us safe.**

**If you see a hazard, you own it. Address it if safe to do so, or bring it to the attention of your supervisor, but don’t ignore it.**

*Slide 18: Teamwork is key!*

**Teamwork divides the task and multiplies the success! Make life easier for everyone. Ask for help. Offer help. Just because you can lift a heavy item doesn’t mean there is any reason to do so and possibly damage your back. Many adults have back pain. It typically happens over time and is avoidable. How many adults do you know of that complain about a sore back? It is avoidable if you start avoiding it young.**

*Slide 19: Stop Work Authority*

**Stopping the job must be done safely. It must be done when necessary and ALL workers have this authority.**

**Stopping the job might mean shutting down an entire job site or all shop work.**

**Stopping the job may also be as minor as stopping the work, putting on safety glasses, and getting back to work safely.**

**It is always a good idea to pause momentarily before starting your task again. Take another look around, are there any hazards you might have missed?**

*Slide 20: You Have Rights (OSHA)*

**You have rights enforced by the Occupational Safety and Health Administration (OSHA). You have the right to a safe and healthy workplace; to know about hazardous chemicals, report injury, request a hazard correction, be trained, know about hazard exposures, obtain your medical records, file a complaint with OSHA, participate in an OSHA inspection, and be free from retaliation for exercising your health and safety rights.**

**You may contact OSHA online at** [**www.osha.gov/workers/file-complaint**](http://www.osha.gov/workers/file-complaint) **or call 1-800-321-OSHA.**

*Slide 21: You Have Rights (DOL)*

**You have rights enforced by the Department of Labor (DOL). You have rights that address the work you can perform, the minimum amount you must be paid, what work permits are required for each job depending on your age, when and how long you can work, working near alcohol, and your benefits.**

**You may contact the Department of Labor Wage and Hour online at** [**https://labor.alaska.gov/lss/rights.htm**](https://labor.alaska.gov/lss/rights.htm) **or call 1-907-269-4900.**

*Slide 22: Summary*

**To summarize*,* alwaysprioritize safety, without your fingers or eyes, life gets a lot harder.**

**Perform hazard analysis before and during your work tasks. Recognize hazardous energies and mitigate them. You see it, you own it. Do something about it. Manage change, be sure to communicate those changes with your team or anyone who is impacted by those changes. Safely stop work and use your stop work authority when needed. Know your resources and who to ask for help. Work as a team, ask for and offer help. Know your rights and use them when necessary. Have a good attitude and an open mind, listen to each other.**

**Remember, if you are unable to safely mitigate hazards, always tell someone who can. If you are unsure about anything, do not begin work.**